Final Environmental Impact Report

Gateway Park

Volume II: Revised Draft EIR

June 2018

Prepared by ICF for the
Bay Area Toll Authority

Gateway Park
Final Environmental Impact Report

Volume 2: Revised Draft EIR

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Acronyms and Abbreviations

µg/m3	micrograms per cubic meter
AADT	annual average daily traffic
AB	Assembly Bill
AB 939	California Integrated Waste Management Act of 1989
ABAG	Association of Bay Area Governments
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
Alameda CTC	Alameda County Transportation Commission
AOC	area of concern
ARB	Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
Basin Plan	San Francisco Bay Basin (Region 2) Water Quality Control Plan
BATA	Bay Area Toll Authority
Bay Bridge	San Francisco–Oakland Bay Bridge
Bay Bridge Trail	bicycle/pedestrian path on the east span of the Bay Bridge
Bay Trail	San Francisco Bay Trail
BCDC	Bay Conservation and Development Commission
BMP	best management practice
BRAC	Base Realignment and Closure
Btu	British thermal unit
C&D Recycling Ordinance	Construction and Demolition Debris Reduction and Recycling Ordinance
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal Fire	California Department of Forestry and Fire Protection
Cal OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
California CAA	California Clean Air Act of 1988
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CBIA v. BAAQMD	*California Building Industry Association vs. Bay Area Air Quality Management District*
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act

CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	Methane
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yards
dB	decibel
DDT	dichlorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
East Span Project	San Francisco Bay Bridge East Span Seismic Safety Project
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EFH	essential fish habitat
EIR	environmental impact report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FR	*Federal Register*
g/m3	grams per cubic meter
GHG	greenhouse gas
HFC	hydroflourocarbon
HI	hazard index
I-580	Interstate 580
I-80	Interstate 80
I-880	Interstate 880
I-980	Interstate 980
IER	Interurban Electric Railway
IERBYS	Interurban Electric Railway Bridge Yard Shop
IPCC	Intergovernmental Panel on Climate Change
LBP	lead-based paint

Leq	equivalent sound level
Lmax	maximum sound level
Lmin	minimum sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MS4	municipal separate storm sewer systems
MT	metric ton
MT/yr	metric tons per year
MTS	metropolitan transportation system
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTU	nephelometric turbidity unit
NWIC	Northwest Information Center
OFD	Oakland Fire Department
OPD	Oakland Police Department
PAH	polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyls
PFC	perfluorocarbon
PG&E	Pacific Gas & Electric
Phase I ISA	Phase I Initial Site Assessment
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
PRG	preliminary remedial goal
project proponent	Gateway Park Working Group

RAP/RMP	remedial action plan/resource management plan
RCRA	Resources Conservation Recovery Act
REC	recognized environmental condition
ROG	reactive organic gas
RTP	regional transportation plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SEL	sound exposure
SFBAAB	San Francisco Bay Area Air Basin
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SR 24	State Route 24
State Water Board	State Water Resources Control Board
SVOC	semivolatile organic compounds
SVP	Society for Vertebrate Paleontology
SWPPP	stormwater pollution prevention plan
TAC	toxic air contaminant
TMDL	total maximum daily limit
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
V/C	volume-to-capacity ratio
VAU	visual assessment unit
VOC	volatile organic compound
WDR	waste discharge requirement

Executive Summary

This Draft Environmental Impact Report (EIR) is evaluating the proposed project (project or Gateway Park) which would include the development of up to 45-acres of parkland along the waterfront near the eastern end of the east span of the San Francisco–Oakland Bay Bridge (Bay Bridge) in Oakland, California. Outside the park boundaries, the project could also include installing landscaping near Interstate 880 (I-880).

This EIR evaluates the environmental effects of a wide range of potential improvements. The project would be developed in phases over time and would likely include more modest improvements and passive recreational[1] facilities initially. The project may or may not include all of the potential features included in the Project Description of this EIR. The implementing parties would ultimately decide which features to include in the project. Completion of the California Environmental Quality Act (CEQA) review process for a full suite of potential improvements through this EIR allows for full disclosure of all potential environmental effects should all improvements ultimately be implemented.

The inclusion of an improvement in the Project Description of this EIR does not mean that the park implementers are obligated to construct the improvement. The only mandatory elements of the project are those commitments made during Caltrans planning for the San Francisco Bay Bridge East Span Seismic Safety Project (East Span project), as memorialized in the permit for the East Span project issued by BCDC and held by Caltrans, which comprise a smaller subset of the project improvements discussed in this EIR (see discussion of permit requirements below).

The project is the result of a multiagency collaborative planning effort facilitated by the Gateway Park Working Group. The Working Group consists of the following nine local, regional and state agencies: Bay Area Toll Authority (BATA), California Department of Transportation (Caltrans), San Francisco Bay Conservation and Development Commission (BCDC), California Transportation Commission (CTC), East Bay Regional Park District (EBRPD), City of Oakland, Port of Oakland, East Bay Municipal Utility District (EBMUD), and Association of Bay Area Governments (ABAG's) Bay Trail Project. At this time, it is envisioned that Gateway Park would be a regional park operated by EBRPD or a Joint Powers Authority. BATA, acting on behalf of the Working Group, is the lead agency for the project under CEQA and would take the first action related to the project which would be entering into a cooperative agreement with Caltrans for funding the parking lot as part of Phase 1. Each of the Working Group agencies, with the exception of BCDC which is solely a regulatory agency, could implement and/or fund potential projects included in the Project Description of this EIR. Accordingly, the project proponent under CEQA is understood to include all of the Working Group members except for BCDC.

This Draft Environmental Impact Report (EIR) has been prepared in accordance with the provisions of CEQA and the CEQA Guidelines (Title 14 California Code of Regulations section 15000 et seq). This summary presents the following information, including the major findings in this Draft EIR:

- Overview, including the project location, a brief project description, applicable BCDC permit requirements, and project objectives.

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[1] <u>Passive recreation refers to non-motorized recreational activities including, but not limited to, activities such as walking, bird watching, fishing, kayaking, kiteboarding, and windsurfing.</u>

- Areas of Known Controversy and Issues to be Resolved.
- Summary of Environmental Impacts and Mitigation Measures for the project, including significant and unavoidable impacts.
- Alternatives to the Project, including alternatives considered but rejected, alternatives evaluated in this Draft EIR, and identification of the environmentally superior alternative.

Overview

Project Location

Gateway Park would be located in Oakland, Alameda County, adjacent to I-880 and Interstate 80 (I-80) at the eastern touchdown of the Bay Bridge (Figure ES-1). The 45-acre project area encompasses both industrial lands and the existing Radio Beach recreational area. It includes underutilized industrial land and the former Oakland Army Base on the south side of I-80, extending from the San Francisco Bay shoreline on the west to the Caltrans maintenance facility near the Bay Bridge toll plaza on the east. These areas are referred to as Key Point, Port Playground, and Bridge Yard. The project area also includes the Radio Beach area on the north side of I-80 and land beneath and adjacent to I-880 and the I-880/I-80/I-580 interchange (known as the Maze) on the west to Maritime Street in West Oakland on the east (Figure ES-2). The project site also includes portions of I-80 and I-880 where landscaping improvements could be installed.

The project area includes the public access portion of the proposed West Gateway project, a separate, privately funded project that would be located adjacent to Gateway Park, south of the Port Playground. The public access area for the West Gateway project would provide public access features that would be shared by Gateway Park users, including a surface parking lot, pedestrian pathway, truck access and turnaround, and public plaza. These improvements, while implemented by others and subject to separate environmental review, are included in the project area analyzed in this Draft EIR for the sake of continuity of public access considerations. The West Gateway Project has been approved by the City of Oakland but has not yet been constructed.

Project Description

Gateway Park would provide a gateway to both the east span of the Bay Bridge and the City of Oakland. The Park would encompass approximately 45 acres and could include both active and passive recreation opportunities as well as potential venues for community events and art installations, highlighting the natural, maritime, industrial, and transportation history of the East Bay. The project would provide safe access to the bicycle/pedestrian path on the east span of the Bay Bridge (Bay Bridge Trail) as well as access to existing and planned segments of the regional San Francisco Bay Trail (Bay Trail). The project would also provide safe, multimodal access to the shoreline and could be a unique waterfront amenity. Furthermore, it would be designed to meet mitigation commitments for a number of transportation projects, including the East Span project, which was completed in 2013.

The Park would encompass four park areas and could include multiple park features in addition to parking, landscaping, and other features (Figure ES-3). The four park areas are referred to as the Bridge Yard, Key Point, Port Playground, and Radio Beach, and could include the following:

- Per BCDC permit requirements (discussed below), at a minimum, the Bridge Yard would include the current uses of the Bridge Yard building and at least 43 parking spaces as well as any associated stormwater treatment areas and landscaping. The Bridge Yard could also be a destination recreation and event center in the core park area. Park features could include an arrival plaza, historic display plaza, outdoor yard event space, reuse of the renovated historic Bridge Yard building, and possibly an indoor/outdoor auditorium.

- Key Point would be a passive recreation area at the west end of the park near the Bay Bridge. At a minimum, Key Point would include a path on a ramp leading to the Bay Bridge Trail as well as stormwater retention treatment areas for any required new paved pathways and any associated landscaping. Park features could also include reuse of ~~three~~ two renovated buildings for visitor services, a path on a ramp leading to the Bay Bridge Trail, ~~a pier along the old Bay Bridge alignment~~, and a ranger station. The project could also install a marine bulkhead at the western end of the Key Point area. The EIR also analyzes the installation of a pier along the old Bay Bridge alignment, consistent with the conceptual park design that was originally developed by the Gateway Park Working Group. However, with the recent approval of a separate project to build out an observation deck between existing marine foundations E21—E23 from the former east span of the San Francisco-Oakland Bay Bridge, the new pier at Key Point is no longer proposed.

- Port Playground would be a passive and possibly active recreation area along the southern shoreline. Per BCDC permit requirements (discussed below), at a minimum, the Port Playground would include trails along the shoreline area and any associated landscaping. Park features could also include a visitor center, several play areas, a boardwalk, a meadow and bluff walk, and a meadow viewpoint. There could also be an Americans with Disabilities Act (ADA)-compliant cement ramp extending from the south side of the Visitor Center to the water's edge that would serve as a kayak launch.

- Radio Beach, an existing area on the north side of I-80, would be for limited, passive recreation including such activities as kiteboarding, walking, picnicking, frisbee play, bird watching, fishing, windsurfing, and kayak launching. At a minimum, Radio Beach would remain accessible to the public as under current conditions. Park features could include a new access path from the Key Point area, restoration, and installation of fencing to protect environmentally sensitive areas. Overall parking areas will not be limited below existing conditions and informal parking will continue to be allowed as at present.

The project could also include the following features:

- An approximately 13-acre windbreak/tree buffer that would extend along the south side of I-80 in the Port Playground and Key Point areas;

- Landscaping throughout the project area south of I-80 and potentially under the freeways east of the recreational features (I-880 and the I-880/80/580 maze) [2];

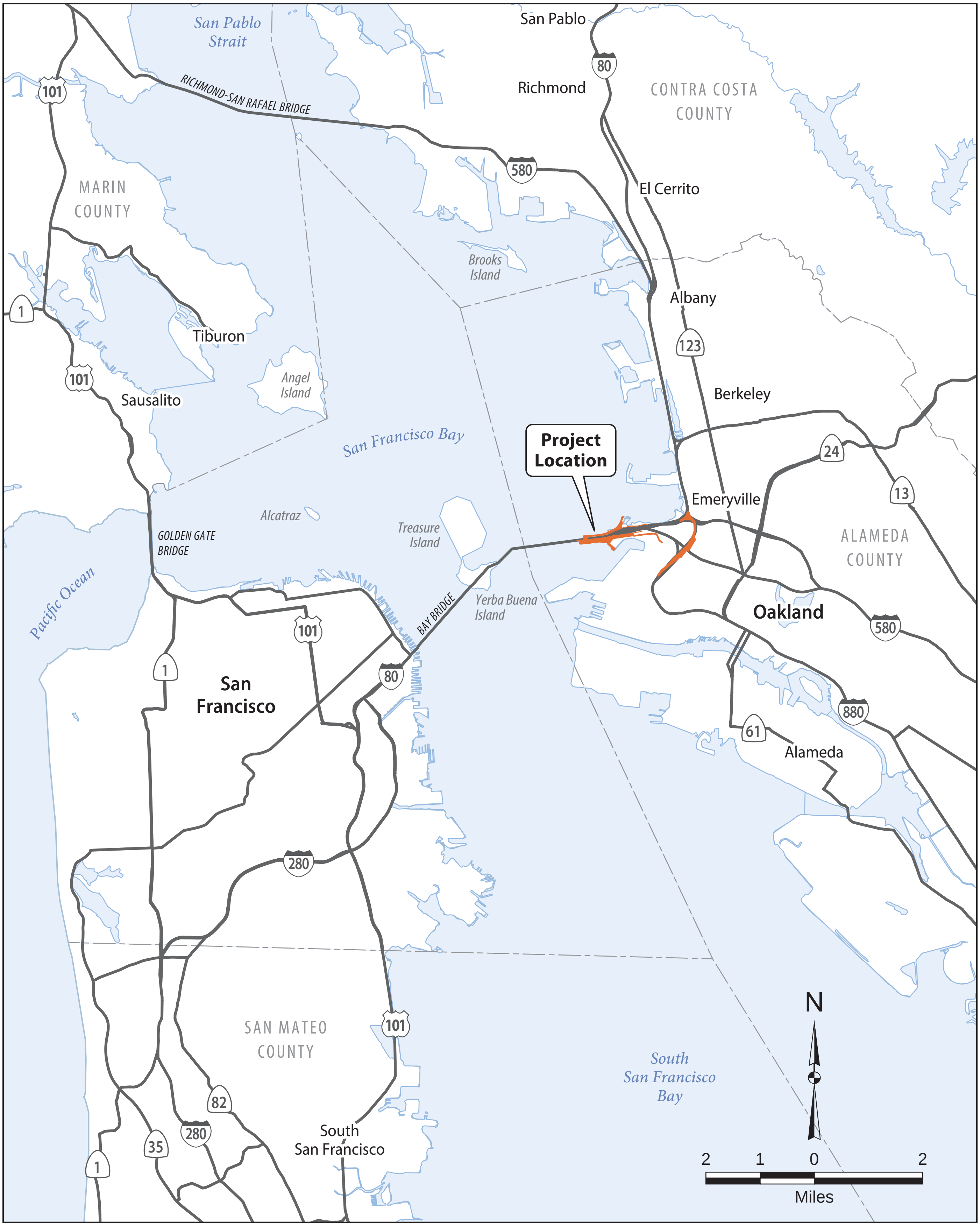
- Minimal amount of lighting provided for security at dusk and for special events that could be held at the Bridge Yard;

- Additional public parking beyond the minimum 43 spaces;

[2] The BCDC permit for the East Span project requires landscaping within an approximately 4.2 acre minimum public access area.

- Way-finding elements, including interpretive and directional signage along pathways;
- Shoreline protection features along most southern shoreline areas (south of I-80) to minimize erosion;
- Addition of 2 to 10 feet of fill on the entire south side of the Park (south of I-80) to counter sea level rise; and
- Three additional retention basins (biofiltration swales) at the west end in the Key Point area to treat stormwater runoff from the project features[3].

[3] The BCDC permit for the East Span project requires stormwater treatment from any mandatory new impervious spaces including parking and paved trail areas.

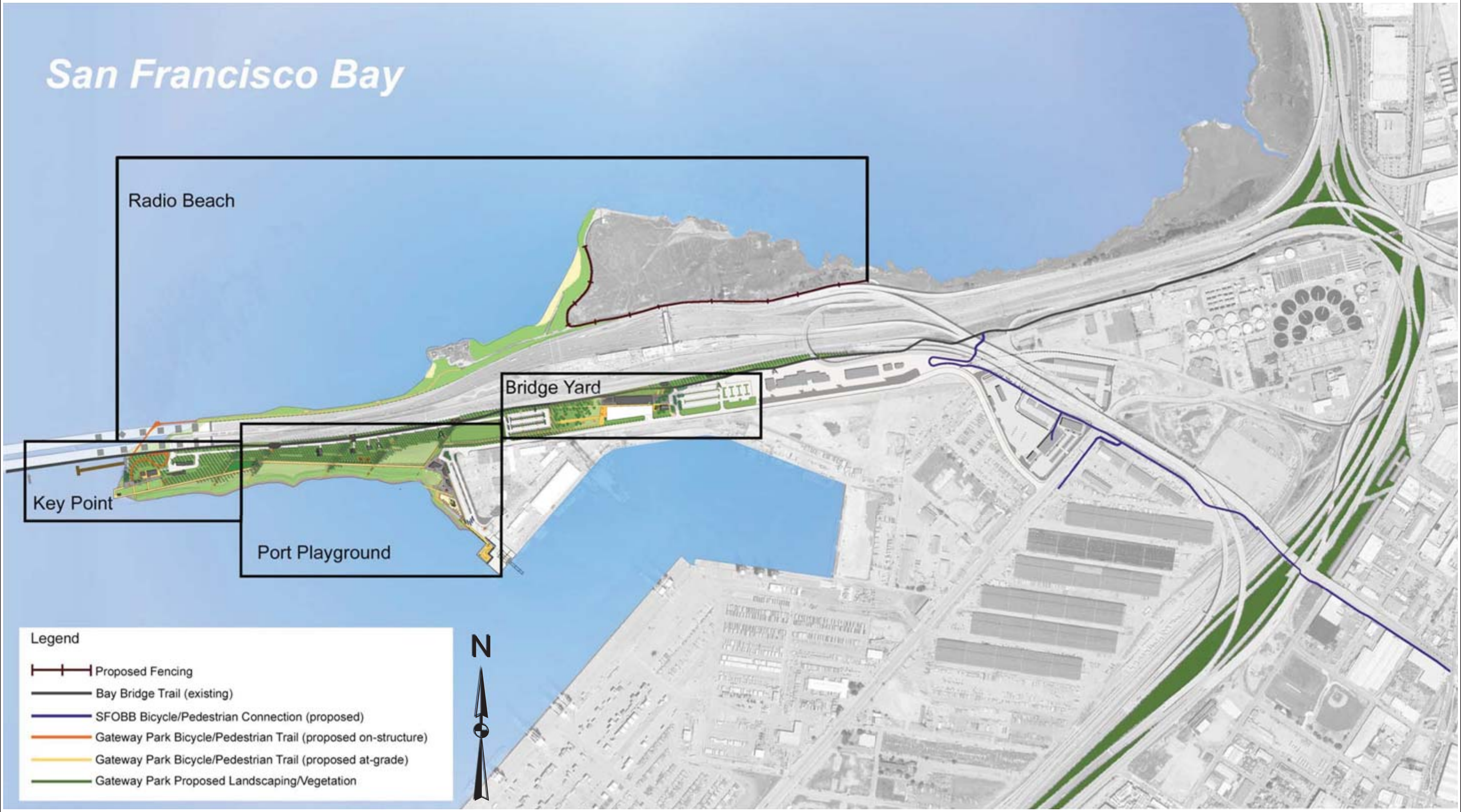


gatewaypark

Figure ES-1
Project Location

gatewaypark

Figure ES-2
Project Area



Source: TYLIN, 2017.

Figure ES-3
Park Areas

Minimum Park Requirements

The project fulfills prior planning commitments and agreements, each of which calls for the creation of a park at the project area.

- BCDC permit conditions for the East Span project
- Goals set forth in the Oakland Base Reuse Authority Final Reuse Plan
- Policies set forth in the BCDC Bay Plan
- ABAG planning efforts related to the regional Bay Trail
- The Bay Bridge Section 106 Memorandum of Agreement (MOA)

Overall, the project would improve the quality and connectivity of and serve as a key nexus to existing park and recreational facilities, particularly the Bay Bridge Trail and the regional Bay Trail.

East Span Project BCDC Permit

To construct the East Span project, Caltrans received a permit from the BCDC, which included mitigation commitments to compensate for impacts to public access to the shoreline (BCDC 2016). The permit requires the provision of 4.5 acres of public access at the Oakland touchdown consisting of Gateway Park, a parking lot, and a trail connecting the park to the Bay Bridge Trail. Additional requirements include (1) a parking lot with 43 spaces, (2) a 15.5 foot-wide, 466-foot-long paved trail, and a 0.143-acre landing with a setting area, connecting the new bridge trail with the parking lot and the trail system leading to Emeryville and Oakland, (3) limitations to vehicular access on maintenance roads, (4) plans to address impacts to the safety or quality of the public access trail, (5) landscaping within Gateway Park, and (6) public signs. Public access facilities must be handicapped accessible. The permit also includes requirements for connecting any future public access areas and shoreline paths. The BCDC permit requirements are discussed in more detail in Chapter 2, *Project Description*.

Oakland Base Reuse Authority Final Reuse Plan

The Final Reuse Plan for Oakland Army Base is a planning document prepared by the Oakland Base Reuse Authority (OBRA) and adopted by OBRA on July 31, 2002, which represents the preferred reuse vision for the Oakland Army Base (OARB) (City of Oakland 2002). Gateway Park was identified within the Final Reuse Plan. East Bay Regional Park District (EBRPD) applied for a 15-acre Public Benefit Conveyance, approved by the Army, as part of the Final Reuse Program for the Oakland Army Base. The EBRPD intended to develop the area as open space and parkland, with a future connection to the Bay Trail. It was intended that the Gateway Development Area's master developer will coordinate with the EBRPD to maximize public open space and access the waterfront, previously unavailable to Oakland's citizens.

BCDC San Francisco Bay Plan

The San Francisco Bay Plan was completed and adopted by the BCDC in 1968 and submitted to the California Legislature and Governor in January 1969. The San Francisco Bay Plan includes the policies to guide future uses of the Bay and shoreline and the maps that apply these policies to the present Bay and shoreline. Gateway Park is identified in these maps that apply policies to the present Bay and shoreline (San Francisco Bay Conservation and Development Commission 2012).

Plan Map 4 and Plan Map 5 of the BCDC Bay Plan identify Gateway Shoreline Park. Policies in the Plan provide that the park should offer pedestrian and bicycle access to the Bay Bridge, viewing, picnicking, non-motorized small boat launching and interpretation of current and historic transportation infrastructure and natural and cultural factors, protection of eelgrass beds and nearby endangered species habitats, and signage regarding fish consumption advisories for anglers.

ABAG Planning for the Regional Bay Trail

The San Francisco Bay Trail is a planned 500-mile walking and bicycling path around the entire San Francisco Bay. The ultimate goal of the Bay Trail is to build a continuous shoreline bicycle and pedestrian path for all to enjoy. Gateway Park is designed to connect to the San Francisco Bay Trail.

Bay Bridge Section 106 Memorandum of Agreement (MOA)

The Federal Highway Administration (FHWA), Coast Guard, California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation entered into a MOA in 2000. The MOA identifies stipulations to mitigate impacts to architectural and historical resources due to construction of the East Span of the Bay Bridge (FHWA et al. 2000). The MOA stipulates that Caltrans will offer selected salvaged components of the old Bay Bridge to the owner of the “proposed Oakland touchdown park … for display or other use in the park.” In addition, Caltrans will consult with the park owner to produce and install interpretive exhibits in the park, including “plaques or markers, salvaged components of the bridge, a mural or other depiction of the ridge, and the large clock that formerly stood atop the toll plaza canopy.”

Project Objectives

The primary purpose of the project is to provide a distinctive entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge. The project purpose is also to provide safe, multimodal access to the shoreline and both active and passive recreation opportunities. Specific project objectives include transportation and shoreline access objectives and regional park and recreation objectives.

- Transportation and Shoreline Access Objectives
  - Provide public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large.
  - Facilitate multimodal connections to the shoreline and regional park (bicycle, pedestrian, transit, auto, and watercraft).
  - Provide improved staging and access to the new bicycle and pedestrian path on the east span of the Bay Bridge.
  - Provide links to existing and planned segments of the San Francisco Bay Trail. When complete, the linear Bay Trail will be a continuous 500-mile bicycle/pedestrian trail encircling the entire Bay Area.
  - Provide staging and access to the planned San Francisco Bay Area Water Trail. The Water Trail program is an ongoing effort to create a network of launch and landing sites for human-powered watercraft throughout the Bay Area. The Water Trail is nonlinear and on the water without specific routes.

- Regional Park and Recreation Objectives
  - Create a distinctive entryway park that reflects the people, history, and culture of the East Bay.
  - Provide a destination for residents and visitors to view and access San Francisco Bay and the east span of the Bay Bridge, as well as to view the Port of Oakland operations.
  - Provide active and passive recreation opportunities, including walking, nature appreciation, interpretation of transportation history, bicycling, fishing, kiteboarding, windsurfing, kayak launching, and nonmotorized boating.
  - Provide opportunities for the interpretation of San Francisco Bay natural resources, transportation history, ~~and~~ the history of the Port of Oakland, and the history of the former Oakland Army Base.
  - Provide a venue for community, regional, and national events.
  - Provide a venue for installations by artists.
  - Provide a learning environment for students to experience San Francisco Bay natural resources and transportation history.
  - Provide a long-term sustainable regional park, including revenue-generation opportunities for funding park operations and maintenance.
  - Provide the required mitigation for transportation projects.

Areas of Known Controversy and Issues to be Resolved

Through issuance of a Notice of Preparation (NOP) and a public scoping meeting held on November 14, 2013, responsible agencies, interested organizations, and individuals have been provided the opportunity to provide both written and verbal comments concerning the scope of this Draft EIR, the alternatives to be considered, and issues of concern and controversy. Written and verbal comments received during the scoping process are included in Appendix A, *Notice of Preparation and Scoping Comments,* of this Draft EIR.

It should be noted that at the time of public scoping, the project description included both the 45-acre park and supporting improvements as well as an independent bicycle connection from the park and the Bay Bridge Trail to Mandela Parkway in West Oakland. Subsequent to scoping, the bike path to West Oakland was separated from the park project because it has independent utility and thus will be addressed under separate environmental review.

The following areas of known controversy and issues to be resolved have been identified through the public outreach process.

- Potential impacts to biological resources, including the sensitive marsh system at Radio Beach, fish habitat, and nesting birds.
- Potential impacts to the historic buildings at the project site.
- Potential safety conflicts between kayakers and other users of the San Francisco Bay, particularly maritime activities associated with the Port.

- Potential impacts from on-site contamination that the U.S. Army is required to clean up prior to any property transfer.
- Potential impacts related to land use compatibility, particularly the compatibility of the proposed park uses with adjacent Port and industrial uses.
- Potential conflicts between park traffic and truck/industrial traffic, and potential impacts associated with traffic access at the primary access point of Burma Road.
- Potential impacts to critical wastewater infrastructure located within the project site.

Project Impacts and Mitigation Measures

Summary of Project Impacts

The project impacts and mitigation measures are summarized in Table ES-1 (presented at the end of this summary). Cumulative impacts and mitigation measures are presented in Table ES-2.

The impacts described in this EIR are for the potential full buildout of improvements included in the Project Description. As noted above, at a minimum, those improvements necessary to meet prior BCDC permit requirements would be constructed. Other improvements beyond the minimum permit requirements may or may not be implemented. Thus, the impacts may be less than levels disclosed in this EIR. Mitigation measures would apply only to those improvements that are actually implemented.

Significant and Unavoidable Impacts

The project would result in a significant and unavoidable project impact and cumulative impacts on biological resources, greenhouse gases, noise, and transportation, as shown below.

- **Impact BIO-5.** The project would have a substantial adverse effect on special-status fish species as a result of construction.
- **Impact GHG-1.** The project will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment.
- **Impact TRA-1.** The project would result in increased vehicular, pedestrian, and bicycle traffic and would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during special events.
- **Impact TRA-2.** The project would conflict with the applicable congestion management program, including level of service standards and travel demand measures, and other standards established by the county congestion management agency for designated roads or highways during special events.
- **Impact C-BIO-5.** The project would not contribute considerably to the loss of habitats of special-status fish species but could result in unavoidable loss of individual special-status fish species due to pile driving.
- **Impact C-GHG-1.** The project, in combination with reasonably foreseeable actions in the project vicinity, will generate GHG emissions, either directly or indirectly that will have a significant impact on the environment.

- **Impact C-NOI-1.** The project, in combination with reasonably foreseeable actions in the project vicinity, would cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project.
- **Impact C-TRA-1.** The project, in combination with other foreseeable projects in the project vicinity, would result in increased vehicular, pedestrian, and bicycle traffic that could affect the performance of the circulation system during special events.
- **Impact C-TRA-2.** The project, in combination with other foreseeable projects in the project vicinity, would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards also established by the county congestion management agency for designated roads or highways.

Alternatives

Project Alternatives

CEQA Guidelines Section 15126.6 requires an EIR to evaluate a reasonable range of alternatives to the project that would feasibly attain most of the project's basic objectives but that would avoid or substantially lessen any identified significant environmental impacts of the project, as well as the No Project Alternative.

After the full suite of potential improvements for the primary park areas and features were determined, a range of alternatives was developed. The alternatives primarily focused on variations on park features. Some alternatives included new park elements, and one offsite alternative was proposed. After screening for feasibility and meeting project objectives, the project and alternatives for further evaluation in this EIR were chosen. The features of the alternatives analyzed further in this EIR are summarized below and analyzed in detail in Chapter 5, *Alternatives*.

- **No Project Alternative**. The No Project Alternative is defined by the BCDC permit for the East Span project, which, as discussed above, requires the provision of 4.5 acres for unrestricted public access for walking, sitting, viewing, and other related purposes (thus, the No Project Alternative is not a no-build alternative). Under this 4.5-acre park alternative, new amenities beyond these minimal improvements would not be constructed. Planned improvements in the 4.5-acre park would be limited to pathways connecting the shoreline with the Bay Bridge Trail, the Bay Trail, the Bridge Yard Building, and the parking lot. Drought-resistant planting and minimal lighting would be installed. Parking capacity would be maintained at 43 spaces. One or two retention basins would be constructed. All pets would be prohibited.
- **Passive Park Alternative.** The Passive Park Alternative would provide minimal improvements to allow access to the renovated Bridge Yard Building and to the shoreline. It would not provide improvements for active recreation or new access to Radio Beach. New improvements in the Bridge Yard area would be more limited compared to the project, and the Passive Part Alternative would not include a new indoor/outdoor auditorium. In the Port Playground area, the Passive Park Alternative would provide pathways, benches, and restrooms but no visitor center or other recreation activities or improvements. In the Key Point area, the Passive Park Alternative would construct a new path to the Bay Bridge Trail, similar to the project, but it would not construct a pier or renovate buildings. In the Radio Beach area, the Passive Park

Alternative would protect the existing tidal marsh area with restoration and fencing, but it would not provide a new access path or parking improvements.

- **Active Park Alternative.** The Active Park Alternative would include most of general improvements for passive and active recreation as the proposed project and additional active use features. Amusement rides and sports fields would be included in the Port Playground Area. The kayak launch would be located at the far western end by the Bay Bridge in the Key Point area instead of at the Port Playground. A berm would be incorporated into the windbreak/tree buffer area south of I-80, dogs or pets would be allowed on both the north (Radio Beach) and south sides of the park, and there would be more parking throughout the park.

Alternatives Rejected as Infeasible

The following alternatives were under consideration but were rejected on the basis of infeasibility.

- **Kayak Launch at Radio Beach**: This alternative would relocate the proposed kayak launch platform from the Port Playground to Radio Beach to reduce potential conflicts between kayakers and Port traffic. This alternative was dismissed because it would result in greater impacts to biologically sensitive habitat in the Radio Beach area.
- **More Fill for Shoreline Protection:** This alternative would provide Bay fill and associated structures (e.g., retaining walls) to protect the shoreline and maximize the park area. This alternative was dismissed because it would not reduce any impacts of the project and it would be inconsistent with key policies in the San Francisco Bay Plan emphasizing minimization of new fill in the Bay.
- **No Fill for Shoreline Protection:** This alternative is based on the concept of "managed retreat" and would not include additional Bay fill or setback of the park features from the shoreline, with the intent of letting the park area flood as the sea level rise occurs instead of constructing formal protection. This alternative would reduce water quality and biological impacts. Without Bay fill or shoreline protection, the Park would be vulnerable to the effects of sea level rise, which could result in more severe shoreline erosion, flooding, inundation, and wave overtopping. This alternative would not meet the project objective of providing safe, multimodal access to the shoreline. In addition, this alternative would not meet the transportation and shoreline access objective of providing public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large. Further, this alternative would not fulfill existing permit and mitigation requirements associated with the East Span project to provide public shoreline access in the project area. Therefore, this alternative was dismissed from further consideration.
- **Creation of an Artificial Bird Island:** This alternative would create a bird refuge island in the Bay using old bridge pilings. This alternative was dismissed because it would not reduce any impacts of the project.
- **Footbridge from Radio Beach to Emeryville**: This alternative would construct a footbridge between Radio Beach and Emeryville. This alternative was dismissed because it would not reduce any impacts of the project and would result in additional impacts on sensitive biological resources from construction and human presence in a sensitive mudflat area.
- **Offsite Alternative:** This alternative would create a shoreline park at a different location in the East Bay. This alternative was dismissed because it would not meet the fundamental purpose of

the project which is to implement the BCDC Permit No. 2001.008.4~~1~~2 requirement to provide 4.5 acres for unrestricted public access for walking, sitting, viewing, and other related purposes at the project site.

Environmentally Superior Alternative

The Passive Park Alternative is considered the environmentally superior alternative because it would reduce the severity of adverse environmental effects across a broad range of environmental resources; minimize the impacts to habitats and natural communities; and eliminate impacts associated with pile driving.

Table ES-1. Summary of Project Impacts and Mitigation Measure

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Aesthetics			
Impact AES-1. The project would cause changes to but would not substantially degrade visual character, visual quality, and scenic vistas	Significant	MM-AES-1. Apply aesthetic treatments to fencing	Less than significant
Impact AES-2. New sources of light and glare associated with the project would not adversely affect day or nighttime views in the area	Less than significant	None required	--
Impact AES-3. Operation of the project would cause long-term changes to but would not substantially damage scenic resources along a scenic highway	Less than significant	None required	--
Air Quality			
Impact AQ-1. The project would not conflict with or obstruct implementation of the applicable air quality plan during construction and routine operations	Less than significant	None required	--

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact AQ-2. The project would not generate emissions of ozone precursors (NO_X) in excess of BAAQMD thresholds during construction or during routine operations	Construction: significant Operations: less than significant	MM-AQ-1. Implement BAAQMD basic control measures to control construction-related dust emissions MM-AQ-2. Implement BAAQMD basic control measures to reduce construction-related exhaust emissions MM-AQ-3. Implement BAAQMD additional control measures to control construction-related dust emissions MM-AQ-4. Implement BAAQMD additional control measures to reduce construction-related exhaust emissions MM-AQ-5. Reduce construction emissions to ensure both construction-only and combined construction and operational emissions are below BAAQMD NO_X thresholds	Less than significant
Impact AQ-3. The project would not generate overlapping project construction and operations emissions of ozone precursors (ROG and NO_X) in excess of BAAQMD thresholds	Significant	MM-AQ-1 MM-AQ-2 MM-AQ-3 MM-AQ-4 MM-AQ-5 MM-AQ-6. Use low-VOC coatings during construction	Less than significant
Impact AQ-4: The project would not expose sensitive receptors to substantial pollution concentrations during construction	Significant	MM-AQ-1 MM-AQ-2 MM-AQ-3 MM-AQ-4	Less than significant
Impact AQ-5. The project would not exacerbate exposure of park recreational users to Port-related air pollution during operations	Less than significant	None required	--

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact AQ-6: The project would not create objectionable odors affecting a substantial number of people	Less than significant	None required	--
Biology			
Impact BIO-1. The project would not have a substantial adverse effect on habitats and sensitive natural communities as a result of construction and ongoing operations	Significant	MM-BIO-1. Install construction barrier fencing around sensitive natural communities in and adjacent to the construction area to protect sensitive biological resources to be avoided MM-BIO-2. Prepare environmental awareness program and conduct environmental awareness training for construction employees MM-BIO-3. Retain a biological monitor to conduct construction monitoring in and adjacent to all environmentally sensitive areas MM-BIO-4. Protect water quality and prevent erosion and sedimentation in drainages, waterways, and wetlands MM-BIO-5. Compensate for loss of tidal salt marsh habitat MM-BIO-6. Compensate for loss of seasonal wetland habitat MM-BIO-7. Compensate for loss of shallow bay habitat MM-BIO-8. Compensate for loss of eelgrass habitat	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact BIO-2. The project would not have a substantial adverse effect on special-status plant species as a result of construction and ongoing operations	Significant	MM-BIO-1. MM-BIO-2. MM-BIO-3. MM-BIO-9. Prior to construction of Phase 3 of park development, conduct plant surveys for beach layia, blues coast gila, and California seablite between June 1 and September 1	Less than significant
Impact BIO-3. The project would not have a substantial adverse effect on special-status wildlife species as a result of construction and ongoing operation	Significant	MM-BIO-1 MM-BIO-2 MM-BIO-3 MM-BIO-7 MM-BIO-8 MM-BIO-10. Remove all vegetation by hand and install construction barrier fencing around sensitive natural communities in and adjacent to the construction area for the new path in the Radio Beach area MM-BIO-11. Conduct protocol-level surveys for Ridgway's rail and California black rail in the adjacent tidal marsh to determine presence or absence of this species MM-BIO-12. Establish 700-foot construction buffer around occupied, suitable Ridgway's rail and California black rail habitat in the Emeryville Crescent if construction occurs during the rail breeding season (January 15 to September 1) MM-BIO-13. Install fencing around tidal marsh habitat east of the project area	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
		MM-BIO-14. Manage the onsite northern foredune and tidal marsh habitat as a buffer between Radio Beach and offsite tidal marsh habitat MM-BIO-15. Close Radio Beach to entry at night MM-BIO-16. Prohibit dogs in Radio Beach area MM-BIO-17. Prohibit installation of lighting, trees, or other structures potentially suitable for raptor perching on the north side of I-80 within designated park areas	
Impact BIO-4. The project would not have a substantial adverse effect on migratory and nonmigratory birds as a result of construction and ongoing operations	Significant	MM-BIO-1 MM-BIO-2 MM-BIO-3 MM-BIO-13 MM-BIO-14 MM-BIO-15 MM-BIO-16 MM-BIO-17 MM-BIO-18. Avoid construction during the migratory bird-nesting season (January 31 through September 15) or conduct preconstruction surveys for nesting birds MM-BIO-19. Install a no-disturbance buffer around detected active nests	Less than significant
Impact BIO-5. The project would have a substantial adverse effect on special-status fish species as a result of construction; the project would not have a substantial adverse effect on special-status fish species as a result of ongoing operations	Construction: significant Operations: less than significant	MM-BIO-4 MM-BIO-7 MM-BIO-20. Implement pile-driving noise reduction measures to minimize impacts on special-status fish species	Significant and unavoidable

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact BIO-6. The project would not have a substantial adverse effect on essential fish habitat as a result of construction and ongoing operations	Significant	MM-BIO-4 MM-BIO-7 MM-BIO-8	Less than significant
Impact BIO-7. The project would not have a substantial adverse effect on marine mammals as a result of construction and ongoing operations	Significant	MM-BIO-20 MM-BIO-21. Reduce pile-driving noise to protect marine mammals MM-BIO-22. Monitor and report marine mammal sightings before, during, and after pile driving	Less than significant
Impact BIO-8. The project would not have a substantial adverse effect on bats as a result of construction and ongoing operations	Significant	MM-BIO-1 MM-BIO-2 MM-BIO-3	Less than significant
Impact BIO-9. The project would not affect coast live oak or other trees larger than 9 inches in diameter as a result of construction and ongoing operations	No impact	None required	--
Impact BIO-10. The project would not have a substantial adverse effect in relation to invasive plant species as a result of construction and ongoing operations	Significant	MM-BIO-2 MM-BIO-3 MM-BIO-23. Implement measures to avoid the introduction and spread of invasive plants MM-BIO-24. Implement measures to avoid the spread of invasive plants	Less than significant
Cultural Resources			
Impact CUL-1. Project construction activities would not cause a substantial adverse change in the significance of archaeological resources that are listed or eligible for listing in the NHRP or CRHR	Significant	MM-CUL-1. Stop work if cultural resources are encountered during ground-disturbing activities	Less than significant
Impact CUL-2. Project construction activities would have the potential to disturb human remains, including those interred outside of formal cemeteries	Significant	MM-CUL-2. Stop work if human remains are encountered during ground-disturbing activities	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact CUL-3. The project would not cause a substantial adverse change in the significance of historical resources that are listed or eligible for listing in the NRHP/CRHR as a result of construction activities	Significant	MM-CUL-3. Engage a ~~third-party~~ qualified architectural historian to guide design alterations to conform to the Secretary of the Interior's Standards for rehabilitation	Less than significant
Impact CUL-4. The project would not destroy historical resources that are listed in or eligible for listing in the NRHP/CRHR as a result of construction activities	Less than significant	None required	--
Geology, Soils, and Paleontological Resources			
Impact GEO-1. The project would not expose people or structures to risk of loss, injury, or death involving rupture of a known earthquake fault	No impact	--	--
Impact GEO-2. The project would not expose people or structures to strong seismic ground shaking	No impact	--	--
Impact GEO-3. The project would not expose people or structures to seismic-related ground failure, including liquefaction	Less than significant	None required	--
Impact GEO-4. The project would not result in adverse soil erosion or the loss of topsoil	Less than significant	None required	--
Impact GEO-5. The project would not result in adverse on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse related to unstable soils	Less than significant	None required	--
Impact GEO-6. The project would not be located on expansive soils where construction would create substantial risks to life or property	No impact	--	--
Impact GEO-7. The project would not cause a substantial adverse change in the significance of paleontological resources	Significant	MM-GEO-1. Establish and follow procedures in case of accidental discovery of a paleontological resource	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Greenhouse Gases			
Impact GHG-1. The project will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment	Significant	MM-AQ-2 MM-AQ-4 MM-GHG-1. Implement Operational GHG emission reduction measures	Significant and unavoidable
Impact GHG-2. The project would not conflict with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs	Significant	MM-GHG-1	Less than significant
Hazardous Materials			
Impact HAZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	Less than significant	None required	--
Impact HAZ-2. The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Significant	MM-HAZ-1. Prepare a limited Phase II Environmental Site Assessment for the terrestrial portions of the project within the boundary of the former Oakland Army Base and, if appropriate, a site mitigation plan MM-HAZ-2. Install warning signage that prohibits patrons from swimming or standing in the water on the south side of the park in the area of contaminated sediments	Less than significant
Impact HAZ-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	Less than significant	None required	--
Impact HAZ-4. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Significant	MM-TRA-1. Prepare and implement a construction traffic management plan MM-TRA-~~7~~6. Provide additional emergency access to Gateway Park	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Hydrology and Water Quality			
Impact HY-1. The project would not violate water quality standards or WDRs as a result of construction or operations	Construction: significant Operations: less than significant	MM-HY-1. Implement a toxic materials control and spill response plan MM-HY-2. Implement construction dewatering treatment if necessary MM-HAZ-1	Less than significant
Impact HY-2. The project would not substantially deplete groundwater supplies or interfere with groundwater recharge	Less than significant	None required	--
Impact HY-3. The project would not alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on site or off site	Less than significant	None required	--
Impact HY-4. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site	Less than significant	None required	--
Impact HY-5. The project would not create or contribute runoff water that would exceed the capacity of the planned stormwater drainage system or provide additional sources of polluted runoff	Significant	MM-HY-3. Implement drainage treatment and gross solids removal devices if necessary	Less than significant
Impact HY-6. Construction activities would not otherwise degrade water quality	Less than significant	None required	--
Impact HY-7. The project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, but may place park features in areas that could be inundated by flooding due to sea level rise but would not exacerbate coastal flooding	Less than significant	None required	--
Impact HY-8. The project would not exacerbate inundation by seiche, tsunami, or mudflow and any related effects on people or structures	Less than significant	None required	--

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Land Use and Planning			
Impact LU-1. The project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental impact	~~Significant~~ Less than significant	~~MM-LU-1. Initiate and complete the general plan amendment and rezoning process~~ None required	~~Less than significant~~ --
Impact LU-2. The project would not conflict with an applicable habitat conservation plan or natural community conservation plan	Less than significant	None required	--
Impact LU-3. The project would not introduce new land uses into an area that could be considered incompatible with the surrounding land uses or with the general character of the area	Significant	MM-LU-~~2~~1. Install warning signage at the Port Playground kayak launch and include warnings on ~~Gateway Park website~~ a publically accessible website about potential conflicts between recreational kayak use and Port of Oakland uses	Less than significant
Noise			
Impact NOI-1. The project would not expose sensitive receptors to excessive temporary noise or vibration impacts during construction activities	Significant	MM-AQ-2 MM-AQ-4	Less than significant
Impact NOI-2. The project would not cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project	Less than significant	None required	--
Public Services			
Impact PS-1. The project would not result in the need for new or physically altered fire services facilities	Less than significant	None required	--
Impact PS-2. The project would not result in the need for new or physically altered police service facilities	Significant	MM-PS-1. Provide security staff during special events	Less than significant
Impact PS-3. The project would not result in the need for new or physically altered school facilities	Less than significant	None required	--

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact PS-4. The project would not result in the need for new or physically altered library facilities	Less than significant	None required	--
Transportation			
Impact TRA-1. The project would result in increased vehicular, pedestrian, and bicycle traffic and would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during special events	Construction: significant Operations: significant (during special events)	MM-TRA-1. Prepare and implement a construction traffic management plan MM-TRA-2. Upgrade traffic signal equipment at the 7th Street/Maritime Street intersection	Construction: less than significant Operations: significant and unavoidable (during special events)
Impact TRA-2. The project would conflict with the applicable congestion management program, including level of service standards and travel demand measures, and other standards established by the county congestion management agency for designated roads or highways during special events	Significant (during special events)	None required	Significant and unavoidable (during special events)
Impact TRA-3. The project would not result in a change in air traffic patterns	Less than significant	None required	--
Impact TRA-4. The project would introduce design features that could cause bicycle and pedestrian conflicts but would not result in a substantial increase in hazards	Significant	MM-TRA-1 MM-TRA-3. Provide improvements to separate passive park users from active Bay Bridge Trail users MM-TRA-4. Upgrade intersection pedestrian and bicycle facilities at the West Grand Avenue/Frontage Road/I-80 ramps (Study Intersection 3) MM-TRA-5. Develop and implement a way-finding plan	Less than significant
Impact TRA-5. The project would not result in inadequate emergency access	Significant	MM-TRA-1 MM-TRA-6. Provide emergency evacuation plan and additional emergency access to Gateway Park, including parking management during special events.	Less than significant

Impact	Significance before Mitigation	Mitigation	Significance after Mitigation
Impact TRA-6. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, but would decrease the performance or safety of such facilities	Significant	MM-TRA-1 MM-TRA-3 MM-TRA-4 MM-TRA-5	Less than significant
Utilities			
Impact UTIL-1. The project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities	Significant	MM-UTIL-1. Coordinate with and obtain approval from EBMUD during design of outfall crossings MM-UTIL-2. Maintain continued EBMUD access to outfall utility holes and vents MM-UTIL-3. Protect outfall during project construction	Less than significant
Impact UTIL-2. New stormwater drainage facilities constructed for the project would not cause a significant environmental effect	Less than significant	None required	--
Impact UTIL-3. The project's estimated water demand would not exceed existing water supply	Less than significant	None required	--
Impact UTIL-4. The project would not exceed the capacity of the wastewater treatment provider	Less than significant	None required	--
Impact UTIL-5. The project would not exceed the capacity of nearby landfills	Less than significant	None required	--
Impact UTIL-6. The project would comply with federal, state, and local statutes and regulations related to solid waste	Less than significant	None required	--

Table ES-2. Summary of Cumulative Impacts and Mitigation Measures

Impact	Significance before Mitigation	Significance after Mitigation
Impact C-AIR-1. The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)	Cumulatively considerable	Less than cumulatively considerable
Impact C-AIR-2. The project would not result in cumulatively considerable emissions of toxic air contaminants	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-1. The project would not contribute considerably to cumulative impacts on habitats and sensitive natural communities	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-2. The project would not contribute considerably to cumulative impacts on habitats and populations of special-status plant species	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-3. The project would not contribute considerably to cumulative impacts on habitats and populations of special-status wildlife species	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-4. The project contribute considerably to cumulative impacts on habitats and populations of migratory and nonmigratory birds	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-5. The project, in combination with reasonably foreseeable actions in the project vicinity, would not contribute considerably to the loss of habitats of special-status fish species but could result in unavoidable loss of individual special-status fish species due to pile driving.	Cumulatively considerable	Significant and unavoidable
Impact C-BIO-6. The project would not contribute considerably to cumulative impacts on essential fish habitat for special-status fish species	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-7. The project, in combination with reasonably foreseeable actions in the project vicinity, would not affect marine mammals	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-8. The project would not contribute considerably to cumulative impacts on bats as a result of construction and ongoing operations	Cumulatively considerable	Less than cumulatively considerable
Impact C-BIO-9. The project would not contribute considerably to the dispersal and cultivation of invasive plant species	Cumulatively considerable	Less than cumulatively considerable
Impact C-CUL-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to uncover, relocate, alter, or destroy archaeological resources that are listed or eligible for listing in the NHRP or CRHR, and would have the potential to disturb human remains as a result of construction activities	Cumulatively considerable	Less than cumulatively considerable

Impact	Significance before Mitigation	Significance after Mitigation
Impact C-CUL-2. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to alter or destroy historical resources that are listed or eligible for listing in the NRHP or CRHR as a result of construction activities	Cumulatively considerable	Less than cumulatively considerable
Impact C-GEO-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would not substantially increase soil erosion	Less than significant cumulative impact	--
Impact C-GEO-2. The project, in combination with reasonably foreseeable actions in the project vicinity, would not substantially increase soil hazards	Less than significant cumulative impact	--
Impact C-GEO-3. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to disturb or destroy paleontological resources	Cumulatively considerable	Less than cumulatively considerable
Impact C-GHG-1: The project, in combination with reasonably foreseeable actions in the project vicinity will generate GHG emissions, either directly or indirectly that will have a significant impact on the environment	Cumulatively considerable	Significant and unavoidable
Impact C-HAZ-1: The proposed project, in combination with reasonably foreseeable actions in the project vicinity, would not create a significant hazard to human health and/or the environment involving the management or release of hazardous materials	Less than significant cumulative impact	--
Impact C-HAZ-2: The proposed project, in combination with reasonably foreseeable actions in the project vicinity, would not create a significant hazard to human health and/or the environment involving the disturbance of subsurface hazardous materials	Less than significant cumulative impact	--
Impact C-HAZ-3: The proposed project, in combination with reasonably foreseeable actions in the project vicinity, would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan	Less than cumulatively considerable	--
Impact C-HY-1. The project, in combination with other foreseeable actions in the project vicinity, would not contribute considerably to cumulative impacts on water quality	Less than cumulatively considerable	--
Impact C-HY-2. The project, in combination with other foreseeable actions in the project vicinity, would not contribute considerably to cumulative impacts on groundwater recharge and supplies	Less than cumulatively considerable	--
Impact C-HY-3. The project, in combination with other foreseeable actions in the project vicinity, would not contribute considerably to cumulative impacts on storm drain capacity	Less than significant cumulative impact	--

Impact	Significance before Mitigation	Significance after Mitigation
Impact C-LU-1. The project, in combination with other foreseeable actions in the project vicinity, would not physically divide an established community	Less than significant cumulative impact	--
Impact C-LU-2. The project, in combination with other foreseeable actions in the project vicinity, would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact	Less than cumulatively considerable	--
Impact C-LU-3. The project, in combination with other foreseeable actions in the project vicinity, would not conflict with applicable habitat conservation plan or natural community conservation plan	Less than cumulatively considerable	--
Impact C-NOI-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would not expose sensitive receptors to excessive temporary noise or vibration impacts during construction activities but would cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project	Cumulatively considerable	Significant and unavoidable
Impact C-PS-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would not result in the need for new or physically altered fire service facilities	Less than cumulatively considerable	--
Impact C-PS-2. The project, in combination with reasonably foreseeable actions in the project vicinity, would not result in the need for new or physically altered police service facilities	Less than significant cumulative impact	--
Impact C-PS-3. The project, in combination with reasonably foreseeable actions in the project vicinity, would not result in the need for new or physically altered school facilities	Less than cumulatively considerable	--
Impact C-PS-4. The project, in combination with reasonably foreseeable actions in the project vicinity, would not result in the need for new or physically altered library facilities	Less than cumulatively considerable	--
Impact C-TRA-1. The project, in combination with other foreseeable projects in the project vicinity, would result in increased vehicular, pedestrian, and bicycle traffic that could affect the performance of the circulation system during special events	Intersection 7: less than cumulatively considerable Intersections 3 and 6: cumulatively considerable MM-TRA-7. Install protected-permitted phasing and upgrade traffic signal equipment at the West Grand Avenue/Mandela	Intersection 7: -- Intersections 3 and 6: less than cumulatively considerable Special events: significant and unavoidable

Impact	Significance before Mitigation	Significance after Mitigation
	Parkway (northbound) intersection Special events: cumulatively considerable	
Impact C-TRA-2. The project, in combination with other foreseeable projects in the project vicinity, would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways	Cumulatively considerable	Significant and unavoidable
Impact C-TRA-3. The project, in combination with other foreseeable projects in the project vicinity, would introduce design features or incompatible uses that could cause bicycle and pedestrian conflicts, resulting in a substantial increase in hazards	Cumulatively considerable	Less than cumulatively considerable
Impact C-UT-1. The project would not contribute considerably to cumulative impacts on treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities	Less than significant cumulative impact	--
Impact C-UT-2. The project would not contribute considerably to cumulative requirements for the construction of new stormwater drainage facilities or expansion of existing facilities	Less than significant cumulative impact	--
Impact C-UT-3. The project, in combination with reasonably foreseeable actions in the project vicinity, would not exceed viable water supply	Less than significant cumulative impact	--
Impact C-UT-4. The project, in combination with reasonably foreseeable actions in the project vicinity, would not exceed landfill capacity and would not comply with federal, state, and local statutes and regulations related to solid waste	Less than significant cumulative impact	--

Chapter 1
Introduction

The project proponent proposes the creation of a new 45-acre park (project or Gateway Park) along the waterfront near the eastern end of the east span of the San Francisco–Oakland Bay Bridge (Bay Bridge) in Oakland, California. Gateway Park would be located in the city of Oakland, Alameda County, adjacent to Interstate 880 (I-880) and Interstate 80 (I-80) at the eastern touchdown of the Bay Bridge. The project would provide safe access to the bicycle/pedestrian path on the east span of the Bay Bridge (Bay Bridge Trail) as well as access to existing and planned segments of the regional San Francisco Bay Trail (Bay Trail). The project would provide safe, multimodal access to the shoreline and would be a unique waterfront amenity. Gateway Park could include both active and passive recreation opportunities and a venue for community events and art installations. It could highlight the natural, maritime, industrial, and transportation history of the East Bay. Furthermore, it would be designed to meet mitigation commitments for the San Francisco Bay Bridge East Span Seismic Safety Project (East Span project), reuse of the Oakland Army Base, and demolition and reconstruction of I-880 (Cypress/Interstate 880 freeway project) (see discussion of minimum park requirements in Chapter 2, *Project Description*).

The project is the result of a cooperative planning effort between nine local, regional, and state agencies that form the Gateway Park Working Group. These agencies are the Bay Area Toll Authority (BATA), California Department of Transportation (Caltrans), San Francisco Bay Conservation and Development Commission (BCDC), California Transportation Commission (CTC), East Bay Regional Park District (EBRPD), City of Oakland, Port of Oakland, East Bay Municipal Utility District (EBMUD), and Association of Bay Area Governments (ABAG's) Bay Trail Project. BATA, acting on behalf of the Working Group, is the lead agency for the project under California Environmental Quality Act (CEQA). Each of the Working Group agencies, with the exception of BCDC which is solely a regulatory agency, could implement and/or fund potential projects included in the Project Description of this EIR. Accordingly, the project proponent under CEQA is understood to include all of the Working Group members except for BCDC.

This environmental impact report (EIR) evaluates the environmental effects of a wide range of potential improvements. The project would be developed in phases over time and would likely include more modest improvements and passive recreational facilities initially. As the first discretionary action to be taken for the project in Phase 1, BATA would enter into a cooperative agreement with Caltrans wherein BATA would provide funds to Caltrans for the construction of a parking lot east of the Bridge Yard building. The project may or may not include all of the potential features included in the Project Description of this EIR. The implementing parties would ultimately decide which features to include in the project. Completion of the CEQA review process for a full suite of potential improvements through this EIR allows for full disclosure of all potential environmental effects should all improvements ultimately be implemented.

The inclusion of an improvement in the Project Description of this EIR does not mean that the park implementers are obligated to construct the improvement. The only mandatory elements of the project are those commitments made during the planning for the East Span project, as memorialized in the permit for the East Span project issued by BCDC, which comprise a smaller subset of the project improvements discussed in this EIR.

1.1 Purpose of this EIR

The purpose of this EIR is to provide the information necessary for BATA to make an informed decision about the project, and for other public agencies to complete and provide the necessary permit applications, reviews, and approvals for the project.

This Draft EIR has been prepared in compliance with CEQA to achieve the following goals.

- Identify potential environmental impacts, including cumulative impacts, associated with the project.
- Describe feasible mitigation measures intended to avoid or reduce potentially significant impacts to a less-than-significant level.
- Disclose the environmental analysis, including the potential project impacts and proposed mitigation measures, for public and agency review and comment.
- Discuss potential alternatives to the project that would avoid or reduce identified significant project impacts.

One of the purposes of CEQA is to establish opportunities for the public and relevant agencies to review and comment on projects that might affect the environment. CEQA requires public participation through publication of the Notice of Preparation (NOP) as part of the EIR scoping process. Although a public scoping meeting is not required by CEQA, BATA held a public scoping meeting on November 14, 2013. Public participation is also achieved by notice and review of the Draft EIR whereby the public and agencies have 45 days to review the Draft EIR and submit written comments. Once the public review period is complete, BATA will prepare a Final EIR that includes all the comments received on the Draft EIR, responses to all comments on environmental topics, and any necessary revisions to the Draft EIR. CEQA requires lead and responsible agencies to review and consider the information in the EIR before making a decision on the project.

1.2 Environmental Review Process

1.2.1 California Environmental Quality Act

CEQA applies to all discretionary activities proposed to be implemented by California public agencies, including state, regional, county, and local agencies (California Public Resources Code Section 21000 *et seq*.). CEQA requires agencies to estimate and evaluate the environmental impacts of their actions, avoid or reduce significant environmental impacts when feasible, and to consider the environmental implications of their actions prior to making a decision. CEQA also requires agencies to inform the public and other relevant agencies and consider their comments in the evaluation and decision-making process. The State CEQA Guidelines are the primary source of rules and interpretation of CEQA. (California Public Resources Code Sections 21000 *et seq*.; 14 California Code of Regulations (CCR) 15000 *et seq*.).

1.2.2 Scope and Content of this Draft EIR

Scoping refers to the process used to assist the lead agency in determining the focus and content of an EIR. Scoping solicits input on the potential topics to be addressed in an EIR, the range of project alternatives, and possible mitigation measures. Scoping is also helpful in establishing methods of assessment and in selecting the environmental impacts to be considered in detail.

Notice of Preparation and Scoping Meeting

The scoping process for this EIR was formally initiated on October 30, 2013, when BATA submitted the NOP to the California State Clearinghouse for distribution to state agencies and to the County Clerk for public posting. The purpose of the NOP is to solicit participation from relevant agencies and the public in determining the scope of an EIR. The 30-day scoping period ended on December 6, 2013.

A public scoping meeting was held on November 14, 2013 at the West Oakland Senior center in Oakland, California to provide an opportunity for attendees to comment on environmental issues of concern.

It should be noted that at the time of public scoping, the project description included both the 45-acre park and supporting improvements as well as an independent bicycle connection from the park and the Bay Bridge Trail to Mandela Parkway in West Oakland. Subsequent to scoping, the bike path to West Oakland was separated from the park project because it has independent utility and thus will be addressed under separate environmental review.

Written and verbal comments received during the scoping process are included in Appendix A, *Notice of Preparation and Scoping Comments,* of this Draft EIR. Following is a summary of the environmental comments received.

Commenters expressed general support for the project and its components, including public access and shoreline enhancements. At the same time, commenters requested that the project proponent make all efforts to minimize potential environmental impacts. Comments are summarized by topic, as follows.

- **Aesthetics.** Commenters requested that no future or existing billboards or electronic signs be included in the project design or allowed within the project limits.
- **Air quality and greenhouse gas emissions.** Commenters expressed support for a shuttle service and water taxis as alternatives to private vehicle access, to avoid adding to the air-quality issues in the project area.
- **Biological resources.** Commenters expressed support for the preservation of Radio Beach and the sensitive marsh ecosystem in the area, along with potential for marine science education. A commenter asserted that there would be a conflict between proposed recreational uses and public access to this sensitive area, including fish habitat. Several commenters suggested providing a safe haven for nesting birds on any remaining old bridge structures. One commenter suggested minimizing the use of lawns and maximizing the use of native plants.
- **Cultural resources.** Commenters expressed support for the preservation of historic buildings in the area.

- **Geology, soils, and paleontological resources.** Commenters expressed support for a sandy, gravelly, or grassy beach for kayakers and support for preserving and maintaining the tidal ecosystem.
- **Hazards and hazardous materials.** Commenters expressed concern about potential hazards for kayakers from long fishing lines and from ships using the port. Another commenter recommended an inclusion in the environmental document of plans for hazardous materials testing and remediation.
- **Hydrology and water quality, sea level rise.** One commenter recommended expansion of the climate change adaptations to include the entire project.
- **Land use and planning.** Commenters encouraged restoration of the natural functioning of the tidal flats and wetlands and improved shoreline access. One commenter suggested that the environmental document include a thorough analysis of the compatibility of existing and proposed land uses.
- **Public services.** A commenter requested information on outreach to the public regarding public use.
- **Transportation and traffic.** Commenters expressed concern over vehicle and watercraft access, parking options, and potential conflicts with truck traffic. One commenter expressed concerns regarding the adequacy of Burma Road to accommodate increased development.
- **Utilities and service systems.** One commenter encouraged the use of active and passive solar solutions to reduce electrical power needs. One commenter expressed the need for safe access and protection of critical wastewater infrastructure located on the eastern end of the project area.

Resource Topics

Consistent with Appendix G of the State CEQA Guidelines, this Draft EIR evaluates the potential impacts of the project for the following resource areas.

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology, soils, and paleontological resources
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Noise and vibration
- Public services
- Transportation and traffic
- Utilities and service systems

The following topics are also analyzed in this DEIR.

- Significant unavoidable impacts
- Significant irreversible changes in the environment
- Growth inducement
- Cumulative impacts
- Alternatives to the project

Section 15128 of the CEQA Guidelines requires a statement briefly indicating the reasons that various possible significant impacts of a project were determined not to be significant and were therefore not discussed in detail in the EIR. During the scoping process, it was determined that the project would have no adverse impact on agricultural resources, mineral resources, population and housing, and parks and recreation. The reasons supporting this determination are described below.

- **Agricultural resources.** Changes in the status of agricultural lands may constitute significant impacts under CEQA; examples include direct conversion of state-designated Important Farmlands to nonagricultural use, conflict with Williamson Act (California Land Conservation Act) contracts, and various other types of environmental changes that have the potential to result indirectly in conversion of farmland to nonagricultural use. No agricultural land exists in the project area. No impacts on agricultural resources would result from project construction or operations. Consequently, the project would not have the potential to contribute directly or indirectly to conversion of farmland to nonagricultural use, and agricultural resources are not discussed further.
- **Mineral resources.** A project is typically considered to result in a significant impact on mineral resources when it results in the loss of availability of a known mineral resource important to the region and state or a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The project site and the area along the margin of the Bay to the west contain no identified mineral resources (City of Oakland 1996, Stinson et al. 1986). Project construction and operations would not affect mineral resources, and mineral resources are not discussed further.
- **Recreation.** A project would have a significant impact on recreational resources if it would increase the use of existing resources such that substantial deterioration of the facility would occur, or if the project includes recreational facilities, the construction of which would have in itself a significant impact. The project would create a unique recreational resource that would provide active and passive recreation opportunities, multimodal access to the shoreline, and waterfront amenities. The project would provide connectivity within and a key nexus to regional recreational facilities and systems, including the Bay Bridge Trail and existing and planned segments of the regional Bay Trail. In fact, the project fulfills the following prior planning commitments and agreements related to those facilities.
    - BCDC permit conditions for the East Span project (held by Caltrans)
    - Goals set forth in the Oakland Base Reuse Authority Final Reuse Plan
    - Policies set forth in the BCDC Bay Plan
    - ABAG planning efforts related to the regional Bay Trail
    - The Bay Bridge Section 106 Memorandum of Agreement (MOA)

Each of these prior commitments and agreements calls for the creation of a park at the project area. Overall, the project would improve the quality and connectivity of and serve as a key nexus to existing park and recreational facilities, particularly the Bay Bridge Trail and the regional Bay Trail. Thus, the project would result in a beneficial, rather than adverse, impact on recreational facilities. The potential secondary environmental impacts from construction of the project are analyzed throughout this Draft EIR in the relevant resource sections.

- **Population and housing.** A project would have a significant impact on population and housing if the project would induce substantial population growth or if it would displace either housing or residents, requiring that replacement housing be constructed. Gateway Park would not provide substantial long-term employment, with a maximum projected staff of up to 30 people, and therefore would not attract new employees to the area. It does not include housing and would not directly attract new residents to the area. It would not induce substantial population growth. Further, because the project would not be constructed on land designated or zoned for residential use, it would not involve either displacement of housing or displacement of residents; therefore, no replacement housing would need to be constructed. Project construction and operations would not affect population and housing, and population and housing are not discussed further.

1.2.3 National Environmental Policy Act

The October 2013 NOP indicated that a joint environmental impact report/ environmental assessment (EIR/EA), satisfying the requirements of both CEQA and the National Environmental Policy Act (NEPA), would be prepared for the project. When the NOP was issued, it was assumed that the project would receive federal funds delegated through Caltrans, necessitating NEPA review, with Caltrans acting as the NEPA lead agency. However, since the issuance of the October 2013 NOP, no federal funds have been identified to fund the project; therefore, environmental review under NEPA is no longer required relative to federal funding. If federal funding becomes available and is proposed to be used to implement the project, the responsible federal agencies will be required to comply with applicable NEPA requirements at that time. Further, as indicated in Chapter 2, *Project Description*, to the extent federal permits are required for elements of the project, (e.g., fill in San Francisco Bay would require authorization by the U.S. Army Corps of Engineers), NEPA compliance would be required , as necessary, for any permit issued in relation to the project.

1.3 Draft EIR Organization

This Draft EIR is organized as described in the chapters and appendices listed below.

- Chapter 1, *Introduction*, provides a brief description of the project; an overview of the environmental review process; and the scope, content and organization of this Draft EIR.
- Chapter 2, *Project Description*, provides a comprehensive description of the project, its elements, and the phased construction.
- Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, provides an evaluation of the resource topics outlined in Section 1.2.2, *Scope and Content of this Draft EIR*. Each resource-specific section discusses the environmental setting, impacts, and mitigation measures.

- Chapter 4, *Other CEQA-Required Discussions*, provides a discussion of significant environmental impacts that cannot be avoided, growth-inducing impacts, and cumulative impacts.
- Chapter 5, *Alternatives*, provides a description of the project alternatives considered, an evaluation of the No Project Alternative, Active Park Alternative, and Passive Park Alternative.
- Chapter 6, *List of Preparers*, provides a list of individuals who contributed to preparation of this Draft EIR.
- Chapter 7, *References*, provides a list of the printed references and personal communications cited in this Draft EIR.
- Appendices
    - A. Notice of Preparation and Scoping Comments
    - B. Sea Level Rise Adaptation Technical Report
    - C. Visual Impact Assessment
    - D. Air Quality Analysis Technical Memo
    - E. Construction and Operations Assumptions
    - F. Natural Environment Study
    - G. Noise Analysis Technical Memo
    - H. Transportation Impact Analysis
    - I. Shoreline Treatments Assessment

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Chapter 2
Project Description

2.1 Project Overview

The proposed project (project or Gateway Park) is the creation of a new 45-acre park along the waterfront near the eastern end of the east span of the San Francisco–Oakland Bay Bridge (Bay Bridge) in Oakland, California (Figure 2-1). Outside the park boundaries, the project could also include installing landscaping near Interstate 880 (I-880) (Figure 2-2). The idea for a park at this location was conceived in the 1990s during Caltrans planning and permitting for the replacement of the San Francisco Bay Bridge East Span Seismic Safety Project (East Span project), reuse of the Oakland Army Base, and demolition and reconstruction of I-880 (Cypress/Interstate 880 freeway project).

The project would provide safe access to the bicycle/pedestrian path on the east span of the Bay Bridge (Bay Bridge Trail) as well as access to existing and planned segments of the regional San Francisco Bay Trail. The project would provide access to the shoreline and could be a unique waterfront amenity. Gateway Park could include both active and passive[1] recreation opportunities. It could also include a venue for community events and art displays. In addition, it could display the natural, maritime, industrial, and transportation history of the East Bay.

The project is the result of a multiagency collaborative planning effort facilitated by the Gateway Park Working Group. The Working Group consists of the following nine local, regional and state agencies: Bay Area Toll Authority (BATA), California Department of Transportation (Caltrans), San Francisco Bay Conservation and Development Commission (BCDC), California Transportation Commission (CTC), East Bay Regional Park District (EBRPD), City of Oakland, Port of Oakland, East Bay Municipal Utility District (EBMUD), and Association of Bay Area Governments (ABAG's) Bay Trail Project. At this time, it is envisioned that Gateway Park would be a regional park operated by EBRPD or a Joint Powers Authority. BATA, acting on behalf of the Working Group, is the lead agency under the California Environmental Quality Act (CEQA) and would take the first action related to the project which would be entering into a cooperative agreement with Caltrans for funding the parking lot as part of Phase 1. Each of the Working Group agencies, with the exception of BCDC which is solely a regulatory agency, could implement and/or fund potential projects included in this Project Description. Accordingly, the project proponent under CEQA is understood to include all of the Working Group members except for BCDC.

The inclusion of an improvement in the Project Description of this EIR does not mean that the park implementers are obligated to construct the improvement. The only mandatory elements of the project are those commitments made during the planning for the East Span project, as memorialized in the permit for the East Span project issued by BCDC and held by Caltrans. These requirements are a smaller subset of the project improvements discussed in this EIR (see Section 2.4, *Minimum Park Requirements from the East Span Project BCDC Permit*). However, this EIR evaluates a wide range of

[1] Passive recreation refers to non-motorized recreational activities including, but not limited to, activities such as walking, bird watching, fishing, kayaking, kiteboarding, and windsurfing.

potential project improvements in order to provide environmental clearance for all such improvements in the event they are selected for implementation.

2.2 Project Location and Setting

Gateway Park would be located in Oakland, Alameda County, adjacent to I-880 and Interstate 80 (I-80) at the eastern touchdown of the Bay Bridge (Figure 2-1). The 45-acre project area encompasses both industrial lands and the existing Radio Beach recreational area. It includes underutilized industrial land and the former Oakland Army Base on the south side of I-80, extending from the San Francisco Bay shoreline on the west to the Caltrans maintenance facility near the Bay Bridge toll plaza on the east. These areas are referred to as Key Point, Port Playground, and Bridge Yard (Section 2.4, *Proposed Project*). The project area also includes the Radio Beach area on the north side of I-80 and land beneath and adjacent to I-880 and the I-880/I-80/I-580 interchange (known as the Maze) on the west to Maritime Street in West Oakland on the east (Figure 2-2). The project site also includes portions of I-80 and I-880 where landscaping improvements could be installed.

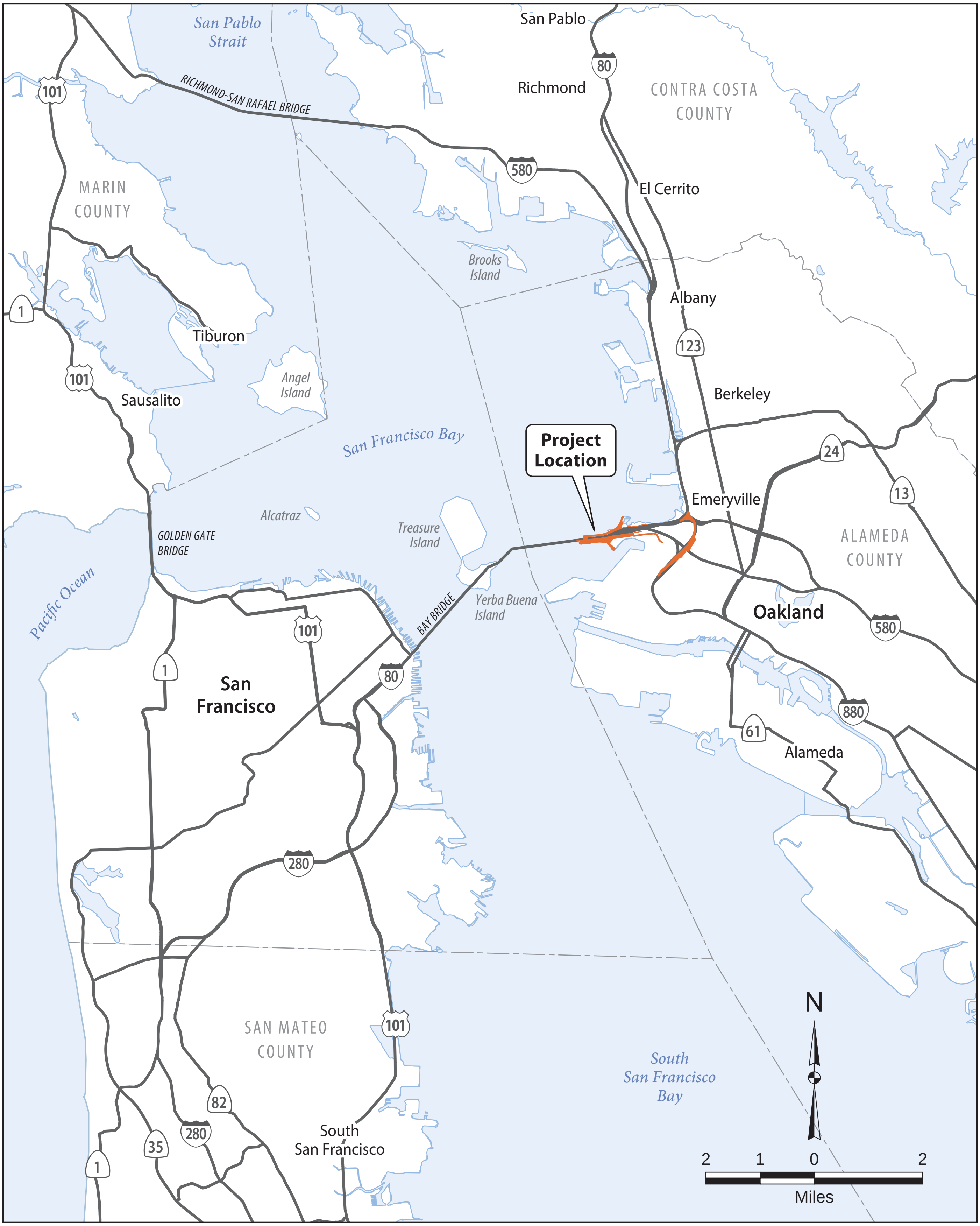
The project area includes the public access portion of the proposed West Gateway project, a separate, privately funded project that would be located adjacent to Gateway Park, south of the Port Playground. The public access area for the West Gateway project would provide public access features that would be shared by Gateway Park users, including a surface parking lot, pedestrian pathway, truck access and turnaround, and public plaza. These improvements, while implemented by others and subject to separate environmental review, are included in the project area analyzed in this Draft EIR for the sake of continuity of public access considerations. The West Gateway Project has been approved by the City of Oakland but has not yet been constructed.

2.2.1 Existing Site Conditions and Ownership

Radio Beach, north of I-80, is owned by the ~~City of Oakland~~ Port of Oakland. It provides free public beach access and is designated as a shoreline park in the Open Space, Conservation and Recreation Element of the *City of Oakland General Plan* (City of Oakland 1996). Radio Beach is a 400-foot stretch of narrow, sandy beach with natural features such as low-lying groundcover and shrubs, native vegetation, a large amount of invasive ice plant, marshes, and wetlands. The only constructed elements in this area are a paved service road that parallels I-80 along the southern edge of the beach, adjacent utility poles and wires, nine large radio towers, and scattered small portable buildings. Radio Beach is frequently used by kiteboarders (also called kitesurfers), as described in Section 3.9, *Land Use*.

South of I-80 extending from the San Francisco Bay shoreline on the west to the Caltrans maintenance facility near the Bay Bridge toll plaza on the east, much of the area is underutilized industrial land. This portion of the project area serves mainly as a Caltrans maintenance yard and staging area for the removal of the prior Bay Bridge. The site contains several small, temporary buildings for this construction and permanent buildings that were at the site prior to construction of the bridge. This area includes three historic structures: the Bridge Yard Building, Key Pier Substation, and Bay Bridge Oakland Substation.

The closest residential land uses are located approximately 1 mile southeast of the Bridge Yard, which is the easternmost point of the project area, and on the east side of I-880 in the vicinity of 14th Street and Frontage Road.



gatewaypark

Figure 2-1
Project Location

gatewaypark

Figure 2-2
Project Area

The project site includes land owned by the U.S. Army (former Oakland Army Base), Caltrans (Caltrans Maintenance Yard and areas under I-80), ~~and~~ the City of Oakland (~~Radio Beach,~~ Burma Road, and portions of Key Point and Port Playground) and the Port of Oakland (Radio Beach). Prior to the implementation of the project, the portion of the project area within the former Oakland Army Base would be transferred to EBRPD ownership or a Joint Powers Authority after completion of site cleanup and remediation requirements by the Army.

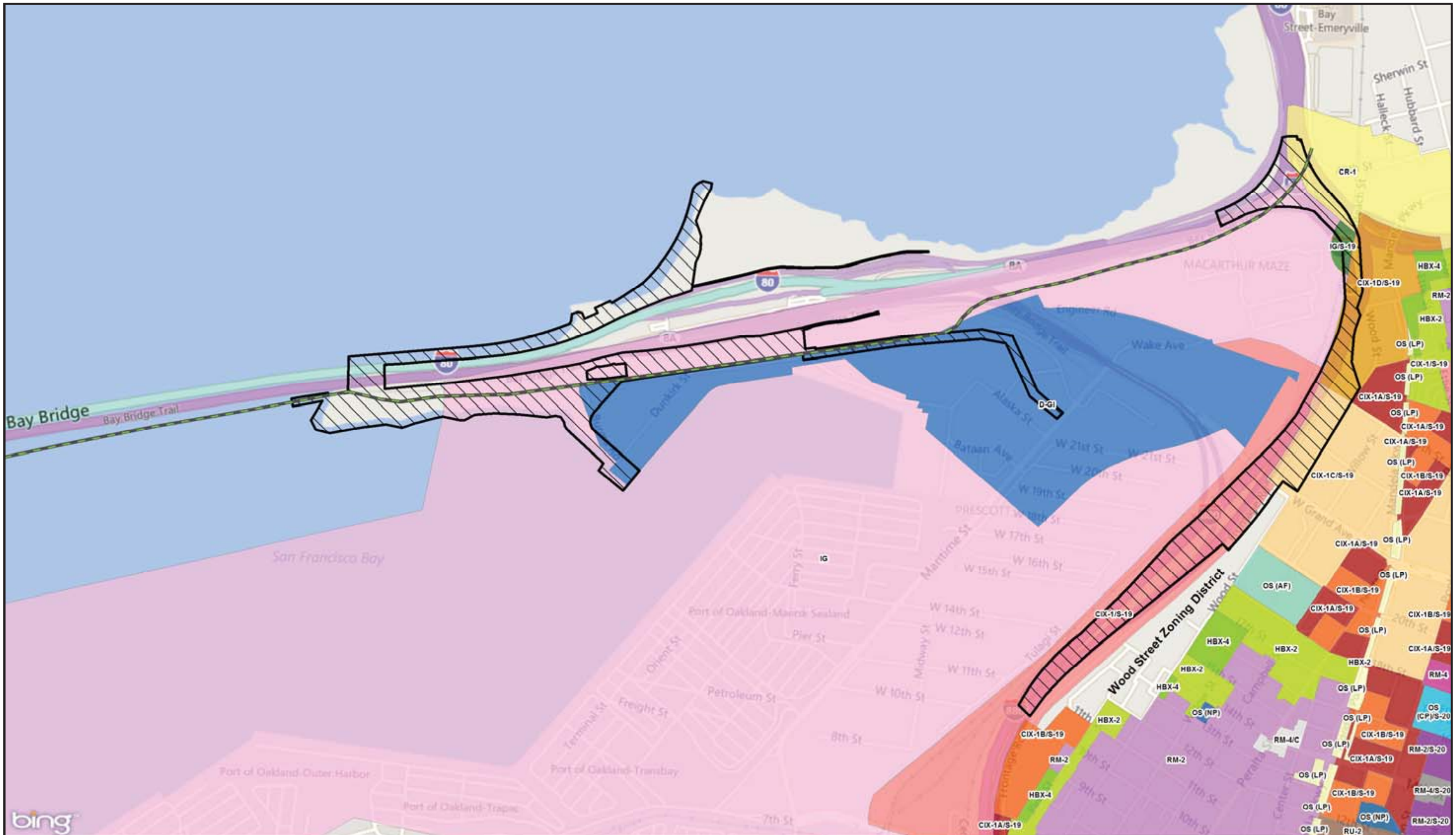
2.2.2 Land Use and Zoning

The *City of Oakland General Plan* (1998) Land Use and Transportation Element establishes allowable land uses in the project area. The project area includes the following land use designations: Resource Conservation Area, Urban Park and Open Space, General Industrial/Transportation, Business Mix, and Regional Commercial (Figure 2-3). In addition, the project site is zoned M-40 (Heavy Industrial), IG (Industrial General), D-GI (Gateway Industrial District), S-19 (Health and Safety Protection Overlay), CIX-1C (High Intensity Business), CIX-1D (Retail Commercial Mix), CIX-1 (Commercial Industrial Mix), and CR-I (Regional) in the City of Oakland Planning Code, which implements the land use designations in the General Plan. The project area is also within the Redevelopment Plan and Final Reuse Plan for the Oakland Army Base, which calls for the transfer of the former Oakland Army Base to EBRPD for public benefit after remediation for hazardous waste contamination. Land use plans and requirements for the project are further discussed in Section 3.9, *Land Use and Planning*.

2.2.1 Surrounding Land Uses

Based on a review of the City's land use plans and aerial photographs, planned land uses in the project vicinity are mostly transportation facilities and industrial land uses (Figure 2-4). There are very few residential land uses in the project vicinity. The closest residential land uses are located approximately 1 mile southeast of the Bridge Yard, which is the easternmost point of the project area, and on the east side of I-880 near 14th Street and Frontage Road.

Major landmarks are primarily transportation-oriented. The Bay Bridge adjoins the project area immediately to the west and is located on I-80. The Bay Bridge extends from West Oakland to San Francisco. I-80 extends from San Francisco to the west across the Bay Bridge and crosses the project area before it turns north and joins with I-880 toward Sacramento. The Bay Bridge toll plaza is located on I-880 immediately to the east of the Bay Bridge. The Port of Oakland is located across the Oakland Outer Harbor south of the project area and occupies a large area of West Oakland, extending south and east to the Oakland Inner Harbor. In addition to these transportation landmarks, Raimondi Park is located approximately 1 mile east of the project area between 18th and 20th Streets. It is a City-owned park with a playground, restrooms, baseball field, football field, and small putting green. Radio Beach is adjacent to the Emeryville Crescent natural open space area, owned by EBRPD, to the east.



San Francisco Bay Trail
Project
Zoning Designation
CR-1: Commercial Regional Zoning
D-GI: Gateway Industrial District
HBX-2: Housing and Business Mix 2
HBX-4: Housing and Business Mix 4
IG: Industrial General
OS (AF): Athletic
OS (AMP): Active Mini
OS (LP): Linear Park
OS (NP): Neighborhood Park
RM-2: Mixed Housing 2
RM-4: Mixed Housing 4
RM-4/C: Mixed Housing 4 / Residential Commercial
RU-2 Urban

S-19 Health and Safety Protection Overlay Zoning Designation
CIX-1/S-19: Commercial Industrial Mix I
IG/S-19: Industrial General
CIX-1A/S-19: Business Enhancement
CIX-1B/S-19: Low Intensity Business
CIX-1C/S-19: High Intensity Business
CIX-1D/S-19: Retail Commercial Mix

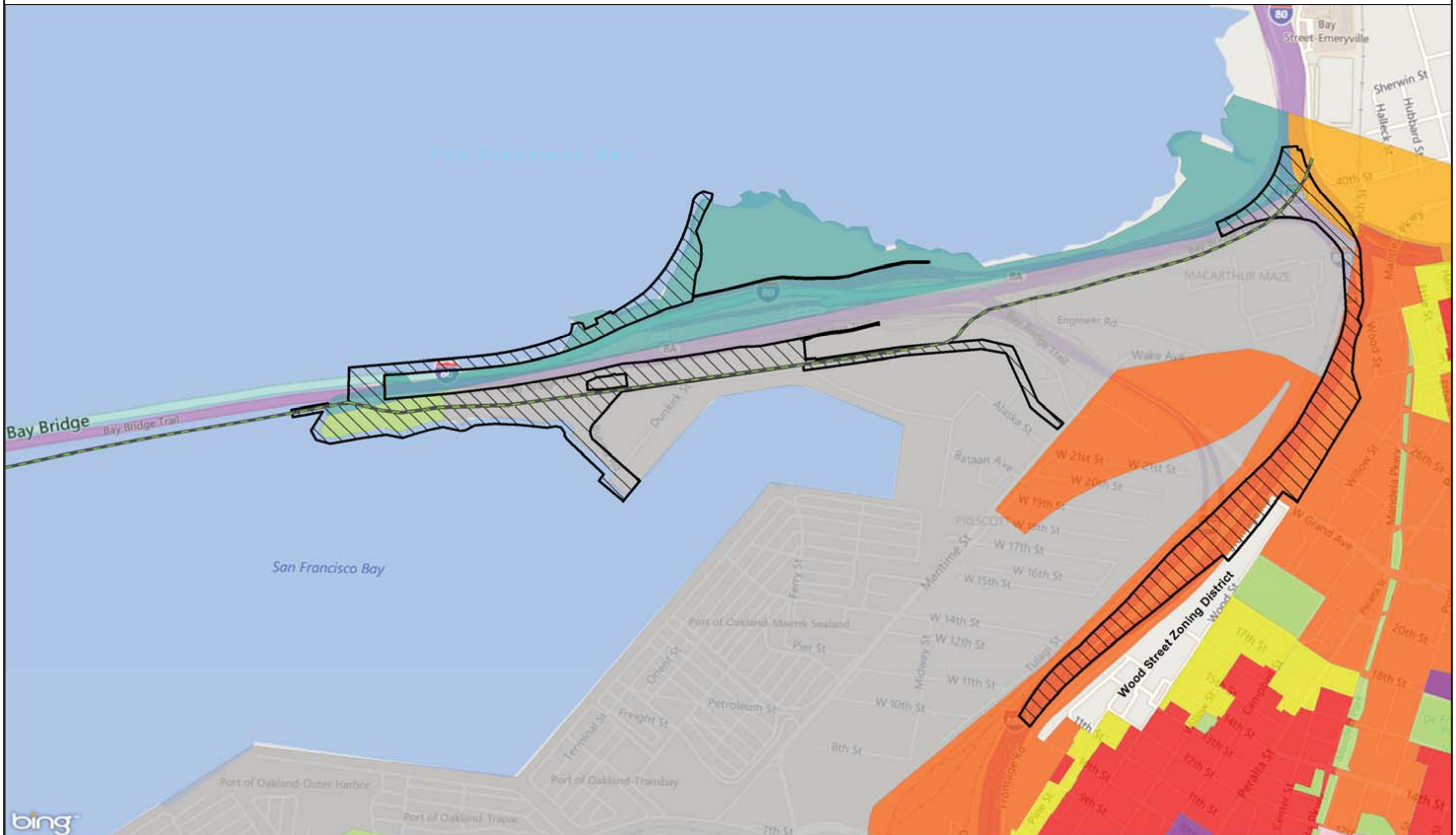
S-20 Historic Preservation District Zoning Designation
OS (CP)/S-20: Community Park
RM-2/S-20: Mixed Housing 2
RM-4/S-20: Mixed Housing 4

N
0 0.125 0.25
Miles

Sources: Bing Road Map, 2016; Zoning Designations, City of Oakland, Effective May 2015.

gatewaypark

Figure 2-3
Zoning



San Francisco Bay Trail
Project Area

N

0 0.125 0.25
Miles

Planned Land Uses
- Business Mix
- General Industry and Transportation
- Housing and Business Mix
- Institutional
- Mixed Housing Type Residential
- Regional Commercial
- Resource Conservation
- Urban Park and Open Space
- Urban Residential

Sources: Bing Road Map, 2016; General Plan, City of Oakland, Effective May 2015.

gatewaypark

Figure 2-4
Planned land Uses

2.3 Project Objectives

The primary purpose of the project is to provide a distinctive entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge. The project purpose is also to provide safe, multimodal access to the shoreline and both passive and active recreation opportunities. The project purpose also includes providing interpretive features for natural resources and transportation history, and a venue for community events and art installations. The project would be designed, at a minimum, to meet mitigation commitments for a number of transportation projects, including the East Span project (see Section 2.4, *Minimum Park Requirements from the East Span Project BCDC Permit*). Specific project objectives include transportation and shoreline access objectives and regional park and recreation objectives.

- Transportation and Shoreline Access Objectives
  - Provide public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large.
  - Facilitate multimodal connections to the shoreline and regional park (bicycle, pedestrian, transit, auto, and watercraft).
  - Provide improved staging and access to the new bicycle and pedestrian path on the east span of the Bay Bridge.
  - Provide links to existing and planned segments of the San Francisco Bay Trail. When complete, the linear Bay Trail will be a continuous 500-mile bicycle/pedestrian trail encircling the entire Bay Area.
  - Provide staging and access to the planned San Francisco Bay Area Water Trail. The Water Trail program is an ongoing effort to create a network of launch and landing sites for human-powered watercraft throughout the Bay Area. The Water Trail is nonlinear and on the water without specific routes.
- Regional Park and Recreation Objectives
  - Create a distinctive entryway park that reflects the people, history, and culture of the East Bay.
  - Provide a destination for residents and visitors to view and access San Francisco Bay and the east span of the Bay Bridge, as well as to view the Port of Oakland operations.
  - Provide active and passive recreation opportunities, including walking, nature appreciation, interpretation of transportation history, bicycling, fishing, kiteboarding, windsurfing, kayak launching, and nonmotorized boating.
  - Provide opportunities for the interpretation of San Francisco Bay natural resources, transportation history, and the history of the Port of Oakland, and the history of the former Oakland Army Base.
  - Provide a venue for community, regional, and national events.
  - Provide a venue for installations by artists.
  - Provide a learning environment for students to experience San Francisco Bay natural resources and transportation history.
  - Provide a long-term sustainable regional park, including revenue-generation opportunities for funding park operations and maintenance.

- Provide the required mitigation for transportation projects.

2.4 Minimum Park Requirements

The project fulfills the following prior planning commitments and agreements related to those facilities, each of which calls for the creation of a park at the project area.

- BCDC permit conditions for the East Span project
- Goals set forth in the Oakland Base Reuse Authority Final Reuse Plan
- Policies set forth in the BCDC Bay Plan
- ABAG planning efforts related to the regional Bay Trail
- The Bay Bridge Section 106 Memorandum of Agreement (MOA)

Overall, the project would improve the quality and connectivity of and serve as a key nexus to existing park and recreational facilities, particularly the Bay Bridge Trail and the regional Bay Trail.

2.4.1 East Span Project BCDC Permit

The following are the minimum requirements for the project as defined in these excerpts from BCDC Permit No. 2001.008.4~~1~~2, held by Caltrans for the East Span project (BCDC 2016):

1. *Area. The permittee shall make the following areas, totaling 4.55 acres, available exclusively to the public for unrestricted public access for walking, bicycling, sitting, viewing, and other related purposes, as revised by Amendment No. Thirty and shown on Exhibit A. If the permittee wishes to use the public access area for other than public access purposes, it must obtain prior written approval by or on behalf of the Commission.*

   a. *Oakland Touchdown. The permittee shall provide 4.5 acres of public access at the Oakland Touchdown consisting of: (1) a 4.2-acre parcel located south of the new bridge touchdown that shall become part of the East Bay Regional Park District's Gateway Park and an 0.86-acre (37,470-square-foot) area public access parking lot; and (2) a 0.3-acre area that shall include a 0.166-acre (7,064-square- foot) trail connecting the bridge trail to a 0.134-acre (5,837-sqaure-foot) public access landing. Use of the 4.2 acres for Gateway Park shall be subject to Caltrans' existing and future operational and maintenance needs, as may be approved by or on behalf of the Commission, such as providing stormwater Best Management Practices (BMPs) to treat stormwater runoff, providing continuous access to serve and install and maintain, and necessary future utilities, and providing access to maintain the new East Span and at-grade roadways. New utilities and stormwater facilities shall be designed to be consistent with recreation and public access uses in the area.*

2. *Guarantee.*

   Prior to completing the dismantling of the existing East Span, but in no case later than August 13, 2015 (Amendment No. Twenty-Seven) the permittee shall, by instrument or instruments acceptable to counsel for the Commission, dedicate to a public agency or otherwise guarantee such rights for the public for so long as the improvements authorized herein remain in place, the approximately 4.5 acre public access area at the Oakland Touchdown and the 0.05-acre trail landing at YBI. The instrument(s) shall create rights in favor of the public, which shall *commence no later than after completion of construction of any public access improvements required by this authorization and prior to the use of the replacement bridge authorized herein. Such instrument(s) shall be in a form that meets recordation requirements of either Alameda or San Francisco County, as applicable, and shall include a legal description of the property being restricted for public access and a map that clearly shows and labels the mean high tide line or the +5.0 foot contour line above mean sea level in marshlands, and other appropriate landmarks and topographic features of the site, such as location and elevation of the top bank of any levees, any significant elevation changes, and the location of the nearest public street and adjacent public access areas. Approval or disapproval of the instrument(s) shall occur within 30 days after submittal for approval and shall be based on the following:*

a. *Sufficiency of the instrument to create legally enforceable rights and duties to provide the public access area required by this authorization;*

b. *Inclusion of an exhibit to the instrument that clearly shows the area to be reserved with a legally sufficient description of the boundaries of such area; and*

c. *Sufficiency of the instrument to create legal rights in favor of the public for public access that will run with the land and be binding on any subsequent purchasers, licensees, and users.*

4. *Improvements Within the Total Public Access Area*

    a. *Oakland Touchdown. Within one year of opening the replacement bridge to vehicular traffic, Caltrans shall obtain approval for final construction plans pursuant to Special Condition II.A and complete the following public access improvements and comply with the following:*

    (1) *Parking Lot. An approximately 43-stall, 0.86 acre paved parking lot that includes 0.182 acres of sidewalk and landscaping, and a vehicle turn-around. These improvements may be made permanent if desired to be retained as part of Gateway Park, or may be completely removed if no longer needed, as determined by or on behalf of the Commission, in consultation with the East Bay Regional Park District;*

    (2) *Bridge Connector Path and Landing. A 15.5-foot-wide, 466-foot-long paved trail and a 0.134-acre landing with a seating area, connecting the new bridge trail with the parking lot and the trail system leading to Emeryville and Oakland, as required by BCDC Permit No. 1993.011.08. For ADA compliance and to delineate the pathway to Emeryville from the rest of the landing, a three-foot-wide row of truncated domes shall be installed across the landing adjacent to the east-bound trail. Placement of bollards shall be limited to the parking lot entrances. If the temporary parking lot is removed or altered in the future, the landing area may be redesigned to better serve the needs of Gateway Park and the cyclists and pedestrians using the east/west trail system, as determined and approved in writing by or on behalf of the Commission;*

    (3) *Use of the Maintenance Road. The permittee shall limit vehicular access to the maintenance road entrances by installing keyed gates or bollards at all vehicle entrance points, to which only Caltrans-authorized entities may have access. Gates or bollards shall not be located on the public access pathway itself without written approval by or on behalf of the Commission, and the public access trail shall be designed so as to maintain a continuous, open and inviting bicycle and pedestrian facility. All*

vehicles authorized to use the maintenance road shall yield to public access users at all times.

(4) *Maintenance Road Impacts on Public Access. If vehicle traffic or other activities not related to public access purposes are found to have a significant adverse impact on the safety or quality of the public access trail, as determined by the Commission's Executive Director, the permittee shall propose a plan for revising the signage, striping, or design of the public access and maintenance road interface to resolve the conflict. A permanent redesign shall be installed within 12 months after staff notifies the permittee in writing of the nature of the problem and the extent of needed changes. If staff determines that temporary measures are reasonable and feasible, the permittee shall install such measures within 30 days of being notified. The design changes shall be approved pursuant to Special Condition II.A.*

(5) *Landscaping. Irrigation and native, drought tolerant landscaping within the approximately 4.2-acre public access area, around the parking lot, in the stormwater retention basins to the extent feasible, and adjacent to the public access path, and other public access areas, in accordance with a plan submitted to, reviewed by, and approved by or on behalf of the Commission in accord with Special Condition II-A. The plan and program shall contain the following: (a) a topographic map of the site in half meter or one-foot contours and a conversion into imperial units if metric units are used (Amendment No. Three) (all elevations shall be relative to National Geodetic Vertical Datum (NGVD)); (b) proposed plant species along the contour lines according to their expected zone of growth (for the stormwater Best Management Practices (BMPs) only); (c) a safe, attractive, and obvious path system connecting the public access on the bridge with public access to the nearest public thoroughfare (the Caltrans maintenance road or Burma Road) as required by Special Condition II-B-9 and by BCDC Permit No. 1993.011.00; (d) a management program for water and vegetation in the storm water BMPs that integrates treating stormwater runoff with providing habitat and attractive public access landscaping; and (e) a schedule indicating when planting will occur. The permittee may maintain any BMP's including those that are vegetated, to ensure effective and efficient conveyance and treatment of stormwater runoff in accord with a plan approved pursuant to Special Condition II-A; and*

(6) *Public Access Signs. The number and location of public access signage, including Bay Trail signs, shall be prepared in a signage plan to be submitted and approved by or on behalf of the Commission. The appropriate number, location and appearance of the public access signs shall be based on the interim and final design of the public access areas and shall be consistent with the Commission's policies as well as Bay Trail policies (Amendment No. Three). The number, type, and locations of the signs shall be approved by or on behalf of the Commission pursuant to Special Condition II-A above.*

5. *Maintenance. The areas and improvements within all of the new public access areas required or authorized herein, including the YBI terminus, the Oakland Touchdown, and the belvederes and path on the new East Span, totaling approximately 9.6 acres, shall be maintained by and at the expense of the permittee or its assignee for so long as the improvements authorized herein remain in place. In addition, to ensure the fill authorized for the bicycle and pedestrian pathway is retained for such use, such pathway shall also be maintained by and at the expense of the permittee or its assignee for so long as the fill authorized herein remains in place. Such maintenance shall include, but is not limited to, repairs to all path surfaces, replacement of any*

trees or other plant materials that die or become unkempt, repairs or replacement as needed of any public access amenities such as pathways, signs, benches, trash containers and lights; periodic cleanup of litter and other materials deposited within the access areas, removal of any encroachments into the access areas, removal of graffiti; and assuring that the public access and Bay Trail signs remain in place and visible. Within 60 days after notification by staff, the permittee shall correct any maintenance deficiency noted in a staff inspection of the site.

8. *Handicapped Accessible. All public access facilities authorized or required herein shall be designed and built so that they are handicapped accessible.*

9. *Public Access Connections. Within one year of the commencement of construction on any future public access areas and shoreline paths on the adjacent shoreline properties at either end of the new East Span, the permittee shall complete installation of shoreline paths to connect the new shoreline paths and public access areas on the adjacent properties to the paths and public access areas required herein. The permittee shall reasonably coordinate design, construction, and maintenance with the owners and/ or project sponsors of the adjacent properties to connect the public access areas and shoreline paths required herein with any future public access areas and shoreline paths proposed on the adjacent properties to create a continuous public access area. The exact type and locations of the connector paths shall be approved by or on behalf of the Commission pursuant to Special Condition II-A.*

Figure 2-2 shows the location of the 4.2-acre area delineated for Gateway Park in the BCDC permit, which is encompassed within the 45-acre park analyzed in this Draft EIR. The proposed 45-acre park fulfills and goes beyond the requirements identified in the BCDC permit for this area. If uses that are ultimately deemed inconsistent with the BCDC permit are approved for this area, an amendment to the BCDC permit would be required.

With regard to improvements within Caltrans jurisdiction, Caltrans has been actively working with BCDC and the Gateway Park Working Group to devise a strategy to comply with the permit requirements, while at the same time meeting the goals of the Gateway Park Working Group.

2.4.2 Oakland Base Reuse Authority Final Reuse Plan

The Oakland Army Base (OARB) was identified for closure in 1995 by the federal Defense Base Closure and Realignment (BRAC) Commission. On September 30, 1999, the Base ceased military operation and came under the full control of the Oakland Base Reuse Authority (OBRA) under a Master Lease with the Department of the Army. The Final Reuse Plan for Oakland Army Base is a planning document prepared by the OBRA and adopted by OBRA on July 31, 2002, which represents the preferred reuse vision for the OARB (City of Oakland 2002).

Gateway Park is identified within the Final Reuse Plan. Section 3.3.3, Public Use of the Final Reuse Plan identifies the following information:

The East Bay Regional Park District (EBRPD) application for a 15-acre Public Benefit Conveyance was approved by the Army as part of the Final Reuse Program for the Oakland Army Base. The U.S. Department of the Interior, under the National Park Service, Federal Land to Park Program, sponsored the application to OBRA and the Army.

The EBRPD intends to develop the area as open space and parkland, with a future connection to the Bay Trail. The new park will be called the Gateway Regional Park. (The Gateway Regional Park is described more fully in Chapter 4.)

It is intended that the Gateway Development Area's master developer will coordinate with the EBRPD to maximize public open space and access the waterfront, previously unavailable to Oakland's citizens.

Section 4.1, Public Access to Environmental Resources of the Final Reuse Plan identifies the following information:

The California Department of Transportation (Caltrans), as part of the public access requirement of its Bay Bridge East Span replacement project, will contribute 4.2 acres to the Gateway Park to be used as parking and other public access. OBRA and the City of Oakland advocated for these amenities as mitigations under BCDC's permitting process for Caltrans' Bay Bridge project.

2.4.3 BCDC San Francisco Bay Plan

The San Francisco Bay Plan was completed and adopted by the BCDC in 1968 and submitted to the California Legislature and Governor in January 1969. In those actions the BCDC completed the original charge given to it in the provisions of the McAteer-Petris Act of 1965. The San Francisco Bay Plan includes the policies to guide future uses of the Bay and shoreline and the maps that apply these policies to the present Bay and shoreline. Gateway Park is identified in these maps that apply policies to the present Bay and shoreline (San Francisco Bay Conservation and Development Commission 2012).

Plan Map 4 of the BCDC Bay Plan identifies the following policy:

18. Gateway Shoreline Park *- Develop gateway park at Bay Bridge touchdown with gracious access to the Bay Bridge. Incorporate viewing, picnicking, non-motorized small boat launching and interpretation of current and historic transportation infrastructure and natural and cultural factors. Protect eelgrass beds and nearby endangered species habitats. Provide signage regarding fish consumption advisories for anglers.*

Plan Map 5 of the BCDC Bay Plan identifies the following policy:

1. Gateway Shoreline Park *- Develop gateway park at Bay Bridge touchdown with gracious pedestrian and bicycle access to the Bay Bridge. Incorporate viewing, picnicking, non-motorized small boat launching and interpretation of current and historic transportation infrastructure and natural and cultural factors. Protect eelgrass beds and nearby endangered species habitats.*

2.4.4 ABAG Planning for the Regional Bay Trail

The San Francisco Bay Trail is a planned 500-mile walking and bicycling path around the entire San Francisco Bay. The ultimate goal of the Bay Trail is to build a continuous shoreline bicycle and pedestrian path for all to enjoy. Gateway Park is designed to connect to the San Francisco Bay Trail.

2.4.5 Bay Bridge Section 106 Memorandum of Agreement (MOA)

The Federal Highway Administration (FHWA), Coast Guard, California State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation entered into a MOA in 2000. The MOA identifies stipulations to mitigate impacts to architectural and historical resources due to construction of the East Span of the Bay Bridge (FHWA et al. 2000).

The following stipulations are identified in the MOA and are relevant to the way-finding elements that would be incorporated into Gateway Park:

III. Mitigation of effects on the San Francisco-Oakland Bay Bridge (Bay Bridge)

A. Salvage.

Caltrans will offer selected components of the bridge to the East Bay Regional Park District or other owner of the proposed Oakland touchdown park (south of the new bridge, between the toll plaza and the shoreline in Oakland), for display or other use in the park. Caltrans will also provide the Oakland Museum of California, the Western Railway Museum in Rio Vista, Solano County, and any other interested parties an opportunity to select components of the bridge for curation, display, or other appropriate use. Caltrans will remove the items selected in a manner that minimizes damage and will deliver them with legal title to the recipient.

B. Permanent Interpretive Exhibits

1. Caltrans will consult with the East Bay Regional Park District or other owner of the proposed Oakland touchdown park about their interest in having interpretive exhibits incorporated into the design of the park which describe the Bay Bridge as originally constructed. If consultation results in agreement between Caltrans and the park owner concerning the nature and extent of the exhibits before January 1, 2008, Caltrans will produce and install the exhibits. The interpretive exhibits may include, but are not necessarily limited to: plaques or markers, salvaged components of the bridge, a mural or other depiction of the bridge, and the large clock that formerly stood atop the toll plaza canopy.

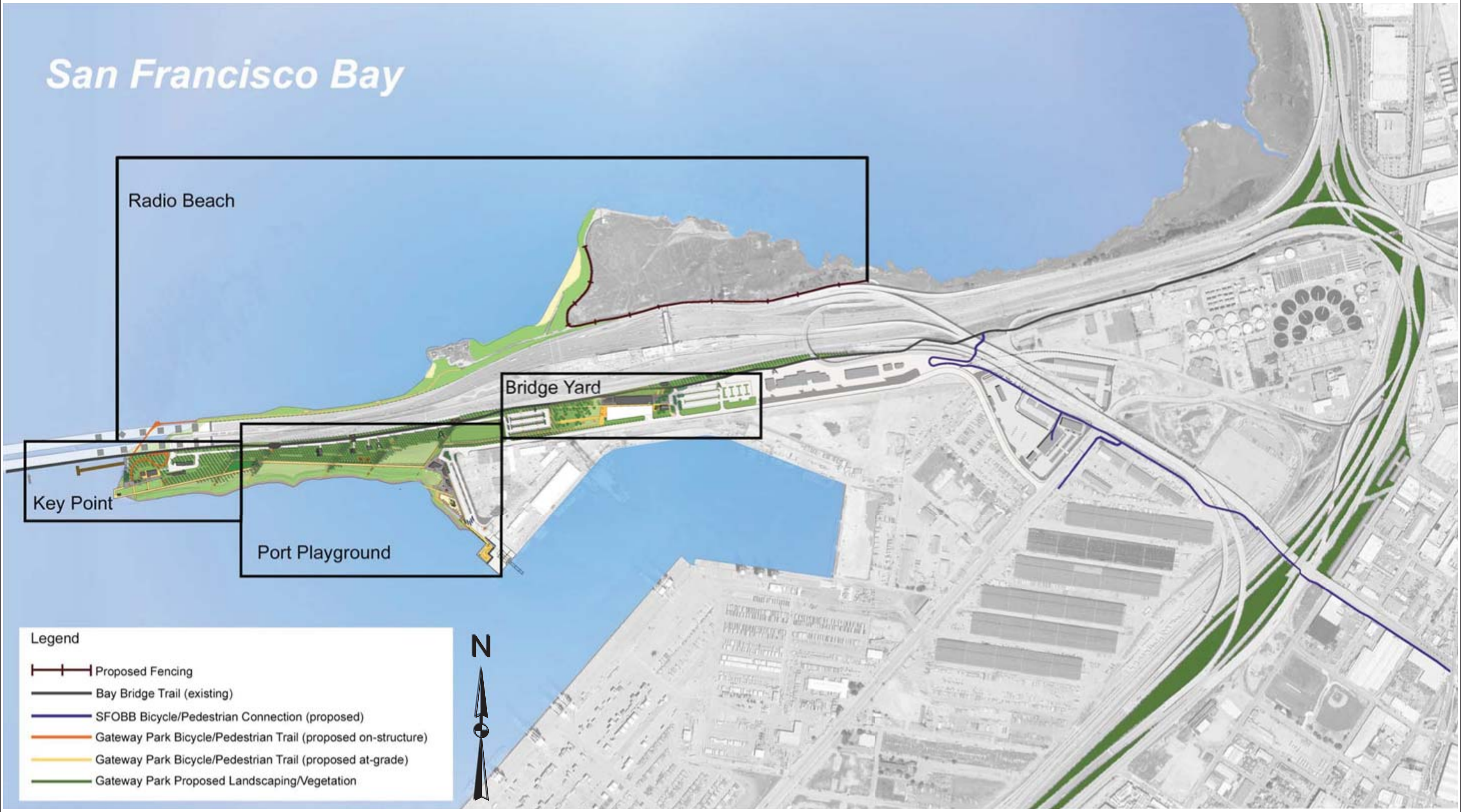
2.5 Proposed Project

This section describes the project and its features that could be developed to meet the identified project objectives and BCDC permit requirements while avoiding and minimizing environmental impacts.

The approximately 45-acre project area has been divided into the following four recreational areas: Bridge Yard, Key Point, Port Playground, and Radio Beach (Figure 2-5). The project would be developed in phases depending on funding and the ultimate improvements selected for implementation. For the purposes of general disclosure, this EIR presumes the project would be developed in three conceptual phases as funding becomes available, with anticipated buildout in 2030. Section 2.45.7 *Project Phasing and Construction*, provides detail on construction of the project components:

- Phase 1: Bridge Yard
- Phase 2: Key Point
- Phase 3: Port Playground and Radio Beach

The actual phasing and buildout may vary from that described in this EIR. This phasing is for illustrative purposed only.



Source: TYLIN, 2017.

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Figure 2-5
Park Areas

Following is a description of the potential primary features in each of the park areas, other park features, and conceptual project phasing. Table 2-1 provides a summary of the park areas and potential primary features.

Table 2-1. Potential Park Features

Park Area and Primary Features	Description	Approximate Size
1 Bridge Yard	A destination recreation and event center in the core park area south of I-80.	10 acres
A Arrival Plaza	Plaza on east side of Bridge Yard Building. Could include vehicular drop-off area, bike racks, and plaza with trees, benches, and train rails in cobblestone or meadow.	50,100 sf
B Historic Display Plaza	Plaza on west side of Bridge Yard Building. Display area for historic train from the Key System, picnic tables, and shade canopy.	12,880 sf
C Outdoor Yard Event Space	Event space west and south of Bridge Yard Building. Small gatherings could include art exhibits and informal performances for approximately 200 people. Large events could include movies in the meadow for 500–1,000 people and concerts/conferences for 1,000–1,700 people.	281,400 sf
D Bridge Yard Building Improvements[a]	Minor improvements and use (e.g., meetings and events) of the renovated Bridge Yard building.	24,300 sf
E Indoor/Outdoor Auditorium	Embedded into the landscape, southeast of the Bridge Yard Building. Events or training space for 100–200 people.	7,370 sf
2 Key Point	Passive recreation area south of I-80 at the west end of the park near the Bay Bridge.	6 acres
A Building Renovation	Renovate ~~three~~ two existing structures, including two historic structures for visitor services: Key Building (e.g., café and bookstore) (also called Key Pier Substation) and Bay Bridge Oakland Substation (e.g., artist studio, ranger station, conference room, restrooms) (also called Mole Substation), and a ranger station.	Key Building 1,515 sf Bay Bridge Oakland Substation 4,000 sf
B Path to Bay Bridge Trail	Path on structure (i.e., ramp) for bicyclists/pedestrians to connect the Key Point area to Bay Bridge Trail.	720 feet long and 18.5 feet wide
C Pier	New pier extending into Bay, along old Bay Bridge alignment, requiring approximately five new pilings in the Bay.	300 feet long and 30 feet wide

Park Area and Primary Features		Description	Approximate Size
3	**Port Playground**	Active and passive recreation area south of I-80 along the southern shoreline.	11 acres
A	Visitor Center	The 7,670-sf visitor center would include three separate structures connected by covered, open-air walkways: main visitor center (3,210 sf), lockers and restrooms (2,985 sf), kayak building (1,475 sf).	41,530 sf
B	Play Areas	Several play areas, picnic areas, and connecting pathways: Main playground west of visitor center (24,740 sf), climbing wall area (26,500 sf), and climbing structures dispersed.	
C	Kayak Launch	Cement kayak launch ramp from visitor center to water.	200 feet long and 19 feet wide ramp
D	Boardwalk	Cement walkway with observation areas, benches, picnic areas.	10,990 sf
E	Meadow View Point	Natural grassy area providing elevated view (approx. 19 feet above existing ground level) overlooking Bay.	1.75 acres (76,860 sf)
F	Meadow and Bluff Walk	Large natural open space with pathways extending from Key Point to Kayak Launch and visitor center.	5 acres
G	Active View Feature	Active view features could include an elevated zip line, ropes course, observation tower or similar.	—
4	**Radio Beach**	Passive recreation area north of I-80.	5 acres
A	Path to Radio Beach	Path on structure for bicyclists/pedestrians to access Radio Beach from the Key Point area.	4,000–4,200 feet long
B	Restoration	Planting and habitat enhancement in Radio Beach Area	4 acres
C	Fencing	Permanent non-mesh fencing (~~6 to 8 feet high~~ no more than 4 feet ~~at Radio Beach~~) to protect wildlife and environmentally sensitive existing tidal marsh area east of Radio Beach~~.~~	1,670 feet long

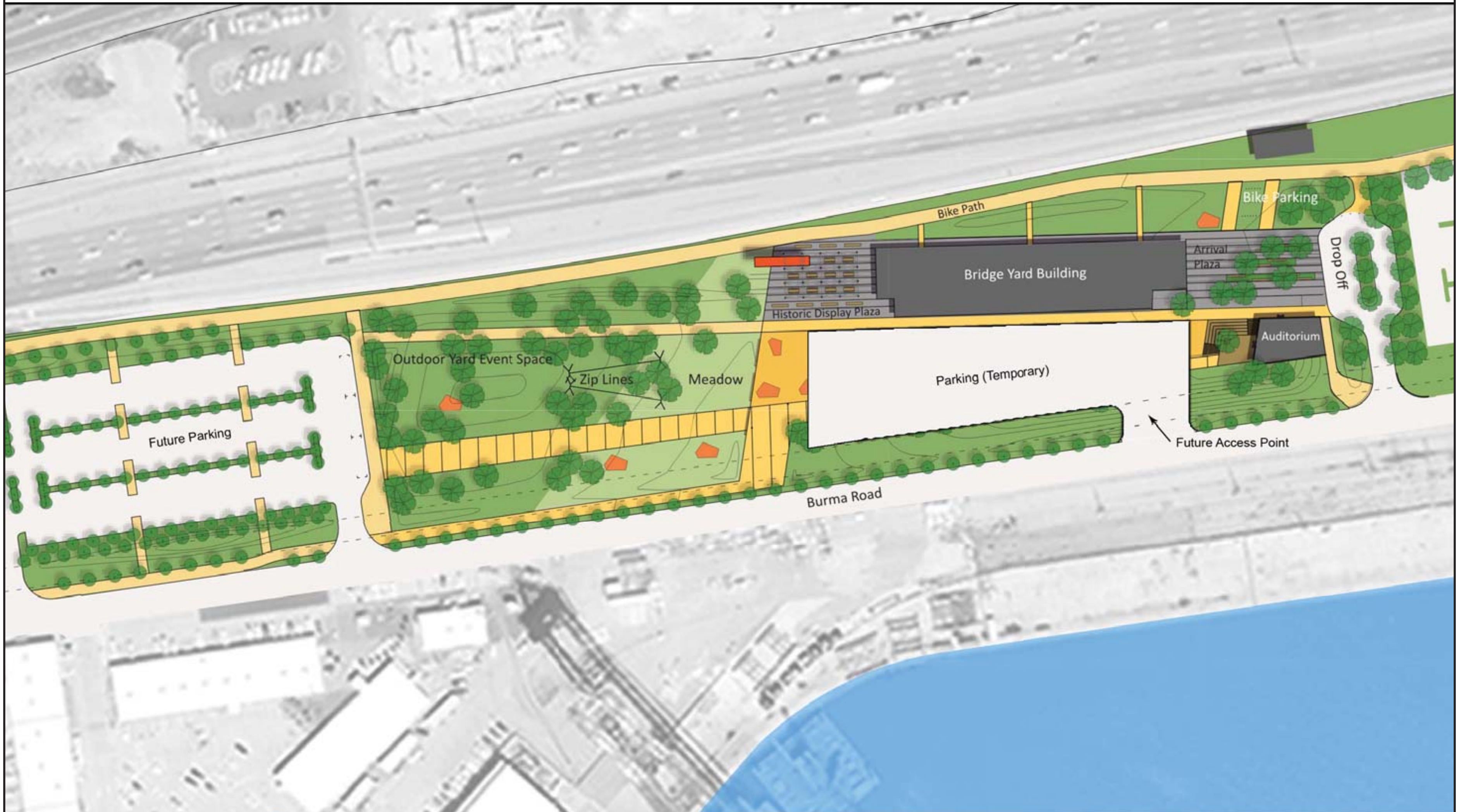
[a] The Bridge Yard Building, formerly called the Interurban Electric Railway Bridge Yard Shop (IERBYS) and the Sawtooth Building, has recently been rehabilitated by Caltrans as part of a separate project.

I-80 = Interstate 80; sf = square feet

2.5.1 Bridge Yard

Per BCDC permit requirements, at a minimum, the Bridge Yard would include the current uses of the Bridge Yard building and at least 43 parking spaces as well as any associated stormwater treatment areas and landscaping.

The Bridge Yard (Figure 2-6) could also be a destination recreation and event center in the core park area. Park features could include an arrival plaza, historic display plaza, outdoor yard event space, reuse of the renovated historic Bridge Yard building, and possibly an indoor/outdoor auditorium. Although park hours would be dawn to dusk, there could be special events in the evening at the Bridge Yard. The Bridge Yard area, which also includes access to the Bay Bridge Trail, landscaping, and public parking (1.3.5, *Other Features*), would be approximately 10 acres.



Source: TYLIN, 2017.

Figure 2-6
Bridge Yard – Plans

2.5.2 Key Point

Key Point (Figure 2-7) would be a passive recreation area at the west end of the park near the Bay Bridge.

At a minimum, Key Point would include a path on a ramp leading to the Bay Bridge Trail as well as stormwater retention treatment areas for any required new paved pathways and any associated landscaping.

Park features could also include reuse of ~~three~~ two renovated buildings for visitor services, a path on a ramp leading to the Bay Bridge Trail, ~~a pier along the old Bay Bridge alignment,~~ and a ranger station. The project could also install a marine bulkhead at the western end of the Key Point area ~~near the pier~~. This EIR also analyzes the installation of a pier along the old Bay Bridge alignment, consistent with the conceptual park design that was originally developed by the Gateway Park Working Group. The EIR analysis assumes that the new pier~~, if implemented,~~ would be 300 feet long and 30 feet wide and would require approximately five new pilings to be installed in the Bay. The water depth under the proposed pier at the end of the pier would be between 3.9 feet at mean low tide and 8.75 feet at mean high tide.

~~An option exists~~ On January 23, 2018, after preparation of the Draft EIR, the Toll Bridge Program Oversight Committee approved a separate marine foundation public access project that will ~~to reuse~~ build out an observation deck between existing marine foundations ~~E19~~E21—E23 from the former east span of the San Francisco-Oakland Bay Bridge ~~as foundations for a new pier~~. ~~This option is outside the scope of this EIR and, if taken, would require separate environmental evaluation~~. For informational purposes ~~only~~, Figure 2-8 shows the location of the approved pier ~~if the existing piles were to be reused~~. The approved pier is a separate project that is outside the scope of this EIR and has been cleared under separate environmental review. With approval of the marine foundations public access project, the pier originally conceived by the Gateway Park Working Group will no longer be implemented. Since the installation of new pilings in the Bay would result in greater impacts to biological resources and hydrology and water quality, the EIR overstates the environmental impacts of the project in regards to the originally conceived pier.

Other potential features in this area could include cobblestone paving in front of the buildings, grass area behind the buildings, and wood decking with benches and landscaped planters on the water's edge. The Key Point area could also include landscaping, shoreline protection features, and new bioretention basins for stormwater management (Section 2.4.5, *Other Features*). Key Point would be approximately 6 acres.

2.5.3 Port Playground

Port Playground (Figure 2-9) would be a passive and possibly active recreation area along the southern shoreline.

Per BCDC permit requirements, at a minimum, the Port Playground would include trails along the shoreline area and any associated landscaping. Warning signage would be provided along a portion of the existing beachfront to prohibit park patrons from entering areas where contaminated marine sediments are known to occur. This area would include the existing bioretention basin.

Park features could also include a visitor center, several play areas, a boardwalk, a meadow and bluff walk, and a meadow viewpoint. There could be an Americans with Disabilities Act (ADA)-

compliant cement ramp (200 feet long, 19 feet wide) extending from the south side of the Visitor Center to the water's edge that would serve as a kayak launch. This path and any other would end above the mean high tide line.

The Port Playground area could also include additional landscaping and shoreline protection features, (Section 2.4.5, *Other Features*). The Port Playground would be approximately 11 acres.

Source: TYLIN, 2017.

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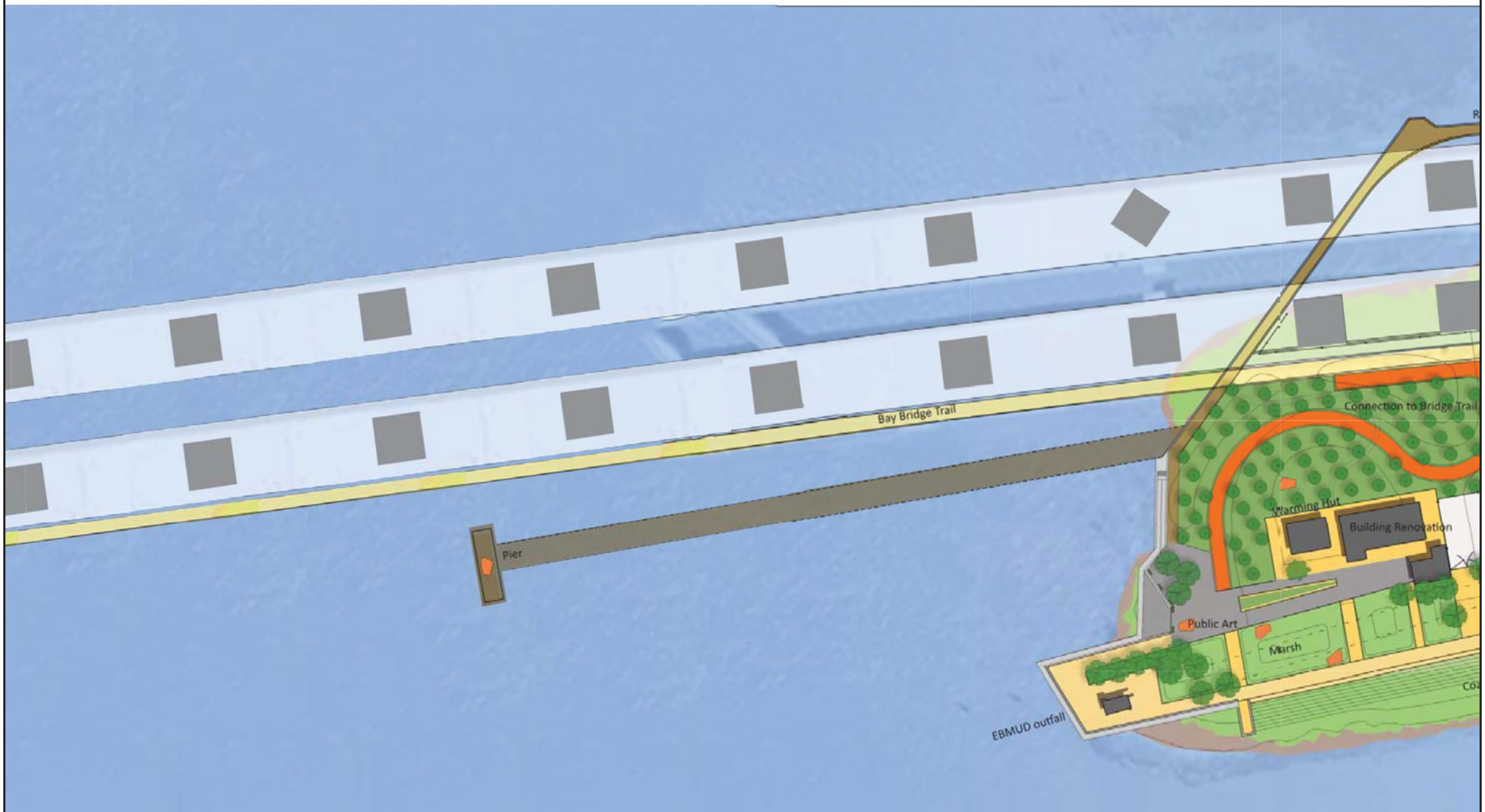
Figure 2-7
Key Point – Plans



Source: TYLIN, 2017.

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Figure 2-8
Potential Marine Foundation Reuse Plan (Not Part of Project)

Source: TYLIN, 2017.

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Figure 2-9
Port Playground – Plans

2.5.4 Radio Beach

Radio Beach (Figure 2-10), an existing area on the north side of I-80, would be for limited, passive recreation including such activities as kiteboarding, walking, picnicking, frisbee play, bird watching, fishing, windsurfing, and kayak launching. At a minimum, Radio Beach would remain accessible to the public as under current conditions.

Park features could also include a new access path from the Key Point area, restoration, and installation of fencing to protect environmentally sensitive areas. This area has an existing informal gravel parking area, which could be improved with oyster shell mulch or comparable material (see Section 2.4.5, *Other Features*). Overall parking areas will not be limited below existing conditions and informal parking will continue to be allowed as at present. Radio Beach would be approximately 5 acres.

2.5.4.1 Path to Radio Beach

The path to Radio Beach, if implemented, would be a new structure for pedestrians and bicyclists to access the existing Radio Beach area. The approximately 4,000- to 4,200-foot-long path would extend from Key Point, under the Bay Bridge, to the easterly end of Radio Beach. The path is divided into the following five segments or areas (Figure 2-10).

- Boardwalk over water (Segment 1)
- Concrete over riprap (Segment 2)
- Boardwalk at grade (Segment 3)
- Boardwalk adjacent to gravel road (Segment 4)
- Boardwalk to Radio Beach (Segment 5)

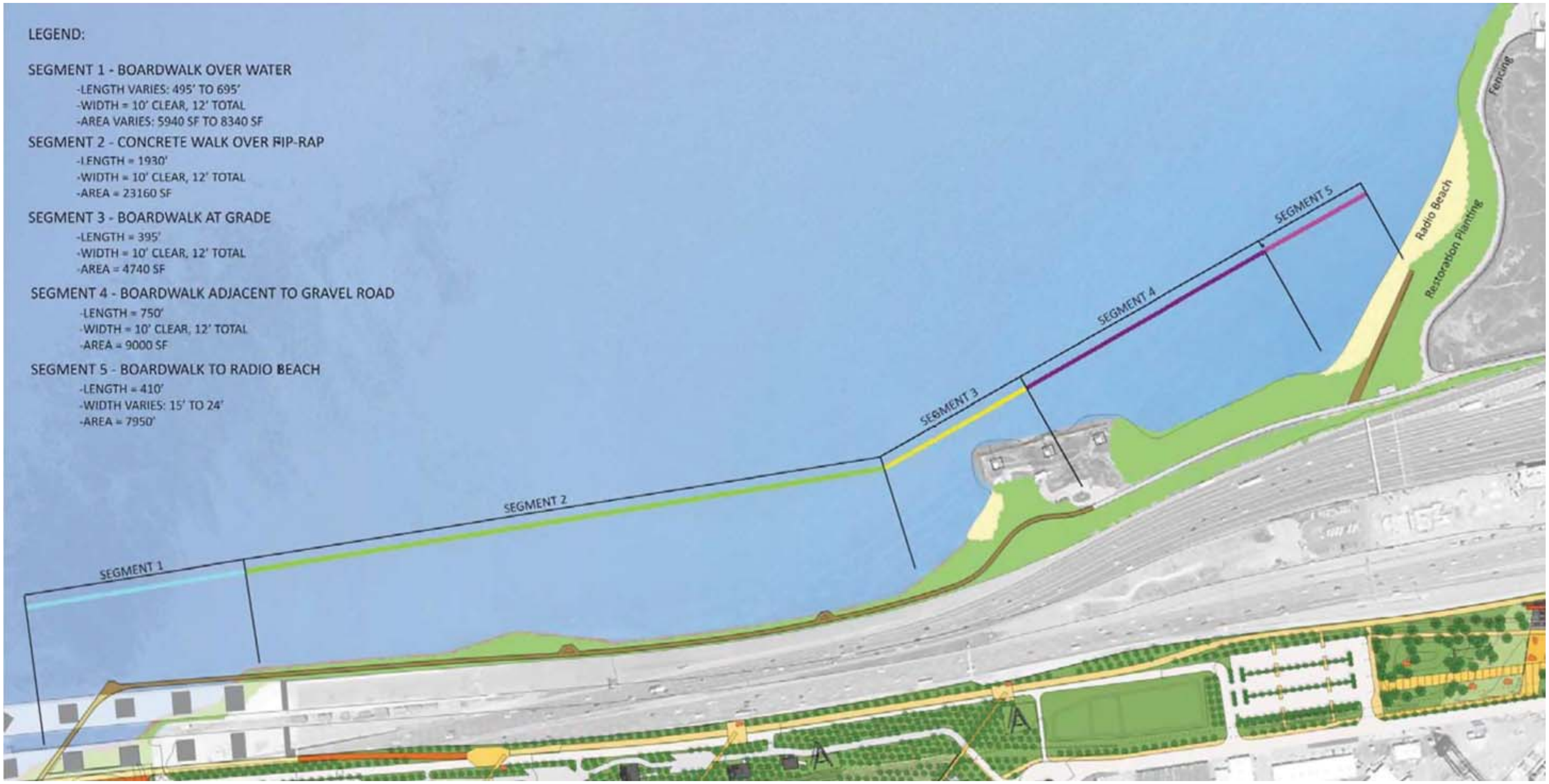
Segments 1 and 2 would be supported by 12-inch wood posts every 10 feet, and Segments 3 to 5 would be supported by 6-inch-diameter wood posts every 10 feet. Vertical clearance between the path and the Bay Bridge would be between 13 feet 6 inches and 19 feet, and the path would be required to meet all applicable safety requirements of Caltrans, the California Highway Patrol, and the federal Department of Homeland Security.

Segment 1 has two variances or options under consideration. The path would begin either on land near the base of the new pier (approximately 500 feet long), as shown in Figure 2-10, or from the new pier (approximately 700 feet long).

The path would have approximately three ecological interpretation decks or landings with benches and ecological interpretation signage. The elevated path would include 4- to 6-foot-high fencing ~~(chain link or decorative metal railing)~~, which is intended to keep visitors on the path.

2.5.4.2 Restoration

Restoration could include planting and habitat enhancement of approximately 4 acres in the Radio Beach area, west of the fencing shown on Figure 2-5. The design goal would be to extend the Emeryville Crescent Marsh vegetation and the Upland Coast Scrub vegetation established adjacent to the marsh into the disturbed areas of Radio Beach. This would require grading approximately 1 acre and removing trash, debris, and invasive plant species in both upland and lowland areas.



Source: TYLIN, 2017.

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Figure 2-10
Radio Beach – Plans

Nonnative invasive plants to be removed would include Bermuda grass (*Cynodon* sp.), invasive iceplant (*Mesembryanthum* sp.), fennel (*Foeniculum vulgare*), nonnative mustard (*Brassica* sp.), French broom (*Genista* sp.), Pampas grass (*Cortaderia* sp.), pepperweed (*Lepidium latifolium*), and nonnative grasses.

Marsh restoration planting would include pickleweed (*Salicornica*) and Pacific cordgrass (*Spartina foliosa*). Lowland restoration would include saltmarsh Baccharis (*Baccharis douglasii*), saltgrass (*Distichilis spicata*), Juncus (*Juncus balticus*), and Carex (*Carex praegracilis*). Upland coastal scrub plants would include California sagebrush (*Artemesia californica*), mugwort (*Artemisia douglasiana*), coyote bush (*Baccharis pilularis*), bush monkey-flower (*Mimulus aurantiacus*), and native California blackberry (*Rubus ursinus*). The final plant list would be determined by a qualified restoration ecologist and botanist. If required by project permits, the plant list will be reviewed and approved by the U.S. Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Wildlife (CDFW).

All planting would be monitored for establishment and maintained for a duration to be determined by the restoration ecologist. Establishment of the plantings would be measured according to the following baseline criteria.

- Pampas grass, fennel, broom, and iceplant must be eradicated from replanted areas for the duration of monitoring.
- Upland replanted areas must achieve 60% cover of native plant species by the end of the monitoring period.
- Asian mustard, pepperweed, velvet grass, and Bermuda grass must cumulatively not exceed 5% of cover for the duration of the monitoring.
- Unsuccessful areas with little or no cover must be identified and adaptive measures to promote vegetation success implemented.

There could also be interpretive signage along the marsh habitat area and restoration area edge to discourage encroachment onto sensitive habitats.

2.5.4.3 Fencing

The project could also include installation of a permanent fence to protect wildlife and the environmentally sensitive existing tidal marsh area east of Radio Beach (Figure 2-5). The purpose of the fence would be to delineate environmentally sensitive areas and make it clear that entry is prohibited in the fenced area. The fencing would be no more than four 4 feet high in the Radio Beach area and would not use chain or mesh-type material which could interfere with kiteboarding activities. The style for the fence has not been determined, but could be a wooden beam and post style fence similar to what is commonly used by EBRPD at many of their park units. The project sponsor will coordinate with current site users, including kiteboarders and ~~SF~~BCDC, during fencing design to take site user input into account on final design. ~~The fence would be approximately 1,670 feet long and likely 6 to 8 feet high. The fence type has not been determined but could be chain link, decorative metal, or some other material~~.

2.5.5 Other Features

2.5.5.1 Windbreak/Tree Buffer

The project could include an approximately 13-acre windbreak/tree buffer that would extend along the south side of I-80 in the Port Playground and Key Point areas (Figure 2-5). The windbreak/tree buffer would include approximately 1,500 trees on 14 acres along the south side of I-80. The windbreak would block and diffuse vehicular air emissions from I-80 and provide a visual identity for Gateway Park, a visual buffer between the park and I-80, and shade structure for circulation within the park. The trees would be planted to provide view lines to the water and the Port of Oakland.

The trees would be primarily evergreen and would achieve a maximum height of 45 to 50 feet, which is below the bottom edges of existing billboard signs. Qualified botanists would determine evergreen tree species based on the ability to thrive in marine conditions, tolerate occasional saltwater intrusion and strong winds, and lose and replace leaves. Species that have survived and thrived on the site include Monterey cypress, Torrey pines, and eucalyptus.

2.5.5.2 Landscaping

Landscaping would be planted throughout the project area south of I-80. Additionally, landscaping could be planted under the freeways east of the recreational features (I-880 and the I-880/80/580 maze) to improve aesthetics and air quality for park visitors and West Oakland residents (Figure 2-5). Overall, an estimated 2,375 new trees could be planted on the project area over the three phases of construction, and 10.75 acres of grassland could be planted as well. A general description of the potential landscaping is provided in Table 2-2.

Table 2-2. Potential Landscaping

Park Area	Plantings
Bridge Yard	Large native oak trees (approximately 35), native and endemic meadow grasses, vegetative filtration plantings for storm water treatment, and extension of the windbreak planting (approximately 375 trees).
Key Point	Large-scale vegetative filtration plantings for stormwater treatment in an upland marsh, as well as the extension of the windbreak planting (approximately 150 trees).
Port Playground East (active recreation area)	Vegetative filtration plantings for stormwater treatment, upland plantings at the playground, and possibly container planting.
Port Playground West (meadows and bluff walk)	Native and endemic meadow grasses, coast sage scrub, upland and lowland bluff plantings, vegetative filtration plantings for stormwater treatment, as well as the extension of the windbreak planting (approximately 950 trees).
Under freeways (I-880 and I-880/80/580 maze)	Native and endemic meadow grasses, coast sage scrub, upland and lowland bluff plantings, vegetative filtration plantings for stormwater treatment.

I-880 = Interstate 880; I=80 = Interstate 80

2.5.5.3 Lighting

Park hours would be dawn to dusk, but a minimal amount of lighting would be provided for security at dusk and for special events that could be held at the Bridge Yard. Lighting would be a combination of low-level foot lighting along paths, exterior lighting on buildings directed downward, and 20-foot steel light standards in Bridge Yard area and in parking lots. There would be no lighting in the Radio Beach area.

2.5.5.4 Parking

At a minimum, 43 parking spaces would be provided as part of the project per the BCDC permit requirements. In addition, up to approximately 581 to 742 total parking spaces in different on- and off-site areas could be provided and accessible to Gateway Park users (Figure 2-11). Approximately 158 to 183 of these spaces could be developed in the Bridge Yard, windbreak, and Radio Beach areas as part of the project. The remaining parking areas would be developed under separate project scopes. Refer to Table 2-3.

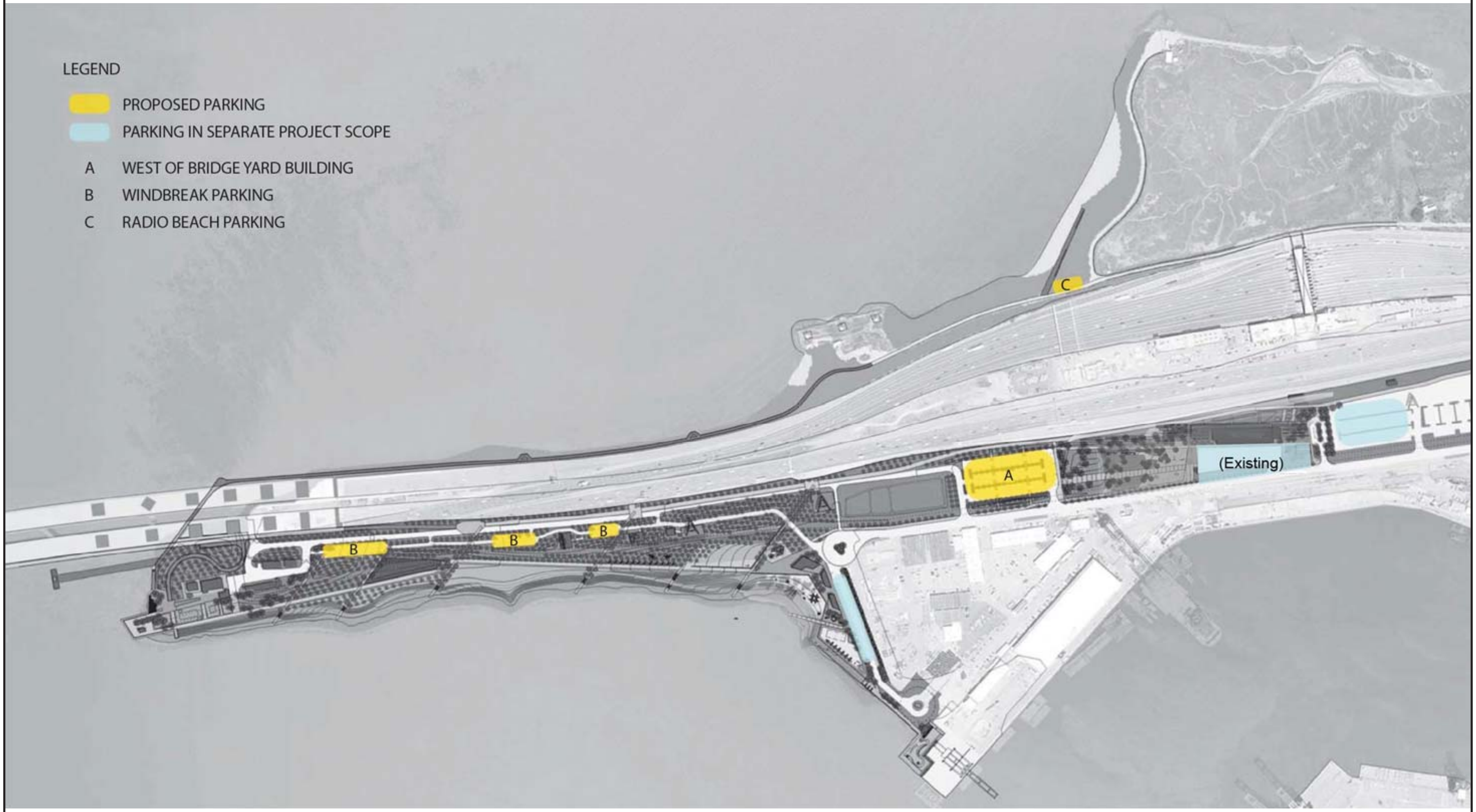
Table 2-3. Potential Parking

Parking Area	Location	Number of Spaces	Other Features
Part of Gateway Park Project			
A	Parking Lot East of Bioretention Pond	75–100	75-space parking lot plus EBMUD line crossing proposed by others. Gateway Park could expand to 100+ spaces at this location with additional EBMUD line crossing.
B	Windbreak	78	Parking dispersed in three areas of the Windbreak.
C	Radio Beach	5	Parking located where there is currently informal parking (e.g., unpaved, oyster shells).
Subtotal		*158-183*	
Other Parking Areas Within and Outside of Gateway Park (by Others[1])			
West Gateway Public Access Project (City of Oakland and California Capital Investment Group)		57–93	East of Port Playground
Toll Plaza Tunnel Lot (Caltrans)		18	East of Bridge Yard (existing parking)
Caltrans Phase 3 Training Facility Parking Lot (Caltrans)		170	Potential to share 170 spaces with Caltrans Phase 3 training center, subject to use agreement.
Wood Street (Caltrans and BATA)		100–200	Proposed as part of a separate project.[2]
Bridge Yard Parking Improvements (Caltrans)		78	South of Bridge Yard building (recently constructed temporary parking that could be made permanent)
Subtotal		*423-559*	
Total		**581–742**	

[1] The other agencies that would implement these parking areas are identified in parentheses next to the parking area name.

[2] Caltrans and Bay Area Toll Authority are proposing the San Francisco–Oakland Bay Bridge Regional Bicycle/Pedestrian Connection Project (commonly referred to as the "path" project) in West Oakland. It

includes an approximately 6,030-foot-long bicycle/pedestrian path extending between Mandela Parkway on the east and the new Bay Bridge Trail leading to the new east span of the Bay Bridge on the west. This project could include construction of a 100-space parking lot on the west side of Wood Street, north of West Grand Avenue, and bike lanes on surface streets extending to the parking lot. Up to 100 additional spaces could be added to the potential 100-space lot.



Source: TYLIN, 2017.

Figure 2-11
Proposed Parking

2.5.5.5 Way-Finding Elements

Way-finding elements would include interpretive and directional signage along pathways throughout Gateway Park. Additionally, way-finding elements could include old Bay Bridge artifacts and could be located along Burma Road.

2.5.5.6 Shoreline Protection

Shoreline protection features would be provided along the northern and southern shoreline areas (south of I-80) to minimize erosion. Shoreline protection features could be a combination of gently graded slope, vegetation plantings, riprap, retaining walls, and revetment walls above and below the water line, as described in Table 2-4. Shoreline protection features would be completed as the associated park areas are developed based on project phasing described in Section 2.45.7, *Project Phasing and Construction*. A preliminary identification of shoreline protection methods was completed as part of the conceptual design for the project, as described in Appendix I, *Shoreline Treatments Assessment* (CH2MHill 2015). The preliminary design takes into account potential sea level rise projections which are described in Appendix B, *Sea Level Rise Adaptation* (CH2M Hill 2015).

Table 2-4. Proposed Shoreline Protection

Location	Protection Measures	Area and Fill Below Mean High Tide Line
North Shoreline (Radio Beach)	None	None
South Shoreline (Key Point)	Concrete sea wall and retaining wall at EBMUD outfall.	Area: 0.23 acre Fill: 4,100 cubic yards
South Shoreline (majority)	5:1 slope with revetment[1] wall below water line and vegetated bench.	No fill below mean high tide line
South Shoreline (existing beach)	5:1 slope with revetment wall below water line and existing beach	No fill below mean high tide line
South Shoreline (southeast area)	5:1 slope with transition from stone/concrete terrace wall and revetment wall above water line to rip rap embankment below water line.	No fill below mean high tide line

[1] Revetments are sloping structures placed on banks to absorb the energy of incoming water, and are used as a solution for coastal erosion defense in areas where crashing waves may otherwise deplete the coastline.

EBMUD = East Bay Municipal Utility District

The northern shoreline areas where the trail to Radio Beach would be installed on the existing riprap would be protected by a revetment consisting of additional riprap overlayed on the existing riprap. The boardwalk portion of the trail to Radio Beach would be its own independent structure and would not require shoreline protection.

The southern shoreline is approximately 2,500 feet long and would have a variety of protective strategies. For most of this shoreline (> 2,000 feet), a riprap revetment with a vegetated bench is contemplated for natural tidal marsh habitat establishment and erosion protection. The riprap revetment would be installed from approximately the 2015 Mean Lower Low Water (MLLW) level to approximately 2015 Mean Higher High Water level (MWWH) but would be installed beneath the existing water line at approximately a 1 to 5 slope. The vegetated bench would be installed just above the revetment with a low gradient area suitable for middle marsh to high marsh vegetation. The current design would not require any fill below the mean high tide line.

At Key Point, the EBMUD outfall and surrounding area would be protected by a seawall and a retaining wall which would require some fill below the mean high tide line. At the existing sandy beach, shoreline protection would be provided by a revetment wall beneath the existing water line and potentially increased elevation through supplemental sand/soil. At the southeast portion of the south shoreline, the shoreline would be protected by a riprap revetment and stone/concrete terraces. The current designs for the beach and southeast portion would not require any fill below the mean high tide line.

Figure 2-12 shows the location of the south shoreline treatments. Figures 4, 5, 6, 7, 8, and 9 in Appendix I, *Shoreline Treatments Assessment* shows cross sections for the majority of the south shoreline with revetment walls and vegetated benches (CH2M Hill 2015).

2.5.5.7 Sea Level Rise Adaptation

The project area is relatively flat, elevated approximately 8 to 12 feet above the mean lower low water, and surrounded by the Bay on the north, west, and south sides. Because of anticipated sea level rise as described in Appendix B, *Sea Level Rise Adaptation* (CH2M Hill 2014), the entire south side of the park (south of I-80) would be elevated by 2 to 10 feet by adding 233,000 cubic yards of fill consisting mainly of imported fill but also of reused fill from graded areas on site. The park areas would be elevated as they are developed based on project phasing, as described in Section 2.4.7, *Project Phasing and Construction*.

2.5.5.8 Retention Basins and Stormwater Drainage

The existing onsite retention basin, south of I-80 and west of the Bridge Yard, would be retained with no changes. It was constructed to receive stormwater runoff from the Bay Bridge toll plaza area. Park features would be designed so that there would be no impact on the existing basin.

Three additional retention basins (biofiltration swales) could be constructed at the west end in the Key Point area to treat stormwater runoff from the project features, depending on which features are actually implemented. The biofiltration swales would be designed to include a layer of imported biofiltration soil and, if feasible, an underdrain system. The feasibility of underdrain systems would be assessed based on the existing and proposed drainage facilities and site constraints. The biofiltration swales would be integrated as part of the park landscaping and would not be fenced.

Stormwater runoff from most of the new impervious path areas would sheet flow to nearby vegetated areas. Overall, water from the project features would discharge into unlined channels and ditches that would be tied into existing drainage systems, which are anticipated to have sufficient capacity to accommodate existing stormwater runoff without requiring significant upgrade or modification. Flow would eventually discharge to the Bay. The objective of the drainage design would be to limit the flow and velocities such that existing conditions and drainage patterns are maintained.

A stormwater pollution prevention plan (SWPPP) would be implemented as part of the required National Pollutant Discharge Elimination System (NPDES) and a General Construction Activity

Stormwater Permit. This would minimize the potential for sediments or contaminants to be discharged into San Francisco Bay.

Source: TYLIN, 2017.

Figure 2-12
Proposed Shoreline Protection

2.5.5.9 Hazardous Waste Cleanup

The project area includes lands previously used by or adjacent to industrial activities associated with the Port of Oakland, the Oakland Army Base, and Caltrans Maintenance Facility. There is ongoing hazardous materials remediation onshore. This project assumes that all onshore hazardous materials would be remediated to appropriate levels for proposed uses prior to or as part of park construction, and that it would be completed prior to park operation.

2.5.5.10 Dogs or Other Pets

Dogs and other pets would be allowed in the park on the south side but would be prohibited on the north side (Radio Beach).

2.5.6 Access and Circulation

Gateway Park would be accessible from multiple directions by a variety of transportation modes: vehicular, bicycle and pedestrian, transit bus, and shuttle. Primary vehicular access would be from Oakland Burma Road. Vehicles would be able to enter from this point and travel to any of the potential parking areas, discussed in Section 2.4.5.4, *Parking*.

Primary bicycle access would be via the potential Gateway bicycle path along Grand Avenue and from Emeryville via the Bay Bridge Trail. Bicycle connections are also planned to the Bay Trail, which would connect to the planned Gateway Path on Grand Avenue. Shared multiuse paths would allow access across the entire project site from Emeryville through the Bridge Yard and the Port Playground to Key Point to Radio Beach.

Transit access would be via Burma Road. The AC bus would travel from the park entry point on Burma Road to the Parking Lot B in Key Point. A proposed park shuttle during peak periods would travel along West Grand Avenue to Burma Road and into the park to the Bridge Yard area, crossing the park to Radio Beach and returning.

Emergency access would be via Burma Road. Emergency vehicles would follow the vehicle route, then could access maintenance paths in the Bridge Yard, Port Playground, Key Point, and Radio Beach areas.

2.5.7 Project Phasing and Construction

2.5.7.1 Project Phasing

The project would be developed in phases depending on funding and the ultimate improvements selected for implementation. For the purposes of general disclosure, this EIR presumes the project would be developed in the three conceptual phases as funding becomes available, with anticipated buildout in 2030 as described below.

The three potential phases are shown in Table 2-5. As shown, the first two phases could consist of development of the Bridge Yard (Phase 1) and Key Point (Phase 2) areas. As the first discretionary action to be taken for the project in Phase 1, BATA would enter into a cooperative agreement with Caltrans wherein BATA would provide funds to Caltrans for the construction of a parking lot east of the Bridge Yard building. A windbreak spanning the Bridge Yard, Key Point, and Port Playground West areas could also be constructed during Phase 2. The first two phases are anticipated to require

2 years of construction each. It is anticipated that construction of Phase 3, which could include Port Playground and Radio Beach, as well as landscaping beneath the freeways, could occur later, as funding becomes available, and would take approximately 3 years.

Table 2-5. Potential Park Development Phases

Phase 1 (Approximately 2 years)	
Bridge Yard	
A	Arrival Plaza
B	Historic Display
C	Outdoor Yard Event Space
D	Bridge Yard Building Improvements
E	Indoor/Outdoor Auditorium
Other	
	~~Parking Area (east of Bridge Yard building) developed through a cooperative agreement with Caltrans[a]~~
	Parking Area A (west of Bridge Yard building)
Phase 2 (Approximately 2 years)	
Key Point	
A	Building Renovation
B	Path on Structure to Bay Bridge Trail
C	Pier
Other	
	Windbreak/Tree Buffer
	Parking Area B (in Windbreak)
	Shoreline protection – West Shoreline
Phase 3 (Approximately 3 years)	
Port Playground	
A	Visitor Center
B	Playgrounds
C	Kayak Launch
D	Boardwalk
E	Meadow View Point
F	Meadow and Bluff Walk
G	Active View Features
Radio Beach	
A	Path to Radio Beach
B	Restoration
C	Fencing
Other	
	Parking Area C (Radio Beach informal parking area)
	Shoreline protection – South Shoreline
	Landscaping beneath the freeways

~~[a] A parking lot at this location would be constructed by Caltrans after Caltrans enters into a cooperative agreement with BATA.~~

2.5.7.2 Grading

The park area south of I-80 could be elevated 2 to 10 feet for protection from anticipated future sea level rise. The amount of fill below the mean high tide line and the nature of the material for the proposed shoreline protection are presented in Table 2-4. To accommodate proposed development, some of the park areas could be graded. The estimated cut and fill required for project development is shown in Table 2-6. Fill material would be supplied from cut material on site as well as imported fill, as shown in Table 2-6.

Table 2-6. Estimated Excavation and Fill Material

Phase	Excavated Material [a]	Imported Fill Material
1	11,000 cy	30,000 cy
2	41,000 cy	35,000 cy
3	15,000 cy	101,000 cy

[a] Unless it is determined to be unsuitable for reuse as fill, all excavated material would be reused on site as fill for the project's shoreline protection improvements.
cy = cubic yards

2.5.7.3 Construction Hours, Vehicle Access, and Staging

The majority of construction activities would be limited to the hours of 8 a.m. to 6 p.m., Monday through Saturday. There would be no construction on Sundays or national holidays. The path to the Bay Bridge Trail in the Key Point area may require a limited amount of nighttime work. During the three development phases, construction vehicles would use the following roadways primarily: Burma Road, Maritime Street, West Grand Avenue, I-80, and I-880. Additionally, if the Wood Street parking lot is expanded and landscaping is installed under the freeways during Phase 3, vehicles would also use Frontage Road, Wood Street, Campbell Street, Willow Street, Peralta Street, and 20th Street.

All construction staging areas would be on disturbed areas in the project area, at least 25 feet from the water's edge, with protective hay bales in place.

2.5.7.4 Pile Driving

Project construction of certain features would require pile driving, both on land and in water. Table 2-7 presents the number of piles to be driven in each park area, with the relevant park feature. The maximum number of piles that would be driven on any day would not exceed 20.

Table 2-7. Pile Driving

Park Area and Primary Feature Requiring Pile Driving		Estimated Number of Piles	
		On Land	In Water
1	Bridge Yard	None	
2	Key Point		
C	Pier	0	5
3	Port Playground	None	
4	Radio Beach		
A	Path to Radio Beach	0 or 8 to 10[a]	8

Note: Refer to Table 2-1 for all park features and Table 2-5 for park development phasing.
[a] There would be no piles needed if the path is incorporated into shoreline protection with no columns/piers (riprap); otherwise 8 to 10 piles would be needed.

2.5.8 Operations and Maintenance

It is estimated that a fully built park could employ approximately 15 to 30 employees. Specifically, there could be up to four to 10 employees at the visitor center serving uses in the Key Point area, up to six to 13 employees at the visitor center serving uses in the Port Playground area, and up to five to seven employees for other operations and maintenance needs elsewhere in the park.

It is estimated that with all Gateway Park areas developed, there could be up to 500,000 visitors annually (1,370 daily average) based on moderate use and as many as 2 million annually (5,479 daily average) based on heavy use.

2.5.9 Environmental Sustainability Features

The Gateway Park working group collaborated with a number of stakeholders over three years in a preliminary planning and park conceptual design process in order to develop goals, objectives, and design principles for the Gateway Park site. The following design principles that promote environmental sustainability have been adopted as assumptions, fundamental rules, or doctrines that will guide the design of the park (Gateway Park Working Group 2012).

- Sustainability
  - The park design will incorporate a holistic approach that considers green strategies for all design aspects.
  - The park design will integrate storm water management strategies.
  - The park design will incorporate design strategies that will allow the park to be resilient to storm surges and sea level rise.
  - The park design will support good health by encouraging outdoor/recreational activities and use of biking and walking as primary mobility modes.
  - The park design will consider site forestation as a way to improve the quality of the environment.
  - The park design will reuse historic structures and elements of the old Bay Bridge span.

- Site and environment
  - The park design will balance natural resources with active uses and built structures.
  - The park design will protect and enhance local ecology.
  - The park design will be coordinated to interface with adjacent developments.
  - The park design will integrate underutilized lands adjacent to and beneath the freeway and interchange as an integral part of the park and access.
  - The park design will use design strategies to mitigate and buffer freeways visual, sound and air quality impact.
  - The park design will use design strategies to enhance the visual experience from freeways passing through the Gateway.
  - The park design will consider elevated vantage points to further optimize view opportunities and interest.

2.6 Required Approvals

The project would require permits and/or approvals from numerous federal, state, and regional/local agencies. The anticipated permits and approvals needed are listed in Table 2-8.

Table 2-8. Actions, Permits, and Approvals Needed

Agency	Action/Permit/Approval
Federal	
National Marine Fisheries Service	Section 7 Consultation for Threatened and Endangered Species
U.S. Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States
U.S. Army Department of Defense	Hazardous waste remediation, property transfer
U.S. Coast Guard	Section 10 Rivers and Harbors Act of 1899 - permit for structures in navigable water
U.S. Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species
State	
California Department of Fish and Wildlife	Section 2081 Permit for Threatened and Endangered Species
California Department of Transportation	Encroachment permit on roadways and land Implementing parking lot during Phase 1 of construction pursuant to BCDC permit and cooperative agreement between BATA and Caltrans Gateway Park Working Group member
California Department of Toxic Substances Control	Coordination for Army Base cleanup. Hazardous materials cleanup oversight
California Office of Historic Preservation	Historical resources review
California Transportation Commission	Gateway Park Working Group member

Agency	Action/Permit/Approval
Regional and Local	
Association of Bay Area Governments	Coordination for Bay Trail Project Gateway Park Working Group member
Bay Area Toll Authority (BATA)	CEQA lead Gateway Park Working Group member
East Bay Municipal Utility District (EBMUD)	Encroachment on EBMUD outfall facilities Gateway Park Working Group member
East Bay Regional Park District (EBRPD)	Future owner of land and likely park operator Gateway Park Working Group member
City of Oakland	General Plan Amendment and Zone Change Necessary construction and demolition permits Encroachment on city roadways Gateway Park Working Group member
Port of Oakland	Gateway Park Working Group member
San Francisco Bay Conservation and Development Commission	Gateway Park Working Group member Major permit for shoreline improvements within 100 feet of the Bay and structures in water Amendment to Permit No. 2001.008.4~~1~~2, if necessary
San Francisco Regional Water Quality Control Board	Section 401 Water Quality certification, National Pollutant Discharge Elimination System (NPDES) and General Construction Activity Storm Water Permit

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Chapter 3
Environmental Setting, Impacts, and Mitigation Measures

3.0 Introduction

This chapter provides analyses of the impacts that could result from project construction and operations. For each resource analyzed, there is a description of the regulatory setting; the existing conditions, including a definition of the study area; and impact analysis methods, including significance criteria. The potential impacts and required mitigation measures are then identified. The following resources are analyzed in this chapter:

- 3.1, *Aesthetics*
- 3.2, *Air Quality*
- 3.3, *Biological Resources*
- 3.4, *Cultural Resources*
- 3.5, *Geology, Soils, and Paleontological Resources*
- 3.6, *Greenhouse Gas Emissions*
- 3.7, *Hazards and Hazardous Materials*
- 3.8, *Hydrology and Water Quality*
- 3.9, *Land Use and Planning*
- 3.10, *Noise and Vibration*
- 3.11, *Public Services*
- 3.12, *Transportation and Traffic*
- 3.13, *Utilities and Service Systems*

3.0.1 Environmental Analysis Assumptions

The analysis for the sections listed above includes analysis of 1) all Gateway Park components identified in Section 2.5, *Proposed Project*, 2) active recreational use at Gateway Park, and 3) impacts from special events, as applicable. While the project may or may not ultimately include all of the potential features included in the Project Description of this EIR (as discussed in Section 1.0, *Introduction*), the EIR analysis assumes full build-out of each phase in order to provide a conservative analysis.

3.0.2 Topics Not Analyzed in Detail

As discussed in Chapter 1, *Introduction*, the following resources were not analyzed in detail because the project would not adversely affect these resources:

- Agriculture and forestry resources
- Mineral resources
- Population and housing
- Recreation (the EIR analyzes the secondary impacts of the recreational improvements in the sections below)

Section 3.1
Aesthetics

This section describes visual aesthetic resources in the study area. It then describes impacts on visual resources that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.1.1 Regulatory Setting

This section summarizes state, regional, and local laws, regulations, and guidelines relevant to visual resources.

3.1.1.1 State

The following state regulations, laws, and guidelines apply to visual resources.

California Scenic Highway Program

The State Legislature established the California Scenic Highway Program in 1963 to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. Under this program, the State may officially designate roadways as scenic once the local jurisdictions through which the roadway passes has established a corridor protection program and the Departmental Transportation Advisory Committee has thereafter recommend designation of the roadway. The Master Plan of State Highways Eligible for Official Scenic Highway Designation maps designated highway segments, as well as those that are eligible for designation. Changes to the map require an act of the State legislature.

Interstate 80 (I-80) is an eligible state scenic highway but is not so officially designated by the State (California Department of Transportation 2013). No roadway in or near the project area is officially designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (California Department of Transportation 2013).

Outdoor Advertising Act

The Outdoor Advertising Act regulates the placement of advertising displays adjacent to and within specified distances of highways that are part of the national system of interstate and defense highways and federal-aid highways. The act regulates the size, illumination, orientation, and location of advertising displays. Under the act, a Highway Outdoor Advertising Permit Application must be submitted to the California Department of Transportation (Caltrans) and a permit secured prior to the placement of all displays.

The Outdoor Advertising Act also defines "landscaped freeways" as a section or sections of a freeway that is now, or hereafter may be, improved by the planting at least on one side or on the median of the freeway right–of–way of lawns, trees, shrubs, flowers, or other ornamental vegetation requiring reasonable maintenance." Landscaped freeways must have planting areas of at least 1,000 feet in length that are in healthy condition and improve the aesthetic appearance of the highway. Functional plantings (plantings for erosion control, traffic safety, reduction of fire hazards, and traffic noise abatement, or other non–ornamental purposes) do not qualify. The Outdoor Advertising Act prohibits the placement of advertising within 660 feet of the edge of the right–of–way of a landscaped freeway. (California Department of Transportation 2014b). A portion of I-80 that passes through the project area (from post mile 1.00 to 6.03) is classified as a state landscaped freeway (California Department of Transportation 2014a).

3.1.1.2 Regional and Local

The project lies within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC), Caltrans, the U.S. Army, ~~and~~ the City of Oakland, and the Port of Oakland. If the project is approved, the portion of the project site owned by the U.S. Army (former Oakland Army Base) would be transferred to the East Bay Regional Parks District or a Joint Powers Authority, which would manage Gateway Park.

The following regional and local regulations, laws, and guidelines apply to visual resources.

San Francisco Bay Plan

In accordance with the federal Coastal Zone Management Act, BCDC has the authority to confirm or deny permits regarding the placement or extraction of materials in the Bay; regulate new development within the first 100 feet inland from the Bay shoreline; and ensure that water-oriented uses are reserved for ports, water-related industries, water-oriented recreation, airports, and wildlife refuges. BCDC's *San Francisco Bay Plan* (Bay Plan) (San Francisco Bay Conservation and Development Commission 2015) sets forth policies that guide future uses of the Bay and shoreline. The Bay Plan affirms that visual access to San Francisco Bay is an important component of public access. Therefore, waterfront projects approved by the commission must provide, enhance, and maintain visual access to the Bay and shoreline by including public views from public thoroughfares and the Bay; maintain and enhance the visual quality of the Bay, shoreline, and adjacent developments; and take advantage of the Bay setting. The commission also requires that structure locations and the height and placement of landscaping maintain or improve Bay views while providing onsite visual interest and variety. In addition, new roads should be planned to keep Bay and access areas in view as much as possible, especially where roads change direction (San Francisco Bay Conservation and Development Commission 2005). The Bay Plan includes the following policies pertaining to aesthetic resources along the shoreline:

1. To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.

2. All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore.

3. In some areas, a small amount of fill may be allowed if the fill is necessary-and is the minimum absolutely required-to develop the project in accordance with the Commission's design recommendations.

4. Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.

7. Access routes to Bay crossings should be designed so as to orient the traveler to the Bay (as in the main approaches to the Golden Gate Bridge). Guardrails, fences, landscaping, and other structures related to such routes should be designed and located so as to maintain and to take advantage of Bay views.

9. "Unnatural" debris should be removed from sloughs, marshes, and mudflats that are retained as part of the ecological system. Sloughs, marshes, and mudflats should be restored to their former natural state if they have been despoiled by human activities.

12. ln order to achieve a high level of design quality, the Commission's Design Review Board, composed of design and planning professionals, should review, evaluate, and advise the Commission on the proposed design of developments that affect the appearance of the Bay in accordance with the Bay Plan findings and policies on Public Access; on Appearance, Design, and Scenic Views; and the Public Access Design Guidelines. City, county, regional, state, and federal agencies should be guided in their evaluation of bayfront projects by the above guidelines.

13. Local governments should be encouraged to eliminate inappropriate shoreline uses and poor quality shoreline conditions by regulation and by public actions (including development financed wholly or partly by public funds). The Commission should assist in this regard to the maximum feasible extent by providing advice on Bay-related appearance and design issues, and by coordinating the activities of the various agencies that may be involved with projects affecting the Bay and its appearance.

14. Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay (shown in Bay Plan Map No. 8, Natural Resources of the Bay).

15. Vista points should be provided in the general locations indicated in the Plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.

City of Oakland General Plan

The *City of Oakland General Plan* contains numerous policies pertaining to aesthetics in the Land Use and Transportation Element (City of Oakland 1998), the Open Space, Conservation, and Recreation Element (City of Oakland 1996), and the Scenic Highways Element (City of Oakland 1974). These include policies related to the provision of public access to the waterfront; the protection of scenic resources, vistas, and viewing areas; the siting of new parks and recreational facilities; and the design of trails, parks, recreational areas, and landscaping. The Scenic Highway Element also designates the MacArthur Freeway from the San Leandro City limits to the San Francisco–Oakland

Bay Bridge (Bay Bridge) approach as a scenic route. Key policies that are relevant to the project are listed below. For a complete list of applicable policies, refer to the visual impact assessment prepared for this project, available in Appendix C (ICF International 2016).

Policy T6.3 Making the Waterfront Accessible. The waterfront should be made accessible to pedestrians and bicyclists throughout Oakland.

Policy W2.1 Linking Neighborhoods with the Waterfront. All recreational activity sites along the waterfront should be connected to each other to create continuous waterfront access. Safe and direct automobile, bicycle, pedestrian and waterway access between the waterfront and adjacent neighborhoods should be created and strengthened.

Policy W2.3 Providing Public Access Improvements. Public access improvements to the waterfront and along the water's edge should be implemented as Projects are developed.

Policy W2.6 Providing Maritime and Aviation Viewing Access. Safe access to areas for viewing maritime and aviation activities without interfering with seaport and airport activities should be encouraged to the requirements of the BCDC.

Policy W3.4 Preserving Views and Vistas. Buildings and facilities should respect scenic viewsheds and enhance opportunities for visual access of the waterfront and its activities.

Policy W2.10 Making Public Improvements as a Part of Projects. Physical improvements to improve the aesthetic qualities of the waterfront, and increase visitor comfort, safety, and enjoyment should be incorporated in the development of Projects in the waterfront area. These amenities may include landscaping, lighting, public art, comfort stations, street furniture, picnic facilities, bicycle racks, signage, etc. These facilities should be accessible to all persons and designed to accommodate elderly and physically disabled persons.

Policy W3.2 Enhancing the Quality of the Natural and Built Environment. The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance, and should not detract from or damage the quality of, the overall natural and built environment along the waterfront.

Policy W3.4 Preserving Views and Vistas. Buildings and facilities should respect scenic viewsheds and enhance opportunities for visual access of the waterfront and its activities.

Policy W7.1 Developing Lands In the Vicinity of the Seaport/ Airport. Outside the seaport and airport, land should be developed with a variety of uses that benefit from the close proximity to the seaport and airport and that enhance the unique characteristics of the seaport and airport. These lands should be developed with uses which can buffer adjacent neighborhoods from impacts related to such activities.

Policy N9.5 Marking Significant Sites. Identify locations of interest and historic significance by markers, signs, public art, landscape, installations, or by other means.

Policy OS-5.1 Priorities for Trail Improvement. Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront.

Policy OS-7.1 Promotion of Beneficial Waterfront Uses. Require land uses along the shoreline which promote the beneficial uses of the Estuary and Bay waters, including a balanced mix of commercial shipping facilities; water-dependent industry, commerce, and transportation; recreation; water-oriented services and housing; and resource conservation.

Policy OS-7.3 Waterfront Appreciation. Promote a greater appreciation of the Oakland waterfront by preserving and enhancing waterfront views, promoting its educational value, and exploring new and creative ways to provide public access to the shoreline without interfering with transportation and shipping operations or endangering public safety.

Policy OS-7.4 Waterfront Park Enhancement. Expand and enhance the City's waterfront park areas. Signage and access provisions to existing waterfront parks should be improved. Opportunities for new shoreline parks should be pursued as redevelopment along the waterfront occurs. A variety of park environments should be created, including active recreation areas, fishing piers and boating facilities, natural areas, and small "pocket" parks with landscaping and benches, all linked by linear parks or pedestrian paths emphasizing shoreline views and access.

Policy OS-7.2 Dedication of Shoreline Public Access. Support the BCDC requirements which mandate that all new shoreline development designate the water's edge as publicly accessible open space where safety and security are not compromised, and where access can be achieved without interfering with waterfront industrial and maritime uses. Where such conflicts or hazards would result, support the provision of off-site access improvements in lieu of on-site improvements. In such cases, the extent of off-site improvements should be related to the scale of the development being proposed.

Policy OS-7.5 Lateral Access and Links to the Flatlands. Improve lateral access along the Oakland shoreline and linkages between the shoreline and nearby neighborhoods by creating a ''Bay Trail" along the length of the Oakland waterfront. Where an alignment immediately along the waterfront is not possible, site the trail as close to the water as possible, with spur trails leading to the water's edge. In the transitional areas between Jack London Square and High Street, interim alignments may be designated along local streets but the ultimate goal should be an unbroken trail along the water's edge between Jack London Square and Martin Luther King, Jr. Regional Shoreline.

Policy OS-9.2 Use of Natural Features to Define Communities. Use open space and natural features to define city and neighborhood edges and give communities within Oakland a stronger sense of identity. Maintain and enhance city edges, including the greenbelt on the eastern edge of the city, the shoreline, and San Leandro Creek. Use creeks, parks, and topographical features to help define neighborhood edges and create neighborhood focal points.

Policy OS-9.3 Gateway Improvements. Enhance neighborhood and city identity by maintaining or creating gateways. Maintain view corridors and enhance the sense of arrival at the major entrances to the city, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger City and neighborhood gateways.

Policy OS-10.1 View Protection. Protect the character of existing scenic views in Oakland, paying particular attention to: (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard, Grizzly Peak Road, and other hillside locations.

Policy OS-10.3 Underutilized Visual Resources. Enhance Oakland's underutilized visual resources, including the waterfront, creeks, San Leandro Bay, architecturally significant buildings or landmarks, and major thoroughfares.

Policy REC-6.3 Use of Surplus or Underutilized Properties. In areas where park deficiencies exist, pursue recreational use of open space at surplus schools, military bases, utility and watershed properties, and transmission and transportation corridors. Recreational uses in such locations should not conflict with the functional use of the property and should be compatible with prevailing environmental conditions.

Policy REC-7.6 Recognition of Local History. Promote programs, events, and markers at local parks which increase public awareness of local history and provide a sense of continuity with the past.

Open Space, Conservation, and Recreation Element

The West Oakland Planning Area Strategy, a component of the Open Space, Conservation, and Recreation Element, proposes the following policy.

- Improve access to the shoreline. This should include construction of the Bay Trail, along with spur trails along Maritime and 7th Street/Middle Harbor Road.

The Harbor Planning Area Strategy, a component of the Open Space, Conservation, and Recreation Element, proposes the following policies.

- Construct the Bay Trail and the spur trails along the adopted alignments through the Harbor area.
- Improve the eastbound Bay Bridge "gateway" to Oakland, possibly with a landscaped vista point just beyond the Oakland anchorage.
- Work with the Port of Oakland, the federal government, and the various Base Closure agencies to explore possibilities for shoreline access within the Fleet Industrial Supply Center. Possible use of the finger piers and boat basin for recreation should be explored.
- Should the Army Base become available for re-use, work with the Port of Oakland in exploring opportunities for access.
- Following redevelopment of the Fleet Industrial Supply Center, pursue development of a small historic shoreline park at the Union Point Mole (mouth of the Estuary).
- Create stronger links between the waterfront and West Oakland, beginning with the Bay Trail.
- Work with the Port of Oakland to establish visitor observation areas and promote public awareness of the economic importance of the Oakland shoreline.

East Bay Regional Park District Master Plan

The East Bay Regional Park District would manage Gateway Park. The *Master Plan 2013* (East Bay Regional Park District 2013) contains the following policies pertaining to aesthetic resources:

- **IRS1.** The District will provide a variety of interpretive programs that focus attention on the region’s natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resource for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.

- **IRS2.** The District will offer recreational programs and service that appeal to participants of all ages and backgrounds, in keeping with its vision and mission. The District will create and manage a comprehensive offering of recreational opportunities, tours and outdoor skills training that will help visitor use and enjoy the parks and trails, and will collaborate with other agencies, organizations, and partners to provide a broad spectrum of regional recreational opportunities.
- **KEP3.** The District will identify the important resources in parklands and develop recommendations for protecting them. The park planning process will consider the needs of potential park users along with resource protection recommendations to minimize the impact to identified resources or, if necessary, to mitigate this impact.
- **KEP4**. The District will participate in efforts to protect scenic or cultural resources, develop larger, multi-agency open space preserves, provide recreational opportunities, protect agricultural use, avoid hazards, and plan for appropriate urban growth boundaries. The District will work with other jurisdictions to develop open space preservation plans and policies that recognize the District's public interests in open space preservation and that are consistent with Board policy.
- **PRPT28.** New utility lines will be placed underground on land owned, operated, or managed by the District to retain the optimal visual qualities of the area. Rights of way and easements for utilities will not be granted without under-grounding. The District will work in cooperation with the utility companies to place existing overhead utilities underground (unless so doing conflicts with applicable codes) as soon as practical and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the construction of high voltage power lines within the parklands, particularly in areas of sensitive or aesthetically important resource and in preserve areas.
- **PRPT29.** The District will keep its lands, including all ridges and peaks, free of additional communication facilities in order to maintain open viewshed, natural conditions, and public use as well as to limit vehicular and service activities. Communication sites will be regulated by the provisions of the Communication Site Policy. No new licenses will be granted beyond December 31, 1999, except for efforts that will consolidate sites or improve visual quality. The District will work to reduce the detrimental visual impact of buildings, towers, and access roads at existing sites and will work with other agencies and neighbors to reduce this impact on adjacent lands.

3.1.2 Environmental Setting

This section describes existing conditions related to visual resources that could be affected by the construction and operation of the project.

3.1.2.1 Study Area

The study area for direct impacts on visual resources is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

3.1.2.2 Visual Resource Analysis

This section was prepared using information from the visual impact assessment prepared for this project (ICF International 2016).

The following key terms describe visual resources in a project area.

- **Visual character** includes attributes such as form, line, color, and texture that describe visual resources.
- **Vividness** is the extent to which the landscape is memorable. It is associated with distinctive, contrasting, and diverse visual elements.
- **Intactness** is the integrity of visual features in the landscape and the extent to which the existing landscape is free from nontypical visual intrusions.
- **Unity** is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.
- **Visual quality** is evaluated by identifying the vividness, intactness, and unity present in the project area.

Resource change is one of the two major variables that determine visual impacts. *Resource change* refers to the evaluation of the visual character and the visual quality of the visual resources that comprise the project corridor before and after construction of a proposed project. The other major variable is *viewer response*, the response of viewers to changes in their visual environment.

3.1.2.3 Regional and Project Setting

The regional setting provides the context for determining the type and severity of changes to the visual environment. The regional visual setting of the Bay Area is scenic. It combines water, islands, bridges, mountains, and urban skylines.

Seven bridges, including the Bay Bridge, span the Bay, all highly visible from vantage points around the Bay. These bridges also provide views out and around to the scenic resources to the hills and mountains around the Bay, which provide visual, topographical interest. Transportation corridors include six interstate freeway and numerous state routes, local highways, surface streets, and rail corridors. Three interstate freeways intersect just outside of the project area (the MacArthur Maze). Many of the motorists who travel on these freeways each day have fleeting views of the site. The segment of I-80 that passes by the project area is an eligible state scenic highway but not officially designated (California Department of Transportation 2013). However, it is a city-designated scenic route (City of Oakland 1974).

The city skylines of Oakland and San Francisco complement the natural setting. The cities of Berkeley, Emeryville, Oakland, and Alameda are also visible to the east. The East Bay Hills to the east are a dominant topographic feature in the area. The project area is bordered by the Bay to the north, west, and south. Views are particularly prominent looking west toward San Francisco. Given its proximity, the eastern span of the Bay Bridge is a principal feature and represents a gateway to Oakland and the East Bay. Views of the Port of Oakland and its shipping facilities are highly visible to the south.

The setting along the Bay includes industrial uses, public utilities, and staging areas for various construction projects. The project area currently serves as a Caltrans maintenance yard and staging area for the removal of the previous east span of the Bay Bridge, containing both permanent and temporary utility and construction buildings. Permanent buildings in the project area include Caltrans electrical substations and an East Bay Municipal Utility District dechlorination and transition structures for a main sewer outfall. Cellular towers and large digital and conventional billboards are located adjacent to eastbound I-80 and are dominant features at the site. Billboards at the project site are approximately 60 feet tall as measured to the top of the structures. Three historic structures are on the site: the Bridge Yard Building, Key Pier Substation, and Bay Bridge Oakland Substation (Section 3.4, *Cultural Resources*).

The Bay Trail is an important recreational feature in the region, and four segments of the trail are adjacent to and within the study area.

Visibility and views are dominant characteristics of the project area. The project area features panoramic background views of downtown Oakland, downtown San Francisco, Yerba Buena/Treasure Island, the East Bay Hills, the Santa Cruz Mountain Range, Mount Tamalpais, and the Golden Gate Bridge. Views are particularly prominent from the Key Point and Radio Beach park areas, looking west towards San Francisco.

3.1.2.4 Visual Assessment Units

The study area was divided into a series of "outdoor rooms" or visual assessment units (VAU) (Figure 3.1-1). Each VAU has its own visual character and quality and is typically defined by the limits of a particular viewshed. The VAUs are designated as Radio Beach, Portside, and The Maze.

The topography in all three VAUs is generally flat. The natural areas have low-profile landforms and vegetation that transition nicely to the Bay. The more developed portions have several tall vertical towers and utility poles that serve as focal points. Vegetation in the developed portions is also medium-textured, consisting primarily of ruderal grasses and weeds that change color seasonally. All VAUs are well lit from existing light sources or from the I-80 corridor and nearby land uses outside of each VAU. The visual resources and quality of each VAU are summarized in the sections that follow. Further details and photographs of each VAU are provided in the visual impact assessment prepared for this project (ICF International 2016).

Radio Beach

The Radio Beach VAU is located north of the I-80 corridor, which separates it from the rest of the project area. It extends to the Bay shoreline. The Radio Beach VAU includes the Radio Beach project area. Radio Beach is owned by the Port of Oakland and East Bay Regional Park District land to the east. The topography is flat and includes natural features such as low-lying groundcover and shrubs, native vegetation, a large amount of invasive iceplant, marshes, wetlands, and a narrow, sandy beach. The only constructed elements in this area are a paved service road that parallels I-80 along the southern edge of the VAU, adjacent utility poles and wires, nine large radio towers, and scattered small portable buildings. In addition to views of onsite features, this VAU provides views of urban development and Marina Park in Emeryville, Aquatic Park in Berkeley, I-80, the Toll Plaza, Caltrans buildings in the I-80 center median, and cranes in the Port of Oakland. Panoramic and background views from the site include the Bay, Bay Bridge, Treasure Island, Marin Headlands, Golden Gate

gatewaypark

Figure 3.1-1
Visual Assessment Units

Bridge, and the East Bay Hills. Limited views of the Santa Cruz Mountain Range are available. Current lighting in this VAU is limited to small lights on the radio towers and the rest of this VAU is unlit but receives lighting from the I-80 corridor and the Port.

The vividness of the Radio Beach VAU is moderate-high because its lack of development allows for attractive views toward the surrounding Bay Area from within the VAU and from the nearby I-80 corridor. The intactness and unity are also moderate-high because the low levels of infrastructure and utilities allow for a smooth, largely uninterrupted, visual transition from vegetated areas to the shoreline and water. The resulting visual quality is moderate-high.

Portside

The Portside VAU is located south of the I-80 corridor and extends to the outer harbor of the Port shoreline. The project area along Burma Road is considered under the Portside VAU. The Portside VAU includes the Key Point, Port Playground, and Bridge Yard project areas. The industrial paved areas adjacent to I-80, north and south of Burma Road, are owned by Caltrans. The natural area south of Burma Road, along the shoreline, is owned by the East Bay Regional Park District. While this area is located outside of the Park project area (refer to Figure 3.1-1), its paved surfaces, warehouses, and industrial nature contribute to the visual setting of this VAU. The majority of this VAU is highly developed for industrial uses and enclosed by fencing. Significant visual features of the developed areas are the historic Bridge Yard Building, surrounding paved surfaces, temporary structures, a paved stormwater irrigation channel and outfalls, a one-lane bridge utility poles, overhead wires, digital and conventional billboards, and cellphone towers. Permanent buildings on the westernmost edge and adjacent to the bay include a transition structure and dechlorination facility as well as two historic concrete substations. Vegetation is sparse and in poor condition, limited to small weeds and shrubs growing between the cracks of the impervious surfaces. In this developed setting it adds little aesthetic value. One mature tree is located to the north of the Bridge Yard Building. Mature trees and shrubs near the historic substation buildings are not maintained.

Areas with little or low development allow for panoramic background views except to the north, where they are blocked by the Bay Bridge and I-80. These views include the East Bay Hills ridgeline the Santa Cruz Mountains, the Bay, the Bay Bridge, Yerba Buena Island, and Oakland and San Francisco skylines. Lighting in the Portside VAU comes from safety lighting associated with permanent and temporary buildings, overhead parking lot and storage yard lighting, and billboard lighting. It also receives lighting from the I-80 corridor. The natural area is unlit.

The vividness of the Portside VAU is moderate because, although the large industrial buildings interrupt views of the surrounding landscape, the open natural areas with views towards the surrounding Bay Area provide visual interest. The intactness and unity are moderate-low because the mix of industrial land-uses and natural areas constitute nontypical visual intrusions. There are many vertical structures, active construction activities, and changing construction staging within the VAU. The resulting visual quality is moderate to moderate-low.

Maze

The Maze VAU is located under the Interstate 880 (I-880) corridor, from 10th Street to the MacArthur Maze. The Maze VAU does not include any proposed park uses, but includes areas where landscaping and stormwater drainage improvements are proposed. The Maze is owned by the State of California (specifically, Caltrans). To the east are light-industrial uses in Oakland. To the west is the Union Pacific Railroad right-of-way and property owned and operated by the Port of Oakland

and the East Bay Municipal Utility District. This VAU is fenced and inaccessible to the public. The site is a combination of paved surfaces and unpaved areas supporting weeds, grasses, and small shrubs with no aesthetic value. Massive concrete pillars support the I-880 aerial structure. The freeway overcrossing creates a visual barrier and separates the city of Oakland from the East Bay Municipal Utility District treatment facility and the Port of Oakland. While the freeway limits most views to the foreground, some middleground and background views to the surrounding area, such as to the East Bay Hills, are present through views corridors created by the raised freeway structures and nearby industrial development are available. Lighting in the Maze VAU includes overhead cobra lighting and vehicle headlights on I-880 and intersecting roadways. It also receives lighting from nearby industrial and Port land uses, including street lighting and vehicle headlights in these areas.

The vividness of the Maze VAU is moderate-low because limited views of the surrounding Bay Area are combined with views of adjacent industrial areas. Intactness and unity are moderate-low because the transportation corridor is uniform and consistent, but fencing creates a visual access barrier to the Maze VAU. The resulting visual quality is moderate-low.

3.1.2.5 Viewers and Viewer Response

Two major types of viewer groups are of primary concern for this project: neighbors (views to the project) and site users (views from the project). Each viewer group has its own particular level of viewer exposure and viewer sensitivity. More information on viewers and viewer response is provided in the visual impact assessment prepared for this project (ICF International 2016).

Neighbors

The following viewers are neighbors with views *to* the project area.

- Workers adjacent to the Portside and Maze VAUs.
- Roadway users on local roadways adjacent to all VAUs.
- Highway users on I-80, I-880, and the MacArthur Maze.
- Recreationists using local roadways, the Bay Bridge Trail, and the water adjacent to the Radio Beach and Portside VAUs.

Neighbors' views of the project area are based on location within the landscape, distance, and presence of intervening features. Some roadway neighbors have more sustained views of the project area, such as neighbors working in industrial areas adjacent to the Portside and Maze VAUs. While most of these are foreground views, they are from vantages at edges of the VAUs. These foreground views tend to be transient as workers access parked cars or work areas. Neighbors using the freeways and local roadways have intermittent to short but more direct views of the project area as they approach and pass by the site. Most of these views are limited to the foreground by intervening development; however, middleground views are visible from the Bay Bridge's eastbound lane. Water-based viewers may have more sustained views and more direct foreground and middleground views of the Radio Beach and Portside VAUs because of the lack of obstructions in the waterways.

Site neighbors would have low sensitivity to visual changes. Although they are adjacent to the project area, their views are sustained for short periods and often transient. Generally, viewers are expected to have low sensitivity to visual changes in the project area.

Site Users

The following viewers are site users with views *from* the project area.

- Recreational users traveling through or recreating in the Radio Beach and Portside VAUs.
- Haulers and commuters in the Portside VAU.
- Workers in the Portside VAU.

While site users are familiar with ongoing maintenance and construction activities associated with the Bay Bridge and on neighboring roads near the project area, viewer exposure for site users differs amongst the Maze, Radio Beach, and Portside VAUs.

Radio Beach VAU. Site users within the Radio Beach VAU are recreationists who use the site irregularly. Viewers have mostly uninterrupted foreground to background views of the Bay Area because this VAU is largely undeveloped.

Portside VAU. Site users within the Portside VAU are more abundant than in other VAUs. However, access to shoreline views is limited to Port and Caltrans maintenance workers with access to the west side of the site because public access is not permitted past the gate on Burma Road. Therefore, public views of the Bay are not provided from existing shoreline areas associated with the Portside VAU, and a limited amount of workers would be intermittently accessing the site west of the gate. Most viewers access the east side of the site. East of the gate, the majority of the Portside VAU is currently accessed primarily by workers at the Port and Caltrans Maintenance complex. There are a smaller number of recreationists that pass through this area to access the Bay Bridge Trail while workers in the industrial areas have more sustained views from the site. Most views are limited to the foreground due to intervening development and infrastructure.

Maze VAU. Views from within the Maze VAU are not available because access is restricted by fencing.

Recreational users, haulers, and commuters would have low sensitivity to visual changes resulting from the project because they would see the project area only while travelling through the area or visiting it briefly (e.g., visitors to Radio Beach). Workers would also have low sensitivity because they are focused on work activities. Therefore, views would be intermittent, and construction activities are typical of the surrounding area.

Composite Viewer Group

For analytical purposes, a composite viewer group of all neighbors and site users affected by this project was created. It is a proportional representation of the affected population. It not only represents a typical viewer, it also includes the most critical attributes and concerns of the individual viewer groups from which it was assembled.

The viewer groups that most typify the composite viewer group are freeway travelers, local commuters, haulers, and workers. These groups represent the largest viewer groups in direct visual contact with the project. Recreationists are a small subset of viewers who would be affected by the project. The composite viewer group's visual sensitivity is representative of the viewer groups with the largest number of viewers having the highest visual sensitivity. Accordingly, the composite viewer group for the Gateway Park project is deemed to have low sensitivity to visual changes that could result from the project.

3.1.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on visual resources associated with the construction and operation of the project.

3.1.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on visual resources in the study area.

- *Visual Impact Assessment for Highway Projects* (Federal Highway Administration 1988).
- *Visual Impact Assessment. Gateway Park Project.* (ICF International 2016).

3.1.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on visual resources in the study area (Section 3.1.2.1, *Study Area*).

Visual resources in the study area were assessed using the following methods.

- Observation from vantage points, including neighboring buildings, property, and roadways (April 11, 2013).
- Photographic documentation of key views of and from the project site, as well as the regional visual context.
- Review of project construction drawings.
- Review of project compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.
- Evaluation and analysis of photographic simulations.

Visual Impact Assessment

Visual impacts are determined by assessing changes to the visual resources and predicting viewer responses to those changes. Table 3.1-1 provides a reference for determining levels of visual impact by combining resource change and viewer response.

Table 3.1-1. Visual Impact Ratings Using Viewer Response and Resource Change

		Viewer Response				
		Low (L)	**Moderate-Low (ML)**	**Moderate (M)**	**Moderate-High (MH)**	**High (H)**
Resource Change	Low (L)	L	ML	ML	M	M
	Moderate-Low (ML)	ML	ML	M	M	MH
	Moderate (M)	ML	M	M	MH	MH
	Moderate-High (MH)	M	M	MH	MH	H
	High (H)	M	MH	MH	H	H

3.1.3.3 Significance Criteria

The project would have a significant impact on visual resources if it would meet or exceed the following thresholds:

- Substantially degrade the existing visual character or quality of the site and its surroundings, including scenic vistas.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.
- Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway.

3.1.4 Impacts and Mitigation

This section describes the potential impacts related to visual resources that would result from construction and operation of the project.

Impact AES-1. The project would cause changes to but would not substantially degrade visual character, visual quality, and scenic vistas (less than significant with mitigation)

Construction

- **Radio Beach.** Construction activities in the Radio Beach VAU to restore natural habitat and install fencing would introduce some heavy equipment and associated vehicles, including backhoes, tractors, and trucks into the viewshed of neighbors and users. Manual restoration methods would also be used. Although construction would temporarily affect views of Radio Beach, these short-term impacts would not result in an adverse resource change. Impacts on scenic views and the existing visual character would be low.

  Viewer responses to construction would not be considered adverse because construction activities would be temporary. Viewers are also familiar with the sight of heavy equipment in the adjacent industrial areas. Restoration activities are likely to be viewed positively because restoration would be associated with creating both visual and habitat diversity that would also attract wildlife.

- **Portside**. Construction activities in the Portside VAU would introduce considerable heavy equipment and associated vehicles, including backhoes, compactors, tractors, and trucks into the viewshed of all viewer groups. Construction would occur during three separate development periods, each of which would be perceived as an individual event. Each phase would create temporary visual impacts on views of and from the project area. Temporary changes in signaling, signage, and lighting would occur. Visual impacts on scenic views and the existing visual character would be moderate-low.

  Some buildings would be demolished or removed, the remaining buildings would be rehabilitated or left untouched, and most of the existing trees would be removed during construction. Demolishing some buildings and removing vegetation would allow for the space to be reprogramed for public use, a more cohesive landscape plan to be implemented, and a greater amount of healthier vegetation to be planted compared to existing conditions. Therefore, removal of these buildings and vegetation is likely to be viewed in a positive manner. In addition, viewer responses to construction would not be considered adverse because construction activities would be temporary, viewers are familiar with heavy equipment in the project area, and views would be transient for viewers passing by or using the site.

- **Maze**. If landscaping is not undertaken, construction impacts would not occur. However, if landscaping is undertaken, construction activities in the Maze VAU would introduce some heavy equipment and associated vehicles, including backhoes, tractors, and trucks into the viewshed of neighbors. Manual restoration methods would also be used. Although construction would temporarily affect views of Radio Beach, these short-term impacts would not result in an adverse resource change. Impacts on scenic views and the existing visual character would be low.

  Viewer responses to construction would not be considered adverse because construction activities would be temporary. Viewers are also familiar with the sight of heavy equipment in the adjacent industrial areas. Landscaping is likely to be viewed positively because landscaping would be associated with improving aesthetic resources in an area that currently has no aesthetic value.

Therefore, impacts on visual resources during construction would be less than significant. No mitigation would be required.

Operations

- **Radio Beach.** Restoration of the Radio Beach VAU would replace the invasive iceplant, grasses, and ruderal vegetation with native plants (Figure 3.1-2). This would increase the visual diversity and interest of the area, thereby enhancing visual resources and visual character. Users and neighbors would also enjoy views of wildlife served by restored indigenous habitat, cover, and roosting sites.

  The proposed pathway connection from Key Point to Radio Beach would be constructed of wood and concrete, blending in with nearby riprap and transportation structures as well as the natural environment. The path and boardwalk would increase access to parts of the VAU that are currently not accessible, allowing for more shoreline views over the water and more interior views of restoration areas. The boardwalk would also allow disabled recreationists to access the beach. The low-profile path and boardwalk would blend with the visual environment and not detract from it.

  Fencing would be installed to prevent access to sensitive restoration areas. Chain link fencing could detract from and partially obscure views and interfere with existing passive recreational uses such as kiteboarding. Implementation of mitigation measure **MM-AES-1** would ensure that fencing in this VAU blends into the natural setting, reducing potential impacts to a less-than-significant level.

  Vividness of the Radio Beach VAU would be improved by restoration plantings that provide visual variety. New views would be provided by the proposed path. As a result, vividness would improve from moderate-high to high. Intactness and unity would also improve from moderate-high to high because the restoration plantings would enhance and soften the appearance and scale of the nearby highway corridor, providing a better visual transition to nearby land uses. Therefore, the project would improve the visual quality of the Radio Beach VAU from moderate-high to high. In addition, the project does not propose the installation of advertising or changes to vegetation along I-80 that would result in a negative alteration in the character of designated segments of the landscaped freeway; therefore, the I-80 landscape freeway designation would not be affected. Impacts on resource change would be low.

Neighbors and site users are familiar with the current visual conditions in the Radio Beach VAU, which include monotypic iceplant as well as communications infrastructure, temporary buildings, and nearby freeways and ports. This area currently lacks aesthetic value at the ground level, causing viewers to pass by with little interest. Restoration would enhance visual conditions. It would encourage viewers to seek views of this VAU, causing a positive viewer response. Therefore, the project would improve the existing visual character of the project area, improving views of neighboring land uses. Composite viewer response would be low. Additionally, implementation of mitigation measure **MM-AES-1** would further reduce visual impacts.

The project would introduce a new path and boardwalk in the Radio Beach area. No buildings or other types of high-profile structures would be constructed in this area. Therefore, the project would not substantially block scenic vistas available from this location and other adjacent vantage points, including scenic vistas of the San Francisco Bay, the Bay Bridge, and nearby urban skylines.

- **Portside**. Each phase of the project would gradually convert the visual character of the Portside VAU from a visually disjointed and declining industrial area to a public park that is visually enhanced and cohesive. This would be achieved through changes to both the built and natural environments.

  Obsolete buildings would be removed while others would be restored. Select utilities would be undergrounded, relocated, or removed. The project would also rehabilitate existing structures, including buildings of historical significance, thus reversing the visual signs of aging and preserving the buildings' visual integrity (Figure 3.1-3 and Figure 3.1-4). Asphalt surfaces would be replaced by decorative pavement and site amenities such as planter boxes, picnic tables, shade awnings, seating, and public art that would transform the industrial landscape to public plazas and outdoor spaces (Figure 3.1-5).

  Parking lots associated with the proposed park would not degrade the visual quality of views because they would be located on areas that are already paved or sparsely vegetated. In addition, a greater area of the VAU that is currently paved, graveled, and sparsely vegetated would be converted to meadows and urban forest lands to reduce the amount of paved, graveled, and sparsely vegetated areas in the VAU. The conversion to landscaping and trees would improve the visual quality of this VAU by creating visual interest with vegetative form and seasonal changes in color that would soften the appearance of the visual landscape and be visually appealing. The trees would contribute to an attractive greenspace and gateway to Oakland when seen from eastbound I-80, a City-designated scenic route, and from the Bay Bridge Trail. These changes would also benefit viewers leaving Oakland, en route to San Francisco on the east span of the Bay Bridge. The trees would eventually help buffer views of the Port and reduce the visual impact of its associated industrial cranes and equipment (Figure 3.1-6).

  The project would increase shoreline and water-based access, creating opportunities for the public to have physical and visual access to scenic vistas and scenic views of the Bay's shoreline and waters in an area that is highly urbanized. The majority of this VAU is highly developed for industrial uses and enclosed by fencing. As described under Section 3.1.2.5, *Viewers and Viewer Response*, there is no public access to this area or to existing shoreline areas associated with the Portside VAU. Only a limited amount of workers intermittently access the existing shoreline areas within the Portside VAU. The proposed features along the shoreline, such as the boardwalk and kayak launch, would not interrupt views of the water or bay that are currently available to workers accessing this portion of the site. These features would, however, improve views available from the shoreline toward the Bay because public access to these views would be provided as a result of these proposed features. Views from the water would also be improved because the conversion from a blighted industrial area to a visually appealing and cohesive public park would provide a high-quality destination opportunity for water-based users on the Bay. Such users would be able to access the site via Key Point Pier and the kayak launch in the Port Playground. Interpretive and directional way-finding signage along Burma Road, which serves as the site's main entry, would not alter or degrade visual character because the area is highly industrialized with large amounts of existing infrastructure and signage.

Vividness of the Portside VAU would be greatly improved by the transformation to a vegetated park setting with restored buildings. While the renovated structures in the Portside VAU may block scenic vistas of the Bay shoreline intermittently from a limited number of locations, overall, accessibility to scenic vistas would be substantially increased. Furthermore, these structures are already part of existing baseline conditions, and the improvements proposed by the project would not substantially increase the buildings' heights or footprints. As a result, the vividness rating would improve from moderate to moderate-high. Intactness and unity would also improve from moderate-low to moderate-high because the landscaping would enhance and soften the appearance and scale of the nearby highway corridor while creating a visually cohesive park. It would also reduce the amount of utilitarian infrastructure associated with industrial uses. These changes would provide a better visual transition from the park to views of the Bay and nearby land uses. In addition, the project does not propose the installation of advertising or changes to vegetation along I-80 that would negatively alter the character of designated segments of the landscaped freeway; therefore, the I-80 landscape freeway designation would not be affected. Therefore, the project would improve the visual quality of the Portside VAU from moderate-low/moderate to moderate-high.

Neighbors and site users are likely to respond in a positive manner to the improved visual quality and character of the project area and views associated with it. Users would enjoy increased physical and visual access to the project area, the surrounding areas, and the Bay, and the project would increase access to the project area and surrounding views. Composite viewer response would be moderate-low.

- **Maze**. The project would greatly improve aesthetic resources in the Maze VAU by replacing paved surfaces and ruderal vegetation under and alongside the I-880 and MacArthur Maze aerial structures. These changes would be seen by neighbors, but fencing would preclude physical access to the Maze VAU.

  Landscaping with meadow grasses, coast sage scrub, upland lowland bluff plantings, and vegetative filtration plantings for stormwater treatment would soften the appearance and scale of the freeway. The greenery and visual order would provide visual interest to neighbors viewing the site from adjacent land uses and from the freeway.

  Vividness of the Maze VAU would be improved by landscaping that would replace views of paved surfaces and ruderal vegetation. Vividness would improve from moderate-low to moderate. Intactness and unity would also improve from moderate-low to moderate because the new landscaping would enhance and soften the appearance and scale of the highway corridor and concrete pillars. These changes would provide a better linkage and transition to nearby local streets and land uses. Therefore, the project would improve the visual quality from moderate-low to moderate. Impacts on resource change would be low.

Neighbors and site users from elsewhere in the project area are familiar with the current degraded visual conditions in the Maze VAU, and would recognize the improved visual character resulting from the project. This would create aesthetic value where little currently exists. Therefore, the project would result in a beneficial change to this VAU. If the landscaping is not implemented, the existing visual conditions would remain static. Composite viewer response would be low.

Scenic vistas are not readily available from the Maze VAU or adjacent vantage points due to intervening structures (including the freeway overpass) and topography. Furthermore, the landscape and drainage improvements that would occur in this VAU would be low-profile and would not have the potential to block scenic vistas.

Based on the above analysis, with implementation of MM-AES-1, impacts on visual resources during operations would be less than significant.

MM-AES-1. Apply aesthetic treatments to fencing

New fencing shall be designed to blend with the surrounding built and natural environments so that the new features complement the visual landscape. Aesthetic considerations shall be balanced with cost, safety, maintenance, and durability. At a minimum, unless made of natural materials, any proposed fencing shall be powder coated and colored a shade that is two to three shades darker than the surrounding area such as a dark evergreen, black, or dark brown color. These darker colors allow fencing to recede into the visual landscape and provide for more transparent views through the fencing. Light or bright colors shall be avoided because they create more of a visual barrier, are less transparent, and increase glare. Colors may be chosen from the U.S. Department of the Interior Bureau of Land Management Standard Environmental Colors Chart CC-001: June 2008. Because color selection will vary by location, the facility designer may employ the use of color panels evaluated from key observation points during common lighting conditions (front light versus backlighting) to aid in the appropriate color selection. Color selection shall be made for the coloring of the most prevalent season. Panels shall be a minimum of 3 feet-by-2 feet in dimension and evaluated from various distances within 1,000 feet to ensure the best possible color selection. Paints used from the color panels and structures shall be color matched directly from the physical color chart, rather than from any digital or color-reproduced versions of the color chart. Appropriate paint type shall be selected for the finished structures to ensure long-term durability of the painted surfaces and environmental safety. The appropriate operating agency or organization shall maintain the paint color over time. Fencing shall be managed and maintained for a well-kept appearance by abating vandalism, graffiti, or damage semiannually. <u>The fence shall be limited to no more than 4 feet at Radio Beach and shall not use chain or mesh style fencing in order to reduce the potential for any interference with kiteboarding activities. The style for the fence has not been determined, but could be a wooden beam and post style fence similar to what is commonly used by EBRPD at many of their park units. The project sponsor will coordinate with current site users, including kiteboarders and SFBCDC, during fencing design to take site user input into final design.</u>

Impact AES-2. New sources of light and glare associated with the project would not adversely affect day or nighttime views in the area (less than significant)

Construction

The majority of construction activities would be limited to the hours of 8 a.m. to 6 p.m., Monday through Saturday. As stated in the Project Description (Section 2.5.7.3), there would be no construction on Sundays or national holidays. The path to the Bay Bridge Trail in the Key Point area may require a limited amount of nighttime work but it would not cause a substantial adverse effect because the area is already subjected to high nighttime lighting levels due to operation of the bridge and toll plaza. Project construction would not require high-intensity, nighttime lighting. Therefore, light and glare impacts during construction would be less than significant and no mitigation would be required.

Operations

- **Radio Beach.** No lighting would be installed in the Radio Beach VAU. New shrubs would slightly reduce the existing light and glare by screening, absorbing, and buffering light from adjacent sources including the toll plaza and I-80 right-of-way, which are lit 24 hours a day, and by creating new sources of shade. The project would result in a beneficial change to light and glare in the Radio Beach VAU and to available views from I-80, a City-designated scenic route.

  Portside. The project would develop a park that would be open from dawn to dusk with occasional special events during the evening, requiring a minimal amount of new lighting for security at dusk and, in the evening, for special events at the Bridge Yard. Lighting would be a combination of low-level foot lighting along paths, exterior lighting on buildings directed downward, and 20-foot steel light standards in the Bridge Yard area and in parking lots. Because the park would be closed at dusk, vehicle headlamps would not create a substantial new source of nighttime light and glare. These new sources of lighting would not substantially increase light in the project area or contribute to light pollution, particularly since the site is currently used for industrial and construction staging purposes. Conversely, park lighting may be visually pleasing and aid in creating attractive nighttime views onsite by enhancing and lighting site features, such as pathways and buildings. Special nighttime events in the Outdoor Yard Event Space could include small gatherings for art exhibits and informal performances for approximately 200 people. Larger events could include movies in the meadow for 500–1,000 people and concerts/conferences for 1,000–1,700 people. This may require the use of additional, temporary lighting for such events. However, this would not substantially increase light in the project area or contribute to light pollution because the project site is currently used for industrial and construction staging purposes and generates higher nighttime lighting levels than what would occur during future special events. Additionally, special event lighting would only be used intermittently and for short periods of time, and there are no sensitive receptors in the vicinity.

  The project would also create new sources of shade by installing shade structures and trees that would benefit visitors and greatly reduce glare associated with the current paved environment lacking substantial tree cover.

- **Maze**. The project would not add new sources of lighting to the Maze VAU. The project would reduce the effects of existing light and glare in the Maze VAU by introducing vegetation that can screen, absorb, and buffer light and glare sources and by creating new sources of shade.

Based on the above analysis, operational light and glare impacts would be less than significant. No mitigation would be required.

Impact AES-3. Operation of the project would cause long-term changes to, but would not substantially damage, scenic resources along a scenic highway (less than significant)

The segment of I-80 that passes the project area is not officially designated but is an eligible state scenic highway and a City-designated scenic route. The Maze VAU is not located near this portion of I-80. Restoration of the Radio Beach VAU would replace the invasive iceplant, grasses, and ruderal vegetation with native plants. The project would gradually convert the visual character of the Portside VAU from a visually disjointed and declining industrial area to a public park that is visually enhanced and cohesive. To the extent that they are visible from I-80, the visual character of the on-site historic buildings would be improved through the proposed rehabilitation activities. Enhancing visual resources in these VAUs would contribute to attractive, naturalized open space and greenspaces that serve as the gateway to Oakland when seen from eastbound I-80 and the Bay Bridge Trail. Such changes would be beneficial; therefore, there would be no impact.

Therefore, this impact would be less than significant. No mitigation would be required.

Existing Conditions (11/18/2014), from Radio Beach VAU looking southwest toward the pedestrian boardwalk.

Simulated Conditions.

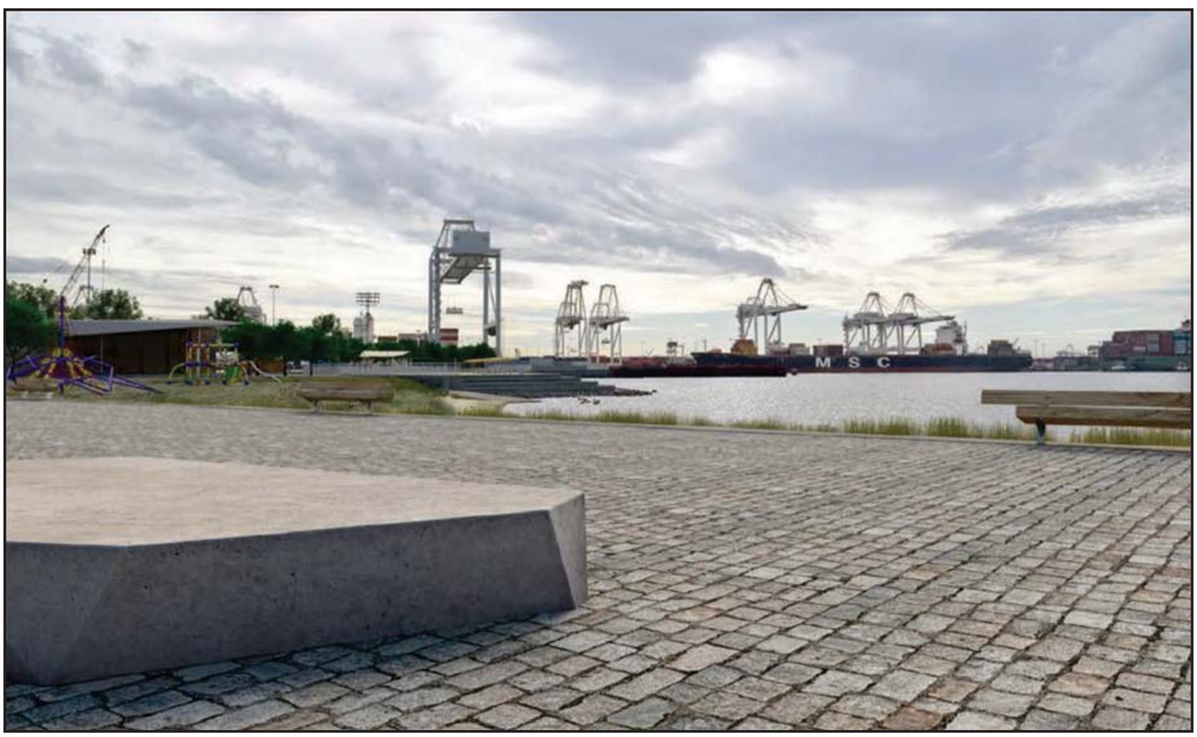
Existing Conditions (12/8/2014), from Portside VAU looking east toward the IERBYs Building. (Note: as part of a separate project, the IERBYs building was seismically retrofitted and a parking lot was constructed south of the building after this photo was taken.)

Simulated Conditions.

Existing Conditions (11/18/2014), from Portside VAU looking east toward the Historical Key Building.

Simulated Conditions.

Existing Conditions (12/8/2014), from Portside VAU looking southeast toward the Port Playground.



Simulated Conditions.

Existing Conditions (11/18/2014), from Bay Bridge Trail looking east toward the Portside VAU.

Simulated Conditions.

Section 3.2
Air Quality

This section describes air quality in the study area. It then describes impacts on air quality that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.2.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to air quality.

3.2.1.1 Federal

The following federal regulations, laws, and guidelines apply to air quality.

Clean Air Act

The federal Clean Air Act (CAA), enacted in 1963 and most recently amended in 1990, sets the governing regulations for air quality, and establishes the framework for air pollution control. Under this act, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) ozone, lead, and particulate matter of two sizes: less than 10 microns in diameter (PM10) and less than 2.5 microns in diameter (PM2.5). Most standards have been set to protect public health. For some pollutants, standards have been based on other values (e.g., protection of crops, protection of materials, and avoidance of nuisance conditions).

3.2.1.2 State

The following state regulations, laws, and guidelines apply to air quality.

California Clean Air Act

The California Clean Air Act of 1988 (California CAA) sets ambient air quality standards that, for certain pollutants and averaging periods, are more stringent than the federal standards. State standards are achieved through district-level air quality management plans that are incorporated into the state implementation plan, for which the Air Resources Board (ARB) is the lead agency. Local air districts have considerable responsibility: the California CAA designates air districts as *lead air quality planning agencies*, requires air districts to prepare air quality plans, and grants air districts the authority to implement transportation control measures. Other responsibilities include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing the air quality–related sections of CEQA-required environmental documents.

The California CAA focuses on attainment of the California Ambient Air Quality Standards (CAAQS) and requires designation of attainment and nonattainment areas with respect to these standards (Section 3.2.2.3, *Attainment Status*). The act also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan (Clean Air Plan) if the district violates state air quality standards for ozone, CO, SO_2, or NO_2. These plans are designed specifically to attain state standards and must achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors. No locally prepared attainment plans are required for areas that violate the state PM10 standards; ARB is responsible for developing plans and projects that achieve compliance with the state PM10 standards.

The federal and state air quality standards are shown in Table 3.2-1 for the six criteria pollutants as well as sulfates, hydrogen sulfide, and vinyl chloride.

Table 3.2-1. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	California Standards	National Standards: Primary	National Standards: Secondary
Ozone	1 hour	0.09 ppm	None	None
	8 hours	0.070 ppm	0.070 ppm	0.070 ppm
Particulate matter (PM10)	24 hours	50 μg/m³	150 μg/m³	150 μg/m³
	Annual mean	20 μg/m³	None	None
Fine particulate matter (PM2.5)	24 hours	None	35 μg/m³	35 μg/m³
	Annual mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Carbon monoxide	8 hours	9.0 ppm	9 ppm	None
	1 hour	20 ppm	35 ppm	None
Nitrogen dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	0.100 ppm	None
Sulfur dioxide	Annual mean	None	0.030 ppm	None
	24 hours	0.04 ppm	0.014 ppm	None
	3 hours	None	None	0.5 ppm
	1 hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m³	None	None
	Calendar quarter	None	1.5 μg/m³	1.5 μg/m³
	3-month average	None	0.15 μg/m³	0.15 μg/m³
Sulfates	24 hours	25 μg/m³	None	None
Hydrogen sulfide	1 hour	0.03 ppm	None	None
Vinyl chloride	24 hours	0.01 ppm	None	None

Source: California Air Resources Board 2016a

ppm = parts per million; μg/m³ = micrograms per cubic meter; PM = particulate matter

3.2.1.3 Regional and Local

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is responsible for establishing and enforcing air quality rules and regulations for the region that address the requirements of federal and state air quality laws. It is also responsible for ensuring the NAAQS and CAAQS are met.

The project would be subject to BAAQMD rules and regulations, including the following:

- Regulation 2, Rule 2 (New Source Review). This regulation contains requirements for best available control technology and emissions offsets.
- Regulation 2, Rule 5 (New Source Review of Toxic Air Contaminants). This regulation outlines guidance for evaluating toxic air contaminant emissions and their potential health risks.
- Regulation 6, Rule 1 (Particulate Matter). This regulation restricts emissions of particulate matter darker than No. 1 on the Ringlemann chart to less than 3 minutes in any 1 hour.
- Regulation 7 (Odorous Substances). This regulation establishes general odor limitations on odorous substances and specific emissions limitations on certain odorous compounds.
- Regulation 8, Rule 3 (Architectural Coatings). This regulation limits the quantity of volatile organic compounds in architectural coatings.
- Regulation 9, Rule 6 (Nitrogen Oxide [NO_X] Emissions from Natural Gas-fired Boilers and Water Heaters). This regulation limits emissions of NO_X generated by natural gas–fired boilers.
- Regulation 9, Rule 8 (Stationary Internal Combustion Engines). This regulation limits emissions of NO_X and CO from stationary internal combustion engines of more than 50 horsepower.
- Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). This regulation controls emissions of asbestos to the atmosphere during demolition, renovation, milling, and manufacturing and establishes appropriate waste disposal procedures.

City of Oakland

City of Oakland General Plan

The City of Oakland General Plan, Open Space, Conservation, and Recreation Element (City of Oakland 1996) includes the following policy relevant to the potential project emissions.

- **Policy CO-12.6: Control of Dust Emissions.** Require construction, demolition and grading practices which minimize dust emissions.

East Bay Regional Park District

The East Bay Regional Park District Master Plan (East Bay Regional Park District 2013) includes the following policies relevant to the potential project emissions.

- **Policy PA4.** The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.

- **Policy PA5.** The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.

3.2.2 Environmental Setting

This section describes existing conditions related to air quality that could be affected by the construction and operation of the project.

3.2.2.1 Study Area

The project area is located within the larger San Francisco Bay Area Air Basin; the air basin comprises the study area for the project. Ambient air quality in the study area is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The nearest monitoring station, Oakland-West, is 1.7 miles east of the project area. The study area for sensitive receptors is the area within 1,000 feet of the project area.

3.2.2.2 Existing Conditions

Air Pollutants

Commonly used indicators of ambient air quality conditions are existing concentrations of the following criteria pollutants: ozone, CO, NO_2, SO_2, lead, and particulate matter. For particulate matter, two types are considered: PM10 and PM2.5. These criteria pollutants are regulated at the federal and state levels, as described in Section 3.2.1, *Regulatory Setting.*

Ozone and NO_2 are considered regional pollutants because they or their precursors affect air quality on a regional scale. NO_X react photochemically with reactive organic gases (ROG)[1] to form ozone. This reaction occurs at some distance downwind of the source of pollutants. Pollutants such as CO, SO_2, and lead tend to accumulate in the air locally. Particulate matter is considered a local as well as a regional pollutant. The primary pollutants of concern in the project area are ozone, ROG, NO_X, CO, and PM.

In addition, toxic air contaminants (TACs) are of concern in the project area. Effects from TACs tend to be local rather than regional. The health effects of TACs can result from either acute or chronic exposure. Many types of cancer are associated with chronic TAC exposures. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds, the most important being DPM. No ambient air quality standards are established for TACs.

Local Air Quality

The existing air quality conditions in the project area can be characterized by monitoring data collected in the region. Air quality data is collected at the 9925 International Blvd monitoring station for CO and collected at the Oakland-West monitoring station for ozone, PM2.5, and NO_2; no stations in the county monitor PM10. Air quality data for the years 2013 to 2015 are summarized in

[11] ROG includes volatile organic compounds (VOC).

Table 3.2-2. Air quality concentrations are expressed in terms of parts per million (ppm) or micrograms per cubic meter (μg/m³). During this period, six violations of the national PM2.5 standard were recorded at the station.

Table 3.2-2. Ambient Air Quality Monitoring Data for the Oakland-West Station

Pollutant Standards	2013	2014	2015
Ozone (O_3)			
Maximum 1-hour concentration	0.071	0.072	0.091
Maximum 8-hour concentration	0.060	0.059	0.065
Fourth-highest 8-hour concentration	0.045	0.051	0.053
Days state 1-hour standard exceeded (0.09 ppm)	0	0	0
Days state 8-hour standard exceeded (0.070 ppm)	0	0	0
Days national 8-hour standard exceeded (0.070 ppm)	0	0	0
Carbon Monoxide (CO)			
Maximum 1-hour concentration	3.6	2.8	3.0
Maximum 8-hour concentration	2.0	1.7	2.6
Days state 1-hour standard exceeded (20 ppm)	0	0	0
Days national 1-hour standard exceeded (35 ppm)	0	0	0
Days state 8-hour standard exceeded (9.0 ppm)	0	0	0
Days national 8-hour standard exceeded (9 ppm)	0	0	0
Particulate Matter (PM10)			
No data available			
Particulate Matter (PM2.5)			
Maximum state 24-hour concentration	42.7	38.8	38.7
Maximum national 24-hour concentration	42.7	38.8	38.7
Annual average concentration	12.7	9.5	10.2
Days national 24-hour standard exceeded (expected) (35 μg/m³)	2	1	3
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration	0.064	0.056	0.057
Annual average concentration	0.016	0.014	0.014
Days state standard exceeded (0.18 ppm)	0	0	0
Days national standard exceeded (0.100 ppm)	0	0	0

Source: California Air Resources Board, 2016b; U.S. Environmental Protection Agency 2016a.
ppm = parts per million; μg/m³ = micrograms per cubic meter; — = insufficient data available to determine the value

3.2.2.3 Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified under the NAAQS and CAAQS. The four designations are further defined as follows.

- **Nonattainment:** Assigned to areas where monitored pollutant concentrations consistently violate the standard in question.

- **Maintenance:** Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment:** Assigned to areas where pollutant concentrations meet the standard in question over a designated period.
- **Unclassified:** Assigned to areas with insufficient data for determining whether a pollutant is violating the standard in question.

Table 3.2-3 summarizes the attainment status of the study area with regard to the NAAQS and CAAQS.

Table 3.2-3. Federal and State Attainment Status of the Project Area of Alameda County

Pollutant	NAAQS	CAAQS
8-hour ozone	Marginal Nonattainment	Nonattainment
CO	Maintenance (P)	Attainment
PM10	Attainment	Nonattainment
PM2.5	Nonattainment	Nonattainment

Sources: California Air Resources Board, 2016c U.S. Environmental Protection Agency 2016b

NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; P = designation of the portion of the county where the project would be located

3.2.2.4 Sensitive Receptors

Sensitive receptors are typically defined as facilities with children, the elderly, and people with illnesses or others who are sensitive to the effects of air pollution. Examples of sensitive receptors include residences, hospitals, schools, parks, and places of worship.

The project would be located adjacent to Interstate 880 (I-880) and Interstate 80 (I-80), at the eastern touchdown of the San Francisco–Oakland Bay Bridge (Bay Bridge). As described in Chapter 2, *Project Description*, the project area is surrounded by industrial facilities and transportation infrastructure. Local air pollutants in the project area are emitted primarily by vehicular and truck traffic on the freeways (I-880, I-80), as well as railroad and port-related operations.

The nearest recreational use is the Bay Bridge Trail, which runs on the eastern span of the Bay Bridge then crosses the north edge of the project area, connecting to the regional Bay Trail. There is also limited informal recreational use of the Radio Beach area north of I-80. The project would attract new users to the passive and active recreational opportunities. There are no residences, schools, or hospitals within 1,000 feet of the main project area (the park area proper). There are residences within 1,000 feet of the locations where landscaping may be conducted in Phase 3 under I-80 and I-880.

3.2.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on Air Quality associated with the construction and operation of the project.

3.2.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on air quality in the study area.

- *Gateway Park Project—Air Quality Analysis Technical Memorandum* (ICF International 2015).
- *Draft Transportation Impact Analysis* (Fehr & Peers 2014).

3.2.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on air quality in the study area as defined in Section 3.2.2.1, *Study Area*.

Construction

The following steps were taken to identify construction impacts. Further detail is provided in Appendix D, *Air Quality Analysis Technical Memo* (ICF International 2015). Construction and engineering data were provided by T.Y. Lin, the project engineer (Appendix E, *Construction and Operations Assumptions*).

- Assumptions regarding construction phase and schedule were identified. The analysis assumes that the project would be developed in three phases over an approximate 15-year period, with anticipated build-out in 2030.
- Construction equipment requirements, such as equipment type, hours of operation, horsepower, emissions factors, and load factors were estimated. The default vehicle trip lengths and the number of truck trips (i.e., for hauling) and worker trips were estimated. Most construction would be limited to the hours between 8 a.m. and 6 p.m., Monday through Saturday. Equipment would operate for up to 8 hours a day.
- Excavation and fill were estimated and fill volumes were divided evenly across all phases that included grading activities (Table 3.2-4).
- The California Emissions Estimator Model (CalEEMod), version 2013.2.2 was used to estimate construction emissions of ROG, NO_X, CO, PM10, PM2.5, based on the project-specific schedule, equipment, and earthmoving assumptions described above.

Table 3.2-4. Estimated Excavation and Fill Material

Phase	Excavated Material [a]	Imported Fill Material
1	11,000 cy	30,000 cy
2	41,000 cy	35,000 cy
3	15,000 cy	101,000 cy

[a] Unless it is determined to be unsuitable for reuse as fill, all excavated material would be reused on-site as fill for the project's shoreline protection improvements.
cy = cubic yards

Operations

The following steps were taken to identify operations impacts. Further detail is provided in the air quality technical report for this project (ICF International 2015).

- Indoor and outdoor water usage at full buildout was estimated based on data provided by T.Y. Lin, the project engineer (Appendix E, *Construction and Operations Assumptions*).
- Default values for energy consumption, waste generation, and vehicle trip lengths and types were used for applicable land uses in the project area.
- Project-specific trip generation rates were based on the traffic report for the project (Fehr & Peers 2014; Lillie pers. comm.) and were apportioned across the three phases of project completion. The trip rates assume an estimated 2 million annual visitors to the park and up to 30 employees.
- CalEEMod was used to estimate direct criteria pollutant emissions from motor vehicle trips and natural gas consumption associated with proposed facility use.

3.2.3.3 Significance Criteria

In December 2015, the Supreme Court ruled that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." The Supreme Court identified several exceptions in which CEQA does apply to impacts of the environment on the project. All of the exceptions are statutory provisions in CEQA that specifically require consideration of impacts of the environment, such as consideration of projects near airports, school construction projects, and statutory exemptions for housing and transit priority projects. The Court also found that in certain instances, a project may exacerbate the environmental hazards or conditions that already exist, and in those instances an agency must analyze the potential impact of such hazards on future residents. The Court characterized this as a situation in which the project was affecting the environment by exacerbating these existing hazards: "When a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment – and not the environment's impact on the project --- that compels an evaluation of how future residents or users could be affected by exacerbated conditions." This analysis of a project's potential to exacerbate existing conditions is "not an exception to, but instead a consequence of, CEQA's core requirement that an agency evaluate a project's impact on the environment."

BAAQMD has identified CEQA thresholds of significance in its CEQA air quality guidelines (Bay Area Air Quality Management District 2017). Using these thresholds for this project allows a rigorous standardized approach of determining whether the project would cause a significant air quality impact.. Below is a summary of the basis upon which the BAAQMD's CEQA thresholds, which are indicated in Table 3.2-5, were developed.

Table 3.2-5. BAAQMD Project-Level Air Quality Emissions Thresholds

Pollutant	Construction	Operations
ROG	54 pounds/day	54 pounds/day or 10 tons/year
NO_X	54 pounds/day	54 pounds/day or 10 tons/year
CO	—	Violation of CAAQS
PM10 (total)	—	—
PM10 (exhaust)	82 pounds/day	82 pounds/day or 15 tons/year
PM2.5 (exhaust)	54 pounds/day	54 pounds/day or 10 tons/year
PM10 /PM2.5 (fugitive dust)	Best management practices	—
TACs (project-level)	Increased cancer risk of 10 in 1 million; increased non-cancer risk greater than 1.0 (hazard index]); PM2.5 increase greater than 0.3 microgram per cubic meter at receptors within 1,000 feet	Same as construction
TACs (cumulative)	Increased cancer risk of 100 in 1 million; increased non-cancer risk greater than 10.0. PM2.5 increase greater than 0.8 microgram per cubic meter at receptors within 1,000 feet	Same as construction
Odors	—	Five complaints per year, averaged over 3 years

Source: Bay Area Air Quality Management District 2017

ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less 10 microns in diameter; PM2.5 = particulate matter less than 2.5 microns in diameter; TAC = toxic air contaminants; CAAQS = California Ambient Air Quality Standards

Criteria Air Pollutants

The significance thresholds, as shown in Table 3.2-2, for criteria pollutants (reactive organic gas [ROG], NO_X, PM10, and PM2.5) are based on the stationary source emission limits of the federal CAA and the BAAQMD Regulation 2, Rule 2. The federal New Source Review program, created by the federal CAA, set the emissions limits to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of NAAQS. Similarly, to ensure that new stationary sources do not cause or contribute to a violation of an NAAQS, BAAQMD Regulation 2 Rule 2 requires any new source that emits criteria air pollutants above specified emissions limits to offset those emissions. Although the emission limits are adopted in the regulation to control stationary source emissions, when addressing public health impacts of regional criteria pollutants, the amount of emissions is the key determining factor, regardless of source. Thus, the emission limits are appropriate for the evaluation of land use development and construction activities as well as for stationary sources. Those projects that result in emissions below the thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in criteria pollutant emissions. The federal New Source Review emission limits and BAAQMD's offset limits are identified in the regulation on an annual basis (in tons per year). For construction activities, the limits are converted to average daily emissions (in pounds per day), as shown in Table 3.2-2, because of the short-term intermittent nature of construction activities and, if emissions would not exceed the average daily emission limits, the project would also not exceed the annual levels.

Toxic Air Contaminants

Similar to the criteria pollutant thresholds, the health risk impact thresholds are developed based on the cancer and non-cancer risk limits for new and modified sources adopted in BAAQMD Regulation 2, Rule 5 and the EPA Significant Impact Level for PM2.5 emissions. The EPA Significant Impact Level is a measure of whether a source may cause or contribute to a violation of NAAQS. Health risks due to toxic emissions from construction, though temporary, can still result in substantial public health impacts due to increased cancer and non-cancer risks. Applying quantitative thresholds allows a rigorous standardized method of determining when a construction project will cause a significant increase in cancer and non-cancer risks. The cumulative health risk thresholds are based on EPA guidance for conducting air toxics analyses and making risk management decisions at the facility and community-scale level. The thresholds are consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD‘s recent regional modeling analysis and the non-cancer Air Toxics Hot Spots mandatory risk reduction levels.

Odors

The odor threshold is consistent with BAAQMD Regulation 7 for Odorous Substances and reflects the most stringent standards derived from the Air District rule.

Based on Appendix G to the CEQA Guidelines and the BAAQMD thresholds described above, the project would have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan (Impact AQ-1).
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (Impact AQ-2).
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (Impact AQ-2 and AQ-3).
- Expose sensitive receptors to substantial pollution concentrations (Impacts AQ-4 and AQ-5).
- Create objectionable odors affecting a substantial number of people (Impact AQ-6).

3.2.4 Impacts and Mitigation

This section describes the potential impacts related to air quality that would result from construction and operation of the project.

Impact AQ-1. The project would not conflict with or obstruct implementation of the applicable air quality plan during construction and routine operations (less than significant)

Alameda County is currently designated a nonattainment area for the federal 8-hour ozone and PM2.5 standards, as well as a maintenance area for the federal CO standard (Table 3.2-6). The most recent BAAQMD air quality attainment plans are the 2001 Ozone Attainment Plan (Bay Area Air Quality Management District 2001) and the 1994 CO Redesignation Request and Maintenance Plan (Bay Area Air Quality Management District 1994). The *Bay Area 2017 Clean Air Plan*, adopted by BAAQMD on April 19, 2017, provides an integrated control strategy to reduce ozone, PM, TACs, and greenhouse gas (GHG) emissions in a manner that is consistent with federal and state air quality programs and regulations. The BAAQMD plans estimate future emissions in the San Francisco Bay Area Air Basin and determine strategies necessary for emissions reductions through regulatory controls. Emissions projections are based on population, vehicle, and land use trends. Land use forecasts are typically developed by the BAAQMD, Metropolitan Transportation Commission, and Association of Bay Area Governments.

Table 3.2-6. BAAQMD 2017 Clean Air Plan Control Measures Applicable to Project

Clean Air Plan Control Measures		*Project Consistency*
Stationary Source		
SS25	Coatings, Solvents, Lubricants, Sealants and Adhesives	Mitigation Measure MM AQ-6 requires the selection of sustainable building materials, including non-toxic low-VOC (volatile organic compound) glues and paints.
SS26	Surface Prep and Cleaning Solvent	See above for SS25.
SS31	General Particulate Matter Emission Limitation	Mitigation Measures MM AQ-1 through AQ-5 ensure construction activities would implement applicable BAAQMD BMPs to minimize air quality impacts.
SS36	PM from Trackout	Mitigation Measures MM AQ-1 through AQ-5 ensure construction activities would implement applicable BAAQMD BMPs, including the removal of all visible mud or dirt track-out into adjacent public roads, to minimize air quality impacts.
Transportation		
TR3	Local and Regional Bus Service	The project includes local transit links.
TR9	Bicycle and Pedestrian Access and Facilities	The project provides bicycle and pedestrian linkages and facilities.
TR10	Land Use Strategies	The project provides a regional park in the center of an urbanized area.
TR13	Parking Policies	The project is designed to provide for multi-modal access.
TR22	Construction, Freight and Farming Equipment	Mitigation Measure AQ-5 requires the use of Tier 4 engines in off-road equipment as necessary to meet air quality thresholds, which would reduce pollutant emissions.

Clean Air Plan Control Measures		Project Consistency
Energy		
EN2	Decrease Electricity Demand	The project has minimal new electricity demand. New buildings would comply with current Title 24 energy efficiency requirements.
Building		
BL1	Green Buildings	New buildings would comply with current Title 24 energy efficiency requirements.
BL2	Decarbonize Buildings	See above for BL1.
Natural and Working Lands		
NW2	Urban Tree Planting	The project includes tree planting.
Waste Management		
WA1	Landfill	The project would have minimal waste generation. Recycling would be conducted.
WA3	Green Waste Diversion	See above for WA1.
WA4	Recycling and Waste Reduction	See above for WA1.
Water		
WR2	Support Water Conservation	The project would have minimal new water demand and would incorporate drought-tolerant landscaping.

Applicable Control Measures

The *2017 Clean Air Plan* contains 85 control measures aimed at reducing air pollution in the San Francisco Bay Area Air Basin from a wide variety of emission sources. The control measures are classified for the following nine general sectors: (1) Stationary Sources; (2) Transportation; (3) Energy; (4) buildings; (5) Agriculture; (6) Natural and Working Lands; (7) Waste Management; (8) Water; and (9) Super-GHG Pollutants. Table 3.3-6 presents the control measures of the *2017 Clean Air Plan* that are applicable to the project and how the project would comply with each of the measures.

As shown in Table 3.2-6, the project includes elements and mitigation measures that incorporate the primary purpose of applicable control measure from the *2017 Clean Air Plan*.

The project would not conflict with any applicable land use plan or contribute to regional employment or population growth. The project would generate emissions during construction from construction vehicles, equipment, and dust. Once constructed and operational, the project would generate a minor amount of emissions associated with new park buildings as well as emissions associated with vehicles traveling to the project area to use the new park. Emissions from construction and operation are not expected to impede attainment or maintenance of the NAAQS or CAAQS (as shown in analysis under Impact AQ-2). Further, the project would replace blighted industrial land with park uses that are centered on bicycle-, pedestrian-, and transit-friendly circulation. Accordingly, the project would not conflict with or obstruct implementation of air quality plans. This impact would be less than significant. No mitigation would be required.

Impact AQ-2. The project would generate emissions of ozone precursors (NO_X) in excess of BAAQMD thresholds during construction or during routine operations (construction: less than significant with mitigation, operations: less than significant)

Construction

Construction activities associated with the project would generate short-term emissions of ROG, NO_X, CO, PM10, and PM2.5. Emissions would originate from on-road hauling trips, construction workers' commute trips, construction site fugitive dust, and off-road construction equipment. Construction-related emissions would vary substantially, depending on the level of activity, specific construction operations, wind, and precipitation.

Table 3.2-7 summarizes the daily emissions from the project. Phase 1, Phase 2, and Phase 3 emissions are summarized by year.[2] The BAAQMD air quality guidelines (2017) establish thresholds of significance for criteria pollutants, toxic air contaminants, and odors. Table 3.2-7 indicates that daily emissions would exceed BAAQMD's NO_X threshold of 54 pounds per day for 6 of the 7 years of construction.

Table 3.2-7. Summary of Construction Criteria Pollutant Emissions (maximum pounds per day)

Daily Emissions	ROG	NO_X	CO	PM10			PM2.5		
				Dust	Exhaust	Total	Dust	Exhaust	Total
Phase 1									
Year 1	29.4	334.5	196.2	23.5	14.7	36.0	12.1	13.6	23.7
Year 2	11.2	90.1	52.3	0.3	3.7	4.0	0.1	3.5	3.6
Phase 2									
Year 3	42.0	456.0	267.7	51.6	19.4	71.0	26.1	18.0	44.1
Year 4	16.9	151.4	110.8	0.7	6.4	7.1	0.2	6.0	6.2
Phase 3									
Year 5	25.3	213.2	213.8	42.1	8.8	50.9	21.7	8.1	29.8
Year 6	21.6	65.0	87.7	2.4	2.6	5.0	0.6	2.4	3.1
Year 7	0.0	0.0	0.4	0.2	0.0	0.2	0.0	0.0	0.0
BAAQMD Thresholds	*54*	*54*	—	*BMPs*	*82*	—	*BMPs*	*54*	—

Emissions in highlighted cells would exceed the BAAQMD thresholds.

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District; BMPs = best management practices

[2] For purposes of this analysis, Phase 1 was assumed to occur in 2016–2017, Phase 2 was assumed to occur in 2018–2019, and Phase 3 was assumed to occur in 2028–2030. These dates reflect the construction schedule that was anticipated at the time the Draft EIR analysis was prepared. Based on the actual status of the project's review and entitlement process, construction of Phase 1 and Phase 2 would occur later than assumed in this analysis. However, due to increasingly stringent emissions standards, private use vehicles, and construction equipment fleets will become cleaner over time. Therefore, the analysis in this section is conservative and may actually overstate impacts.

Because project construction would cause emissions of criteria pollutants to exceed thresholds, this impact would be significant. The mitigation measures described below are comprehensive and include performance standards to require construction and operational emissions to remain below the applicable BAAQMD thresholds. Therefore, with implementation of mitigation measures **MM-AQ-1** through **MM-AQ-5**, this impact would be less than significant.

MM-AQ-1. Implement BAAQMD basic control measures to control construction-related dust emissions

In accordance with BAAQMD's current air quality guidelines (2017), the project's construction contractor shall implement the following BAAQMD-recommended control measures to reduce particulate matter emissions from construction activities.

- Water all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) twice daily.
- Cover all haul trucks transporting soil, sand, or other loose material off site.
- Remove all visible mud or dirt track-out onto adjacent public roads using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- Complete paving of all roadways, driveways, and sidewalks as soon as possible. Lay building pads as soon as possible after grading unless seeding or soil binders are used.
- Post a publicly visible sign with the telephone number and person to contact at the ~~lead~~ implementing agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The air district's phone number will also be visible to ensure compliance with applicable regulations.

MM-AQ-2. Implement BAAQMD basic control measures to reduce construction-related exhaust emissions

The project's construction contractor shall implement the following measures to reduce exhaust emissions (NO_X and PM10) from construction equipment as proposed in the BAAQMD air quality guidelines (2017).

- Minimize idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure—13 California Code of Regulations [CCR] 2485). Clear signage will be provided for construction workers at all access points.
- Maintain and properly tune construction equipment in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.

MM-AQ-3. Implement BAAQMD additional control measures to control construction-related dust emissions

In accordance with the BAAQMD's current air quality guidelines (2017), the project's construction contractor shall implement the following additional BAAQMD control measures to reduce particulate matter emissions from construction activities.

- Water all exposed surfaces at a frequency adequate to maintain minimum soil moisture at 12%. Moisture content can be verified by lab samples or moisture probe.
- Suspend all excavation, grading, and/or demolition activities when average wind speeds exceed 20 miles per hour.
- Install windbreaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Windbreaks shall have at maximum 50% air porosity.
- Plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and water appropriately until vegetation is established.
- Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time. Phase activities to reduce the amount of disturbed surfaces at any one time.
- Wash all trucks and equipment, including tires, prior to leaving the site.
- Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than 1%.

MM-AQ-4. Implement BAAQMD additional control measures to reduce construction-related exhaust emissions

The project implementer shall implement the following additional measures to reduce exhaust emissions (ROG, NO_X, and PM10) from construction equipment as well as architectural coating off gassing, as proposed in the BAAQMD air quality guidelines (2017).

- Minimize the idling time of diesel-powered construction equipment to 2 minutes.
- Develop a plan that demonstrates that off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) will achieve a project-wide fleet-average 20% NO_X reduction and 45% particulate matter reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices (such as particulate filters), and/or other options as such become available.
- Use low–volatile organic compound (i.e., ROG) coatings that exceed local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- Require all construction equipment, diesel trucks, and generators to be equipped with best available control technology for emission reductions of ROG, NO_X, and PM.
- Require all contractors use equipment that meets ARB's most recent certification standard for off-road heavy-duty diesel engines.

MM-AQ-5. Reduce construction emissions to ensure both construction-only and combined construction and operational emissions are below BAAQMD NO_X thresholds

The project implementer shall ensure construction-only emissions and combined construction- and operations- related emissions do not exceed BAAQMD's NO_X threshold of 54 pounds per day with the following action.

- Require the usage of EPA-rated Tier 3 or higher rated construction equipment. In general, the following NO_X reductions can be achieved when replacing Tier 2 equipment (fleet average) with higher rated engine tiers:
  - Tier 3: 38% NO_X reduction
  - Tier 4 interim: 68% NO_X reduction
  - Tier 4 final: 94% NO_X reduction

If the engine tier measures described above do not reduce construction-only or combined construction- and operations- related emissions to less than the threshold level, the project implementer shall coordinate with BAAQMD to purchase NO_X credits at the current rate of $32,974.64 per ton, plus a 5% administrative fee. This measure will offset remaining NO_X construction emissions to ensure construction-only and combined construction- and operations- related NO_X emissions do not exceed BAAQMD thresholds.

Operations

The project would include multiple parking lots and could generate from 500,000 to 2,000,000 visitors a year. Park users who use the parking lots would generate new vehicle trips to and from the project area. Operations-related air quality impacts related to mobile emissions would be limited to those associated with new vehicle trips to Gateway Park. The project would not increase the capacity or traffic speed of the roadway system in the area.

Project operations would require the use of architectural coatings, consumer products, and landscaping equipment. Therefore, project operations would generate primarily greenhouse gas emissions, with limited associated criteria pollutant emissions. Greenhouse gas emissions are addressed in Section 3.6 of this Draft EIR.

Tables 3.2-7 through 3.2-9 summarize the daily emissions from the project at each phase, based on daily weekend vehicle trips, daily weekday vehicle trips and operations emissions from buildings and infrastructure associated with each phase. Table 3.2-10 summarizes the total daily emissions from the project at full buildout, including the buildings and infrastructure associated with all three phases.

Table 3.2-8. Operations Criteria Pollutant Emissions after Phase 1 Build-Out (pounds per day)

Daily Emissions	ROG	NOx	CO	PM10	PM2.5
Building	8.8	< 0.1	< 0.1	< 0.1	< 0.1
Mobile	6.6	17.0	62.2	8.6	2.5
Total	**15.4**	**17.0**	**62.3**	**8.6**	**2.5**
BAAQMD Thresholds	*54*	*54*	*N/A*	*82*	*54*

Notes:

Assumes 1,830 daily weekend vehicle trips and 1,717 daily weekday vehicle trips plus operations emissions from Phase 1 buildings and infrastructure. Includes all use associated with Phase 1.

Values may not add up because of rounding.

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District

Table 3.2-9. Operations Criteria Pollutant Emissions after Phase 2 Build-Out (pounds per day)

Daily Emissions	ROG	NOx	CO	PM10	PM2.5
Building	24.5	0.3	0.3	< 0.1	< 0.1
Mobile	10.8	26.2	99.6	17.2	4.9
Total	**35.3**	**26.4**	**99.8**	**17.2**	**4.9**
BAAQMD Thresholds	*54*	*54*	*N/A*	*82*	*54*

Notes:

Assumes 3,660 daily weekend vehicle trips and 3,434 daily weekday vehicle trips plus operations emissions from Phase 2 buildings and infrastructure.

Values may not add up because of rounding

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District

Table 3.2-10. Operations Criteria Pollutant Emissions after Phase 3 Build-Out (pounds per day)

Daily Emissions	ROG	NOx	CO	PM10	PM2.5
Building	31.9	0.5	0.5	< 0.1	< 0.1
Mobile	11.9	25.0	109.2	25.6	7.3
Total	**43.7**	**25.5**	**109.8**	**25.7**	**7.3**
BAAQMD Thresholds	*54*	*54*	*N/A*	*82*	*54*

Notes:

Assumes 5,490 daily weekend vehicle trips and 5,150 daily weekday vehicle trips plus operations emissions from Phase 1 and Phase 2 buildings and infrastructure.

Values may not add up because of rounding.

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District

Table 3.2-11. Daily Operations Criteria Pollutant Emissions after Each Phase (pounds per day)

Daily Emissions	ROG	NOx	CO	PM10	PM2.5
Phase 1	15.4	17.0	62.3	8.6	2.5
Phase 2	35.3	26.4	99.8	17.2	4.9
Phase 3/Full Buildout (2030)	43.7	25.5	109.8	25.7	7.3
BAAQMD Thresholds	*54*	*54*	*N/A*	*82*	*54*

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District

As shown in Tables 3.2-7 through 3.2-9, building emissions account for the majority of operations ROG emissions, while mobile emissions account for nearly all NO_X, CO, PM10, and PM2.5 emissions for each phase. Total emissions for Phase 1, Phase 2, and Phase 3/full buildout in 2030 are below BAAQMD thresholds for all criteria pollutants (Table 3.2-10). Therefore, this impact would be less than significant.

Impact AQ-3. The project would not generate overlapping project construction and operations emissions of ozone precursors (ROG and NO_X) in excess of BAAQMD thresholds (less than significant with mitigation)

Because of the phased construction of the project, construction activities would be occurring while previously constructed phases of the project are operational. During these overlapping periods, both construction and operations would emit criteria pollutant emissions. Table 3.2-11 presents total criteria pollutant emissions for each year in which there is overlap in construction and operations activities.

Table 3.2-12. Combined Construction and Operations Criteria Pollutant Emissions (pounds per day)

Daily Emissions	ROG	NO_x	CO	PM10			PM2.5		
				Dust	Exhaust	Total	Dust	Exhaust	Total
First Year of Concurrent Phase 1 Operation and Phase 2 Construction[a]									
Construction	42.0	456.0	267.7	51.6	19.4	71.0	26.1	18.0	44.1
Operations[b]	15.4	17.0	62.3	8.4	0.2	8.6	2.3	0.2	2.5
Total	**57.4**	**473.0**	**330.0**	**60.0**	**19.6**	**79.6**	**28.4**	**18.2**	**46.6**
Second Year of Concurrent Phase 1 Operation and Phase 2 Construction									
Construction	16.9	151.4	110.8	0.7	6.4	7.1	0.2	6.0	6.2
Operations[b]	15.4	17.0	62.3	8.4	0.2	8.6	2.3	0.2	2.5
Total	**32.3**	**168.4**	**173.1**	**9.1**	**6.6**	**15.7**	**2.5**	**6.2**	**8.7**
First Year of Concurrent Phase 1 and 2 Operation and Phase 3 Construction									
Construction	25.3	213.2	213.8	42.1	8.8	50.9	21.7	8.1	29.8
Operations[c]	35.3	26.4	99.8	16.8	0.4	17.2	4.5	0.4	4.9
Total	**60.6**	**239.6**	**313.6**	**58.9**	**9.2**	**68.1**	**26.2**	**8.5**	**34.7**

Daily Emissions	ROG	NO_x	CO	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total
Second Year of Concurrent Phase 1 and 2 Operation and Phase 3 Construction									
Construction	21.6	65.0	87.7	2.4	2.6	5.0	0.6	2.4	3.1
Operations[c]	35.3	26.4	99.8	16.8	0.4	17.2	4.5	0.4	4.9
Total	**56.9**	**91.4**	**187.5**	**19.2**	**3.0**	**22.2**	**5.1**	**2.8**	**8.0**
Full Build-Out									
Construction	0.0	0.0	0.4	0.2	0.0	0.2	0.0	0.0	0.0
Operations[d]	43.7	25.5	109.8	25.0	0.6	25.7	6.7	0.6	7.3
Total	**43.7**	**25.5**	**110.2**	**25.2**	**0.6**	**25.9**	**6.7**	**0.6**	**7.3**
BAAQMD Thresholds	*54*	*54*	—	*BMPs*	*82*	—	*BMPs*	*54*	—

Emissions in highlighted cells would exceed the BAAQMD thresholds.

Notes:

[a] Phase 1 construction years are not included in this table because there are no operations emissions for these years; hence, no overlap in construction and operations emissions.

[b] Assumed Phase 1 operations emissions from Table 3.2-10.

[c] Assumed Phase 2 operations emissions from Table 3.2-10.

[d] Assumed Phase 3 operations emissions from Table 3.2-10.

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; PM10 = particulate matter less than 10 microns in size; PM2.5 = particulate matter less than 2.5 microns in size; BAAQMD = Bay Area Air Quality Management District; BMP = best management practice

Table 3.2-11 indicates that total daily overlap emissions would exceed BAAQMD's ROG threshold of 54 pounds per day for 3 of the analyzed years. The project would exceed BAAQMD's NO_X threshold of 54 pound per day for 4 of the analyzed years in terms of total overlapping emissions. This impact would be significant. However, with implementation of mitigation measures **MM-AQ-1** through **MM-AQ-5**, in addition to **MM-AQ-6**, combined construction and operations emissions would be reduced to below BAAQMD's thresholds. This impact would be less than significant because the mitigation requires that emissions be reduced to below BAAQMD's thresholds, which are designed to promote consistency with regional clean air planning.

MM-AQ-6. Use low-VOC coatings during construction

The project implementer shall require all construction contractors to use low-volatile organic compound (VOC) coatings that have a VOC content of 10 grams per liter or less during construction. The project implementer shall submit evidence of the use of low-VOC coatings to BAAQMD prior to the start of construction.

Impact AQ-4. The project would not expose sensitive receptors to substantial pollution concentrations during construction (less than significant with mitigation)

Diesel particulate matter. Project construction would generate DPM from operation of diesel-fueled equipment. This would result in the exposure of nearby sensitive receptors, including existing and future park and trail users, to DPM concentrations. Cancer health risks associated with exposure to diesel exhaust are typically associated with chronic exposure, in which a 70-year exposure period is assumed. In addition, DPM concentrations, and thus cancer health risks, dissipate as a function of distance from their source. BAAQMD has determined that construction activities occurring at distances of greater than 1,000 feet from a sensitive receptor likely do not pose a significant health risk.

As discussed in Section 3.2.2.4, *Sensitive Receptors*, no schools, hospitals, or residences would be located within 1,000 feet of the main project area (e.g. the park area where substantial construction activity would occur)[3]; however, existing park users within the existing Radio Beach and Bay Bridge Trail, could be exposed briefly during construction as they use these areas. Although these receptors may be briefly exposed to DPM generated during construction, construction activities would occur in one phase at a time, resulting in relatively short exposure for recreationalists who pass within 1,000 feet of construction. A 70-year 24-hour exposure period is typically associated with chronic cancer health risks whereas individual recreationalists would be exposed to construction emissions for likely less than one hour per incident and likely at most once weekly, during construction phases which would have the potential to occur through 2030. Since recreational areas are distant from the center of construction, construction-related DPM emissions would dissipate as one moves farther away from construction. Moreover, implementation of mitigation measures **MM-AQ-2** and **MM-AQ-4** would further reduce DPM emissions. Therefore, construction of the project is not expected to exceed the BAAQMD risk thresholds or expose sensitive populations to substantial pollutant concentrations. This impact is considered less than significant with the mitigation noted above.

Carbon monoxide. BAAQMD establishes screening criteria to determine whether a project would result in CO emissions that exceed the CAAQS. Based on the screening criteria, the project would result in a less than significant impact to localized CO concentrations. This assumes the project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (Bay Area Air Quality Management District 2017). Implementation of the project would not generate a significant number of new vehicles trips. The project would generate an estimated 5,490 daily weekend vehicle trips and 5,150 daily weekday vehicle trips, based on full buildout.[4] The highest vehicle trip volumes would be at the West Grand Avenue/Mandela Parkway intersection (185 weekday PM peak hour and 393 Saturday peak hour) and at the Burma Road/Maritime Street intersection (187 weekday PM peak hour and 394 Saturday peak hour) (Fehr and Peers 2014). Because project-related increases in traffic volumes at affected intersections would be less than the BAAQMD's screening criteria of 44,000 vehicles per hour, the project would not contribute to or worsen localized CO concentrations from increased traffic or congestion associated with the project. This impact would be less than significant. No mitigation would be required.

Naturally occurring asbestos. Depending on a project's size and geographic location, BAAQMD may enforce ARB's applicable air toxic control measures related to naturally occurring asbestos. Projects in areas that are known to contain naturally occurring asbestos or may disturb asbestos in soil or building materials must comply with these measures. For projects that are not located in an area known to contain naturally occurring asbestos or that do not involve earth-disturbing activity,

[3] While there are residences within 1,000 feet of the area of potential landscaping under I-80 and I-880, landscaping activity would require only limited construction activity that is not expected to generate substantial DPM.

[4] Trip generation does not include special events. This is a maximum daily use based on full buildout. At this time, the nature and extent of special events is unknown. It is also not known if special events at the project site would be additive to existing special events or whether current special events would relocate to the site. As such, no estimate of emissions associated with special events can be made without speculation.

it can be assumed that the projects would not have the potential to expose people to airborne asbestos particles.

The project area is not located in an area that is known to contain naturally occurring asbestos. Accordingly, the project is not required to comply with ARB's notification requirements but must employ the best available dust mitigation measures to reduce and control dust emissions (**MM-AQ-1** and **MM-AQ-3**). Therefore, construction of the project would have no impact on asbestos exposure.

Impact AQ-5. The project would not exacerbate exposure of park recreational users to Port-related air pollution during operations (less than significant)

The project area is located in an industrial area of Oakland adjacent to the Port of Oakland and high-volume freeways. As such, the ambient air quality is influenced by marine vessels visiting the Port of Oakland, Port onshore activities, trucks and railroads accessing the Port, as well as the vehicular emissions from adjacent and nearby I-80 and I-880. In addition, existing industrial activities, such as the East Bay Municipal Utility District Wastewater Treatment Plant, as well as planned industrial activities at the former Oakland Army Base such as the Oakland Bulk and Oversized Terminal[5] adjacent to Gateway Park, influence current and future ambient air quality in the project area and vicinity.

The Port has adopted and is implementing its Maritime Air Quality Improvement Plan. A comparison of 2015 to 2005 emissions shows large reductions in all pollutants except ROG emissions, due to the use of more advance engines, retrofits, and cleaner fuels. Of note, emissions of DPM, which is a localized pollutant concern, were reduced from 261 tons per year in 2005 to 63 tons per year in 2015, which is a reduction of 76%. The ROG increase, which is partially due to a change in methods for calculating the 2005 and 2015 inventories, is from 248 tons per year in 2005 to 255 tons per year in 2015, which is an increase of 3%. The Port expects emissions to continue to decline beyond 2015 with continuing implementation of the Maritime Air Quality Improvement Plan (Ramboll Environ 2016).

Trucks are the dominant source of DPM from roadway sources around the project area. ARB has been implementing the Diesel Risk Reduction Plan. ARB has adopted statewide regulations to reduce the emissions from cargo handling equipment, transport refrigeration units, truck idling, off-road diesel equipment, harbor craft, ship auxiliary engines, port drayage trucks, ships at-berth (shore side power), as well as ocean-going vessel main engine rules and road private fleet regulation for diesel trucks. These regulations are expected to provide about a 75% risk reduction to the West Oakland community by 2020 (California Air Resources Board 2008).

Park users will be exposed to residual emissions from the adjacent sources when utilizing the park. Prevailing winds at the park are from the west. Many of the substantial pollution sources that affect West Oakland (such as the land-side and dock-side activities at the Port of Oakland, industrial uses now and in the future at the former Oakland Army Base, the East Bay Municipal Utility District wastewater treatment plant, the rail lines and rail yards, and I-880) are to the south or to the east, and thus are not upwind of the park based on the prevailing wind direction from the west. I-80 is directly south of the Radio Beach area and north of the rest of the park area and continues westward; thus, roadway truck traffic will contribute to DPM ambient levels in the areas of the park

[5] The proponent of the Oakland Bulk and Oversized Terminal proposed in the past to handle coal at the terminal for export. The City of Oakland prohibited the handling of coal at the terminal in 2016 and thus park visitors would not be exposed to any coal dust or related emissions due to operations of the adjacent terminal.

adjacent to the roadway. However, as described in the *Project Description*, Section 2.5.5, the project includes a 13-acre windbreak that would extend along the south side of I-80 in the Port Playground and Key Point areas that would diffuse vehicular emissions from I-80. Marine vessels transiting to and from the Port of Oakland would also be locating west of the park when they transit close to the Bay Bridge.

Park visitor exposures will occur during their park visit, which would be of much shorter durations than for residential exposures in residential areas adjacent to local freeways (usually calculated assuming daily exposure over 70 years). Park visitor exposure may be more or less than exposure that might occur in recreational areas that would otherwise be used by park visitors, depending on the setting of the alternate recreational areas. For example, park locations directly adjacent and downwind of the Port may receive higher exposures than at Gateway Park.

The operation of Gateway Park would not result in substantial toxic air contaminant emissions (including DPM) or exposures to park visitors or other sensitive receptors off site due to park-related emissions. While park visitor exposure to ambient sources of toxic air contaminants (including DPM) would occur, the park itself would not exacerbate that exposure because of the addition of park-related emissions. As such, no significant impact is identified under CEQA related to operational TAC or DPM emissions.

Impact AQ-6. The project would not create objectionable odors affecting a substantial number of people (less than significant)

While offensive odors rarely cause any physical harm, they can be unpleasant. This can lead to public distress and citizen complaints to local governments and air districts. Project-related odor emissions would be limited to the construction period, when emissions from equipment may be evident in the immediately surrounding area. These activities would be short term, the prevailing breeze would diffuse odors, and nuisance odors that would violate BAAQMD standards are not likely to result. This impact would be less than significant. No mitigation would be required.

Section 3.3
Biological Resources

This section describes biological resources in the study area. It then describes impacts on biological resources that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.3.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to biological resources.

3.3.1.1 Federal

The following federal regulations, laws, and guidelines apply to biological resources.

Federal Endangered Species Act

The federal Endangered Species Act (ESA) is administered by U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fishes, whereas other listed species are under USFWS jurisdiction. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future. Provisions of Sections 7 and 9 of the ESA are relevant to the project and are summarized below.

Endangered Species Act Prohibitions (Section 9)

Section 9 of the ESA prohibits the take of any fish or wildlife species listed under the ESA as endangered. Take of threatened species is also prohibited under Section 9 unless otherwise authorized by federal regulations. *Take*, as defined by the ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction.

Endangered Species Act Authorization Process (Section 7)

Take of listed species is authorized through the Section 7 consultation process for actions by federal agencies. Federal agency actions include activities that are on federal land and are conducted, funded, or authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult USFWS or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed action "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment evaluating the nature and severity of the expected effect. In response, USFWS and/or NMFS issues a biological opinion with a determination that the proposed action either:

- may jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding) or
- will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The biological opinion issued by USFWS and/or NMFS may stipulate discretionary "reasonable and prudent" conservation measures. If the proposed action would not jeopardize a listed species, USFWS and/or NMFS will issue an incidental take statement to authorize the proposed activity.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Act governs the conservation and management of ocean fisheries (U.S. Department of Commerce et al. 1996). The purpose of the act is to take immediate action to conserve and manage the fishery resource off the U.S. coasts and U.S. anadromous species and promote the protection of essential fish habitat (EFH).

EFH is the aquatic habitat (water and substrate) necessary for fish to spawn, breed, feed, or grow to maturity that will allow a level of production needed to support a long-term, sustainable commercial fishery and contribute to a healthy ecosystem. EFH is described for groundfish, coastal pelagic, and Pacific salmon fisheries. Consultation with NMFS is required for all projects with the potential to affect EFH for any Magnuson-Stevens Act species.

The Magnuson-Stevens Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 94-265), requires the following actions.

- Federal agencies undertaking, permitting, or funding activity that may adversely affect EFH are required to consult with NMFS.
- NMFS provide conservation recommendations for any federal or state activity that may adversely affect EFH.

Federal agencies, within 30 days of receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations (the response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH, or reasons for not following the recommendations).

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 United States Code [USC] 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet

Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 Code of Federal Regulations [CFR] 21, 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of MBTA. Examples of permitted actions that do not violate MBTA are the possession of a hunting license to pursue specific gamebirds, legitimate research activities, display in zoological gardens, banding, and other similar activities. USFWS is responsible for overseeing compliance with MBTA, and the U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues.

Executive Order 13186 (January 10, 2001) directs each federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding to promote the conservation of migratory bird populations. Protocols developed under the memorandum of understanding must include the following agency responsibilities.

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
- Restore and enhance habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The executive order is designed to assist federal agencies in their efforts to comply with MBTA, and does not constitute any legal authorization to take migratory birds.

Clean Water Act

The federal Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following sections provide additional details on specific sections of the CWA.

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. *Waters of the United States* refer to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following:

- Areas within the ordinary high water mark of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned.
- Seasonal and perennial wetlands, including coastal wetlands.

Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including adjacent wetlands, before proceeding with a proposed activity. USACE may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. The nationwide permits are a type of general permit issued to cover particular fill activities. Each nationwide permit specifies particular conditions that must be met for the nationwide permit to apply to a particular project.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, the ESA, and the National Historic Preservation Act have been met. In addition, USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by EPA. In California, the State Water Resources Control Board is authorized by EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs) (see the related discussion under Section 3.3.1.2, *State, Porter-Cologne Water Quality Control Act*). The study area is under the jurisdiction of the San Francisco Bay RWQCB.

NPDES permits are required for projects that disturb more than 1 acre of land. The permitting process requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan. The stormwater pollution prevention plan includes a site map and a description of proposed construction activities. In addition, it describes the best management practices that would be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that best management practices are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. A Section 401 Water Quality Certification from the San Francisco Bay RWQCB would be required for wetlands and waters of the United States identified in the study area.

For each of the above sections of the CWA, the project implementer would obtain and comply with the applicable federal and state permits and all conditions that are attached to those permits would be implemented as part of the project. The permit conditions would be clearly identified in the in the construction plans and specifications and monitored during and after construction to ensure compliance.

Executive Order 11990: Protection of Wetlands

Executive Order 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. Such a project (that encroaches on wetlands) may not be undertaken unless the agency has determined that there are no practicable alternatives to such construction, the project includes all practicable measures to minimize harm to wetlands that would be affected by the project, and the impact will be minor.

Executive Order 13112: Prevention and Control of Invasive Species

Executive Order 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The executive order established the National Invasive Species Council, which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In 2016, the National Invasive Species Council released an updated national invasive species management plan (National Invasive Species Council 2016) that recommends objectives and measures to implement the executive order and prevent the introduction and spread of invasive species. The executive order requires consideration of invasive species in National Environmental Policy Act (NEPA) analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

Section 10 of the Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act (33 USC 401 *et seq*.) is administered by USACE. This section requires permits in navigable waters of the United States for all structures such as riprap and activities such as dredging. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. USACE grants or denies permits based on the effects on navigation. Most activities covered under this act are also covered under Section 404 of CWA.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) (16 USC, 1361–1421h), adopted in 1972, makes it unlawful to take or import any marine mammals or their products. An incidental harassment permit may be issued by NMFS to cover activities for up to 1 year and with negligible effects on the species. The MMPA includes two levels of harassment. Level A harassment is defined as any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal in the wild. Level B harassment is defined as harassment having potential to disturb marine mammals by causing disruption of behavioral patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.

The MMPA is the main regulatory vehicle that protects marine mammal species and their habitats in an effort to maintain sustainable populations. In doing so, the statute outlines prohibitions, required permits, criminal and civil penalties, and international aspects in addressing marine mammals. The act requires consultation on any action that may adversely affect marine mammals and provides a mechanism for an incidental take of species not listed under the federal ESA.

3.3.1.2 State

The following state regulations, laws, and guidelines apply to biological resources.

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits take of any species that the California Fish and Game Commission determines to be a candidate, endangered, or threatened species. *Take* is defined in Section 86 of the California Fish and Game Code (CFGC) as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Habitat destruction is not included in the state's definition of take. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The California Department of Fish and Wildlife (CDFW) administers the act and authorizes take through Section 2081 agreements (except for species designated as fully protected). CDFW can adopt a federal biological opinion as a state biological opinion under CFGC, Section 2095. In addition, CDFW can write a consistency determination for species that are both federally and state listed if CDFW determines that the avoidance, minimization, and compensation measures will ensure no take of species.

Porter-Cologne Water Quality Control Act

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Act, *waters of the state* are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether

USACE has concurrent jurisdiction under CWA Section 404. If USACE determines that a wetland is not subject to regulation under Section 404, CWA Section 401 water quality certification is not required. However, the RWQCB may impose waste discharge requirements if fill material is placed into waters of the state. Because fill material will not be placed into the waters of the state for the project, no application for water quality certification from the San Francisco Bay RWQCB would be needed.

McAteer-Petris Act

The San Francisco Bay Conservation and Development Commission (BCDC) is a state agency created by the McAteer-Petris Act to regulate development in and around San Francisco Bay. After its creation, BCDC was designated as the Federal Coastal Zone Management Agency for San Francisco Bay in accordance with the Federal Coastal Zone Management Act. The purpose of the Federal Coastal Zone Management Act is similar to that of the McAteer-Petris Act, to regulate development in coastal areas and to protect their unique resources. See Section 3.3.1.3, Regional and Local, for further discussion of the BCDC and its authority over development of the shoreline.

California Fish and Game Code Fully Protected Species

- Several sections of the CFGC that apply to the project are described below: 3503, 3503.5, 3511, 3513, 4700, 5050, and 5515. These statutes apply to species that are fully protected; a classification that represents the State's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. The CFGC sections dealing with *Fully Protected* species state that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected" species, although take may be authorized as part of an approved Natural Community Conservation Plan that treats such species as "covered species" and may also be authorized for necessary scientific research. The Fully Protected designation is the most restrictive regarding the take of these species.

Sections 3503 and 3503.5: Birds and Raptors

Section 3503 prohibits the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs in and adjacent to the study area provide suitable nesting habitat for birds and raptors.

Section 3511: Fully Protected Birds

Section 3511 provides protection from take for 13 bird species.. Section 3511 lists fully protected birds and prohibits take of these species. As stated above, the code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited. The following are fully protected bird species:

- American peregrine falcon (*Falco peregrinus anatum*).
- Brown pelican (Pelecanus occidentalis)
- California black rail (Laterallus jamaicensis coturniculus).

- California clapper rail (*Rallus longirostris obsoletus*).
- California condor (Gymnogyps californianus).
- California least tern (*Sterna albifrons browni*).
- Golden eagle (Sterna albifrons browni).
- Greater sandhill crane (*Grus canadensis tabida).*
- Light-footed clapper rail (*Rallus longirostris levipes*).
- Southern bald eagle (Haliaeetus leucocephalus leucocephalus).
- Trumpeter swan (*Cygnus buccinator*).
- White-tailed kite (*Elanus leucurus*).
- Yuma clapper rail (Rallus longirostris yumanensis).

Section 3513: Migratory Birds

Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Section 4700: Fully Protected Mammals

Section 4700 provides protection from take for nine wildlife species, including four oceanic species. Section 4700 lists fully protected mammals and prohibits take of these species. As stated above, the code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The following are fully protected mammals:

- Morro Bay kangaroo rat (Dipodomys heermanni morroensis).
- Bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*) as provided by subdivision (b) of Section 4902 .
- Northern elephant seal (*Mirounga angustirostris*).
- Guadalupe fur seal (Arctocephalus townsendi).
- Ring-tailed cat (genus *Bassariscus*).
- Pacific right whale (*Eubalaena sieboldi*).
- Salt-marsh harvest mouse (*Reithrodontomys raviventris*).
- Southern sea otter (*Enhydra lutris nereis*).
- Wolverine (*Gulo luscus*).

Section 5050: Fully Protected Reptiles and Amphibians

Section 5050 provides protection from take for three amphibians and two reptile species, referred to as fully protected amphibians and reptiles. As stated above, the code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt. The following are fully protected reptiles and amphibians:

- Blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*).
- San Francisco garter snake (Thamnophis sirtalis tetrataenia).
- Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*).
- Limestone salamander (*Hydromantes brunus*).
- Black toad (Bufo boreas exsul).

Section 5515: Fully Protected Fish

Section 5515 provides protection from take for 10 fish species, referred to as fully protected fish. Section 5511 lists fully protected fish and prohibits take of these species. As stated above, the code defines take as "hunt, pursue, catch, capture, or kill, or attempt to hunt. The following are fully protected fish:

- Colorado River squawfish (*Ptychocheilus lucius*).
- Thicktail chub (*Gila crassicauda*).
- Mohave chub (*Gila mohavensis*).
- Lost River sucker (*Catostomus luxatus*).
- Modoc sucker (Catostomus microps).
- Shortnose sucker (Chasmistes brevirostris).
- Humpback sucker (*Xyrauchen texanus*).
- Owens pupfish (Cyprinoden radiosus).
- Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*).
- Rough sculpin (*Cottus asperrimus*).

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 prohibits importation of rare and endangered plants into California, "take" of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the California Native Plant Protection Act, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but rather under CEQA.

3.3.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, the Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The portions of the project site within 100 feet of the shoreline also fall within the jurisdictional purview of BCDC. The following regional and local regulations, laws, and guidelines apply to biological resources.

San Francisco Bay Conservation and Development Commission

BCDC has permit authority over development of the Bay and the shoreline pursuant to the McAteer-Petris Act (California Government Code 66000 et seq.). The act requires BCDC to prepare a "comprehensive and enforceable plan for the conservation of the water of the San Francisco Bay and the development of its shoreline." In 1969, BCDC submitted the completed San Francisco Bay Plan to the governor and legislature. The McAteer-Petris Act was later amended to give the plan the force of law.

BCDC has jurisdiction over all filling, dredging, and changes to uses in the Bay; regulates new development within 100 feet of the shoreline that is subject to tidal action to ensure that maximum public access to the Bay is provided; and ensures that the limited amount of shoreline that is suitable for regional high-priority, water-oriented uses is reserved for such purposes. BCDC jurisdiction over piers that predate its establishment in 1965 is treated differently, depending on the scope of work proposed. Proposed development that does not involve any additional coverage of Bay water or any work on piers or pier substructures is treated within the BCDC shoreline-band jurisdiction. Work that involves removal and replacement of all or a substantial portion of a pier deck to extend the life of the pier or work that changes the utility of the structure is treated as work within BCDC's Bay jurisdiction. The project would involve construction of a new pier and boardwalk and associated wooden pilings and change in use. BCDC permits would be required for construction activities, the placement of fill, and a change in use.[1]

The following policies from the reprinted San Francisco Bay Plan (San Francisco Bay Conservation and Development Commission 2012) apply to biological resources.

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[1] As discussed in Chapter 2, Project Description, on January 23, 2018, after preparation of the Draft EIR, the Toll Bridge Program Oversight Committee approved a separate marine foundation public access project that will build out an observation deck between existing marine foundations E21—E23 from the former east span of the San Francisco-Oakland Bay Bridge. The approved pier is a separate project that is outside the scope of this EIR and has been cleared under separate environmental review. With TBPOC approval of the marine foundations public access project, the pier originally conceived by the Gateway Park Working Group will no longer be implemented and impacts would not be realized as part of the Gateway project. Thus, this analysis overstates the environmental impacts of the project in regards to the originally conceived pier.

~~As discussed in Chapter 2, *Project Description*, on January 23, 2018, after preparation of the Draft EIR, the Toll Bridge Program Oversight Committee approved a separate project that will an option exists to reuse existing marine foundations E19—E23 from the former east span of the San Francisco-Oakland Bay Bridge as foundations for a new pier. The approved pier is a separate project that is outside the scope of this EIR and has been cleared under separate environmental review. With approval of the E19—E23 reuse pier, the pier originally conceived by the Gateway Park Working Group will no longer be implemented. Since the installation of new pilings in the Bay would result in greater impacts to biological resources and hydrology and water quality, this analysis overstates the environmental impacts of the project. This option is outside the scope of this EIR and, if taken, would require separate environmental evaluation.~~

Fish, Other Aquatic Organisms and Wildlife

- To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.
- Specific habitats that are needed to conserve, increase or prevent the extinction of any native species, species threatened or endangered, species that the California Department of Fish and Game has determined are candidates for listing as endangered or threatened under the California Endangered Species Act, or any species that provides substantial public benefits, should be protected, whether in the Bay or behind dikes.
- The Commission should:
    - Consult with the California Department of Fish and Game and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service whenever a proposed project may adversely affect an endangered or threatened plant, fish, other aquatic organism or wildlife species;
    - Not authorize projects that would result in the "taking" of any plant, fish, other aquatic organism or wildlife species listed as endangered or threatened pursuant to the state or federal endangered species acts, or the federal Marine Mammal Protection Act, or species that are candidates for listing under the California Endangered Species Act, unless the project applicant has obtained the appropriate "take" authorization from the U.S. Fish and Wildlife Service, National Marine Fisheries Service or the California Department of Fish and Game; and
    - Give appropriate consideration to the recommendations of the California Department of Fish and Game, the National Marine Fisheries Service or the United States Fish and Wildlife Service in order to avoid possible adverse effects of a proposed project on fish, other aquatic organisms and wildlife habitat.
- The Commission may permit a minor amount of fill or dredging in wildlife refuges, shown on the Plan Maps, necessary to enhance fish, other aquatic organisms and wildlife habitat or to provide public facilities for wildlife observation, interpretation and education.

City of Oakland

City of Oakland General Plan

The City of Oakland's General Plan discusses Open Space, Conservation and Recreation (City of Oakland 1998). The following are components of the Open Space Recommendations:

- Construct the Bay Trail and the spur trails along the adopted alignments through the Harbor area.
- Improve the eastbound Bay Bridge "gateway" to Oakland, possibly with a landscaped vista point just beyond the Oakland anchorage.
- Work with the Port of Oakland to establish visitor observation areas and promote public awareness of the economic importance of the Oakland shoreline.

The Conservation Chapter discusses the Natural Resources in Oakland and includes the following policies:

- **Policy CO-6.5: Protection of Bay and Estuary Waters.** Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.
- **Policy CO-6.6: Restriction on Bay Fill.** Prohibit bay fill unless there is compelling evidence that its benefits will outweigh the environmental and other costs. In such instances, support compliance with the mitigation requirements of the BCDC and other regulatory agencies.
- **Policy CO-7: Protection of Native Plant Communities.** To minimize the loss of native plant communities and restore these communities where they have been damaged or lost, and to preserve Oakland's trees unless there are compelling safety, ecological, public safety, or aesthetic reasons for their removal (includes wetlands).
- **Policy CO-7.2: Native Plant Restoration.** Encourage efforts to restore native plant communities in areas where they have been compromised by development or invasive species, provided that such efforts do not increase an area's susceptibility to wildfire.
- **Policy CO-8.1: Mitigation of Development Impacts.** Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.
- **Policy CO-8.2: Wetland Park Activities.** Limit recreational uses within wetland "parks" to activities that are consistent with the fragile environmental characteristics of the areas. These uses may include wildlife refuges, ecological study areas, and where appropriate, interpretive boardwalks and nature centers.
    - **Action CO-8.2.1: Wetland Access Limitations.** Limit public access within the Emeryville Crescent, Damon Marsh, Arrowhead Marsh, and Fan Marsh. Align the Bay Trail to minimize adverse impacts on wetlands. Where access is provided, use elevated boardwalks only.
- **Policy CO-9.1: Habitat Protection.** Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas.
    - **Action CO-9.1.2: Preparation of Pre-development Surveys.** Require large-scale development within special-status species habitat to conduct pre-development surveys to determine whether these species are present. Require site-specific analyses of the effects of the proposed development on the species where appropriate, along with a plan for minimizing those effects. These surveys and analyses may be included in any environmental documentation for a project.
    - **Action CO-9.1.4: Recreational Use Limitations.** Limit recreational uses on publicly owned open space lands to those which have minimal impacts on rare, threatened, and endangered species.

City of Oakland Municipal Code

The City of Oakland Municipal Code Chapter 12.36, Protected Trees, details the tree removal permit process. The removal of a protected tree (defined in the following paragraph) requires a tree removal permit, issued by a tree reviewer (City employee approved by the Director of Parks and Recreation to review tree permit applications) prior to the approval of any building, grading, or demolition permit application. The tree removal permit will be issued concurrent with or subsequent to all other necessary permits pertinent to site alteration and construction. Tree removal permits are valid for 1 year from the date of permit issuance. An additional 1-year extension will be granted following a written request from the permit applicant to the tree reviewer. A tree removal that is more than 2 years old from the date of permit issuance is no longer valid, and the permit applicant must pay the fee established by the master fee schedule of the city for tree removal permit extensions.

The City of Oakland Municipal Code Chapter 12.36, Protected Trees, defines a *protected tree* as meeting one of the following criteria:

1. On any property, *Quercus agrifolia* (California or coast live oak) measuring 4 inches dbh [diameter at breast (4.5 feet above grade) height] or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *Pinus radiata* (Monterey pine).
2. *Pinus radiata* (Monterey Pine) trees shall be protected only on City property and in development-related situations where more than five Monterey Pine trees per acre are proposed to be removed. Although Monterey Pine trees are not protected in non-development-related situations, nor in development-related situations involving five or fewer trees per acre, public posting of such trees and written notice of proposed tree removal to the Office of Parks and Recreation is required per Section 12.36.070A and Section 12.36.080A.
3. Except as noted above, eucalyptus and Monterey pine trees are not protected by this chapter.

The City of Oakland Municipal Code Chapter 12.36, Protected Trees, sets the following requirements for tree removal due to development:

- **Pre application design conference.** Prior to the submission of a tree removal permit application, a prospective applicant may request a pre-application design conference or a design review checklist conference by filing a request with the City Planning Department.

  The pre application design conference shall be convened by City Planning staff, and shall include the applicant, the tree reviewer, City Planning staff, public works staff (if necessary), and property owners of parcels located adjacent to the site of the proposed tree removal. The purpose of the pre application design conference shall be to review proposed tree removals and determine whether alternative designs might be possible which would reduce the number of trees to be removed. Application. In any development-related situation which requires removal or possible damage to a protected tree or trees, including application for design review, zoning permits, planned unit developments, or land subdivisions, a tree removal permit application must be filed with the City Planning Department at the same time any zoning permit, design review, planned unit development, or land subdivision application is filed in accordance with the requirements of the regulations governing such applications. CEQA Review. All tree removal permit applications shall be reviewed by the

Tree Reviewer under the California Environmental Quality Act (CEQA) within five working days of permit application receipt using checklists established for this purpose.

Exemption from CEQA shall be determined by the application of criteria which take into account the existing property use (developed versus undeveloped), the total extent of requested tree removals, and the size of any individual protected tree proposed for removal.

In the event the Tree Reviewer determines that additional CEQA review is required, a referral shall be made to the City Planning Department within five working days of permit application receipt. City Planning staff shall review all referrals within established CEQA review time frames, and shall notify the Tree Reviewer of the projected CEQA completion date.

Trees that will remain on the project site must be protected. Replacement tree species shall consist of *Sequoia sempervirens* (coast redwood), *Quercus agrifolia* (coast live oak), *Ancutus merciesii* (madrone), *Aesculus californica* (California buckeye) or *Umbelluiana californica* (California bay laurel).

Replacement trees shall be of twenty-four (24) inch box size, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate. In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.

Plantings shall be installed prior to the issuance of a certificate of occupancy, subject to seasonal constraints, and shall be maintained by the applicant until established. The Tree Reviewer may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planting which fails to become established within one year of planting shall be replanted at the applicant's expense.

East Bay Regional Park District

The East Bay Regional Park District would manage Gateway Park. Their *Master Plan 2013* (East Bay Regional Park District 2013) contains policies pertaining to biological resources. These policies can be summarized as follows.

- General resource management policies. These policies state the District's obligation to protect natural resources and to do so by periodically closing parks or trails or by interceding to protect resources threatened by climate change.
- Natural resource management: wildlife. These policies state the District's obligation to manage plant and animal habitat, to mitigate the effects of climate change, to use integrated pest management practices, and to base management practices on scientific principles. Furthermore, the District will conserve threatened or endangered plant and animal species and manage vegetation to enhance natural plant communities. The District will evaluate forested areas for encroachment of exotic species and fire management requirements and will manage agricultural areas with integrated pest management practices. The District will conserve and restore biological resources to promote naturally functioning ecosystems. The District will protect and manage all native wildlife species, including terrestrial species, fish, and amphibians.

- Natural resource management: water. These policies state the District's obligation to manage riparian and wetland environments to enhance natural values and to protect them from adverse impacts of climate change.

Western Bat Working Group

The Western Bat Working Group (WBWG) consists of a diverse group of representatives from 15 states, three Canadian provinces and two Canadian territories. The WBWG promotes bat management and conservation and encourages research, monitoring and community engagement. The WBWG developed a regional priority matrix to provide information on the status of bat species in western North America and to identify species of local importance. The regional priority matrix include four categories, as follows.

- High priority. Species that are imperiled or at high risk of imperilment and are the highest priority for conservation actions.
- Medium priority. Species that are of concern but for which more information is needed to evaluate species status.
- Low priority. Species populations are stable and the overall status of the species is considered to be stable.
- Periphery. Species on the edge of its range. This designation reflects neither a high, medium, or low concern.

3.3.2 Environmental Setting

This section describes existing conditions related to biological resources that could be affected by the construction and operation of the project.

3.3.2.1 Study Area and Habitat Type Overview

The study area for direct impacts on biological resources consists of the 45-acre project area onshore where project-related ground-disturbing construction, staging, or access activities would occur, as well as the open water area along the shoreline (approximately 19 acres of marine habitats in the Central San Francisco Bay) (Figure 2-2 and Table 3.3-1). Land uses adjacent to the study area are predominantly industrial and commercial.

Table 3.3-1. Summary of Habitat Types Present in the Study Area

Community Type	Total Study Area (acres)
Terrestrial Communities	
Developed Areas	25.6
Ruderal vegetation	14.2
Northern foredunes*	1.1
Sandy beach*	1.9
Tidal salt marsh*	2.2
Seasonal wetland*	0.01
Subtotal	*45.0*
Marine Communities	
Shallow Bay*	6.5
Deep Bay*	12.6
Eelgrass beds*	TBD (1)
Subtotal	*19.1*
Total	**64**

*****Natural communities of special concern, discussed below.
Tidal salt marsh and seasonal wetland are considered federal and state jurisdictional wetlands.
Shallow bay and deep bay are considered federal and state waters.
(1) As discussed below, there is a small area of eelgrass beds in the northwestern portion of the study area. The exact amount has not been determined, but will be delineated as part of subsequent project permitting.

3.3.2.2 Regional Setting

Geologic Environment

The project is located in the geologic/geomorphic Coast Range Province of central and northern California. The Coast Range Province is bordered to the north by the Klamath Mountains, to the south by the Traverse Ranges Province, to the west by the Pacific Ocean, and to the east by the Great Valley Province. The Coast Ranges have a general northwest orientation and are characterized by north to northwest folds and faults. The province consists of sedimentary, metamorphic, volcanic, and igneous rocks ranging in age from the Jurassic/Cretaceous age (100 to 200 million years ago) to the present.

The San Francisco Bay region is in a northwesterly oriented geomorphic depression called the San Francisco Bay-Santa Clara Valley Depression. This depression and its surrounding mountains have relatively recent tectonic origin. Formation began about 1 million years ago (within the Quaternary age). The terrestrial environment in the project area consists of developed, Bay fill under the Baylands Ecosystem Habitat Goals classification system (Goals Project 1999).

Shoreline Environment

The sea level has fluctuated significantly several times prior to and during the Holocene times, and sediments known as Bay mud have been and are currently being deposited under estuarine conditions. The Bay mud consists of unconsolidated to moderately consolidated, saturated, organic-rich, silty marine clays. The project area sits on a constructed spit that extends out into the San Francisco Bay. The site is generally flat, rising approximately 1.5 to 3 meters (5 to 10 feet) above sea level. The area is a formal tidal flat that was filled prior to the construction of the existing San Francisco–Oakland Bay Bridge (Bay Bridge) in the 1930s. The source of the fill is not known, but it was likely a combination of dredged soil and imported fill, including some rubble and other debris. Due to the fill, settlement of the underlying Young Bay Mud has likely occurred, creating mud that is stronger than its nearby marine counterpart (Federal Highway Administration and Caltrans 2001).

Marine Environment

The Franciscan Formation in this area is deep (an elevation of -135 to -150 meters [- 440 to - 500 feet]) and slopes gently to the east/southeast. Holocene- and Pleistocene-age marine and alluvial sediments overlie the bedrock. The subsurface soils vary and consist of generally less than 3 meters (10 feet) of loose, sandy fill that is underlain by a very soft, saturated layer of Bay mud that extends down to approximately 12 meters (40 feet). In other areas, the soil is composed of coarser grain sediments that include various amounts of gravel. The primary material in the underlying Merritt-Posey-San Antonio Formation at the touchdown area of the new East Span of the Bay Bridge is a layer of dense sand of approximately 4.5 to 6.1 meters (15 to 20 feet) thick. A north-south trending paleochannel exists under the touchdown area of the new East Span of the Bay Bridge. This paleochannel does not appear to contain alluvial sands. (Federal Highway Administration and Caltrans 2001). The Marine environments in the project area would be categorized as shallow bay/channel under the Baylands Ecosystem Habitat Goals classification system.

Wetlands

The wetland delineation[2] (ICF International 2014) identified 2.2 acres of potentially jurisdictional wetlands and 19.55 acres of other waters of the United States in the study area (Table 3.3-2). Other waters of the United States identified include shallow bay habitat.

[2] All areas containing potentially jurisdictional waters of the United States within the delineation study area that are proposed to be impacted during implementation of the project were assessed. This report is intended to comply with the San Francisco guidelines and the U.S Army Corps of Engineers, South Pacific Division map standards for wetland delineations and jurisdictional determinations.

Table 3.3-2. Wetlands, Waters of the United States, and Other Waters in the Study Area

Habitat Type	Jurisdictional Status	Acres
Tidal marsh	Wetland	2.19
Seasonal wetland	Wetland	0.01
Total wetlands		*2.20*
Deep bay	Other waters of the Unites States	12.60
Shallow bay	Other waters of the United States	6.50
V-ditch	Other waters of the United States	0.45
Total other waters		*19.55*
Total waters of the United States		**21.75**

Terrestrial Environment

Based on the wetland delineation (ICF International 2014) and Appendix F, *Natural Environment Study* (ICF International 2015a), the following vegetation communities were identified in the study area: tidal salt marsh, seasonal wetland, northern foredunes, eelgrass, and ruderal vegetation (Table 3.3-3 and Figures 3.3-1a and 3.3-1b).

Table 3.3-3. Summary of Vegetation Communities in the Study Area

Community Type	Total Study Area (acres)
Tidal marsh	2.19
Seasonal wetland	0.01
Sandy Beach	1.91
Northern foredunes	1.10
Eelgrass beds	Limited area (TBD during subsequent design)
Ruderal Vegetation	14.20
Total	**19.41**

The project area supports both common natural communities (ruderal vegetation) and natural communities of special concern (tidal salt marsh, seasonal wetland, sandy beach, northern foredunes, and eelgrass beds), as discussed in Section 3.3.2.3, *Habitats and Sensitive Natural Communities*. Locations, dominant plant species, and typical wildlife species found in natural communities and developed areas in the study area are described below.

Common natural communities are habitats with low species diversity that are widespread, re-establish naturally after disturbance, or support primarily nonnative species. These communities are not generally protected by agencies unless the specific site is habitat for or supports special-status species (e.g., raptor foraging or nesting habitat, upland habitat in a wetland watershed). The common natural community in the study area is ruderal vegetation (nonnative annual grassland). Most of the terrestrial vegetation in the study area consists of ruderal vegetation (i.e., nonnative annual grassland) occurring south of Interstate 80 (I-80). Small patches of northern foredune and landscaped vegetation occur along the north side of I-80.

Source: ICF, 2017.

gatewaypark

Figure 3.3-1a
Natural Communities Present in the Gateway Park Study Area

Source: ICF, 2017.

gatewaypark

Figure 3.3-1b
Natural Communities Present in the Gateway Park Study Area

A majority of the project area consists of areas that have been heavily disturbed and contain ruderal vegetation, characterized by herbaceous, nonwoody species. Ruderal areas do not provide suitable habitat for special status or listed species. Species expected to occur in ruderal areas include skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and western fence lizard (*Sceloporus occidentalis*). Approximately 14.2 acres of ruderal vegetation occurs in the project area and the former army base property and at scattered sites along the north side of the existing roadway.

3.3.2.3 Habitats and Sensitive Natural Communities

Sensitive natural communities are habitats considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Local, state, and federal agencies consider these habitats important, and compensation for loss of sensitive natural communities is generally required by agencies. The California Natural Diversity Database (CNDDB) contains a current list of rare natural communities throughout the state. USFWS considers certain habitats, such as wetlands and riparian communities, important to wildlife; and USACE and EPA consider wetland habitats important for water quality and wildlife. The habitats in the study area that meet criteria for natural communities of special concern are northern foredunes, sandy beach, seasonal wetlands, tidal salt marsh, shallow bay, and eelgrass beds (Figure 3.3-1a and 3.3-1b). These habitats are described in detail in Appendix F, *Natural Environment Study* (ICF International 2015a).

Northern Foredunes

A patch of northern foredunes habitat is located on the northern shoreline of the project area at Radio Beach, north of I-80. This area is characterized by low-lying sandy beach abutting sparsely vegetated beach dunes. The front ridge of the dune is populated with dune grass. Landward from this first ridge are ground-hugging mats of vegetation such as beach burr (*Ambrosia chamissonis*), yellow sand verbena (*Abronia latifolia*), dune strawberry (*Fragaria chiloensis*), and fig-marigold (*Carpobrotius edulis*). Low growing shrubs such as sagewort (*Artemisia pycnocephala*) and tansy (*Tanacetum camphoratum*) also occur in foredunes. This area does not support nesting habitat for shorebirds because of the existing level of human activity and disturbance. Additionally, special-status shorebirds that have potential to occur in the project area such as snowy plovers (*Charadrius alexandrines*), and California least terns (*Sterna antillarum*) were not observed during reconnaissance level surveys, there are no documented occurrences of these species within 3 miles of the project area, and neither species has been documented nesting at the site for more than 20 years (California Department of Fish and Wildlife 2016). The project area does not support raptor nesting habitat because of the lack of trees to provide suitable nesting habitat. This area supports suitable foraging habitat for shorebirds including Western sandpipers (*Calidris mauri*), snowy plovers (*Charadrius alexandrines*), and California least terns (*Sterna antillarum*), and raptors such as the white-tailed kite (*Elanus leucurus*) and northern harrier (*Circus cyaneus*). This area is bounded by potential jurisdictional wetlands and large patches of fig-marigold.

Sandy Beach

Sandy beach habitat occurs in two locations in the project area: on the south side of I-80 where the Port Playground is proposed, and north of I-80 in the Radio Beach area. The sandy beach areas lack trees and structures and are subject to daily high tides that inundate and saturate the entire beach up to the foredunes. As a result, the sandy beach areas do not support suitable shorebird nesting habitat. The sandy beach areas do provide potential foraging habitat for shorebirds including snowy plovers (*Charadrius alexandrines)*, killdeer (*Charadrius vociferous*), Western sandpipers (*Calidris mauri*), California least terns (*Sterna antillarum*), long-billed curlews (*Numenius americanus*), willets (*Tringa semipalmata*) and raptors such as the white-tailed kite (*Elanus leucurus*) and northern harrier (*Circus cyaneus*).

Shorebirds generally inhabit open areas of beaches, grasslands, wetlands, and tundra; some even nest above the tree line on mountains. This group of birds, which includes the plovers, oystercatchers, avocets, stilts, and sandpipers, often share characteristics of long bills, legs, and toes, and rather drab coloration. Long bills, legs, and toes are useful in wading to forage on mudflats and in wetlands. Shorebirds mainly feed on insects, mollusks, and other invertebrates that they locate by either sight or taste (National Resources Conservation Service 2000).

Seasonal Wetland

The isolated, seasonal wetland is located south of I-80 in a shallow topographic depression on the southern margin of Burma Road, near the proposed concrete sea wall and retaining wall (ICF International 2015a). The wetland is supported primarily by rainfall and surface water runoff from adjacent uplands and paved surfaces. The wetland contains a storm drain in the center, the outlet of which is unknown. Vegetative cover in the seasonal wetland is patchy (ICF International 2014).

Tidal Salt Marsh

The tidal salt marsh community is located on the north side of I-80 at Radio Beach. Fill (asphalt, cement, rock, and trash) is scattered throughout the Radio Beach tidal marsh. In some areas, the fill has created berms and isolated sections of tidal marsh. In other areas, it has been invaded by iceplant (*Carpobrotus chilensis*) and crocosmea (*Crocosmia X crocosmiiflora*). Tidal marsh areas flanking the Radio Beach access road are separated by a paved road but are assumed to have been historically connected. Other small patches of hydrophytic vegetation are scattered throughout the 3-Tower Point area. A partially paved and partially unpaved dirt road extends through the center of the area, allowing access to the narrow strip of sandy beach to the northwest and to the 3-Tower Point to the west. The road, as well as other fill scattered throughout the Radio Beach area, precludes vegetation (ICF International 2014).

High-quality tidal marshes provide a complex habitat for many fish and wildlife species. Common fish in the Central San Francisco Bay, where the Gateway Park project is located, include topsmelt (*Atherinops affinis*), arrow goby (*Clevelandia ios*), yellowfin goby (*Acanthogobius flavimanus*), and staghorn sculpin (*Leptocottus armatus*). Bird species associated with tidal marsh areas include snowy egret (*Egretta thula*), northern harrier (*Circus cyaneus*), Ridgway's Rail, formerly Ridgway's rail (*Rallus obsoletus*) and California black rails (*Laterallus jamaicensis coturniculus*), willets (*Tringa semipalmata*), short-eared owls (*Asio flammeus*), salt marsh yellowthroat (*Geothlypis trichas sinuosa*), and San Pablo song sparrow (*Melospiza melodia* *samuelis*). Mammal species that rely entirely on tidal marsh habitat include salt marsh wandering shrew (*Sorex vagrans halicoetes*), Suisun shrew (*Sorex ornatus sinuosus*), and salt marsh harvest mouse (*Reithrodontomys raviventris*). Predators that prey on these species in the middle and high marsh include red fox (*Vulpes vulpes*), skunks (*Mephitis mephitis*), opossums (*Didelphimorphia*), rats (*Rattus*), and coyote (*Canis latrans*) (Goals Project 1999).

Shallow Bay

The project area 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% of the land area of California. The San Francisco Estuary and the Sacramento-San Joaquin Delta together form one of the largest estuarine systems in North America. Aquatic habitat in the estuary ranges from deep channel bottoms to tidal flats. Substrate material in the project area consists of bay mud. Bathymetry ranges from 0 to 10 feet in most areas around the site (San Francisco Bay Subtidal Habitat Goals Project 2016).

The shallow bay habitat includes tidal flat habitat, which occurs from below mean lower low water to mean tide level and supports less than 10% cover of vascular plants, with the exception of eelgrass. Mudflats comprise the largest area of tidal flat habitat. The substrate in these areas consists of fine-grained silts and clay that support a wide array of diatoms, worms, and shellfish, in addition to algal flora, including green algae, red algae, eelgrass, and sea lettuce (Goals Project 1999). Approximately 6.54 acres of tidal flat/mud flat habitat occurs in the marine environment adjacent to the tidal marsh area north of I-80.

Thousands of species of birds, mammals, fish, and other wildlife depend on estuarine (shallow bay) and tidal flat habitats as places to live, feed, and reproduce. The rich environment is an especially productive feeding area for many fish species including Pacific herring (*Clupea pallasii*), splittail (*Pogonichthys macrolepidotus*), northern anchovy (*Engraulis mordax*), and jacksmelt (*Atherinopsis californiensis*). It is also an important migratory corridor for anadromous fishes such as Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*Oncorhynchus mykiss*), and for longfin smelt *(Spirinchus thaleichthys)*. Multiple bird species occur in shallow bay habitat, such as western grebe (*Aechmophorus occidentalis*), American wigeon (*Anas Americana*), canvasback (*Aythya valisineria*), Foster's tern (Aythya valisineria), least tern (*Sternula antillarum*), common loon (*Gavia immer*), brown pelican (*Pelecanus occidentalis*), and surf scooter (*Melanitta perspicillata*). Harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*) can also be observed in these areas. Eelgrass is a particularly important plant species found in the upper reaches of shallow bays on mudflats in Central San Francisco Bay. Eelgrass provides feeding, escape, or breeding habitat for many species of invertebrates, fishes, and some waterfowl (Goals Project 1999).

Eelgrass Beds

Eelgrass (*Zostera marina L.*) beds occur in the shallow bay (estuarine) habitat and provide important nursery habitat and protection for many fish and invertebrate species, including herring. In addition, avian species including but not limited to least terns, commonly forage in vegetated shallows (Goals Project 1999).

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. It is extremely dynamic, expanding and contrasting by as much as several hectares per season, depending on the quality of the site. Consequently, eelgrass beds can serve as an indicator community on the overall health of an estuary (Federal Highway Administration and Caltrans 2001).

Eelgrass occurs adjacent to the project area in the shallow waters north of I-80, with some occurrences south of I-80, as shown on Figure 2-2. The 2013 eelgrass monitoring report identifies that eelgrass in the Emeryville/Berkeley region has exhibited a slight increase of 8% between 2011 and 2013; much of this increase has been expansion of eelgrass within the deeper fringe of beds on the Emeryville Flats.

Surveys for eelgrass beds were not conducted for this project; however, as an element of the environmental mitigation required as compensation for impacts to eelgrass habitat from the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, Caltrans funded a large-scale Baywide Eelgrass Inventory and Resource Management Research Program. This jointly managed program by Caltrans and NMFS included baywide eelgrass surveys and the development and testing of a baywide eelgrass monitoring program. In July 2013, Merkel and Associates, Inc. conducted a Baywide regional monitoring program as an unfunded effort by extending survey work periods around a number of focused eelgrass investigations conducted concurrently. A summary of eelgrass habitat in the Bay is available in the *State of the Estuary Report 2015* (Sweeney et al. 2015). CH2M Hill (2014) did a site characterization and assessment of the project site and discussed the presence of eelgrass on the northwestern end of the project site.

3.3.2.4 Regional Species of Concern

Table 3.3-4 list special-status plant, fish, and wildlife species that are known to occur or have the potential to occur in the geographic region. These species were identified based on the CNPS Inventory of Rare and Endangered Plants (California Native Plant Society 2016), the CNDDB records search, species lists provided by USFWS (2016), and species distribution and habitat requirements data (ICF International 2015a).

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the *Federal Register* [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under ESA (75 FR 69222, November 10, 2010).
- Species protected under the MMPA of 1972 (16 USC 1371).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).

- Plants listed as rare under California Native Plant Protection Act (CFGC 1900 *et seq*.).
- Plants considered by CNPS to be "rare, threatened, or endangered in California" (California Native Plant Society 2016).
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution, which may be included as special-status species based on local significance or recent biological information.
- Animal species of special concern to CDFW.
- Animals fully protected in California (CFGC Section 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).

California Natural Diversity Database Search Results

The CNDDB (California Department of Fish and Wildlife 2016) search of the Oakland West (466D) U.S. Geological Survey 7.5-minute quadrangles indicated that 40 special-status species (19 plant species, 16 wildlife species, and 5 fish species) have been recorded within approximately 5 miles of the study area (ICF International 2015a).

U.S. Fish and Wildlife Service Species List

USFWS provided a list of 18 listed, proposed for listing, or candidate species (three plant species and 14 wildlife species) that may occur in the study area or be affected by projects in the Oakland West quadrangle (Table 3.3-4) (ICF International 2015a). No designated critical habitat for any wildlife species occurs in the project area.

Table 3.3-4. Species Listed or Proposed for Listing and Critical Habitat Potentially Occurring or Known to Occur in the Study Area

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Fish					
North American green sturgeon	*Acipenser medirostris*	T/SSC	Occurs in marine waters of the Pacific Ocean from the Bering Sea to Ensenada, Mexico. In anadromous reaches of rivers from British Columbia south to the Sacramento River, primarily in the Klamath/Trinity and Sacramento Rivers. Juveniles are believed to be distributed widely throughout San Francisco, San Pablo, and Suisun Bays for feeding and rearing and are present in all months of the year (74 FR 52305).	Potentially Present/ CH	The project area could be used as a foraging area for adult and juvenile green sturgeon.
Tidewater goby	*Eucyclogobius newberryi*	E/SSC	Occurs in coastal brackish water habitats entirely within California, ranging from Tillas Slough (mouth of the Smith River, Del Norte County) near the Oregon border south to Agua Hedionda Lagoon (northern San Diego County). Occurs in coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats. The species is typically found in water less than 1meter (3.3 feet) deep and salinities of less than 12 parts per thousand (U.S. Fish and Wildlife Service 2005).	Absent	No habitat in project area.
Delta smelt	*Hypomesus transpacificus*	T/E	Occurs in estuarine waters up to 14 ppt (parts per thousand) salinity. For a large part of their 1-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone.	Absent	No habitat in project area.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Central California Coast coho salmon	*Oncorhynchus kisutch*	E/E	Current distribution includes coastal streams from Punta Gorda (Humboldt County) south to and including Aptos Creek (Santa Cruz County). Historically, there were populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system (California Department of Fish and Wildlife 2016). Occurs in cool (12–14°C), clear, well-oxygenated streams with deep (0.5 to 1 meter or more) pools and dense riparian (overhead) and submerged cover (e.g., undercut banks, woody material), particularly in the pools or runs (Moyle 2002, Moyle et al. 2008)	Absent	Extirpated from San Francisco Bay tributaries so would not use the project area.
Central California Coast steelhead	*Oncorhynchus mykiss*	T/-	Occurs in coastal streams from Russian River to Aptos Creek (Santa Cruz County); tributaries to San Francisco, San Pablo, and Suisun Bays; and coastal marine waters off California. Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8 to 18°C (Moyle 2002); habitat types include riffles, runs, and pools of freshwater streams and rivers, and coastal estuaries.	Present	The project area provides migratory habitat for adult and juvenile steelhead. Steelhead spawn in tributaries which connect directly to San Francisco Bay.
Central Valley spring-run Chinook salmon	*Oncorhynchus tshawytscha*	T/T	Occurs in the Sacramento River and its tributaries in California, including the Feather River, as well as the Feather River Hatchery spring run Chinook program.	Present	Adult Chinook salmon likely use the deeper channels in the Bay to migrate into freshwater streams. Juvenile Chinook salmon would use the Central Bay for foraging and movement. Although not on the direct migratory path of this species, it could move into the project area during its migratory movements.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Sacramento winter-run Chinook salmon	*Oncorhynchus tshawytscha*	T/T	Occurs in the Sacramento River and its tributaries in California, including the Feather River, as well as the Feather River Hatchery spring run Chinook program.	Present	Adult Chinook salmon likely use the deeper channels in the Bay to migrate into freshwater streams. Juvenile Chinook salmon would use the Central Bay for foraging and movement. Although not on the direct migratory path of this species, it could move into the project area during its migratory movements.
Longfin smelt	*Spirinchus thaleichthys*	-/T	Within California, occurs mostly in the Sacramento River–San Joaquin River Delta, but also in San Francisco Bay, Humboldt Bay, Eel River estuary, and Klamath River estuary. Salt or brackish estuary waters with freshwater inputs for spawning.	Present	The project area provides migratory habitat for adult longfin smelt.
Amphibians					
California red-legged frog	*Rana draytonii*	T	Occurs from Riverside County to Mendocino County along the Coast Range; from Calaveras County to Butte County in the Sierra Nevada; and in Baja California, Mexico in distinct habitat, combining both specific aquatic and riparian components. Adults need dense, shrubby or emergent riparian vegetation closely associated with deep (greater than 2 1/3-foot deep) still or slow moving water (U.S. Fish and Wildlife Service 2013).	Absent	There is no suitable habitat (vernal pools, seasonal pools, freshwater ponds) for California red-legged frog or California tiger salamander within two miles of the project area.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Reptiles					
Alameda whipsnake	*Masticophis lateralis euryxanthus*	T	Occurs in small to large patches of chaparral or coastal scrub vegetation, interspersed with other native vegetation types and rock lands throughout Contra Costa County, most of Alameda County, and portions of northern Santa Clara and western San Joaquin counties. Chaparral and coastal scrub vegetation serve as the center of home ranges, provide for concealment from predators, and foraging opportunities. However, verified observations have been made up to 6.4 kilometers (4 miles) from coastal scrub and chaparral habitat.	Absent	Alameda whipsnake is typically found within chaparral, northern coastal sage scrub, and coastal sage habitats, none of which occurs within the project area itself or within 1 mile of the project's location.
Birds					
Western snowy plover	*Charadrius alexandrines nivosus*	T	Western snowy plover nest on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans in lagoons and estuaries; and forage primarily in wet sand, salt ponds, salt pans, and marshes.	Present	There is suitable Western snowy plover foraging habitat at Radio Point; however, there is no suitable nesting habitat for Western snowy plover within the project area.
Ridgway's rail	*Rallus obsoletus*	E/E, FP	Occurs in marshes around the San Francisco Bay and east through the Delta to Suisun Marsh. Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickleweed; feeds on mollusks removed from the mud in sloughs.	Present	The tidal salt marsh adjacent to the project area (the Emeryville Crescent) does provide suitable habitat for the Ridgway's rail; however, there is no suitable Ridgway's rail habitat within the project area.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
California black rail	*Laterallus jamaicensis ssp. coturniculus*	-/T	Occurs in saline, brackish, and fresh emergent wetlands dominated by pickleweed, in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal southern California at Morro Bay and a few other locations , the Salton Sea, and lower Colorado River area.	Present	The tidal salt marsh adjacent to the project area (the Emeryville Crescent) does provide suitable habitat for the California black rail; however, there is no suitable California black rail habitat within the project area.
California least tern	*Sternula antillarium browni*	E/E	Occurs in shallow estuaries or lagoons where small fish are abundant. Nesting today is limited to colonies in San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County. The greatest concentrations of breeding pairs nest in Los Angeles, Orange, and San Diego Counties.	Present	California least terns have been observed flying through the project area or foraging on the Bay; however, there is no suitable nesting habitat for California least terns within the project area.
Northern harrier	*Circus Cyaneus*	SSC	Occurs in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation. Northern harriers in the western United States tend to breed in dry, upland habitats.	Present	The tidal marsh in the study area is poor foraging habitat because of its limited size and proximity to the high level of ambient noise from the Bay Bridge.
Alameda song sparrow	*M. m. pusillula*	SSC	Endemic to California, where it is restricted to tidal salt marshes on the fringes of south San Francisco Bay.	Present	The tidal marsh area near Radio Beach is suitable habitat that could be used for foraging and nesting by Alameda song sparrow,
Saltmarsh common yellowthroat	*Geothlypis trichas sinuosa*	SSC	The current range includes four main areas: coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County.	Present	The tidal marsh area near Radio Beach is suitable habitat that could be used for foraging and nesting by saltmarsh common yellowthroat.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Mammals					
Salt marsh harvest mouse	*Reithrodontomys raviventris*	E/E, FP	Occurs at San Francisco, San Pablo, and Suisun Bays and in the Delta. Habitat consists of salt marshes with a dense plant cover of pickleweed and fat hen with an adjacent upland area for flood escape.	Present	The tidal salt marsh adjacent to the project area (the Emeryville Crescent) does provide suitable habitat for the salt marsh harvest mouse; however, there is no suitable salt marsh harvest mouse habitat in the project area.
Marine Mammals					
Gray whale	*Eschrichtius robustus*	D/--	Mainly shallow coastal waters.	Present	Species may pass near the study area.
Humpback whale	*Megaptera noveangliae*	FE/E	Coastal and open ocean habitat.	Absent	Unsuitable habitat in San Francisco Bay.
Harbor porpoise	*Phocoena*	--/--	Commonly found in bays, estuaries, and harbors.	Present	Species may pass near the study area.
California sea lion	*Zalophus californicus californianus*	--/--	Coastal waters with haul-outs on marina docks, jetties, and buoys.	Present	Species regularly found in and near the study area.
Steller sea lion	*Eumetopius jubatus*	D/--	Coastal waters with haul-outs on marina docks, jetties, and buoys.	Absent	Unsuitable habitat in San Francisco Bay.
Northern fur seal	*Callorhinus ursinus*	--/--	Mainly pelagic, using only certain offshore islands for pupping and breeding.	Absent	Unsuitable habitat in San Francisco Bay.
Northern elephant seal	*Mirounga angustirostris*	--/--	During breeding seasons, lives on beaches on offshore islands as well as some remote spots on the mainland; the rest of the year, lives offshore.	Absent	Unsuitable habitat in San Francisco Bay.

Common Name	Scientific Name	Status Federal/ State	General Habitat Requirements	Present/ Absent	Rationale
Harbor seal	*Phoca vitulina*	--/--	Nearshore coastal waters and especially rocky islands, sandy beaches, mudflats, bays, and estuaries.	Present	Species may pass near the study area.
Plants					
Blue coast gilia	*Gilia capitata Sims. ssp. chamissonis*	T/E, 1B.1	Endemic to California; occurs in coastal dunes and coastal scrub	Absent	There is suitable habitat (coastal dunes and coastal scrub) in the project area.
Beach layia	*Layia carnosa*	E/E, 1B.1	Endemic to California; occurs in dunes and coastal habitats	Absent	Suitable habitat for Beach Layia occurs in the project area; however, the species was not detected in these areas during surveys.
California seablite	*Suaeda californica*	E/E 1B.1	Endemic to California; occurs in coastal salt marsh and wetland-riparian habitats	Absent	Suitable habitat for California seablite occurs in the project area; however, the species was not detected in these areas during surveys.

Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS)

National Marine Fisheries Service Species and Habitat

Professional judgment was used to determine which fish species occur in the project area. Critical habitat for green sturgeon, which occurs in the project area, was designated on October 9, 2009. EFH is designated in the project area for Pacific salmon, Pacific groundfish and coastal pelagic species. Marine mammals protected by the MMPA, such as harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californicus californianus*), occur in the study area and in nearby parts of San Francisco Bay, and could be affected by the project.

Special-Status Plant Species

Based on the CNDDB search results (California Department of Fish and Wildlife 2016), the CNPS Inventory (California Native Plant Society 2016), and the USFWS list (U.S. Fish and Wildlife Service 2016) for the project region, the following three special-status plant species, which are all endemic to California, could occur in the study area: beach layia (*Layia carnosa*), blue coast gilia (*Gilia capitata Sims* ssp. *chamissonis*), and California seablite (*Suaeda californica*)

Beach layia and blue coast gilia occur in coastal scrub and coastal dunes, the latter of which is present in the study area at Radio Beach. California seablite occurs in coastal salt marsh and wetland-riparian habitats, which occur within and adjacent to the study area. Botanical surveys were conducted in summer 2014 for these three species. None of the species was detected during the 2014 surveys.

Special-Status Wildlife Species

Based on the CNDDB search results, the USFWS list for the project region, and professional judgement, 18 special-status wildlife and fish species were determined to have the potential to occur in the project region. After completion of the field survey and review of species distribution and habitat requirements data, the biologists determined that five of the 18 species would not occur in the study area because the area lacks suitable habitat for the species or is outside the species' known range. Suitable habitat occurs in the project area for the following eight special–status wildlife species:

- Ridgway's rail (*Rallus obsoletus*),
- California black rail (*Laterallus jamaicensis* ssp. *coturniculus*),
- California least tern (*Sternula antillarium browni*),
- Western snowy plover (*Charadrius alexandrines nivosus*),
- northern harrier (*Circus cyaneus),*
- Alameda song sparrow (*M. m. pusillula),*
- *s*altmarsh common yellowthroat (*Geothlypis trichas sinuosa)* and
- salt marsh harvest mouse (*Reithrodontomys raviventris*).

In addition, special-status fish species potentially found in the project area include the following species:

- green sturgeon (*Acipenser medirostris)*,
- Central California Coast steelhead (*Oncorhynchus mykiss)*,
- Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha)*,
- Sacramento winter-run Chinook salmon (*O. tshawytscha)*, and
- longfin smelt *(Spirinchus thaleichthys)*.

None of these special-status species was observed during the survey; however, suitable habitat for each occurred within or adjacent to the project site.

Species information and survey results are provided for special-status species in the subsections that follow. More information about each species and its habitat can be found in Appendix F, *Natural Environment Study* (ICF International 2015a).

Ridgway's Rail

Species Information

Ridgway's rail (*Rallus obsoletus*) was listed as federally endangered on October 13, 1970 (35 FR 16047). This species is also listed as a California state Fully Protected species.

Ridgway's rails occur almost exclusively in tidal salt and brackish marshes with unrestricted daily tidal flows, adequate invertebrate prey food supply, well-developed tidal channel networks, and suitable nesting and escape cover as refugia during extreme high tides.

Survey Results

Suitable habitat for Ridgway's rails occurs adjacent to the project area, approximately 0.5 mile away in the Emeryville Crescent. The narrow fringe of tidal marsh in the project area is too small and isolated to support Ridgway's rails.

For the purposes of this survey, the study area for Ridgway's rails, California black rails, and salt marsh harvest mouse includes the areas that could be directly or indirectly affected by project construction and operational activities. The species-specific study area extends 700 feet beyond the project footprint into the adjacent tidal marsh from I-80 northward to the shoreline and takes into account potential indirect effects on the federally listed Ridgway's rail, California black rail, and salt marsh harvest mouse.

The tidal marsh adjacent to the project area is subject to an edge effect because of the existing level of human activity and disturbance immediately adjacent to this area. *Edge effect* is defined as follows. When edges are expanded into any natural ecosystem, and the area outside the boundary is a disturbed or unnatural system, the natural ecosystem can be seriously affected for some distance in from the edge. For this analysis, the edge effect is assumed to extend approximately 200 feet into the tidal marsh area adjacent to the project footprint. It is assumed that suitable habitat within the 200 foot edge of tidal marsh is lower quality habitat compared to the tidal marsh habitat beyond the 200 feet edge as a result of diminishing effects over distance from potential impact sources.

California Black Rail

Species Information

The California black rail (*Laterallus jamaicensis coturniculus*) is as a State of California Threatened Species and a Federal Species of Management Concern. California black rail occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bulrushes in association with pickleweed. California black rail is usually found close to tidal sloughs. It typically occurs in the high wetland zones near upper limit of tidal flooding, not in low wetland areas with considerable annual and/or daily fluctuations in water levels. During extreme high tides, California black rail may depend on upper wetland zone and adjoining upland or freshwater wetland vegetation for cover.

Survey Results

Suitable habitat for California black rails occurs adjacent to the project area, approximately 0.5 mile away in the Emeryville Crescent. The narrow fringe of tidal marsh in the project area is too small and isolated to support a stable California black rail population.

California Least Tern

Species Information

The California least tern (*Sterna antillarum browni*) was federally protected as endangered on October 13, 1970 (35 FR 16047). California least tern is found along the Pacific Coast, from San Francisco to Baja California. This species consumes small fish obtained by skimming ocean waters. The species roosts from mid-April to early May, then nests from mid-May to early August in unvegetated areas in coastal beach, sand dune, and mud-flat habitats in colonies typically consisting of 25 pairs. (U.S. Fish and Wildlife Service 2006).

Although the tern’s range is in coastal areas from San Francisco Bay to Baja California, there are large gaps associated with unsuitable habitat types. Three nesting colonies (Pittsburg Power Plant, Albany Central Ave. Mitigation Island, and Alameda Point) have been found in San Francisco Bay, the northern extent of the species’ range. The California least tern 5-Year Review (U.S. Fish and Wildlife Service 2006) lists the primary factors in the decline of the species as being habitat loss due to human population increase and associated development. Predation and invasive species colonization of nesting habitat are additional factors.

Survey Results

The California least tern has been historically observed roosting on the Peninsula and feeding within 50 feet of the shoreline (City of Oakland 2002). California least terns have been observed flying through the project area or foraging on the Bay close to the project area; however, there is no suitable nesting habitat in the project area.

Western Snowy Plover

Species Information

The Pacific Coast population of the western snowy plover (*Charadrius nivosus nivosus*) was listed as federally threatened in 1993. The species breeds and forages along sandy beaches and intertidal areas of marine and estuarine habitats, but is known to occur in some inland areas. Along the Pacific Coast, snowy plovers are distributed on the mainland and offshore islands from southern Washington to southern Baja California, Mexico.

In San Francisco Bay, nesting occurs in tidal marsh and salt pond areas in the south Bay and the north Bay. Snowy plovers have been observed foraging in Crown Beach in Alameda and at more distant locations in San Francisco. Western snowy plover populations have declined because of poor reproductive success, likely due to habitat loss, habitat alteration, human disturbance, and increasing predation pressure.

Survey Results

There is suitable western snowy plover foraging habitat in the sandy beach and northern foredunes at Radio Beach and possibly in the tidal salt marsh on-site and adjacent to Radio Beach. No suitable nesting habitat is present within the project area due to limited extent of suitable sandy beach/dunes above high tide and the generally disturbed character of the Radio Beach area.

Northern Harrier, Alameda Song Sparrow, and Saltmarsh Common Yellowthroat

Species Information

The northern harrier (*Circus cyaneus*), a California Species of Special Concern, occurs in large, undisturbed tracts of wetlands and grasslands with low, thick vegetation. Northern harriers in the western United States tend to breed in dry, upland habitats.

The Alameda song sparrow (*M. m. pusillula*) is endemic to California, where it is restricted to tidal salt marshes on the fringes of the south Bay (Grinnell and Miller 1944). The largest concentrations occur in the tidal salt marshes near Dumbarton Point, Alameda County (Shuford and Gardali 2008). The distinctiveness of the Alameda Song Sparrow is based on morphology, plumage, and molecular markers (Chan and Spautz 2008).

The saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), also known as the San Francisco common yellowthroat, is a California species of special concern. The current range includes four main areas: coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County. Additionally, there are some disjunct populations: Stafford Lake, Marin County (Shuford 1993); Lake Merced, San Francisco County; and wet areas on San Bruno Mountain, San Mateo County. This yellowthroat occupies the ecotone between moist and upland situations; thus, the proximity of various habitat types appears to enhance overall habitat suitability. In brackish and saline tidal marsh habitat around San Francisco Bay, yellowthroat abundance was positively associated with a high percent cover of rushes (*Scirpus* spp.), Peppergrass (*Leipidium latifolium*), and *Juncus*, height of the highest herbaceous plant, and vegetation density over 30 centimeters (Shuford and Gardali 2008).

Survey Results

Surveys were not conducted for the northern harrier, Alameda song sparrow, or saltmarsh common yellowthroat. Northern harriers are not likely to occur in the study area because the tidal marsh in the study area is poor foraging habitat due to its limited size and proximity to the high level of ambient noise from the Bay Bridge. The tidal marsh area near Radio Beach is suitable habitat that could be used for foraging and nesting by Alameda song sparrow, or saltmarsh common yellowthroat.

Salt Marsh Harvest Mouse

Species Information

The salt marsh harvest mouse (*Reithrodontomys raviventris*) was listed as federally endangered on October 13, 1970 (35 FR 16047). The salt marsh harvest mouse (*Reithrodontomys raviventris*) was listed by the State of California as endangered in 1971 and is a CDFW Fully Protected Species (U.S. Fish and Wildlife Service 2013).

The salt marsh harvest mouse (*Reithrodontomys raviventris*) is a rodent in the family Muridae (subfamily Sigmodontinae). As described in the *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (U.S. Fish and Wildlife Service 2013), there are two subspecies of salt marsh harvest mice: the northern salt marsh harvest mouse (*Reithrodontomys raviventris halicoetes*) lives in the marshes of the San Pablo and Suisun Bays, and the salt marsh harvest mouse (*Reithrodontomys raviventris raviventris*) is found in the marshes of Corte Madera, Richmond, and South San Francisco Bay. This species is generally restricted to saline (salty) or brackish (somewhat salty) marsh habitats around the San Francisco Bay Estuary, and is found in mixed saline/brackish areas in the Suisun Bay area and has been found in one brackish area in the southern South San Francisco Bay (Shellhammer et al. 2006).

Survey Results

Salt marsh harvest mouse are known to occur in the tidal marsh known as the Emeryville Crescent which is adjacent to the project area. However, the narrow fringe of tidal marsh in the project area does not provide suitable habitat for the salt marsh harvest mouse because it is too small and isolated to support a viable mouse population.

Migratory and Nonmigratory Birds

Migratory birds may forage in the project area. Nonmigratory birds may nest at the eastern end of Bay Bridge, near the project area. These birds include barn owl, black phoebe, house finch, killdeer, mourning dove, European starling, house sparrow, and rock pigeon. The sandy beach and foredune areas provide potential foraging habitat for shorebirds, including snowy plovers (*Charadrius alexandrines)*, killdeer (*Charadrius vociferous*), western sandpipers (*Calidris mauri*), California least terns (*Sterna antillarum*), long-billed curlews (*Numenius americanus*), willets (*Tringa semipalmata*) and raptors such as the white-tailed kite (*Elanus leucurus*) and northern harrier (*Circus cyaneus*). Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by CFGC Sections 3503 and 3503.5 and the MBTA.

More information about migratory and nonmigratory birds can be found in Appendix F, *Natural Environment Study* (ICF International 2015a).

Special-Status Fish Species

Based on a review of existing information, eight special-status fish species were initially identified as having the potential to occur in the project region (ICF International 2015a). However, three fish species would not occur in the study area because there is no habitat. The five remaining special-status fish species that have the potential to occur in the study area or to be affected by construction activities are: central California coast steelhead, green sturgeon, Central Valley spring-run Chinook salmon, Sacramento winter-run Chinook salmon, and longfin smelt. The life history requirements of the species are discussed below. Critical habitat for green sturgeon falls in the study area. Also, EFH for Pacific salmon, Pacific groundfish and coastal pelagic species falls in the study area.

More information about special-status fish species can be found in Appendix F, *Natural Environment Study* (ICF International 2015a).

Central California Coast Steelhead

Species Information

Central California coast steelhead was listed as threatened by NMFS on August 18, 1997 (62 FR 43938). There is no state status. Central California coast steelhead includes populations from the Russian River to Aptos Creek and the drainages of San Francisco and San Pablo Bays eastward to the Napa River. The project area is not designated as critical habitat for steelhead (70 FR 52488 September 2, 2005).

Survey Results

Based on review of existing information, the project area provides migratory habitat for adult and juvenile steelhead. Steelhead spawn in tributaries which connect directly to San Francisco Bay. Because adult steelhead migrate through San Francisco Bay to upstream spawning grounds, some steelhead may move through the project area as adults while moving through San Francisco Bay. Adult steelhead are expected to migrate through the central San Francisco Bay between December and February. Juvenile emigration through central San Francisco Bay is expected to occur from January through April, with February through April being the peak months.

North American Green Sturgeon

Species Information

North American green sturgeon (*Acipenser medirostris*) are divided into two Distinct Population Segments (DPS): a northern and southern DPS. The northern DPS includes populations from the Eel River northward and the southern DPS includes populations south of the Eel River, including the Sacramento River (71 FR 17757). NMFS listed the southern DPS of green sturgeon as threatened on April 7, 2006 (71 FR 17757). Critical habitat for green sturgeon was designated on October 9, 2009 (74 FR 52300) and includes all tidally influenced areas of San Francisco, San Pablo, and Suisun Bays.

Survey Results

Based on review of existing information, green sturgeon could occur in the project area. The estuarine habitat in the project area could be used as a foraging area for green sturgeon.

Central Valley Spring-Run Chinook Salmon

Species Information

Spring-run Chinook salmon (*Oncorhynchus tshawytscha*) was listed as threatened on September 16, 1999 (64 FR 50393). On February 5, 1999, the California Fish and Game Commission listed spring-run Chinook as threatened under CESA. Critical habitat for spring-run Chinook salmon includes the mainstem Sacramento River, several tributaries of the upper Sacramento River, the Delta and Yolo Bypass, and the Feather, Yuba, American, and Bear Rivers (70 FR 52599).

Survey Results

Based on review of existing information, adult Chinook salmon likely use the deeper channels in the Bay to migrate into freshwater streams. Juvenile Chinook salmon would use the Central Bay for foraging and movement. Distribution of out-migrating juvenile Chinook salmon is not well known in the San Francisco Bay, but they have been found throughout the Bay, including the South Bay on high outflow years (Goals Project 1999). Although the project area is not on the direct migratory path of this species, the salmon could move into the project area during its migratory movements.

Sacramento Winter-Run Chinook Salmon

Species Information

Sacramento winter-run Chinook salmon (*Oncorhynchus tshawytscha*) was originally listed as threatened in August 1989 under emergency provisions of the ESA and listed formally as threatened November 1990 (55 FR 46515). The evolutionarily significant unit was reclassified as endangered on January 4, 1994 (59 FR 440). The Livingston Stone National Fish Hatchery population was included in the evolutionarily significant unit on June 28, 2005 (70 FR 37160).

NMFS designated critical habitat for winter-run Chinook salmon on June 16, 1993 (58 FR 33212). Critical habitat for the winter-run Chinook salmon includes the Sacramento River from Keswick Dam (river mile 302) to Chipps Island (river mile 0) in the Delta (58 FR 33212).

Survey Results

Based on review of existing information, adult Chinook salmon likely use the deeper channels in the Bay to migrate into freshwater streams. Juvenile Chinook salmon would use the Central Bay for foraging and movement. Distribution and timing of outmigrating juvenile Chinook salmon is not well known in the San Francisco Bay, but they have been found throughout the Bay, including the South Bay on high outflow years. Although the project area is not on the direct migratory path of this species, the salmon could move into the project area during its migratory movements (Federal Highway Administration and Caltrans 2001).

Longfin Smelt

Species Information

Longfin smelt (*Spirinchus thaleichthys*), was listed under CESA as threatened throughout their range on March 5, 2009. The San Francisco-Delta DPS was listed as a candidate species by USFWS on April 12, 2012 (77 FR 19756).

Longfin smelt is an anadromous smelt (family *Osmeridae*) found in California's bay, estuary, and nearshore coastal environments from San Francisco Bay north to Lake Earl, near the Oregon border. The known range of the longfin smelt extends from the San Francisco Bay-Delta in California northward to the Cook Inlet in Alaska. Only the Bay-Delta population was advanced to candidate status.

Survey Results

A synthesis of existing sampling data from the Interagency Ecological Program and regional monitoring programs, found that longfin smelt juveniles and sub-adults were present in the Central Bay year round (Merz et al. 2013). Longfin smelt likely use the project area as rearing and migratory habitat.

Essential Fish Habitat

EFH is defined as the aquatic habitat necessary for spawning, breeding, feeding, or growth. Important components of EFH are substrate; water quality; water quantity, depth, and velocity; channel gradient and stability; food; cover and habitat complexity; space; access and passage; and habitat connectivity. Habitats of Particular Concern are those areas of special importance within EFH that may require additional protection from adverse impacts.

The project area is located in EFH for Pacific salmon, Pacific groundfish, and coastal pelagic species. Fish in the Pacific Groundfish Fishery Management Plan include flatfishes, rockfish, and sharks. Fish in this group are typically bottom dwellers (flatfish and sharks) and use substrate for foraging and shallow areas as nursery habitat. Fish species in the coastal pelagic plan include northern anchovy and Pacific sardine. The study area would be used by these species as a nursery area.

Other Protected Species

Marine Mammals

Four species of marine mammal are known to occur in the study area: harbor seals, California sea lions, harbor porpoises, and gray whales. Harbor seals and California sea lions are more common in the study area; harbor porpoises are infrequent, and gray whales are very infrequent. None of these species is federally or state listed, but all are protected under the federal MMPA, which outlaws hunting, killing, capturing, or harassing marine mammals.

Harbor seals remain close to shore in subtidal and intertidal zones. In addition, they often venture into bays and estuaries and swim up coastal rivers. They feed on herring, flounder, anchovy, codfish, and sculpin in shallow waters and are present throughout the year. Breeding in California occurs from February to May, with pupping occurring between mid-March and May (Kopec n.d.). Pupping areas in the San Francisco Bay include Castro Rocks, Mowry Slough, and Newark Slough and smaller numbers at Bair Island in Redwood City (Phipps 2013). The project area could be used by harbor seals as a feeding area.

California sea lions in the Bay occur throughout the year, but the largest numbers are found during the winter herring run (December through February). The numbers decline to a few individuals by June or July. Sea lions use Pier 39 as a haul-out site (Goals Project 2000).[3] Sea lions rarely breed in Northern California; instead, breeding occurs from south of San Luis Obispo County to Baja California. Most pups are born in June or July. Breeding takes place a few weeks after the birth of the pups. Sea lions are opportunistic feeders and eat squid, octopus, herring, rockfish, mackerel, and small sharks (Marine Mammal Center 2016). The project area could be used by sea lions as a feeding area.

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[3] A haul-out site is defined as an area on land where a pinniped (seal, sea lion) leaves the water between periods of foraging activity.

Harbor porpoises returned to the Bay in 2008 after being absent for nearly 60 years. They are present throughout the year and observed regularly at Raccoon Strait and near Angel, Alcatraz, and Treasure Islands. They swim under the Golden Gate Bridge during the high tide and feed on herring, anchovy, jacksmelt, rockfish, and squid (Keener 2011). The project area could be used by porpoises as a feeding area.

Gray whales have been sighted in the Bay. Observations are typically off the California coast between December and March, during their southward winter migration to Baja California where calves are born in lagoons and bays from early January to mid-February. Northerly migration to the Bering and Chukchi Seas begins in mid-February, primarily between March and June (National Marine Fisheries Service n.d.). Gray whales could enter the Bay during these migration times.

Bats

Hoary bat (*Lasiurus cinereus*) is not a species of special concern, but it is considered a medium priority species by the WBWG (2016). Priority by the WBWG does not qualify as special-status but it indicates local importance under CEQA based on the species rarity ranking.

Trees

Trees protected by the Oakland Municipal Code (Chapter 12.36, Protected Trees) include coast live oak (4 inches or larger in diameter) or any other species 9 inches or larger in diameter, except eucalyptus and Monterey pine trees. Monterey pine trees are considered protected only when they are on City of Oakland property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed. In the study area, there are only ornamental trees and a few pine trees adjacent to the Bay Bridge in the Radio Beach area.

Invasive Plant Species

A national invasive weed list has not yet been approved. Accordingly, the California Department of Food and Agriculture and California Invasive Plant Council lists (Cal-IPC 2017) were used for the analysis of invasive species in the study area.

Table 3.3-5 identifies the invasive plant species in the study area. These species occur in areas mapped as ruderal, developed, tidal marsh and seasonal wetland. However, the infestation of the study area by these invasive species occurs primarily on the south side of the Bay Bridge in areas that have been highly disturbed (i.e. ruderal) (Figure 3.3-1b).

Table 3.3-5. Invasive Plant Species Identified in the Study Area

Species	CDFA	Cal-IPC
Silver wattle (*Acacia dealbata*)	–	Moderate
Tree-of-heaven (*Ailanthus altissima*)	C	Moderate
Wild oat (*Avena fatua*)	–	Moderate
Common mustard (*Brassica rapa*)	–	Limited
Ripgut brome (*Bromus diandrus*)	–	Moderate
Soft chess (*Bromus hordeaceus*)	–	Limited
Italian thistle (*Carduus pycnocephalus*)	C	Moderate
Bull thistle (*Cirsium vulgare*)	C	Moderate

Species	CDFA	Cal-IPC
Poison hemlock (*Conium maculatum*)	–	Moderate
Bermuda grass (*Cynodon dactylon*)	C	Moderate
Red-stemmed filaree (*Erodium cicutarium*)	–	Limited
French broom (*Genista monspessulana*)	C	High
English ivy (*Hedera helix*)	–	High
Summer mustard (*Hirschfeldia incana*)	–	Moderate
Velvet grass (*Holcus lanatus*)	–	Moderate
Mediterranean barley (*Hordeum marinum* var. *gussoneanum*)	–	Moderate
Hare barley (*Hordeum murinum* ssp. *leporinum*)	–	Moderate
Smooth cat's ear (*Hypochaeris glabra*)	–	Limited
Rough cat's ear (*Hypochaeris radicata*)	–	Moderate
Italian ryegrass (*Lolium multiflorum*)	–	High
Hyssop loosestrife (*Lythrum hyssopifolium*)	–	Moderate
Bur-clover (*Medicago polymorpha*)	–	Limited
Narrow-leaved plantain (*Plantago lanceolata*)	–	Limited
Rabbit-foot grass (*Polypogon monspeliensis*)	–	Limited
Firethorn (*Pyracantha angustifolia*)	–	Limited
Himalayan blackberry (*Rubus armeniacus* [*discolor*])	–	High
Sheep sorrel (*Rumex acetosella*)	–	Moderate
Milk thistle (*Silybum marinum*)	–	Limited
Bigleaf periwinkle (*Vinca major*)	–	Moderate
Foxtail fescue (*Vulpia myuros*)	–	Moderate

Notes: The California Department of Food and Agriculture (CDFA) and California Invasive Plant Council (Cal-IPC) lists assign ratings that reflect the CDFA and Cal-IPC views of the statewide importance of the pest, likelihood that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The Cal-IPC species list is more inclusive than the CDFA list.

The **CDFA categories** indicated in the table are defined as follows:

B: Eradication, containment, control or other holding action at the discretion of the county agricultural commissioner.

C: State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner.

The **Cal-IPC categories** indicated in the table are defined as follows:

High: Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.

Moderate: Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.

Limited: Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

3.3.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on biological resources associated with the construction and operation of the project.

3.3.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on Biological Resources in the study area.

- *Inventory of Rare and Endangered Plants of California* (California Native Plant Society 2016)
- A list of sensitive species from the CNDDB records search for the U.S. Geological Survey 7.5-minute Oakland West quadrangle (California Department of Fish and Wildlife 2016)
- The results of CNNDB search for sensitive plants and wildlife within a 2.5-mile search area (Figure 3.3-2 and Figure 3.3-3, respectively)
- A list of threatened and endangered species provided by the USFWS for the U.S. Geological Survey 7.5-minute Oakland West quadrangle (U.S. Fish and Wildlife Service 2016)
- Appendix F, *Natural Environment Study. Gateway Park.* (ICF International 2015a)

3.3.3.2 Impact Analysis Methods

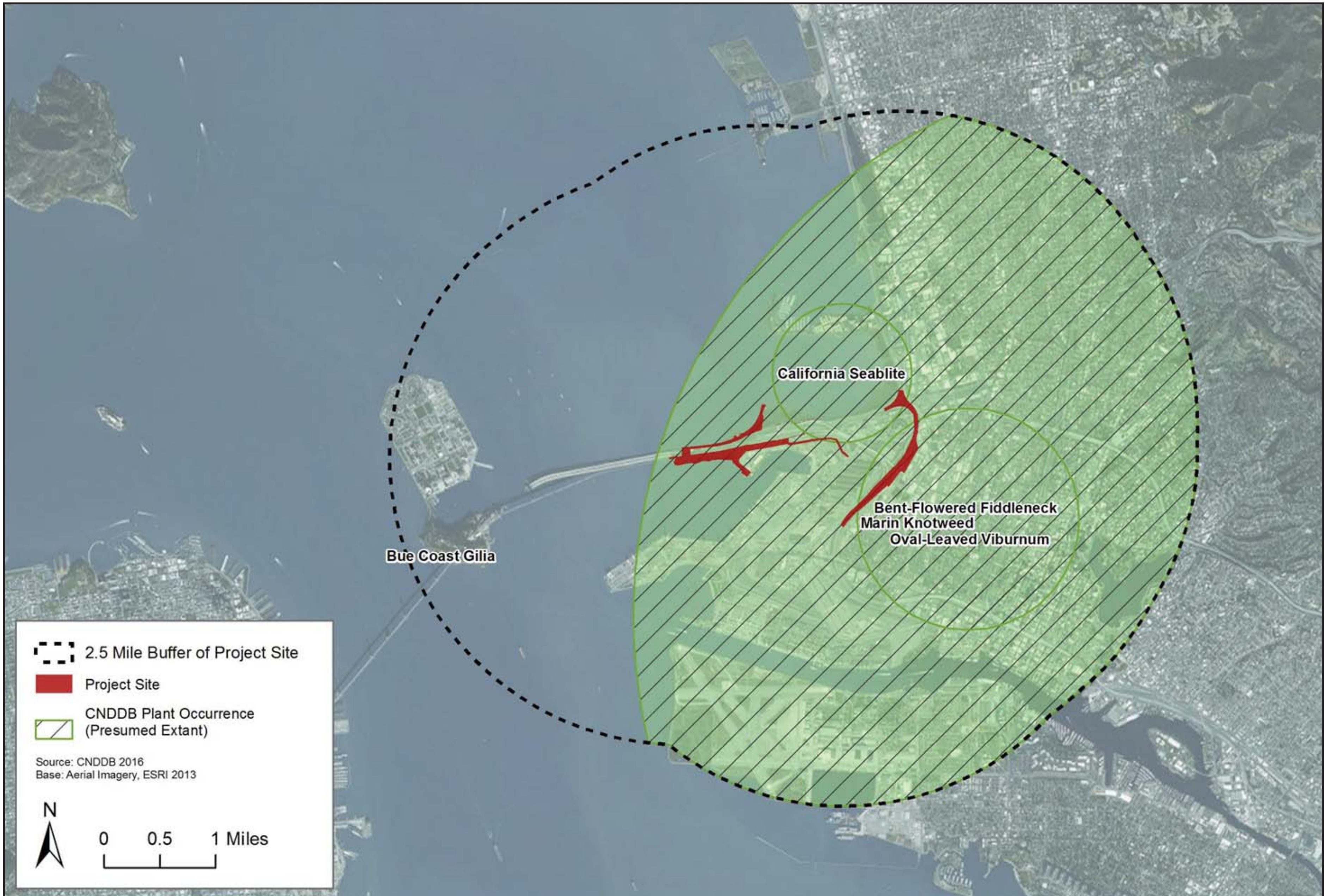
This section describes the methods used to evaluate the potential impacts of the project on Biological Resources in the study area as defined in Section 3.3.2.1, *Study Area*. Biological resources and potential impacts on these resources from the project were identified through a literature and database review, correspondence with USFWS, and reconnaissance field surveys. It was determined that the following studies would be required to document natural resources in the study area.

- A botanical field survey to identify plant communities, native trees, suitable habitat for sensitive plant species, and invasive plants.
- A general habitat evaluation to determine whether suitable habitat exists for sensitive wildlife species
- A general habitat evaluation to determine whether suitable habitat exists for sensitive fish species, including EFH.
- A delineation of waters of the United States

3.3.3.3 Significance Criteria

The project would have a significant impact on biological resources if it would meet or exceed the following thresholds.

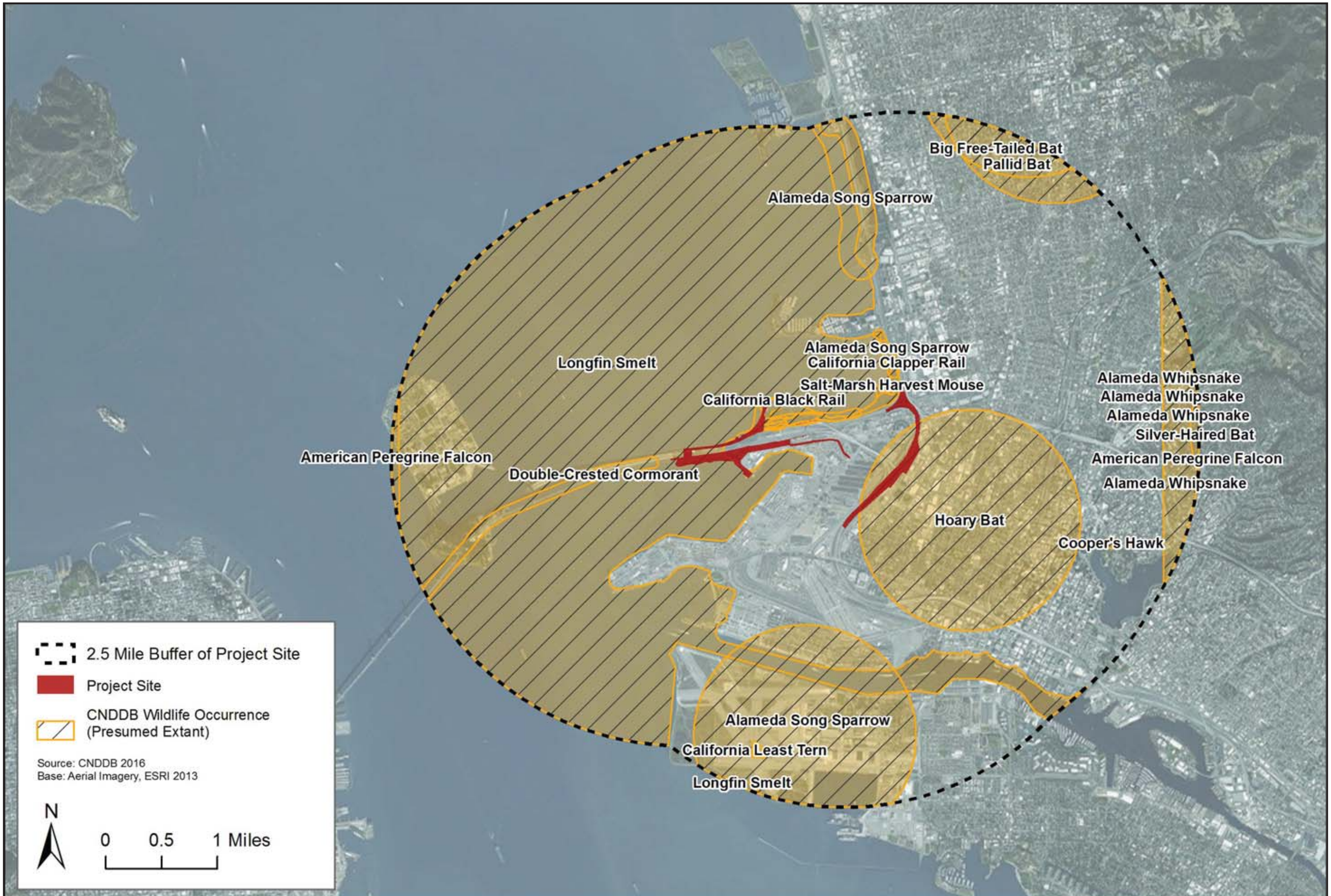
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.



Source: TYLIN, 2015.

gatewaypark

Figure 3.3-2
CNDDB Plant Occurrences within 2.5 Miles



Source: TYLIN, 2015.

gatewaypark

Figure 3.3-3
CNDDB Wildlife Occurrences within 2.5 Miles

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.3.4 Impacts and Mitigation

This section describes the potential impacts related to biological resources that would result from construction and operation of the project.

3.3.4.1 Habitats and Sensitive Natural Communities

This section describes the construction and operation impacts on habitats and sensitive natural communities that could occur in the study area.

Impact BIO-1. The project would not have a substantial adverse effect on habitats and sensitive natural communities as a result of construction and ongoing operations (less than significant with mitigation)

The terrestrial habitats in the study area that meet the criteria for sensitive natural communities are tidal salt marsh, seasonal wetland, sandy beach, and northern foredunes. The marine habitats in the study area that meet the criteria for sensitive natural communities concern are shallow bay, and eelgrass as shown in Figures 3.3-1a and 3.3-1b. The potential impacts on these communities are summarized in Table 3.3-6.

Table 3.3-6. Impacts on Natural Communities of Special Concern

Community Type	Total Study Area (acres)	Operations Impacts (acres)	Construction Impacts (acres)
Tidal salt marsh	2.2	<0.01	<0.01
Seasonal wetland	0.01	0.01	N/A
Shallow bay	6.5	0.24 (fill) 0.37 (shading)	0.10
Eelgrass beds	Limited area (TBD during subsequent design)	Limited area (TBD during subsequent design)	Limited area (TBD during subsequent design)
Northern foredunes	1.10	0.18	0.04
Sandy beach	1.91	0.08	0.10

Tidal marsh habitat has the potential to support special-status wildlife (Ridgway's rail, California black rail, and salt marsh harvest mouse). Seasonal wetland has the potential to support special-status plants (beach layia, blue coast gilia, and California seablite). The shallow bay habitat has the potential to support special-status fish (central California coast steelhead, green sturgeon, Central Valley spring-run Chinook salmon, Sacramento winter-run Chinook salmon, and longfin smelt), special-status bird species (California least tern, brown pelicans, and double-breasted cormorant), and marine mammals (harbor seal and California sea lion).

Tidal Salt Marsh

Construction

A total of 2.2 acres of tidal salt marsh, analogous to CDFW *Sarcocornia pacifica* Alliance[4] natural community, were delineated in the study area. The tidal salt marsh community is located on the north side of I-80 at Radio Beach. Fill (asphalt, cement, rock, and trash) is scattered throughout the Radio Beach tidal marsh. In some areas, the fill has created berms and isolated sections of tidal marsh. In other areas, it has been invaded by iceplant (*Carpobrotus chilensis*) and crocosmia (*Crocosmia X crocosmiiflora*).

Construction of the boardwalk portion of the path to Radio Beach (Segment 3, 395-foot-long boardwalk) north of I-80 would result in a temporary impact on less than 0.01 acre of tidal marsh habitat. Indirect impacts on tidal marsh habitat could also occur from adjacent construction activity of the rest of the path to Radio Beach due to erosion, sedimentation, and discharge of pollutants into the tidal salt marsh. These impacts would be potentially significant. Incorporation of the mitigation measures, however, would prevent construction-related indirect effects on the tidal marsh areas during construction. The tidal marsh habitat that would be affected by the construction of the boardwalk is a small, patchy area that has been previously fragmented. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4**, this impact would be less than significant. These mitigation measures will prohibit access to tidal salt marsh habitat outside of the construction impact area and ensure, through staff environmental training, biological monitoring, and implementation of a stormwater pollution prevention plan, that impacts to tidal salt marsh habitat in the project area are avoided to the maximum extent possible.

MM-BIO-1. Install construction barrier fencing around sensitive natural communities in and adjacent to the construction area to protect sensitive biological resources to be avoided

The project implementer or construction contractor shall install construction barrier fencing (including sediment fencing) to prevent contaminants and debris from entering the northern coastal salt marsh, and other biologically sensitive areas in and adjacent to the project area. Before construction begins, the project implementer shall retain a qualified biologist or resource specialist to work with the project engineer or construction contractor to identify the locations for the barrier fencing and shall mark those locations with stakes or flagging. The protected area shall be clearly identified as an environmentally sensitive area on the construction specifications. The fencing shall be in place before construction activities are initiated. <u>The fence is primarily a visual deterrent and will not interfere with kiteboarding activities.</u> The fencing shall be maintained by the project implementer or construction contractor throughout the

[4] https://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp

duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities shall cease until the fencing is replaced. In addition, the project implementer or construction contractor shall install ecological interpretation signage at locations identified by the biologist or resource specialist to discourage people from encroaching onto sensitive habitats.

MM-BIO-2. Prepare environmental awareness program and conduct environmental awareness training for construction employees

Prior to construction, the project implementer shall retain a qualified biologist or resource specialist to develop an environmental awareness program and conduct environmental awareness training for construction employees. The program shall explain the importance of onsite biological resources, including sensitive natural communities, any protected trees to be retained, special-status plant populations, and special-status wildlife habitats. The program shall address how to best avoid take of federally and/or state-listed species. The program shall include invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.

The environmental awareness program shall be provided to all construction personnel to inform them on the life history of special-status species in or adjacent to the project area, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the project, the contractor's superintendent shall ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout that describes and illustrates sensitive resources to be avoided during project construction and identifies all relevant permit conditions shall be provided to each person.

MM-BIO-3. Retain a biological monitor to conduct construction monitoring in and adjacent to all environmentally sensitive areas

The project implementer shall retain a qualified biologist to conduct construction monitoring in and adjacent to all identified environmentally sensitive areas. The frequency of monitoring shall be determined by the biological monitor, ranging from daily to weekly, depending on the biological resource and the construction activities. Construction monitoring duties shall include the following actions:

- Inspect the staked and flagged perimeters of the construction area and staging areas adjacent to identified environmentally sensitive areas, and notify the construction contractor of any corrections needed.
- Inspect the construction barrier fencing (including sediment fencing) and notify the construction contractor of any necessary maintenance or repairs.
- Inspect trees and crevices for the presence of roosting bats and, if found, coordinate with CDFW to determine best exclusion practices. Implement exclusion measures and confirm bat absence prior to removal of structure or tree supporting the bat roost.
- Assist the construction crew as needed to comply with all project implementation restrictions and guidelines.

MM-BIO-4. Protect water quality and prevent erosion and sedimentation in drainages, waterways, and wetlands

A stormwater pollution prevention plan shall be implemented as part of the NPDES General Construction Activity Storm Water Permit to minimize the potential for sediments or contaminants to be discharged into San Francisco Bay and the potential for adverse impacts on listed species, critical habitat, and EFH. A toxic materials control and spill response plan shall be implemented to regulate the use of petroleum-based products (fuel and lubricants) and other potentially toxic materials associated with project construction.

The project implementer shall review and approve the contractors' toxic materials spill prevention control and countermeasure plan before allowing construction to begin. The project implementer shall routinely inspect the construction site to verify that best management practices specified in the plan are properly implemented and maintained. The project implementer shall notify the contractor immediately if there is a noncompliance issue and shall require compliance. The project implementer also shall obtain a 401 Water Quality Certification from the San Francisco Bay RWQCB, which may contain additional best management practices and water quality measures to ensure the protection of water quality.

Operations

Operations of the project would result in a permanent impact on less than 0.01 acre of tidal salt marsh habitat. The operation of the boardwalk would cause shading under the boardwalk, and installation of the piles would result in direct loss of tidal salt marsh habitat. Other permanent impacts on tidal salt marsh would include increased human activity adjacent to the tidal marsh areas which could cause inadvertent trampling of marsh vegetation by park visitors that do not follow park instructions and designated trails and visual and noise disturbances to tidal marsh species. These impacts would be potentially significant. However, the project design calls for the restoration of tidal wetlands in the Radio Beach area, which would ultimately improve the amount and quality of tidal salt marsh in the project area compared to existing conditions. In addition, the south shoreline improvements along more than 2,000 feet of the shoreline will include the establishment of vegetated benches that will be favorable for middle marsh to high marsh vegetation that will also provide tidal habitat. The exact amount of middle to high marsh has not yet been identified and will depend on the final design. Nevertheless, these vegetated benches will enhance habitat value on site. In addition, mitigation measure **MM-BIO-5** requires compensation for the loss of tidal wetlands, resulting in no net loss of tidal wetlands. Compensatory restoration will maintain the same amount and quality (or possibly better quality) of tidal salt marsh habitat following construction and offset permanent and temporary impacts from construction.

With proposed tidal wetland restoration at Radio Beach, vegetated benches included in the south shoreline improvements, and implementation of mitigation measure **MM-BIO-5;** this impact would be less than significant.

MM-BIO-5. Compensate for loss of tidal salt marsh habitat

The project implementer shall restore 2.2 acres of tidal wetlands in the Radio Beach area with the goal to extend the Emeryville Crescent marsh vegetation and upland coastal scrub vegetation in the disturbed areas of Radio Beach not proposed for the boardwalk and not consisting of sandy beach. The proposed onsite restoration shall include removal of nonnative invasive plants and planting of marsh species, including pickleweed and Pacific cordgrass. The minimum area of new marsh planting shall be 0.02 acres to provide at least a 2:1 replacement for the tidal marsh lost due to the installation of the new boardwalk. No offsite compensation is proposed for impacts to tidal marsh.

Seasonal Wetland

Construction

A total of 0.01 acre of seasonal wetland, also analogous to the CDFW *Sarcocornia pacifica* Alliance natural community, was delineated in the study area. The isolated, seasonal wetland is located south of I-80 in a shallow topographic depression on the southern margin of Burma Road. The wetland is not a natural feature given the artificial nature of the site and its origin is due to uneven settlement/grading of the site adjacent to Burma Road. The wetland is not connected to San Francisco Bay.

Seasonal wetlands connected to or with a significant nexus to navigable waters are waters of the United States, subject to regulation under CWA Section 404. This wetland is presumed to be a water of the United States pending USACE verification, but due to its isolated nature it may not be determined to be within USACE jurisdiction. Regardless, this wetland is considered a water of the state subject to state regulation.

Construction of the project would widen roads adjacent to the seasonal wetland and would grade and elevate park areas at the wetland site as part of the sea level rise adaptations strategy. Thus, this wetland would be filled. However, the project design calls for the restoration of tidal wetlands in the Radio Beach area, which would ultimately improve the amount and quality of seasonal wetlands in the project area compared to existing conditions. Tidal wetland restoration is considered a more appropriate wetland type for restoration at the site given the nexus and connection to adjacent tidal wetland in the Emeryville Crescent rather than creation of new seasonal wetlands on the site. Nevertheless, the impact would be potentially significant. With implementation of mitigation measure **MM-BIO-6**, this impact would be less than significant. This mitigation measure requires compensation for the loss of seasonal wetlands, resulting in no net loss of seasonal wetlands. Compensatory restoration will maintain the same amount and quality (or possibly better quality) of seasonal wetland habitat following construction and offset permanent and temporary impacts from construction.

MM-BIO-6. Compensate for loss of seasonal wetland habitat

Because tidal wetland restoration shall be conducted at Radio Beach, the project implementer shall compensate for the loss of 0.01 acre of seasonal wetland by adding an additional 0.02-acre of tidal wetland restoration. As noted above, to compensate for the loss of less than 0.01 acre of tidal wetland, a minimum of 0.02 acre of tidal wetland would be restored at Radio Beach. The additional 0.02 acre of proposed mitigation would bring the minimum total of tidal wetland restoration to 0.04 acre.

Operations

No additional impact on seasonal wetland would result from project operations.

Shallow Bay

Construction

There are 6.5 acres of shallow bay (estuarine habitat) in the study area. The waterside portion is primarily unvegetated, shallow, open water of the San Francisco Bay. Substrate material in the project area consists of bay mud. Bathymetry ranges from 0 to 10 feet in most areas around the site. (Goals Project 2014).

Construction would temporarily disturb the bay substrate, releasing sedimentation and increasing turbidity in the surrounding shallow bay (estuarine) habitat. Construction equipment could also release toxic substances such as oil, grease, and other petroleum products into the Bay. These effects would be temporary and localized, and best management practices to limit the disturbance in water quality would be implemented to avoid and reduce these impacts on the surrounding shallow bay (estuarine) habitat. Nevertheless, this impact would be potentially significant.

With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4**, this impact would be less than significant. Mitigation measure **MM-BIO-1** requires fencing portions of the project area containing sensitive natural communities outside of the construction impact area with both environmentally sensitive area fencing and sediment fencing. This will reduce impacts to shallow bay habitat in two ways: 1) fencing will limit unnecessary ground disturbance, reducing erosion and sedimentation in the project area and 2) sediment fencing will limit soil and toxic substances from entering the shallow bay habitat. In addition, mitigation measures **MM-BIO-2** through **MM-BIO-4** will ensure that construction staff receive environmental training, that construction is monitored by a qualified biologist to ensure compliance with all mitigation measures, and that a stormwater pollution prevention plan is implemented to prevent the release of toxic substances into shallow bay habitat.

Operations

Pier construction and the installation of revetment walls, a concrete terrace wall, and the elevated boardwalk from Key Point to Radio Beach would result in permanent fill of shallow bay habitat (Table 3.3-7). Additionally, the pier and the path to Radio Beach could result in new shading of shallow bay habitat.[5] Habitat conditions for a number of fish, macroinvertebrates, and aquatic plants can be affected by extensive shading. In some instances, predatory fish are known to use shaded areas as hiding habitat, thereby increasing the risk of small fish such as juvenile salmonids or longfin smelt to predation. Because of the height of the pier and the pathway, sunlight will be able to reach the water surface during morning and afternoon periods when the sun is at an angle to water, but midday shading will occur. Increasing the area of shaded aquatic habitat associated with the project may affect (increased risk of predation and reduced habitat suitability) protected fish by increasing the risk of predation and reducing habitat suitability. Therefore, this impact would be significant. However, with the implementation of mitigation measure MM-BIO-7, this impact would be less than significant. This mitigation measures will compensate for permanent fill and direct shading of shallow bay habitat, resulting in no net loss of shallow bay habitat. Implementation of mitigation measure MM-BIO-7 will maintain the same amount and quality (or possibly better

[5] The area of the path under I-80 is not included in the shading calculations.

quality) of shallow bay habitat following construction and offset permanent and temporary impacts from construction.

MM-BIO-7. Compensate for loss of shallow bay habitat

The project implementer shall comply with the EPA wetland policy of No Net Loss by purchasing shallow bay (estuarine) mitigation credits from a USACE Approved Mitigation Bank for unavoidable permanent impacts on shallow bay (estuarine) waters of the United States. Compensation shall be provided on a minimum 1:1 ratio for impact of permanent fill. Based on present estimates, approximately 0.24 acre will require compensation. The project is within the service area for the San Francisco Bay Wetland Mitigation Bank, which is approved for mitigation of tidal wetlands and other waters.[6]

Impacts from shading could also be compensated through removal of existing piling/unused docks in the Bay at a minimum 1:1 ratio. Based on present estimates, approximately 0.37 acre of shade removal would be obtained. One approach could be to contribute funding to an ongoing project such as the California State Coastal Conservancy's San Francisco Bay Creosote Piling Removal and Pacific Herring Restoration Project, which would remove creosote-treated pilings and reestablish subtidal habitat through restoration methods to establish eelgrass and oyster beds and associated substrate. Other restoration projects that would remove overwater fill/shading could also be used.

Table 3.3-7. Permanent Impacts on Shallow Bay Habitat

Location	Project Component	Area of Effect Below the Mean High Tide Line
Fill		
Southern Shoreline	Shoreline Improvements	None
Key Point	Concrete sea wall and retaining wall at East Bay Municipal Utility District outfall.	Area: 0.23 acres
Key Point	Pilings for the pier	Area: 0.0032 acres
Key Point to Radio Beach	Piles for the Elevated Pathway	Area: 0.0045 acres
Totals	**Permanent Fill**	**Area: 0.24 acres**
Shading		
Key Point	Pier Deck	Area: 0.21 acres
Key Point to Radio Beach	Elevated Path (excluding area under I-80)	Area: 0.16 acres
Totals	**Permanent Shading**	**Area: 0.37 acres**

[6] As of 2015, the cost for credits at this bank are $95,000/0.1 acre with minimum increments of 0.05. Thus compensation would be either 0.30 acre or 0.35 acre. Based on the estimated cost per acre, the cost for bank credit could be $285,000 to $332,500. Credits may not be available in future years depending on purchases from other parties.

Eelgrass Beds

Construction

There are approximately 68.3 acres of eelgrass beds adjacent to (but mostly outside of) the project area, primarily in the shallow waters north of I-80. A small portion of eelgrass occurs within the northwest part of the project area.

As eelgrass areas are somewhat dynamic, the area of eelgrass within the project area could change over time, particularly on the north side of the project area, which is adjacent to a large patch of eelgrass. Thus, this analysis assumes that some eelgrass is within the project area.

Construction of the path to Radio Beach could affect a small area of eelgrass where the path alignment is over water. The exact amount would ultimately depend on the amount of eelgrass present at the time of construction. The eelgrass beds on the north side of the project and the eelgrass areas south of the project's southern shoreline could also experience impacts from disturbed sediment from increased turbidity and sedimentation. The phasing of the project construction is expected to reduce the magnitude of impacts on eelgrass; however the impact could remain potentially significant. With implementation of mitigation measure **MM-BIO-4**, this impact would be less than significant. Mitigation Measure **MM-BIO-4** would require the implementation of controls to prevent pollution and increased turbidity during construction, which would protect water quality and the eelgrass beds.

Operations

Once constructed, the path structure could shade eelgrass where the path is over water. However, because eelgrass beds expand, contract, and move, the amount of eelgrass that would be affected cannot be predicted at this time. If it is determined that eelgrass is in fact present in areas of disturbance for the pile-supported path, this impact would be significant. Given that the area of impact will likely be limited because the path is close to shore, it is not recommended that a stand-alone eelgrass restoration effort is made for such a small area. Instead, compensatory mitigation is required to fund broader eelgrass mitigation efforts. With implementation of mitigation measure **MM-BIO-8,** this impact would be less than significant.

MM-BIO-8. Compensate for loss of eelgrass habitat

The project implementer shall provide compensation for the areal extent of eelgrass directly displaced by piles installed in eelgrass as well as the areal extent of eelgrass predicted to be shaded by the path. The project implementer shall contribute funding to eelgrass mitigation efforts on a per-acre basis, either directly to NMFS to be used for the same research and restoration purposes as the funding previously provided to NMFS as compensation for the Bay Bridge's eelgrass effects, or to the Coastal Conservancy's Creosote Piling Removal and Pacific Herring Restoration Project, which will also include eelgrass restoration.

Northern Foredunes

Construction

There are approximately 1.1 acres of northern foredunes on the shoreline of the project area at Radio Beach, north of I-80. Construction of the path to Radio Beach (Segment 5, 410-foot-long boardwalk) north of I-80 would result in a temporary impact on 0.04 acre of northern foredunes, which would result in a potentially significant impact. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3**, this impact would be less than significant. These mitigation measures will prohibit access to northern foredunes habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to northern foredunes habitat in the project area is avoided to the maximum extent possible.

Operations

Construction of the path to Radio Beach (Segment 5, 410-foot-long boardwalk) north of I-80 would result in a permanent impact on 0.18 acre of northern foredunes. Additionally, increased human presence could affect shorebird and raptor foraging habitat in this area. However, these impacts would be negligible and discountable because there is existing foraging and nesting habitat less than 3 miles away at the Alameda Naval Air Station There is also suitable shorebird foraging habitat less than 3 miles away, north of the project area near the Berkeley Marina. Abundant raptor foraging habitat occurs less than 0.5 mile away from the project area in the adjacent tidal marsh, thus the comparatively small operational impacts on raptor foraging habitat would be negligible. Furthermore, construction of Radio Beach would include planting and habitat enhancement of approximately 4 acres in the Radio Beach area, which would provide shorebird and raptor foraging habitat. Therefore, this impact would be less than significant.

Sandy Beach

Construction

There are 1.10 acres of sandy beach at two locations in the project area: on the south side of I-80 where the Port Playground is proposed and north of I-80 in the Radio Beach area. Approximately 0.08 acre of sandy beach on the south side of I-80 would be permanently affected by the construction of a 200-foot-long by 19-foot-wide kayak launch ramp. The sandy beach areas on the north side of I-80 (Radio Beach) would not be affected. No nesting habitat for shorebirds is present at any of the beach areas on the project site. A potentially significant impact would occur if any areas of sandy beach outside of the construction impact were affected. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3**, the impact would be less than significant. These mitigation measures will prohibit access to sandy beach habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to sandy beach habitat in the project area is avoided to the maximum extent possible.

Operations

Increased human presence could affect shorebird and raptor foraging habitat at the sandy beach areas. However, shorebirds such as sandpipers, willets, and long-billed curlews are expected to continue to forage on the beach regardless of an increase in human activity. White-tailed kites, snowy plovers, and California least terns foraging could diminish because of increased human activity; however, current human activity may deter foraging by these species. As noted under *Northern Foredunes*, there is suitable shorebird foraging habitat less than 3 miles away, both north and south of the project area.

No compensatory mitigation would be required for sandy beach (shorebird foraging) habitat due to the small impact area (.08 acre) and because extensive habitat will be retained for shorebirds in the project area, and due to the presence of existing suitable shorebird foraging habitat within 3 miles of the project. Therefore, this impact would be less than significant.

3.3.4.2 Special-Status Plant Species

This section describes the construction and operations impacts on special-status plant species that could occur in the study area.

Impact BIO-2. The project would not have a substantial adverse effect on special-status plant species as a result of construction and ongoing operations (less than significant with mitigation)

Three special-status plant species have the potential to occur in the study area: beach layia (*Layia carnosa*), blue coast gilia (*Gilia capitata Sims.* ssp. *chamissonis*), and California seablite (*Suaeda californica*). Suitable habitat for beach layia and blue coast gilia consists of coastal dunes (e.g., northern dunes) and the study area includes northern foredunes at Radio Beach. California seablite occurs in coastal salt marsh (tidal salt marsh) and wetland-riparian habitats (seasonal wetland), which occur within and adjacent to the study area. The potential impacts on these habitats are summarized in Table 3.3-8. Botanical surveys were conducted in summer 2014 for these three species.

Table 3.3-8. Impacts on Special-Status Plant Species

Community Type	Habitat in Study Area (acres)	Operations Impacts (acres)	Construction Impacts (acres)
California seablite	2.2	N/A Species not found in botanical surveys to date	
Beach layia	1.1		
Blue coast gilia	1.1		

Construction

If populations of beach layia, blue coast gilia, and California seablite occur where construction is taking place, they could be trampled by heavy equipment and the construction crew. None of the three plant species was detected in summer 2014 surveys during the appropriate blooming season. However, a potentially significant impact could occur if these species were present during construction. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3**, construction impacts on special-status plant species would be avoided. Furthermore, with implementation of mitigation measure **MM-BIO-9**, this impact would be less than significant. Implementation of **MM-BIO-9** will identify the locations, if present, of special-status plant species in the project area and determine the appropriate mitigation prior to Phase 3 of park development. In addition, **MM-BIO-1** through **MM-BIO-3** will prohibit access to potentially suitable special-status plant habitat (i.e. tidal salt marsh and seasonal wetland habitat) outside of the construction impact area, and ensure, through staff environmental training, biological monitoring, and implementation of a stormwater pollution prevention plan, that impacts to these habitats in the project area are avoided to the maximum extent possible. Collectively, these mitigation measures will reduce construction impacts on special-status plant species in the project area.

MM-BIO-9. Prior to construction of Phase 3 of park development, conduct plant surveys for beach layia, blue coast gilia, and California seablite between June 1 and September 1

Prior to construction of Phase 3 of park development, the project implementer shall retain a qualified biologist to conduct plant surveys for three special status plant species - beach layia, blue coast gilia, and California seablite - between June 1 and September 1 (during the blooming period (between June 1 and September 1). If any of these species are detected during surveys, the project implementer shall consult with USFWS and CDFW to determine the appropriate compensatory mitigation to reduce potential impacts that could result from construction of the project. If special-status plant species are identified during construction, the monitor shall coordinate with the contractor to implement appropriate protective measures such as installing additional fencing to avoid impacts to them.

Operations

If populations of beach layia, blue coast gilia, and California seablite occur where public access is permitted, they could be threatened by trampling. However, none of the three species was detected in summer 2014 surveys during the appropriate blooming season. Implementation of **MM-BIO-9** would require surveys of the site for these species. If any of these species are detected during surveys conducted in Phase 3 of construction, the project implementer shall consult with USFWS and CDFW to determine whether the species can be avoided, and if not, the appropriate compensatory mitigation for impacts of the project, if any is necessary beyond the proposed restoration actions for tidal saltmarsh, seasonal wetlands, and northern foredunes described in Section 3.3.4.1, *Habitats and Natural Communities*. With compensatory mitigation and the proposed restoration, the project would not reduce the extent range of this species or its habitat, and thus the impact would be less than significant.

3.3.4.3 Special-Status Wildlife Species

This section describes the construction and operations impacts on special-status wildlife species that could occur in the study area.

Impact BIO-3. The project would not have a substantial adverse effect on special-status wildlife species as a result of construction and ongoing operation (less than significant with mitigation)

Terrestrial special-status wildlife species with the potential to occur in the study area are Ridgway's rail (*Rallus obsoletus*), California black clapper rail (*Laterallus jamaicensis* ssp. *coturniculus*), California least tern (*Sternula antillarium browni*), Western snowy plover (*Charadrius alexandrines nivosus*), northern harrier (*Circus cyaneus)*, Alameda song sparrow (*M. m. pusillula),* saltmarsh common yellowthroat, (*Geothlypis trichas sinuosa)*, and saltmarsh harvest mouse (*Reithrodontomys raviventris*). None of these special-status species was observed during the survey; however, suitable habitat for each occurs within or adjacent to the project area (Table 3.3-9).

Table 3.3-9. Impacts on Special-Status Wildlife Species

Species	Habitat in Study Area (acres)	Operations Impacts (acres)	Construction Impacts (acres)
Ridgway's rail (foraging)	2.19 (tidal marsh)	<0.01	<0.01
California black rail (foraging)	2.19 (tidal marsh)	<0.01	<0.01
California least tern (foraging)	6.50 (shallow bay)	0.24 (fill) 0.37 (shading)	0.10
Western snowy plover (foraging)	5.20 (sandy beach, northern foredunes, tidal marsh)	0.28	0.15
Northern harrier, Alameda song sparrow and saltmarsh common yellowthroat (foraging)	2.19 (tidal marsh)	<0.01	<0.01
Saltmarsh harvest mouse (low suitability habitat)	2.19 (tidal marsh)	<0.01	<0.01

Ridgway's Rail, California Black Rail, and Salt Marsh Harvest Mouse

Construction

Ridgway's rail, California black rail, and salt marsh harvest mouse all use tidal marsh habitat. The proposed work would occur outside of the Ridgway's rail breeding season. If construction in the Radio Beach area cannot occur outside of the rail breeding season, a 700-foot buffer around suitable, occupied Ridgway's or California black rail habitat would be determined based on the results of protocol-level surveys and coordination with USFWS and CDFW. A 700-foot exclusion buffer around occupied, suitable rail habitat in which no construction activities can occur is a standard USFWS conservation measure for Ridgway's rails. Also, ambient noise levels at the project area are elevated because of the proximity of traffic crossing the Bay Bridge. This creates an edge effect that reduces the additional construction noise within the first 200 feet of the adjacent tidal marsh to negligible and discountable compared to existing ambient noise levels. Beyond the 200-foot edge effect boundary, there will be diminishing effects on Ridgway's rail, black rail, and salt marsh harvest mouse habitat. Impacts to Ridgway's rail, California black rail, and salt marsh harvest mouse would be potentially significant.

MM-BIO-1 through **MM-BIO-3** will reduce impacts on Ridgway's rail, California clapper rai, and salt marsh harvest mouse by avoiding impacts to suitable habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to these species' and their habitat in the project area is avoided to the maximum extent possible. **MM-BIO-10** will require the removal of tidal marsh vegetation from the project area to eliminate any attractive habitat for Ridgway's rail, California clapper rail and salt marsh harvest mouse and to confirm that these species are not present in the work area before construction begins. **MM-BIO-11** and **MM-BIO-12** will require the identification and avoidance of nesting pairs of Ridgway's rail and California clapper rail through surveys, work window restrictions (i.e. construction outside of the nesting season) and nest buffers. A 700-foot exclusion buffer around occupied, suitable rail habitat in which no construction activities can occur is a standard USFWS conservation measure for Ridgway's rails.

In addition, **MM-BIO-13** through **MM-BIO-17** will minimize indirect disturbances that may result from the project, such as lighting, ingress, predator perches and domestic dogs, which can cause mortality or injury of these species and cause nest and young abandonment during the breeding season. Therefore, with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3** and **MM-BIO-10** through **MM-BIO-17**, impacts to Ridgway's rail, California black rail, and salt marsh would be less than significant.

MM-BIO-10. Remove all vegetation by hand and install construction barrier fencing around sensitive natural communities in and adjacent to the construction area for the new path in the Radio Beach area

Before construction activities begin on the new path in the Radio Beach area, the project implementer shall remove all vegetation by hand in the tidal salt marsh area identified by a qualified biologist or resource specialist, including areas that shall be used for construction access. Vegetation clearing shall be performed methodically from San Francisco Bay toward the upland area. Once vegetation within the exclusion zone areas is cleared and the areas are graded, exclusion fencing shall be installed around these areas to prevent potential reentry of protected wildlife (the salt marsh harvest mouse, Ridgway's rail, California black rail) into these areas. The exclusion fencing shall be a minimum of 2 feet tall with the bottom 4 inches of the fence buried. A USFWS-approved biologist shall monitor the vegetation removal activities to ensure that no adjoining habitat is disturbed and monitor the installation of exclusion fencing.

MM-BIO-11. Conduct protocol-level surveys for Ridgway's rail and California black rail in the adjacent tidal marsh to determine presence or absence of this species

A USFWS-approved biologist shall conduct protocol-level surveys for Ridgway's rail and California black rail in the 700-foot impact area in the adjacent tidal marsh habitat to determine presence or absence of these species. Surveys shall be conducted during the rail-breeding season (January 15 to September 1) in accordance with the USFWS and CDFW protocols. Survey results shall be valid for 1 year. If rails are detected during surveys, results shall be submitted to USFWS and CDFW to coordinate the appropriate environmental commitments (e.g., seasonal closures of Radio Beach). Construction activities shall not occur until the qualified biologist or resource monitor confirms all required measures are implemented.

MM-BIO-12. Establish 700-foot construction buffer around occupied, suitable Ridgway's rail and California black rail habitat in the Emeryville Crescent if construction occurs during the rail breeding season (January 15 to September 1)

If rails are detected during protocol-level surveys and construction in the Radio Beach area is scheduled to occur during the rail breeding season, the USFWS-approved biologist, in coordination with USFWS and CDFW, shall identify the location where environmentally sensitive exclusion fencing shall be installed to establish a 700-foot construction buffer around Ridgway's rail and California black rail detections. The biological monitor shall work with the contractor to ensure the construction fencing demarking where no construction activities can occur is at least 700 feet from occupied, suitable rail habitat.

MM-BIO-13. Install fencing around tidal marsh habitat east of the project area

The project implementer shall install protective fencing, of a design approved by USFWS and CDFW, around the offsite tidal marsh habitat east of Radio Beach to prevent all ingress. The fence shall extend from the access road underpass under I-80 westward to Radio Beach on the north side of the road and then placed on the east side of the road leading to the radio antennae.

MM-BIO-14. Manage the onsite northern foredune and tidal marsh habitat as a buffer between Radio Beach and offsite tidal marsh habitat

The project implementer shall install a ~~wooden beam and rail~~ fence around the onsite northern foredune and tidal marsh habitat and restoration area at Radio Beach to discourage encroachment into these habitats. The fence shall be limited to no more than 4 feet at Radio Beach and shall not use chain or mesh style fencing in order to reduce the potential for any interference with kiteboarding activities. The style for the fence has not been determined, but could be a wooden beam and post style fence similar to what is commonly used by EBRPD at many of their park units. The project implementer will coordinate with current site users, including kiteboarders and SFBCDC, during fencing design to take site user input into final design.

The northern foredune and tidal marsh areas at Radio Beach shall be restored and the habitat protected. Signage prohibiting entry (except on established boardwalks or trails) and environmental education shall be provided at Radio Beach to inform the public of the environmental sensitivity of the sandy beach area (for shorebirds), the restoration area, and the adjacent offsite tidal marsh habitat.

MM-BIO-15. Close Radio Beach to entry at night

The project implementer shall install a locked gate east of Radio Beach and east of the access road to the radio towers that shall allow Radio Beach to be closed to public entry at night in order to avoid disturbance to wildlife using the site and wildlife using the adjacent tidal marsh habitat. The path to Radio Beach from Key Point shall also be closed at night. The project implementer shall coordinate with the Port of Oakland and the lessees of the radio towers to ensure access is maintained for these entities.

MM-BIO-16. Prohibit dogs in Radio Beach area

The project implementer shall not allow dogs on the path from Key Point leading to Radio Beach just to the point where the riprap ends (i.e., just west of "little" Radio Beach). Dogs shall be prohibited from using the entire Radio Beach area.

MM-BIO-17. Prohibit installation of lighting, trees, or other structures potentially suitable for raptor perching on the north side of I-80 within designated park areas

The project implementer shall not allow elevated structures, such as lighting poles, or trees that can be used as raptor perches to be installed in Gateway Park north of I-80. This measure does not apply to fencing or rails along the path to Radio Beach or as part of onsite boardwalks or required roadway signage. This measure does not apply to the areas currently used for radio towers. If elevated structures necessary to the park function and purpose, such as an environment kiosk, are determined necessary for habitat protection, then raptor perch deterrent measure (e.g., spikes) shall be placed on project components exceeding 3 feet tall adjacent to marsh habitat.

Operations

Increased recreational activity in the Radio Beach area could disrupt the rails foraging and nesting in adjacent tidal marsh areas. Predation could increase if project elements adjacent to marshes serve as raptor perches and if trash near the tidal marsh attracts predators such as raccoons and foxes. However, environmental commitments described for construction impacts would limit operations impacts on offsite tidal marsh habitat and would protect and enhance the foraging habitat in the restored tidal marsh habitat on site, therefore reducing the impact of project operations of Ridgway's rail, California clapper rail, and salt marsh harvest mouse

Thus, with the implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3** and **MM-BIO-10** through **MM-BIO-17**, this impact would be less than significant.

California Least Tern

The California least tern has been historically observed roosting on the Peninsula and feeding within 50 feet of the shoreline (City of Oakland 2002). California least terns have been observed flying through the project area or foraging on the Bay in proximity to the project site. There is no suitable nesting habitat for California least terns within the project area. This species may forage in adjacent bay habitat including in adjacent areas of eelgrass.

Construction

California least terns may forage over open water in the project area and thus could be temporarily affected during construction of shoreline protection structures at Key Point, installation of the pier, and installation of the overwater portion of the path to Radio Beach. Due to construction noise and human presence, least terns may avoid the construction areas. Given project phasing, the area of open water construction at any one time would range from 0.24 acre (construction of the path to Radio Beach) to 0.45 acre (if the East Bay Municipal Utility District outfall work and the Key Point pier are done simultaneously). Given the extensive amounts of suitable foraging habitat further offshore, including extensive areas of favored eelgrass foraging habitat outside the study area, the temporary construction disruption to foraging is not expected to substantially affect tern foraging success and welfare.

In-water construction could result in limited amounts of turbidity in and adjacent to the immediate construction area, but this is not expected to result in substantial foraging disruption. As noted above, there is no suitable nesting habitat at the project site. The project would not affect the nearest known nesting area on the northern part of Alameda, which is approximately 2 miles away. Therefore, the impact to California least terns would be less than significant.

Operations

The project would result in net fill of shallow bay habitat due to the EBMUD outfall protection, piles for the pier, and piles for the elevated pathway. Fill, direct impacts on eelgrass beds, and overwater shading from project elements could affect eelgrass foraging habitat. The permanent loss of foraging habitat due to fill or shading or the loss of eelgrass habitat would be a significant impact. With the implementation of mitigation measures **MM-BIO-7** and **MM-BIO-8**, this impact would be less than significant. These mitigation measures require the replacement of shallow bay habitat and eelgrass beds that are removed as a result of the project, which will guarantee that the same amount of pre-project foraging habitat is available to the California least tern in the San Francisco Bay following project implementation. This will reduce impacts of California least tern resulting for the project operations.

Western Snowy Plover

Construction

There is no suitable nesting habitat in the project area due to limited extent of suitable sandy beach and dunes above high tide and the generally disturbed character of the Radio Beach area.

Western snowy plover may forage in the sandy beach, northern foredunes, and tidal marsh at Radio Beach and thus could be temporarily affected during construction at Radio Beach. Due to construction noise and human presence, snowy plovers may avoid the construction areas. Given the limited extent of impacts to sandy beach, northern foredunes, and tidal marsh during construction, the project is not expected to substantially affect Western snowy plover foraging success and welfare. However, a potentially significant impact to western snowy plover could occur if any areas of suitable habitat outside of the construction impact area were affected.

With incorporation of environmental commitments **MM-BIO-1** through **MM-BIO-3,** and **MM-BIO-13** through **MM-BIO-17,** this impact would be less than significant. **MM-BIO-1** through **MM-BIO-3** will prohibit access to sandy beach and northern foredunes habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to western snowy plover and its habitat are avoided to the maximum extent possible. In a similar way, **MM-BIO-13** through **MM-BIO-17** will reduce stressors on foraging western snowy plovers with fencing, signage, barring ingress and domestic dogs, and prohibiting installation of predator perches. Thus, all of these mitigation measures will reduce direct and indirect impacts of western snowy plover in the project area.

Operations

Increased recreational use of Radio Beach could disrupt plover foraging activity at the sandy beach, which could be a potentially significant impact. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3,** and **MM-BIO-13** through **MM-BIO-17**, this impact would be less than significant. Similar to construction, these mitigation measures will reduce stressors on western snowy plover, including recreational uses through condition such as fencing, signage, monitoring, and restrictions on locations and types of recreational activities.

Northern Harrier, Alameda Song Sparrow and Saltmarsh Common Yellowthroat

Construction

Northern harrier is unlikely to forage over the open areas or to nest in the project area. The project would not affect this species.

Approximately 0.013 acre of tidal salt marsh habitat, where foraging habitat occurs for Alameda song sparrow and saltmarsh yellowthroat, would be directly affected by the project. However, the onsite tidal marsh will be restored and expanded to ensure no net loss of tidal marsh habitat. Increased human activity during construction could affect Alameda song sparrow and saltmarsh common yellowthroat foraging and nesting behavior in offsite areas, resulting in a potentially significant impact.

With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3,** this impact on Alameda song sparrow and saltmarsh common yellowthroat would be less than significant. **MM-BIO-1** through **MM-BIO-3** will reduce impacts on northern harrier, Alameda song sparrow, and saltmarsh common yellowthroat by avoiding impacts to suitable habitat outside of the construction impact area and by ensuring, through staff environmental training and biological monitoring, that impacts to these species' and their habitat in the project area is avoided to the maximum extent possible.

Operations

Increased recreational use of Radio Beach could disrupt foraging and nesting behavior of these species. Additionally, increased trash in the area could attract predators. These impacts would be potentially significant. With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3** and **MM-BIO-13** through **MM-BIO-17**, this impact on Alameda song sparrow and saltmarsh yellowthroat would be less than significant. **MM-BIO-1** through **MM-BIO-3** will prohibit access to tidal saltmarsh habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to these species and their habitats are avoided to the maximum extent possible. In a similar way, **MM-BIO-13** through **MM-BIO-17** will reduce stressors on foraging for these species with fencing, signage, barring ingress and domestic dogs, and prohibiting installation of predator perches. Thus, all of these mitigation measures will reduce direct and indirect impacts of these species in the project area

3.3.4.4 Migratory and Nonmigratory Birds

This section describes the construction and operations impacts on migratory and nonmigratory birds that could occur in the study area.

Impact BIO-4. The project would not have a substantial adverse effect on migratory and nonmigratory birds as a result of construction and ongoing operations (less than significant with mitigation)

Migratory birds may forage in the project area, and nonmigratory birds may nest near the project area and forage in their preferred habitats in the project area (Table 3.3-10).

Table 3.3-10. Impacts on Habitats Potentially Used by Migratory and Nonmigratory Birds

Community Type	Total Study Area (acres)	Permanent Impact Area (acres)	Temporary Impact Area (acres)
Open Water	6.5	0.24 (fill) 0.37 (shading)	Immediately adjacent to permanent area
Eelgrass Beds	Limited amount (TBD during subsequent design)	Limited amount (TBD during subsequent design)	Limited amount (TBD during subsequent design)
Sandy Beach	1.91	0.08	0.10
Northern Foredunes	1.10	0.18	0.04
Tidal Salt Marsh	2.19	<0.01	<0.01
Seasonal Wetland	0.01	0.01	N/A
Ruderal Areas	14.20	14.20	N/A

Construction

Construction of the project could disturb nesting and foraging activities. Construction activities could disturb several potential nesting areas, including the northern foredunes and tidal salt marsh areas at Radio Beach and the ruderal areas south of I-80. Migratory and nonmigratory birds may nest in construction areas and forage in both terrestrial and marine areas of the project area. If construction activities commence during the nesting season, the impact would be potentially significant. With implementation of mitigation measures **MM-BIO-18** and **MM-BIO-19**, this impact would be less than significant. These mitigation measures will limit the work window for construction to the period outside of the migratory bird nesting season so that nesting birds are not killed or injured as a result of construction activities and active bird nests in the project area are not abandoned due to construction noise or activity. If discontinuing construction during the migratory bird-nesting period is not possible, a pre-construction survey for nesting birds will be performed. If any active bird nests are identified, construction will be buffered (i.e. limited for a certain distance from the nest), in order to reduce impacts from construction on the nesting birds.

MM-BIO-18. Avoid construction during the migratory bird-nesting season (January 31 through September 15) or conduct preconstruction surveys for nesting birds

The project implementer shall ensure construction activities occur September 16 to January 30 to avoid construction during the nesting season (generally, February 1 through September 15 for most birds). Vegetation removal in particular shall occur between October 1 and January 30. Beginning construction prior to the nesting season shall establish a level of noise disturbance that shall dissuade noise-sensitive raptors and other birds from attempting to nest within or near the study area.

If construction activities (including vegetation removal) cannot be avoided during the nesting season, the project implementer shall retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. Surveys shall be conducted for migratory birds, including raptors. Surveys shall include a search of all trees, shrubs, and tidal salt marsh areas that provide suitable nesting habitat in the project area. In addition, a 500-foot buffer around the project area shall be surveyed for nesting raptors.

Surveys should occur during the height of the nesting season (March 1 to June 1) with one survey occurring in each of 2 consecutive months within this peak period and the final survey occurring within 1 week of the start of construction. If no active nests are detected during these surveys, no additional measures are required. The biological monitor shall check structures in the project area daily for caches of dead prey left by barn owls, remove any such caches, and block access to cache locations with exclusion measures.

MM-BIO-19. Install a no-disturbance buffer around detected active nests

If an active nest is found during the preconstruction surveys, the biological monitor shall coordinate with the contractor to establish a no-disturbance buffer around the site. This buffer shall be maintained until the end of the breeding season (September 15 or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area). The extent of these buffers shall be determined by the biologist in coordination with USFWS and CDFW and shall depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

Operations

Increased human presence and recreational activity could disrupt foraging at the sandy beach areas. However, shorebirds such as sandpipers, willets, and long-billed curlews are expected to continue to forage on the beach regardless of an increase in human activity. Foraging by white-tailed kites, snowy plovers, and California least terns could diminish because of increased human activity; however, current human activity may deter foraging by these species. As noted under Section 3.3.4.1, *Northern Foredunes*, there is suitable shorebird foraging habitat less than 3 miles away, both north and south of the project area.). Additionally, increased trash in the area could attract predators. These impacts would be potentially significant.

With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3** and **MM-BIO-13** through **MM-BIO-17**, this impact on migratory and nonmigratory birds would be less than significant. **MM-BIO-1** through **MM-BIO-3** will reduce impacts on migratory and nonmigratory birds by avoiding impacts to suitable habitat outside of the construction impact area and ensure, through staff environmental training and biological monitoring, that impacts to these species and their habitat in the project area is avoided to the maximum extent possible. **MM-BIO-13** through **MM-BIO-17** will minimize disturbances that may result from operation of project, such as increased recreation in the park, new predator perches, and lighting, which can cause mortality or injury of these species and cause nest and young abandonment during the breeding season.

3.3.4.5 Special-Status Fish Species

This section describes the construction and operation impacts on special-status fish species that could occur in the study area.

Impact BIO-5. The project would have a substantial adverse effect on special-status fish species as a result of construction; the project would not have a substantial adverse effect on

special-status fish species as a result of ongoing operations (construction: significant and unavoidable; operations: less than significant with mitigation)

Five special-status fish species could occur in the project study area: central California coast steelhead, Central Valley spring-run Chinook salmon, Sacramento winter-run Chinook salmon, green sturgeon, and longfin smelt. Critical habitat for green sturgeon falls within the study area. Also, EFH for Pacific salmon, Pacific groundfish and coastal pelagic species falls within the study area (Table 3.3-11).

Table 3.3-11. Summary of Impacts on Special-Status Fish Species

Fish Species	Habitat in Study Area (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)
Central California coast steelhead	19.1 acres (shallow bay and deep bay)	0.24 (fill) 0.37 (shading)	Areas adjacent to permanent effect area, in particular due to pile driving
Central Valley spring-run Chinook salmon			
Sacramento winter-run Chinook salmon			
Green sturgeon			
Longfin smelt			

Construction

Construction impacts on special-status fish species would result from degradation of water quality, changes in fish habitat, and disturbance and direct injury.

Effects on water quality. Construction activities could deliver sediment and contaminants to marine waters in the study area. Both sediment and contaminants could affect special-status fish species and their habitat. Activities associated with pile driving for the new pier and installation of shoreline protection that is placed below the ordinary high water mark could affect water quality in the surrounding areas. Excessive sediment deposited in or near the Bay can degrade aquatic habitats. Increased turbidity can increase fish mortality and reduce feeding opportunities for fish, including rearing steelhead; and cause fish to avoid important habitat. Contaminants include toxic substances, such as metals, petroleum products, pesticides, fertilizers, sewage, and uncharacteristically high sediment loading. Construction materials, such as concrete, sealants, oil, and paint, could adversely affect water quality if accidental spills occurred during project construction. Increased pollutant concentrations could limit fish production, abundance, and distribution by direct mortality of fish or their prey. Special-status fish species in the study area require relatively clean, cold, well-oxygenated water for successful growth, reproduction, and survival and are not well adapted for survival in degraded aquatic habitats. Therefore, construction impacts to water quality would be potentially significant. Implementation of mitigation measure **MM-BIO-4** would protect water quality in the project area and would minimize impacts to less than significant.

Effects on fish habitat. Construction of the project would result in the temporary loss of aquatic habitat area, including foraging and rearing habitat for special-status fish species. This temporary loss in aquatic area represents a negligible fraction of the total foraging habitat available to special-status fish species in the study area and surrounding waters.

Disturbance and direct injury. Noise, vibrations, artificial light, and other physical disturbances related to construction activities could harass fish, disrupt or delay normal activities, and cause injury or mortality. The potential magnitude of impacts depends on the type and intensity of the disturbance, proximity of the action to the water body, timing of actions relative to the occurrence of sensitive life stages, and frequency and duration of activities. For most activities, the impacts on fish would be limited to avoidance behavior in response to movements, noises, and shadows caused by construction personnel and equipment operating adjacent to the water body. However, survival may be altered if disturbance causes fish to leave protective habitat (i.e., increased exposure to predators) or is of sufficient duration and magnitude to affect growth and spawning success. Injury or mortality may result from direct and indirect contact with humans and machinery, sound pressure, and physiological stress.

Some construction activities that could temporarily disturb fish include movement of construction equipment and personnel, lighting, and grading and construction of access roads and staging areas adjacent to the Bay. Pile driving for the pier and elevated bike path to Radio Beach has a greater potential of harm to special-status fish species. Pile driving in water produces underwater sound that can affect fish. The Caltrans *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (2009) provides a thorough discussion of this issue including detailed definitions of terminology and measurement metrics. More information about the methods for determining impacts on special-status fish species can be found in Appendix F, *Natural Environment Study* (ICF International 2015a).

Table 3.3-12 summarizes the results of the analysis. The table shows the distances within which the injury criteria are expected to be exceeded.

Table 3.3-12. Pile-Driving Noise Levels for Fish

Pile type[1]	Location[2]	Max piers/ day	Total strikes/ Day	Cumulative SEL dB at 10 meters (unattenuated/ attenuated)	Distance to Cumulative SEL dB (187 dB) for fish >= 2 grams (unattenuated/ Attenuated, in meters)
24-inch concrete octagonal pile	Pier and elevated bike path to Radio Beach	5	4,500	203 / 198	109 / 50
Thin steel H pile		6	3,900	196 / 191	39 /18
40-in steel pipe pile (closed end)		5	4,000	216 / 211	860 / 399
30-in CISS pipe pile		4	3,200	212 / 207	468 / 217
12-in by 48-in concrete sheet piles	Bulkhead structure	6	3,900	216 / 211	846 / 393

1 The pile types shown are typical piles for an installation similar to the project. Each pile type is associated with a specific number of strikes per day to drive it into a substrate such as is found at the project area.

2 Piles for all project areas are shown together.

SEL = sound exposure level; dB = decibel

The cumulative SEL 10 meters away from pile driving ranges from 196 dB to 216 dB unattenuated and between 191 and 211 dB attenuated, depending on the type of piles. These numbers exceed the threshold of 187 dB for fish greater than 2 grams. The model calculates a cumulative SEL of 187 dB (without attenuation) at a minimum distance of 39 meters and a maximum distance of 860 meters where the potential injury of fish would occur, assuming that fish remain in this zone for an entire day of pile driving. With attenuation, the distances would be reduced to a minimum distance of 18 meters to a maximum distance of 399 meter. Beyond these distances, no physical injury is expected regardless of the number of strikes.

Based on these computations, peak sound levels generated by pile driving would be outside of the established thresholds for the protection of fish. This assumes that fish would remain in this zone for an entire day of pile driving operations, which is worst-case scenario.

Noise levels with and without attenuation could still harm fish up to a maximum of 860 meters without attenuation and 399 meters with attenuation. Implementation of mitigation measure **MM-BIO-20** into project design would reduce the impacts of pile driving noise on special-status fish species, but impacts would still be significant and unavoidable because cumulative SEL dB would be greater than 187 dB even with attenuation and other methods of sound dampening. No other measures are available.

MM-BIO-20. Implement pile-driving noise reduction measures to minimize impacts on special-status fish species

The project implementer shall ensure the following noise reduction measures are implemented during construction activities involving pile driving.

- Conduct all pile driving between June 1 and November 30 to avoid the primary steelhead migration season (December through June) in the project area. Because steelhead adults and juveniles could begin their migration earlier than December 1, the project implementer shall conduct all pile driving activities as early as possible during the June 1 to November 30 window.
- Vibrate all piles to the maximum depth feasible before using an impact hammer. During impact driving, the contractor shall limit the number of strikes per day to the minimum necessary to complete the work.
- Use the smallest pile driver and minimum force necessary to complete the work.
- Use a bubble ring or similar device to minimize the extent to which the interim peak and cumulative sound exposure (SEL) thresholds are exceeded.
- Avoid all pile-driving activity at night.

Operations

The project would result in the permanent loss of aquatic habitat area, including foraging and rearing habitat. Installation of shoreline protection for the EBMUD outfall, piles for the new pier, and piles for the path to Radio Beach would result in a net permanent habitat loss (up to 0.24 acre) as well as shading effects (up to 0.37 acre) (Table 3.3-11). The net loss in aquatic area due to fill and shading is small compared to the total area of existing habitat in the study area but is still considered significant. Implementation of mitigation measure **MM-BIO-7** would result in no net loss of bay habitat and no net increase in shading. With this mitigation, project operations would have a less-than-significant impact on special-status fish migration and foraging habitat.

Impact BIO-6. The project would not have a substantial adverse effect on essential fish habitat as a result of construction and ongoing operations (less than significant with mitigation)

Construction

Construction of the project would affect EFH in the study area, as summarized for eelgrass, shallow bay communities in Table 3.3-13.

Table 3.3-13. Impacts on Essential Fish Habitat

Community Type	Total Study Area (acres)	Permanent Impact Area (acres)	Temporary Impact Area (acres)
Eelgrass	Limited (to be determined in subsequent design)	Limited (to be determined in subsequent design)	In proximity to construction areas
Shallow Bay/Deep Bay	19.1	0.24 (Fill) 0.37 (shading)	In proximity to construction areas

Construction of the project would affect EFH for groundfish through short-term water quality degradation from localized increases in turbidity and suspended sediment and potential discharges of and exposure to contaminants in the project area during construction activities. Construction activities would modify habitat for Pacific salmon, groundfish species, and spawning coastal pelagic species as described above for special-status fish species. The impacts from short-term water quality degradation would be potentially significant. With implementation of mitigation measure **MM-BIO-4,** which would protect water quality in the study area, this impact would be less than significant.

Operations

The project is not expected to have long-term effects on special-status fish species migration. However, the addition of pilings for the pier and the pathway to Radio Beach would reduce the area for foraging. Additionally, shading from the new pier and the overwater pathway to Radio Beach would permanently change habitat in that area. Revetment walls, a concrete terrace wall, and riprap for the shoreline protection of the EBMUD outfall would also permanently change nearshore habitat. This impact would be significant. With implementation of mitigation measures **MM-BIO-7** and **MM-BIO-8**, which would compensate for loss of shallow bay and eelgrass habitat, this impact would be less than significant.

3.3.4.6 Other Protected Species

This section describes the construction and operations impacts on special-status wildlife species that could occur in the study area.

Marine Mammals

Impact BIO-7. The project would not have a substantial adverse effect on marine mammals as a result of construction and ongoing operations (less than significant with mitigation)

Construction

Potential marine mammal impacts during construction would include temporary or permanent hearing loss (referred to as a temporary or permanent threshold shift respectively) and disorientation due to diminished communication and echolocation clicks as a result of noise impacts during pile driving. Four species of marine mammal are known to occur in the study area: harbor seals, California sea lions, harbor porpoises, and gray whales. Harbor seals and California sea lions are more common in the study area; harbor porpoises and gray whales are infrequent. A temporary threshold shift (TTS) results in temporary hearing loss. A permanent threshold shift (PTS) results in permanent hearing loss. All four species could be disturbed by impact pile driving activities for the new pier and elevated path at Radio Beach, and the bulkhead structure. Although none of the marine mammal species are under special-status protection, they are protected under the MMPA. Therefore, an analysis of potential impacts on these species is provided.

As distance from the pile-driving increases, sound attenuation from transmission loss reduces the sound pressure levels. The potential harmful effects also decrease. Disturbance and noise associated with construction at the pile-driving site may startle marine mammals and result in dispersion from the study area. NMFS recommends specific thresholds for different marine mammal species to evaluate when auditory effects (TTS or PTS) are likely to occur, including different thresholds for accumulated sound, airborne noise (e.g. noise at haul-out areas), and behavioral effects (National

Oceanic and Atmospheric Administration and National Marine Fisheries Service 2016). The NMFS thresholds address impact hammer pile-driving. NMFS-recommended thresholds are listed in Table 3.3-14 (impact hammer pile-driving). The tables identify the recommended thresholds for impact hammer pile-driving and the distance from the pile-driving location at which each threshold would be reached. With the exception of the airborne threshold (where attenuation is inapplicable), the tables list the distance from the site to reach the threshold for both with attenuation (using a bubble curtain) and without attenuation.

Pinnipeds (seal and sea lions) frequently occur within the study area and could display disturbance behavior, such as alerting or fleeing. Because of the infrequency of cetacean occurrences (whales, dolphins and porpoises) within the study area, cetacean behavioral effects are less likely but still possible if cetaceans are present in proximity to pile-driving activity.

Table 3.3-14. Pile-Driving Noise Levels for Marine Mammals

Species	Sea Lion	Harbor Seal	Harbor Porpoise	Gray Whale
Distance to Accumulated Sound-Level Thresholds (Auditory Injury) (without/with attenuation)				
Accumulated Sound Thresholds (Cumul. SEL)	*185 dB*	*203 dB*	*155 dB*	*183 dB*
24-inch concrete octagonal pile	7 meters/ 3 meters	8 meters/ 4 meters	239 meters/ 111 meters	200 meters/ 93 meters
Thin steel H pile	4 meters/ 52 meters	4 meters/ 2 meters	129 meters/ 60 meters	200 meters/ 50 meters
40-in steel pipe pile (closed end)	56 meters/ 26 meters	62 meters/ 29 meters	1,891meters/ 878 meters	1,588 meters/ 737 meters
30-in CISS pipe pile	31 meters/ 14 meters	34 meters/ 16 meters	1,028 meters/ 477 meters	863 meters/ 401 meters
12-in by 48-in concrete sheet piles	56 meters/ 26 meters	61 meters/ 28 meters	1,860 meters/ 863 meters	1,561 meters/ 725 meters
Distance to Airborne Threshold (Disturbance)				
Airborne Threshold (RMS, haul-out areas only)	*90 dB (Harbor Seals)/100 dB (Sea Lions)*			
Distance to threshold	95 meters (90 dB)/30 meters (100 dB)			
Distance to Behavioral Threshold (Disturbance, without/with attenuation)				
Behavioral Threshold	*160 dB*			
24-inch concrete octagonal pile	117 meters / 54 meters			
Thin steel H pile	100 meters / 46 meters			
40-in steel pipe pile (closed end)	2,154 meters / 1,000 meters			
30-in CISS pipe pile	1,000 meters / 464 meters			
12-in by 48-in concrete sheet piles	1,000 meters / 464 meters			

The distance to the airborne threshold (applicable to haul-out locations only) for impact pile driving is within 95 meters of the construction site. There are no known seal haul-out locations within this area of effect; the nearest known haul-out location is on Yerba Buena Island, which is approximately 3,600 meters away. Thus, impacts related to airborne noise would be less than significant.

With impact pile driving, accumulated underwater sound level thresholds (before attenuation) could be exceeded up to 1,891 meters from pile-driving activity for harbor porpoises and 1,588 meters for gray whales. The farthest distance for harbor seals and sea lions is 62 and 52 meters respectively. Harbor porpoises and gray whales are seen infrequently in the San Francisco Bay, so it is unlikely they would be affected by pile driving noise. Harbor seals and sea lions are known to frequent the project area, so impact driving of piles could result in injury to seals and sea lions if they come within 62 and 52 meters of the project area respectively.

Although pile driving would exceed the behavioral thresholds for marine mammals, given the industrial nature of activity in the central Bay (port and waterfront industrial activity, large marine vessel movements, and other frequent vessel movements), the behavioral thresholds used by NMFS are considered inappropriate for such an active and noisy environment. These thresholds would be better suited for areas with low ambient noise levels where marine mammals are not routinely exposed to elevated anthropogenic sound levels. Marine mammals in the central Bay already experience elevated sound levels. Therefore, it is expected that any behavioral effects would be limited to areas in proximity to the construction site only (approximately 1,000 meters) if pile driving were to result in sound levels (160 dB) that would be substantially higher than the upper range of background sound levels (155 dB). If any marine mammals were to be located close to the construction area, the impact would be significant.

With implementation of mitigation measures **MM-BIO-20** (above) through **MM-BIO-22,** construction impacts on marine mammals would be less than significant. These measures will reduce indirect disturbances on marine mammals by limiting the noise from pile driving and will monitor the response of marine mammals in order to ensure the noise reduction measures are effective.

MM-BIO-21. Reduce pile-driving noise to protect marine mammals

The project implementer shall ensure the following noise reduction measures are implemented during construction activities involving pile driving.

- Comply with equipment noise standards of EPA and ensure that all construction equipment has noise control devices no less effective than those provided on the original equipment.
- Conduct regular briefings between construction supervisors and crews, marine mammal monitoring team, and acoustical monitoring team to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
- For all in-water permanent pile driving, establish marine mammal safety zones corresponding to the injury threshold contours around each of the pile-driving sites before pile driving commences.
- If marine mammals are visually sighted within the safety zone(s) prior to start of pile-driving, the resident engineer (or other authorized individual) shall delay pile driving of the segment until the marine mammals have moved beyond the safety zone. Verification may be conducted either through sighting by a qualified observer or by waiting until enough time has elapsed without a sighting (at least 15 minutes for pinnipeds and 30 minutes for cetaceans) to assume the animal has moved beyond the safety zone.

- If marine mammals are sighted within the safety zone after pile driving has begun, a qualified marine mammal observer shall record the species, numbers, and behaviors of the animals and report to NMFS within 48 hours of the sighting.
- The contractors shall "soft-start" impact and vibratory pile driving operations.

MM-BIO-22. Monitor and report marine mammal sightings before, during, and after pile driving

The project implementer shall ensure the following monitoring and reporting measures are implemented.

- For all in-water permanent pile-driving one three-person observer team must visually monitor each pile-driving site. When multiple sites are in operation, more than one observer team must be utilized from boats.
    - **Pre-activity monitoring.** At least 30 minutes prior to the start of all in-water permanent pile-driving segments, marine mammal monitors must conduct observations on the number, types, locations, and behaviors of marine mammals in the designated safety zones and buffer zones, as well as other areas near pile driving sites. If the time between pile-segment driving is less than 30 minutes, a new 30-minute survey is unnecessary provided marine mammal monitors continue observations during the interruption. If pile driving ceases for 30 minutes or more and a marine mammal is sighted within the designated safety zones prior to the commencement of pile-driving, the observer must notify the resident engineer (or other authorized individual) immediately.
    - **Monitoring during activity.** During all in-water permanent pile-driving, marine mammal monitors shall conduct and record observations on marine mammals near the pile-driving sites and pay particular attention to designated safety zones.
    - **Post-activity monitoring.** For a minimum of 30 minutes after in-water permanent pile-driving stops, marine mammal monitors shall conduct observations of the project area and record information on the number, types, locations, and behavior of marine mammals and pay attention to designated safety zones.
    - **Monitoring on Yerba Buena Island haul-out.** The holder of this authorization shall coordinate with the Richmond Bridge harbor seal survey team to collect observational data from Yerba Buena Island during in-water pile-driving activity.
    - **Monitoring under low light condition.** In late afternoon and/or early evening when light condition is low, marine mammal monitors shall use infrared scopes to conduct observation of the project area.
    - Data on all observations shall include the following information: date and time that pile driving or removal starts and ends; location of sighting; species; number of individuals; number of calves present; duration of sighting; behavior of marine animals sighted; direction of travel; distance from pile driving/removal; environmental information associated with sighting event including Beaufort sea state, wave height, tide state, water currents, wind direction, visibility, glare, percentage of glare, percentage of cloud cover; when in relation to pile driving or removal activities the sighting occurred

(before, "soft-start", during, or after the pile driving or removal); and other human activity in the area.

- The project implementer shall provide a monthly status report to NMFS on the appropriate reporting items, unless other arrangements for monitoring reports are agreed to in writing. A report on all activities must be submitted to NMFS within 90 days after completion of the activities. This report must provide the dates and types of activities and the results of the visual monitoring program, including all items noted above.

Operations

Operation of Gateway Park would include minimal in-water activity consisting of kayak launching and transit. These activities would not permanently affect marine mammals. There are no haul-out areas near the project area so an increase in human disturbance will not affect them. This impact would be less than significant and no mitigation would be required.

Bats

Impact BIO-8. The project would not have a substantial adverse effect on bats as a result of construction and ongoing operations (less than significant with mitigation)

Construction and operations of the project could disturb roosting bats (namely, hoary bat) in the project area, which would be significant because hoary bat is a species of local importance based on its WBWG medium conservation priority status (Western Bat Working Group 2016). With implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3,** this impact would be less than significant. These mitigation measures will reduce impacts on bats in three way: 1) by protecting bat habitat outside of the construction impact area during construction, 2) by providing environmental awareness training to construction staff about bats and their habitat so that they can recognize and avoid these bat species if they were to be present in a location where they were working, 3) by requiring that a biologist monitor all construction activities in bat habitat to avoid impacts on bats were any individuals present in the construction impact area.

Trees

Impact BIO-9. The project would not affect coast live oak or other trees larger than 9 inches in diameter as a result of construction and ongoing operations (no impact)

The ornamental trees and pine trees in the study area do not meet the criteria for protection under Oakland Municipal Code Chapter 12.36. There would be no impact on protected trees. No mitigation would be required.

3.3.4.7 Invasive Plant Species

This section describes the construction and operations impacts on invasive plant species in the study area.

Impact BIO-10. The project would not have a substantial adverse effect in relation to invasive plant species as a result of construction and ongoing operations (less than significant with mitigation)

Construction

Construction activities in the areas where invasive plant species occur could cause the seeds of the plants to disperse and spread throughout the project area, resulting in a potentially significant impact. With implementation of mitigation measures **MM-BIO-2, MM-BIO-3,** and **MM-BIO-23,** this impact would be less than significant. These mitigation measures will ensure staff are appropriately trained to identify invasive plant species and that there is oversight (i.e. biological monitoring) to ensure that construction occurs in a manner that avoids the spread of invasive plants to the maximum extent possible (and is in compliance with **MM-BIO-23**). Mitigation measure **MM-BIO-23** includes specific ways in which the project is required to reduce the introduction and spread of invasive plant species, such as identifying and removing these plants in work areas, minimizing disturbances to invasive plant populations to avoid the dispersal of seeds on vehicles and in staff's boots, and installing native species where invasive plants have been removed. In combination, these mitigation measures will reduce the impact of invasive plant species in the project area.

MM-BIO-23. Implement measures to avoid the introduction and spread of invasive plants

The project implementer shall implement the following measures to ensure the project complies with Executive Order 13112: Prevention and Control of Invasive Species.

- Retain a qualified biologist to identify invasive plant species in the construction work area, remove all invasive plant material, and dispose of at a certified landfill.
- Minimize surface disturbance within the construction work area to the greatest extent possible.
- Seed all the disturbed areas with certified weed-free native mixes and mulch with certified weed-free mulch (rice straw may be used in upland areas).
- Use native, noninvasive species in erosion control plantings to stabilize site conditions and prevent invasive species from colonizing.

Operations

Implementation of the developed portions of the project (e.g. cobblestone paving, shoreline protection, playground, wood decking, etc.) and extensive landscaping will remove invasive plant species south of Burma Road. At Radio Beach, where invasive plant species are present but development will be minimal, restoration is planned to remove invasive plant species and plant native species. Therefore, project implementation would greatly reduce the existing extent of invasive plant species in the study area. However, an extensive seed bank would remain. Recreational activities in most habitats at Gateway Park could spread invasive plant species. If invasive plant species sprout in areas with public access such as walkways or around park benches, they could easily spread, resulting in a potentially significant impact. With implementation of mitigation measure **MM-BIO-24,** this impact would be less than significant. This mitigation measure will require monitoring and removing invasive plant populations during park operations, thus reducing the impact of invasive plant species in the project area.

MM-BIO-24. Implement measures to avoid the spread of invasive plants

The project implementer shall implement the following measures to avoid the introduction and spread of invasive plants during project operation.

- Retain a qualified biologist to survey public access areas (around walkways, benches, buildings, trashcans, restrooms, etc.) for invasive plant species on an annual basis.
- If invasive plant species are identified, remove all invasive plant material and dispose of at a certified landfill. Annual surveys may cease when invasive plant species are not observed in public access areas for 3 consecutive years.

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Section 3.4
Cultural Resources

This section describes cultural resources in the study area. It then describes impacts on cultural resources that could result from construction and operation of the proposed project (Gateway Park or project). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

In this context, cultural resources comprise *archaeological resources* and *historical resources*. Archaeological resources include prehistoric and historic archaeological districts, sites, and objects. Archaeological resources may qualify as a CEQA historical resource. A *historical resource* is defined in CEQA Guidelines Section 15064.5(a) as one that is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR). For this project, historical resources in the study area include built environment and historic architectural resources such as buildings, structures, objects, linear features, and landscape features. A *unique archaeological resource* is defined in CEQA Guidelines Section 21083.2(g) as an archaeological artifact, object, or site that contains information needed to answer important scientific research questions, has a special and particular quality, or is directly associated with a scientifically recognized important prehistoric or historic event or person. Paleontological resources or geological features are addressed in Section 3.5, *Geology, Soils, and Paleontological Resources.*

3.4.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to cultural resources.

3.4.1.1 Federal

The following federal regulations, laws, and guidelines apply to cultural resources.

National Historic Preservation Act

Archaeological and architectural resources are protected through the National Historic Preservation Act (NHPA) of 1966, as amended (16 United States Code [USC] 470f) and its implementing regulations: Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979.

Section 106

Advisory Council on Historic Preservation (ACHP) Regulations, Protection of Historic Properties (36 CFR 800) establish procedures for compliance with Section 106 of the NHPA of 1966. These regulations define the Criteria of Adverse Effect, define the role of the State Historic Preservation Officer (SHPO) in the Section 106 review process, set forth documentation requirements, and describe procedures to be followed if significant historic properties are discovered during implementation of an undertaking. Prior to implementing an undertaking (e.g., issuing a federal permit), Section 106 requires federal agencies (e.g., Federal Highway Administration, National Park Service) consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the SHPO a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (NRHP). Federal review of projects for historic resources is referred to as the Section 106 process. The Section 106 process typically involves systematic procedures that are described in detail in the implementing regulations (36 CFR Part 800) and summarized here.

- Establish a federal undertaking.
- Delineate the Area of Potential Effects.
- Identify and evaluate historic properties in consultation with the SHPO and interested parties.
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NRHP.
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation.
- Proceed with the project according to the conditions of the agreement.

Section 106 of the NHPA prescribes specific criteria for determining whether a project would have an adverse effect on a historic property, if any such properties exist in the Area of Potential Effects as defined by the agency (36 CFR Section 800.5). An impact is considered adverse when prehistoric or historic archaeological sites, structures, districts, or objects listed in or eligible for listing in the NRHP are subjected to the following effects:

- Physical destruction of or damage to all or part of the property.
- Alteration of a property.
- Removal of the property from its historic location.
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.
- Neglect of a property that causes its deterioration.
- Transfer, lease, or sale of the property.

National Register of Historic Places

Archaeological and architectural resources deemed significant (i.e., eligible for listing in the NRHP, per 36 CFR 60.4) must be considered in project planning and construction. The responsible federal agency must submit any proposed undertaking that may affect NRHP-eligible properties to the SHPO for review and comment before the project's approval. Under the NHPA, a find is significant if it meets the NRHP listing criteria under 36 CFR 60.4, as stated below.

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

a) That are associated with events that have made a significant contribution to the broad patterns of our history, or

b) That are associated with the lives of persons significant in our past, or

c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or

d) That have yielded, or may be likely to yield, information important in prehistory or history.

For a resource to be eligible for the NRHP, it must also retain enough integrity to be recognizable as a historical resource and convey its significance. While a property's significance relates to its role within a specific historic context, its integrity refers to "a property's physical features and how they relate to its significance." (National Park Service 1997: 44) To determine if a property retains the physical characteristics corresponding to its historic context, the NRHP has identified seven aspects of integrity, which the CRHR closely follows.

- Location is the place where the historic property was constructed or the place where the historic event occurred.
- Design is the combination of elements that create the form, plan, space, structure, and style of a property.
- Setting is the physical environment of a historic property.
- Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.
- Association is the direct link between an important historic event or person and a historic property.

Because integrity is based on a property's significance within a specific historic context, an evaluation of a property's integrity can only occur after historic significance has been established.

3.4.1.2 State

The following state regulations, laws, and guidelines apply to cultural resources.

California Office of Historic Preservation

The State of California implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation, of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The Office of Historic Preservation also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs in the State's jurisdiction, and is housed at the California Office of Historic Preservation.

California Register of Historical Resources

The CRHR 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” (PRC 5024.1[a]). The criteria for eligibility to the CRHR are based on NRHP criteria (PRC 5024.1[b]) but with emphasis on local and state significance. Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for or listed in the NRHP (PRC 5024.1[d]), as well as certain California State Landmarks and Points of Historical Interest (14 CCR 4850).

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

- Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
- Criterion 2: Is associated with the lives of persons important in our past.
- Criterion 3: 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.
- Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history (CEQA Guidelines Section 15064.5 [a][3]).

For a resource to be eligible for the CRHR, it must also retain enough integrity to be recognizable as a historical resource and convey its significance. A resource that does not meet the NRHP criteria may still be eligible for listing in the CRHR. To determine if a property retains the physical characteristics corresponding to its historic context, the NRHP has identified seven aspects of integrity, which the CRHR closely follows, as described in Section 3.4.1.1, *Federal, National Register of History Resources*.

California Environmental Quality Act

CEQA requires that state and local public agencies identify the significant environmental impact of their actions and either avoid or mitigate those impacts on historical resources, unique archaeological resources, and Native American human remains. Under CEQA, historical resources can include buildings, structures, objects, sites, districts, and archaeological resources that are historically or culturally significant. CEQA Guidelines 15064.5(a) (14 California Code of Regulations [CCR]) and Public Resources Code (PRC) 21084.1 define historical resources as those listed or eligible for listing in the CRHR.

CEQA Guidelines 15064.5(a) defines a “historical resource” as:

1. A resource listed in, or determined to be eligible by the state Historical Resources Commission, for listing in the CRHR.
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR.

4. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included on any local, state, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource historically significant if it finds that the resource meets the criteria for listing in the CRHR.

Assembly Bill 52

On September 25, 2014, Governor Jerry Brown signed Assembly Bill (AB) 52, which requires the lead agency on a proposed project to consult with any California Native American tribes affiliated with the geographic area. The legislation creates a broad new category of environmental resources, "tribal cultural resources," which must be considered under CEQA; AB 52 creates a distinct category for tribal cultural resources, requiring a lead agency to not only consider the resource's scientific and historical value, but also whether it is culturally important to a California Native American tribe. AB 52 defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are included in or determined to be eligible for inclusion in the CRHR or the local register of historical resources.

AB 52 also sets up an expanded consultation process. Beginning July 1, 2015, lead agencies are required to provide notice of proposed projects to any tribe traditionally and culturally affiliated with the geographic area. If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures or (b) any party concludes, after a good faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

The notice of preparation (NOP) for the project was issued on October 2013; therefore, the project is not required to comply with AB 52 because the NOP was initiated prior to July 1, 2015. Although compliance with AB 52 is not required, Native American consultation was initiated with the Native American Heritage Commission (NAHC). Details about the Native American consultation are provided in the archaeological survey (ICF International 2015a) report and the historical resources evaluation (ICF International 2015b) prepared for this project. As described therein, no tribes requested to consult with the lead agency.

Secretary of the Interior Standards for the Treatment of Historic Properties

For historic buildings and structures, CEQA Guidelines 15064.5(b)(3) provides that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (collectively called the Secretary's Standards) generally will be considered as mitigated to a level of less than a significant impact on the historical resource.

Conformance with the Secretary's Standards does not determine whether a project would cause a substantial adverse change in the significance of a historic resource under CEQA. Rather, a project that complies with the Secretary's Standards benefits from a regulatory presumption that it would have a less-than-significant adverse impact on the environment. Projects that do not comply with the Secretary's Standards may or may not cause a substantial adverse change in the significance of an historic resource and would require further analysis to determine whether the historic resource would be materially impaired by the project under CEQA Guidelines 15064.5(b).

California Health and Safety Code Section 5097

California Health and Safety Code section 5097.98 discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains by the County coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods. Furthermore, procedures for reinternment of the remains are detailed if the commission is unable to identify the Most Likely Descendent (MLD), the MLD fails to make a recommendation, or other specified circumstances.

Under Section 5097.99, it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. Section 5097.99 also mandates that it is the policy of the state to repatriate Native American remains and associated grave goods.

California Health and Safety Code Division 7

California Health and Safety Code sections 7050.5, 7051, and 7054 collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. Health and Safety Code Section 7050.5(b) defines procedures for the inadvertent discovery and treatment of human remains. If human remains are discovered in any location other than a dedicated cemetery, excavation shall cease, and the coroner of the County in which the human remains are discovered shall be contacted. There will be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent human remains, until:

- The coroner determines, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Government Code Section 27492, or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and;
- If the remains are of Native American origin: the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code, Section 5097.98, or NAHC is unable to identify a descendant or the descendant fails to make a recommendation within 24 hours after being notified by the NAHC.

If human remains of any kind are identified and located on non-federal lands (including private lands), the project must follow the procedures set forth by Section 7050.5 (b).

Similarly, Section 7051 states that an individual/individuals "who remove any part of any human remains from any place where it has been interred, or from any place where it is deposited while awaiting interment or cremation, with intent to sell it or to dissect it, without authority of law, or written permission of the person or persons having the right to control the remains under Section 7100, or with malice or wantonness, has committed a public offense that is punishable by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code."

Section 7054. (a) (1) addresses the deposition of human remains, stating "(e)xcept as authorized pursuant to the sections referred to in subdivision (b), every person who deposits or disposes of any human remains in any place, except in a cemetery, is guilty of a misdemeanor." It further establishes the penalties to be incurred with such a violation. This Health and Safety Code provision does not apply "to the reburial of Native American remains under an agreement developed pursuant to subdivision (l) of Section 5097.94 of the Public Resources Code, or implementation of a recommendation or agreement made pursuant to Section 5097.98 of the Public Resources Code."

3.4.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, <u>Port of Oakland,</u> Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to cultural resources.

City of Oakland

City of Oakland Landmarks and S-7 Preservation Combining Zone

- The City of Oakland's Landmarks Preservation Advisory Board defines landmarks in the Guidelines for Determination of Landmark Eligibility as those having "special character or special historical, cultural, educational, architectural, aesthetic, or environmental interest or value." Demolition of a landmark can be postponed for up to 240 days under review, and City Planning Department approval is required for any exterior alterations after a recommendation from the Landmarks Board.
- Properties eligible for S-7 designation are defined in Section 17.84 of the zoning regulation. This zone is "intended to preserve and enhance the cultural, educational, aesthetic, environmental, and economic value of structures, other physical facilities, sites, and areas of special importance

due to historical association, basic architectural merit, the embodiment of a style or special type of construction, or other special character, interest, or value." The demolition of or alterations to S-7 designated properties are subject to the same design review and regulations set for landmarks.

East Bay Regional Parks District Master Plan

Gateway Park would be managed by the East Bay Regional Parks District. The Master Plan (East Bay Regional Park District 2013) defines the overall mission and vison for the Park District. The following policies are applicable to land use and planning.

- **Cultural Resources Management CRM 1.** The District will manage, conserve, and when practical restore parkland cultural and historic resources and sites; to preserve the heritage of the people who occupied this land before the District was established; and continue to encourage the cultural traditions associated with the land today.
- **Cultural Resources Management CRM 2.** The District may require cultural and historic resource sites when they are within lands that meet parkland acquisition criteria and will maintain an active archive of its institutional history and the history of its parklands and trails.
- **Cultural Resources Management CRM 3.** The District will maintain a current map and written inventory of all cultural features and sites found on park land, and will preserve and protect these cultural features and sites "in situ" in accordance with Board of Directors policy. The District will evaluate significant cultural and historic sites to determine if they should be nominated for State Historic Landmark status or for the National Register of Historic Places.
- **Cultural Resources Management CRM 4.** The District will determine the level of public access to cultural and historic resources using procedures and practices adopted by the Board of Directors. The District will employ generally accepted best management practices to minimize the impact of public use and access on these resources, and to appropriately interpret the significance of these resources on a regional scale.
- **Cultural Resources Management CRM 5.** The District will notify Native Americans and other culturally associated peoples in a timely manner of plans which may affect sites and landscapes significant to their culture and will include them in discussion regarding the preservation and land use planning of culturally significant sites and landscapes.
- **Cultural Resources Management CRM 6.** The District will accommodate requests by Native Americans, ranching or farming communities and other groups to help maintain and use cultural sites and to play an active role in their preservation and interpretation.

3.4.2 Environmental Setting

This section describes existing conditions related to cultural resources that could be affected by the construction and operation of the project.

3.4.2.1 Study Area

The study area for direct impacts on archaeological resources encompasses all of the 45-acre project area where construction activities would occur (Figure 3.4-1). For archaeological resources, the study area could extend up to 60 feet below ground surface to account for the maximum vertical depth of pilings that would support the new pier and elevated paths. On land, the archaeological study area assumes a depth of 3 feet for all other improvements.

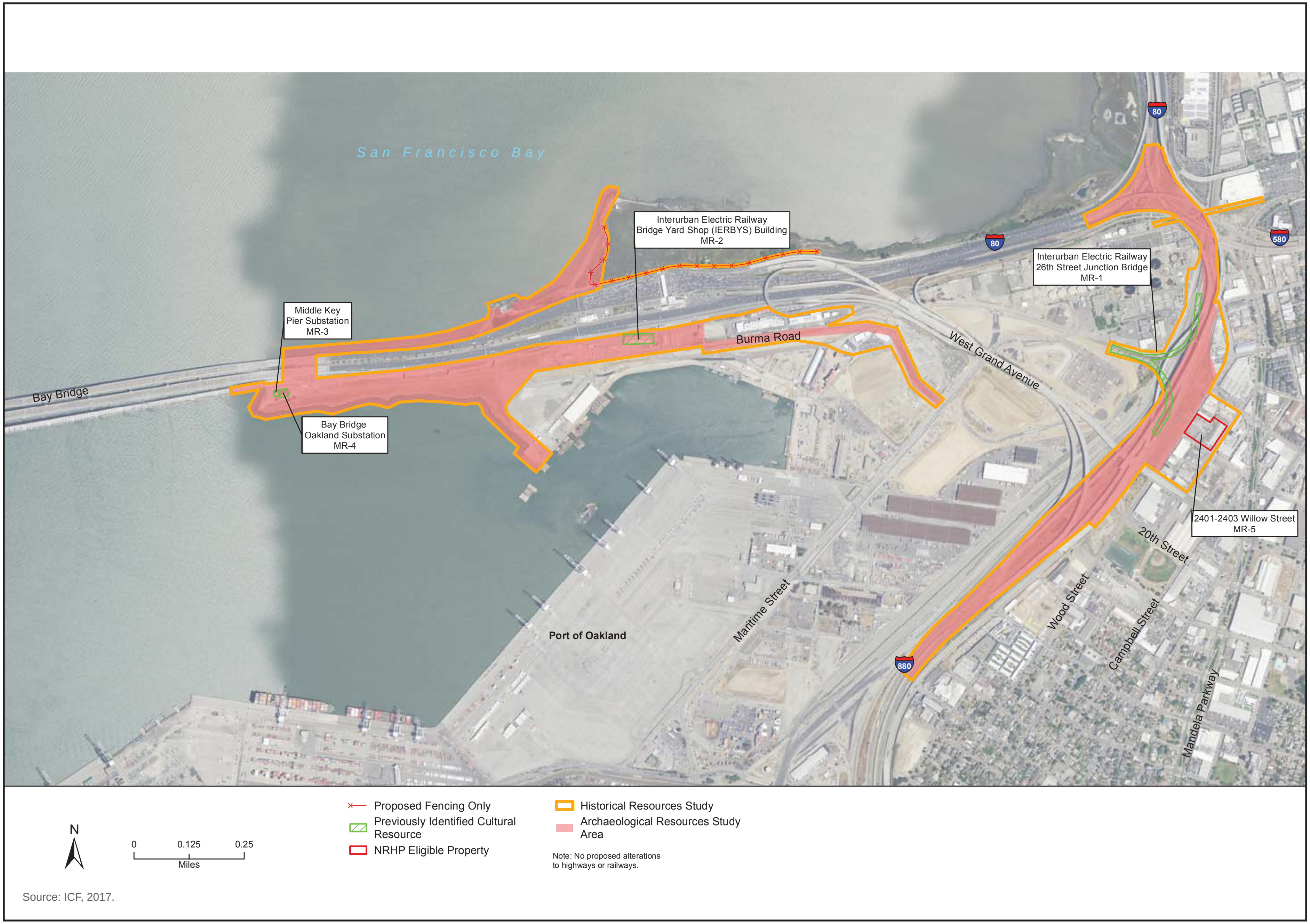
The study area for direct impacts on historical resources encompasses all of the 45-acre project area. It also includes the touchdown of the San Francisco–Oakland Bay Bridge (Bay Bridge), the buildings and structures in the Key Point and Bridge Yard areas, the proposed landscaping areas under the freeway interchange, and portions of the West Oakland warehouse district (Figure 3.4-1). Two NRHP- listed properties were identified in the project area: the Oakland Army Base Historic District and the east span of the Bay Bridge. However, many of the buildings in the former historic district have been demolished and others are in final stages of demolition. Similarly, the old east span of the Bay Bridge has been demolished. Therefore, both the former Oakland Army Base Historic District and old east span of the Bay Bridge are not included in the historical resources study area.

3.4.2.2 Archaeological Resources

Archaeological resources record a long history of environmental change, landscape evolution, human habitation, and social interaction. As described in the sections that follow, the ethnography of the region addresses the lifeways, settlement, and subsistence of prehistoric and contact periods of Native American inhabitants of the region. The prehistory describes the archaeological remainders of these communities in the Bay Area. A detailed history and appropriate references are provided in the archaeological survey report prepared for this project (ICF International 2015a).

Archaeological Resource Sensitivity

The project area lies on the margin of an alluvial plain, extending from the Berkeley Hills into the Bay and further amended by fill in marshland and shallow water. Areas near natural water sources provided abundant and accessible resources; however, landscape evolution in such sensitive areas has buried, destroyed, or redeposited most archaeological resources (Bettis 1992). It is unlikely that prehistoric material would be found in the historic marshlands of the study area, which are now filled. Remains are more likely where the study area is on solid ground near the Interstate 80 (I-80) interchange; however, this area has been significantly modified.



gatewaypark

Figure 3.4-1
Cultural Resources Study Area

Regional Setting

Prehistory

Although human occupation of the Bay Area was significant before European contact, rapid urban development encroached upon and destroyed many of the archaeological resources of the region. Environmental compliance has contributed to a higher level of fieldwork and discovery. The primary prehistory periods are described briefly; more information is available in the archaeological survey prepared for this project (ICF International 2015a).

- **Early Holocene (Lower Archaic).** Typical artifacts from this period (cal 8000 to 3500 B.C.) are milling implements. Botanical remains indicate an acorn- and cucumber-based food economy
- **Early Period (Middle Archaic).** This period (cal 3500 to 500 B.C.) is characterized by technological and social developments as indicated by artifacts of shell beads and mortar and pestles. Ornamental graves found in burial complexes indicate a move from foraging to semi-sedentary land use.
- **Lower Middle Period (Initial Upper Archaic).** During this period (cal 500 B.C. to A.D. 430), significant disruption is exhibited in bead characteristics and the introduction of new bone tools.
- **Upper Middle Period (Late Upper Archaic).** Many of the common bead sites were abandoned in this period (A.D. cal 430 to 1050); those that remain showed refinement of practices and new bead materials.
- **Initial Late Period (Lower Emergent).** This period (A.D. cal 1050 to 1550) is characterized by greater sedentism, status ascription, and ceremonial integration. Social stratification is reflected in obsidian production and mortuary practices.
- **Terminal Late Period: Protohistoric Ambiguities.** During this period (A.D. cal 1500 to 1600), innovation from the North Bay became evident in regional integration and tools introduced from Oregon tribes.

Ethnography

The Bay Area was occupied by Ohlone or Costanoan Native Americans at the time of European contact. The Ohlone people lived along the coast from the entrance to the bay south to Carmel and inland up to 60 miles (Levy 1978: 485-486). The Huichuin tribal group of the Ohlone occupied the project area and much of the land along the eastern shoreline of the Bay (Milliken 1995: 243). The Ohlone were hunter-gatherers, living on a wide range of marine and terrestrial plants as well as mammals, fish, fowl, and insects. They traded with nearby tribes, exporting shells, salt, and shellfish, and importing pine nuts.

The Ohlone were absorbed, along with other tribes, into Spanish missions, where they suffered from disease, harsh conditions, and lower birth rates (Cook 1943a, 1943b). As the missions were secularized, the Ohlone lost their land to Mexican settlers and became squatters, laborers, and servants. During the early 20th century, legal momentum for reparation began to build. While the Ohlone have not received formal recognition, they have become increasingly organized politically and are active in preserving their ancestral heritage and advocating for Native American issues.

Archaeological Resources in the Study Area

As described under *Regional Setting*, much of the study area is in former marshlands that have undergone significant landscape change and have a low probability of containing archaeological resources. Archaeological resources are more likely to be present where the study area is on solid land.

A review of documentation identified a single historic resource within the archaeological study area. Record P-01-010490 (CA-ALA-602H) consists of a late 19th century or early 20th century refuse deposit in Wood Street, which was identified during construction monitoring. Because the extent of P-01-010490/CA-ALA-602H is unknown, this resource could be encountered during ground-disturbing activities. However, existing documentation indicates that this resource is not an historical resource or unique archaeological resource under CEQA and is, therefore, eliminated from further discussion (Longfellow 2000). Review of historic maps indicated that this site could not be associated with any remnant structures or group/individual/property owners, suggesting a low sensitivity for historic archaeological resources.

Review of available data did not result in the identification of previously recorded prehistoric resources within or immediately adjacent to the study area. No ethnographically known resources have been identified near the study area. In addition, the likelihood of prehistoric material being discovered in the project area is very low because the majority of the study area is within historic marsh/wetlands, San Francisco Bay boundaries, or existing infrastructure (Figure 3.4-2).

3.4.2.3 Historical Resources

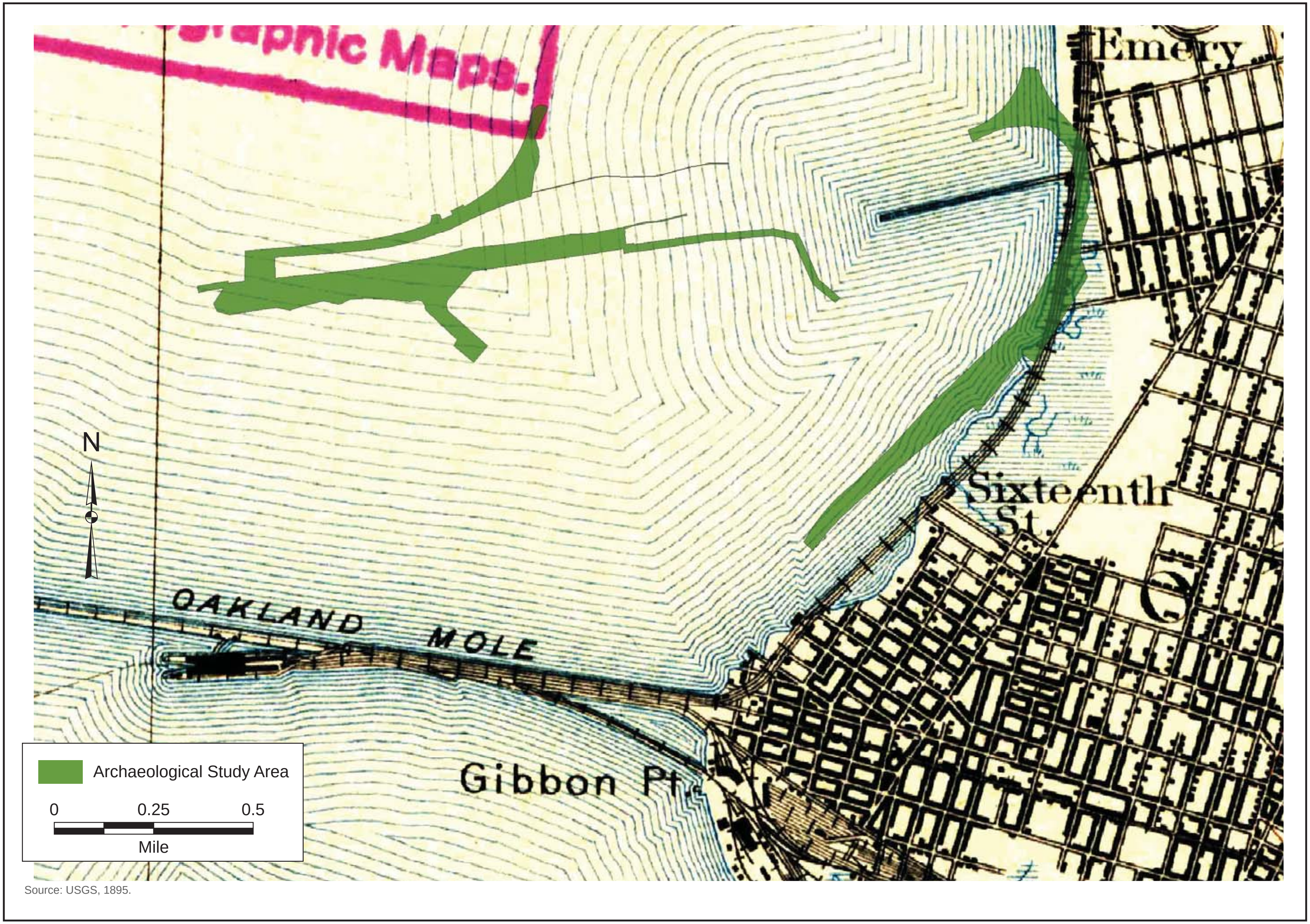
Regional History

The following historical context is excerpted from documents prepared by the Oakland Cultural Heritage Survey (1990) and Herman Zillgens Associates (1994). A detailed history, description of resources, significance evaluation, and appropriate references are provided in the historical resources evaluation report and appended California Department of Parks and Recreation 523 forms prepared for this project (ICF International 2015b, 2015c).

Early Occupation and Development

Oakland was incorporated as a city in 1852, with a population of about 100. The completion of the transcontinental railroad terminus in 1869 led to a population explosion. Streetcar lines and housing subdivisions were constructed and annexed, and civic amenities were added at the turn of the century. Oakland developed its maritime industry during the two world wars.

West Oakland, the site of the study area, was a peninsula surrounded by marsh. The first families who settled here in the 1850s and 1860s retained ownership of the land until the 1940s, when it was sold for industrial development. In 1869, the transcontinental railroad terminus led to the construction of the wharf extension 2 miles inland to accommodate large cargo ships. In 1909, railroad tracks and a freight depot were established in West Oakland, south of the study area. This area became the Oakland Waterfront Warehouse District. It is now listed in the National Register of Historic Places (NRHP) as Jack London Square. A smaller industrial district developed in the study area, constrained by the marshy land. Construction of the Bay Bridge in the 1930s led to more development in this area, which was zoned for heavy industry by 1935.



Source: USGS, 1895.

gatewaypark

Figure 3.4-2
Archaeological Study Area with 1895 Topo Map of West Oakland

During World War II, the U.S. Army acquired the Oakland Outer Harbor. They filled marshlands and opened the area for war-related industry, mostly heavy metals and machinery, as well as temporary housing. Heavy industry, trucking, and motor freight continued to dominate the area through the 1990s.

The Oakland Army Base was developed in response to the overtaxing of military facilities at Fort Mason in San Francisco. The army expanded into the Oakland Outer Harbor by filling marshes and constructing a new port in 1943. The port consisted of 13 deep-draft berths, 175 buildings and structures, 27 miles of rail tracks, and millions of square feet of storage. The army base and port exported all military cargo from the region throughout World War II and continued to support military operations during the Korean, Vietnam, and Desert Storm wars. The base was officially closed in 1999. Many of the buildings in this former historic district have been demolished and others are in final stages of demolition.

Transportation

The San Francisco, Oakland & San Jose Railway (later known as the Key Route or Key System), completed in 1903, was the first electric railway to provide service in the East Bay and over the Bay Bridge to San Francisco. By 1923, the Key Route was reorganized, expanded to Piedmont, and purchased by a company that officially changed its name to the Key System. By 1924 the Key System and its pier were carrying more than 800 trains per day. As ridership increased, a substation was constructed at the foot of the Key Route Pier to serve the Key System (1925). The pier was no longer necessary with the construction of the Bay Bridge in 1936. Passengers were carried on Key System electric trains from Oakland, through the Key System Subway, and over the Bay Bridge to San Francisco. Ridership increased from 11 million in 1941 to 36.4 million in 1945, because of the gasoline rationing during World War II. Ridership, however, declined in the post-war years when automobile ownership became increasingly common. The Key System ceased operating in 1958 and was replaced by bus routes (Echeverria and Rice 2007:8, Hope 1997, Nolte 2008).

The Oakland, Alameda & Berkeley Railroad competed with the Key System in the early 20th century. The line was reorganized as the Interurban Electric Railway in 1934, and continued service on the Bay Bridge. The Interurban Electric Railway Bridge Yard Shop (IERBYS) building was completed in 1939 to service this train, but the rail line faced stiff competition from automobile transport and was abandoned in 1940 (Snyder 1990a, 1990b, 1992, 1995).

Historical Resources in the Study Area

The literature review, property-specific research, and field survey (Section 3.4.3.2, *Impact Analysis*) identified historical resources in the study area that were evaluated for listing in the NRHR and CRHR. These are listed below; further information about these resources and all resources evaluated in the literature search and field survey is provided in the historical resources evaluation report prepared for this project (ICF International 2015b).

National Register Historic Properties

The following resources in the study area were evaluated for listing in the NRHP (refer to Figure 3.4-1).

- **Historical resources previously determined eligible for the NRHP (four).** The Interurban Electric Railway (IER) 26th Street Bridge, the IERBYS, Key Pier Substation, and Bay Bridge Oakland Substation have all been determined eligible. The MR numbers reference the eligible properties on the study area map.
  - **MR 1 IER 26th Street Bridge.** This bridge is a wood trestle bridge, constructed in 1938. It is a rare railroad wye on a bridge structure. The setting of the IER 26th Street Bridge lacks historic integrity due to the circulation, transportation, and residential/commercial development of the area since the bridge's period of historic significance (1938).
  - **MR 2 IERBYS.** This is a steel-frame maintenance building constructed in 1938.
  - **MR 3 Key Pier Substation.** This substation is an exposed concrete building constructed in 1925.
  - **MR 4 Bay Bridge Oakland Substation.** This substation is an exposed concrete building constructed in 1937.
- **Historical resources previously determined not eligible for the NRHP (12).** The PG&E Substation at the foot of the east span of the Bay Bridge along Burma Road (now demolished), and 11 warehouse buildings in the West Oakland industrial area were determined not eligible. One of these warehouse buildings was found to be eligible by the current study.
- **Historical resources determined eligible for the NRHP by the current study (one).** A commercial warehouse in West Oakland was determined eligible.
  - **MR-5 2401-2403 Willow Street**. The two-story Streamlined Moderne style office and warehouse building was constructed in 1940.
- **Resources determined not eligible for the NRHP by the current study (one).** The Key System Subway was determined not eligible for listing.

California Register Historical Resources

The following resources in the study area were evaluated for listing in the CRHR.

- **Historical resources for the purpose of CEQA (five).** Four historical resources were previously determined eligible for the NRHP (IER 26th Street Bridge, IERBYS, Key Pier Substation, and Bay Bridge Oakland Substation) and one historical resource determined eligible by the current study (2401-2403 Willow Street, Oakland).
- **Historical resources that are not historical resources under CEQA (twelve).** The PG&E Substation at the foot of the east span of the Bay Bridge along Burma Road (now demolished), the Key System Subway, and ten warehouse buildings in the West Oakland industrial area were determined not eligible.

3.4.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on cultural resources associated with the construction and operation of the project.

3.4.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on archaeological resources in the study area. The records search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). Details about the Native American consultation and historic maps are provided in the archaeological survey (ICF International 2015a) report and the historical resources evaluation (ICF International 2015b) prepared for this project.

- Site records for previously recorded archaeological sites.
- All previous studies conducted in or within 0.5 mile of the study area.
- The National Register of History Places.
- The California Historic Resources Inventory.
- The California State Office of Historic Preservation Historic Properties Directory.
- *Archaeological Survey Report for the Gateway Park Project* (ICF International 2015a).
- *Historical Resources Evaluation Report for the Gateway Park Project* (ICF International. 2015b).
- *Historic Property Survey Report for Gateway Park Project* (ICF International 2015c).
- Fifteen previous studies conducted in portions of the study area and three studies conducted within 0.5 mile of the study area, as noted in the archaeological survey prepared for this project (ICF International 2015a).
- Consultation with the California Native American Heritage Commission, which conducted a file search and provided the names of 11 additional contacts.
- Historic maps of West Oakland.
- Property-specific research at the City of Oakland Planning Department, which identified 11 historical resources in west Oakland.
- General historic records such as city directories, local newspapers, insurance maps, aerial photographs, university archives, engineering and army records, and local historical societies.
- Previous Caltrans evaluations of resources in the study area.
- Other references as cited in the text of this section.

3.4.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on Cultural Resources in the study area as defined in Section 3.4.2.1, *Study Area*.

Archaeological Resources

In addition to the literature review, a field survey of the archaeological study area was conducted on May 8, 2014. The survey area included the paved roads and areas under existing infrastructure, parking lots, and landscaping. The impact of project construction and operation on these resources was then evaluated.

Historical Resources

In addition to the literature review, property specific research and field surveys of listed historical resources in the study area were conducted in April 2013. An additional field survey was conducted in May 2014. The details of these surveys are documented in the historic property survey report for this project (ICF International 2015c) and support the resources listed in Section 3.4.2.3, *Historical Resources*. The impact of project construction and operation on these historical resources was then evaluated.

3.4.3.3 Significance Criteria

The project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in 14 CCR 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to 14 CCR 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

3.4.4 Impacts and Mitigation

This section describes the potential impacts related to cultural resources that would result from construction and operation of the project. Impacts on paleontological or geological features are addressed in Section 3.5, *Geology, Soils, and Paleontology.*

Archaeological Resources

Impact CUL-1. Project construction activities would not cause a substantial adverse change in the significance of archaeological resources that are listed or eligible for listing in the NHRP or CRHR (less than significant with mitigation)

A review of available cultural resources data and historic maps, as well as consultation with Native American individuals, did not reveal any archaeological resources in the study area. Most of the vicinity is not considered sensitive to archaeological findings because it was once a marsh and now consists of fill. No unique archaeological resources or archaeological resources that qualify as CEQA historical resources have been identified in the study area. Therefore, project-related impacts to archaeological resources listed or eligible for listing in the NHRP/CRHR are not anticipated.

However, previously undiscovered resources that may be eligible for listing in the CRHR could be encountered during demolition and construction. Prehistoric materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil (midden) containing heat-affected rocks and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Disturbance of these resources would be a significant impact. With the implementation of mitigation measure **MM-CUL-1**, this impact would be less than significant.

MM-CUL-1. Stop work if cultural resources are encountered during ground-disturbing activities

The project implementer shall ensure the construction specifications include a stop work order if prehistoric or historic-period cultural materials are unearthed during ground-disturbing activities. All work within 100 feet of the find shall be stopped until a qualified archaeologist can assess the significance of the find. If the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative (if applicable), shall develop a treatment plan that could include site avoidance, capping, or data recovery.

If a find is determined to be potentially significant, necessitating the development of an Archaeological Research Design and Treatment Plan (ARDTP), one shall be prepared by the archaeologist and submitted to the project implementer. Once approved, a data-recovery investigation and/or other treatment, consistent with the ARDTP, shall be conducted by the archaeologist. Components of the ARDTP may include geoarchaeological studies, Phase I identification, health and safety plan, treatment for unanticipated discoveries, data recovery, laboratory analysis protocols, treatment of human remains, archaeological monitoring, reporting, curation, public outreach, and interpretation.

Impact CUL-2. Project construction activities would have the potential to disturb human remains, including those interred outside of formal cemeteries (less than significant with mitigation)

Although no areas of prehistoric sensitivity were identified within the archaeological study area either through the background records search, Native American Consultation, or during the project site survey, the potential exists for previously undiscovered human remains to be encountered during project demolition or construction. Buried deposits may be eligible for listing in the CRHR. This impact would be significant. With implementation of mitigation measure **MM-CUL-2**, this impact would be reduced to less than significant.

MM-CUL-2. Stop work if human remains are encountered during ground-disturbing activities

The project implementer shall ensure the construction specifications include a stop work order if human remains are discovered during construction or demolition. There shall be no further excavation or disturbance of the site within a 50-foot radius of the location of such discovery, or any nearby area reasonably suspected to overlie adjacent remains. The Alameda County

Coroner shall be notified, pursuant to section 5097.98 of the California Public Resources Code and section 7050.5 of the California Health and Safety Code, and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission, which shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this state law, then the landowner shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

Historical Resources

Impact CUL-3. The project would not cause a substantial adverse change in the significance of historical resources that are listed or eligible for listing in the NRHP/CRHR as a result of construction activities (less than significant with mitigation).

Construction of the project has the potential to significantly affect two of the five CEQA historical resources in the study area.

- **MR-3 Key Pier Substation.** This substation is proposed for adaptive reuse to accommodate new visitor uses such as a café and bookstore.
- **MR-4 Bay Bridge Oakland Substation.** This substation is proposed for adaptive reuse to accommodate new visitor uses such as an artist studio, ranger station, conference room, and bathrooms.

The preliminary designs for the adaptive reuse of these two historical resources include the demolition of historic fabric, insertion of new large window and door openings with potentially incompatible historic materials, and alterations to the historic interior spaces. Based on preliminary design documents, the proposed changes to the Key Pier Substation and the Bay Bridge Oakland Substation would be inconsistent with the Secretary's Standards. This impact on historical resources would be significant. With implementation of mitigation measure **MM-CUL-3**, this impact would be less than significant.

MM-CUL-3. Engage a ~~third-party~~ qualified architectural historian to guide design alterations to conform to the Secretary of the Interior's Standards for rehabilitation

During design development, the project implementer shall obtain a qualified ~~third-party~~ architectural historian to review the design of the Key Pier Substation and the Bay Bridge Oakland Substation and provide design feedback to ensure that the design conforms to the Secretary of the Interior's Standards. The ~~third-party~~ architectural historian shall make recommendations for the treatment of historic building materials, finishes, and all exterior and interior character-defining features. These recommendations shall be documented by the qualified ~~third-party~~ architectural historian and included in a memorandum that further details the project's conformance with the Secretary of the Interior's Standards, including specific information on the treatment of all character-defining features. The final project design shall conform to the Secretary of the Interior's Standards before the project implementer obtains alteration permits.

Impact CUL-4. The project would not destroy historical resources that are listed in or eligible for listing in the NRHP/CRHR as a result of construction activities (less than significant)

Construction of the project would not significantly affect three of the five historical resources located in the study area.

- **MR-1 IER 26th Street Bridge.** The IER 26th Street Bridge was previously determined eligible for listing in the NRHP and is listed in the CRHR. The project does not propose any changes to the IER 26th Street Bridge. The proposed work directly east of the resource includes new vegetation and landscaping under the freeways at the I-880/I-80/I-580 maze to improve aesthetics, air quality and stormwater treatment. This would result in a minor alteration to the existing setting of the resource, which lacks historic integrity. The impact on MR-1 would be less than significant. No mitigation would be required.
- **MR-2 IERBYS.** The IERBYS building was previously determined eligible for listing in the NRHP and CRHR. The recently completed changes to the IERBYS building are part of a separate project that was found to conform to the Secretary of Interior Standards. The setting of the IERBYS building lacks historic integrity. The changes proposed under the current project would be limited to the planting of a tree buffer or windbreak, native oak trees, vegetation and landscaping directly adjacent and around the building. The proposed work would result in minor visual change to the building's setting, which lacks historic integrity. This impact would be less than significant. No mitigation would be required.
- **MR-5 2401-2403 Willow Street**. This West Oakland warehouse building was found eligible for listing in the NRHP and CRHR by the current study. The setting of the building lacks integrity. This project would not alter or change the building itself, nor indirectly affect the resource. The proposed work around west of the building would be limited to the planting of vegetation and landscaping under the freeways at the I-880/I-80/I-580 maze. The introduction of new vegetation and plantings would result in a minor alteration to the existing setting of the resource, which lacks historic integrity. This impact would be less than significant. No mitigation would be required.

Section 3.5
Geology, Soils, and Paleontological Resources

This section describes geology, soils, and paleontological resources in the study area. It then describes impacts on geology, soils, and paleontological resources that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.5.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to Geology, Soils, and Paleontology.

3.5.1.1 Federal

No federal regulations, laws, or guidelines apply to geology, soils, and paleontological resources at the project site.

However, the Society of Vertebrate Paleontology (SVP), a national 501(c)(3) nonprofit organization, publishes guidelines, *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (Society for Vertebrate Paleontology 2010), that are used nationally to guide assessment of impacts on paleontological resources and recommendations for mitigation for paleontological resources in case impacts occur (Society for Vertebrate Paleontology 2010). These guidelines were developed in response to the federal Paleontological Resources Preservation Act (PRPA) of 2009, which called for uniform policies and standards that would apply to fossil resources on all federal public lands. Section 6302 of the PRPA mandates that federal agencies "manage and protect paleontological resources on Federal land using scientific principles and expertise." The Society for Vertebrate Paleontology provides the professional paleontological guidance for implementation of the PRPA. The SVP Standard Procedures have become the standard for assessment of paleontological resources at all jurisdictional levels.

3.5.1.2 State

The following state regulations, laws, and guidelines apply to geology, soils, and paleontological resources.

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] 2621 *et seq.),* originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in corridors along active faults (referred to as earthquake fault zones). It defines criteria for identifying active faults and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones. It also encourages and regulates seismic retrofits of some types of structures.

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 (PRC 2690–2699.6) is intended to avoid or reduce damage resulting from earthquakes. While the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Earthquake Fault Zoning Act and requires the State to identify and map areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped seismic hazard zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

California Environmental Quality Act

Although CEQA does not define a unique paleontological resource or site, the definition of archaeological resources[1] is equally applicable to recognizing a *unique paleontological resource* or site. Additional guidance is provided in CEQA 15064.5 (a)(3)(D). This indicates "generally, a resource shall be considered historically significant if it has yielded, or may be likely to yield, information important in *prehistory* or history" (emphasis added).

Public Resources Code Chapter 1.7, Section 5097.5, Archaeological, Paleontological, and Historical Sites

Other state requirements for paleontological resource management are found in PRC Chapter 1.7, Section 5097.5, Archaeological, Paleontological, and Historical Sites. This statute specifies that no intentional disturbance of paleontological resources may be made on state lands without the express permission of the public agency having jurisdiction over the lands.

No state or local agencies have specific jurisdiction over paleontological resources. In addition, there is no state or local agency requirement that a paleontological collecting permit be obtained to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site.

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[1] Unique archaeological resources are defined in PRC 21083.2 as resources that meet at least one of the following criteria.

- Contains information needed to answer important scientific research questions and a demonstrable public interest in that information exists.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person. (PRC 21083.2[g])

3.5.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to geology, soils, and paleontological resources.

City of Oakland

City of Oakland General Plan Safety Element

The *City of Oakland General Plan* (City of Oakland 1998) presents broad objectives and policies that guide the land use decisions in the city and represents the vision for the city's physical character. The policies and actions in the Safety Element (City of Oakland 2004) are designed to protect people and structures from geologic hazards such as fault rupture, ground shaking, liquefaction, landslides, and erosion. The following policies are relevant to the project and geology, soils, and seismicity.

- **Policy GE-1.** Continue to enforce and carry out regulations and programs to reduce seismic hazards and hazards from seismically triggered phenomena.
- **Policy GE-2.** Continue to enforce ordinances and implement programs that seek specifically to reduce the landslide and erosion hazards.
- **Policy GE-3.** Continue, enhance, or develop regulations and programs designed to minimize seismically related structural hazards from new and existing buildings.
- **Policy GE-4.** Work to reduce potential damage from earthquakes to "lifeline" utility and transportation systems.

City of Oakland General Plan Open Space, Conservation, and Recreation Element

The Open Space, Conservation, and Recreation Element (City of Oakland 1996) contains the following policy relevant to the Project and seismic hazards.

- **Policy CO-2.3 Development on Filled Soils.** Require development on filled soils to make special provisions to safeguard against subsidence and seismic hazards.

City of Oakland Municipal Code

The City of Oakland has adopted California Building Standards Code to govern construction. A new building standards code was adopted January 1, 2017, the 2016 California Building Standards Code. California building codes are published every 3 years. Chapters 18 and 18A, adopted by the City of Oakland, cover soils and foundations. Chapter 18 requires that geotechnical investigations be made regarding geologic conditions for structures to be constructed in Earthquake Fault Zones or Seismic Hazard Zones. These investigations include reporting on soil conditions and geohazards.

Chapter 18B, adopted by the City of Oakland, covers grading. City of Oakland Municipal Code Chapter 15.04.3.2240, *CBC Chapter 18B added*, requires a grading permit according to a range of criteria, including if the grading, clearing or grubbing, or land disturbance activity involves an area of one acre or more.

East Bay Regional Park District Master Plan

The East Bay Regional Park District provides and manages the regional parks for Alameda and Contra Costa Counties, and would manage Gateway Park. The *Master Plan 2013* (East Bay Regional Park District 2013) contains the following policies pertaining to soils, geology, and paleontological resources.

> Natural Resources Management **NRM13.** The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its causes. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetative cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance associated with construction and maintenance operations, and will avoid disruptive activities in areas with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical, and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands, and will conform with applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

3.5.2 Environmental Setting

This section describes existing conditions related to geology, soils, and paleontological resources that could be affected by the construction and operation of the project. Unless otherwise cited, the information in the subsections below comes from the preliminary geotechnical report prepared for the project (Fugro 2014).

3.5.2.1 Study Area

The study area for direct impacts on geology, soils, and paleontological resources is the 45-acre project area.

3.5.2.2 Geology and Soils

Regional Geology

The project area is located in the Coast Ranges geomorphic province, which is characterized by northwest-trending mountain ranges and valleys that are oriented subparallel to the San Andreas Fault (California Geological Survey 2003). The ridges and valleys in the Coast Ranges are controlled by folds and faults that resulted from the collision of the Pacific and North American plates and subsequent strike-slip faulting along the San Andreas Fault zone. The Bay Area also experienced uplift and faulting in several episodes during late Tertiary time (about 25 to 2 million years ago). This produced the Berkeley Hills, the San Francisco Peninsula, and the intervening San Francisco Bay.

Local Geology

The Coast Ranges consist of northwest-trending mountain ranges, basins, and narrow valleys generally paralleling major geologic structures and the coastline of California. The San Andreas Fault system and the Hayward Fault zone contain active northwest-trending strike-slip faults and, to a lesser degree, thrust faults that bound the project area.

Bedrock in the local vicinity consists of the late Jurassic and Cretaceous age Franciscan Complex. The Franciscan Complex is a tectonic mixture of intensely deformed sedimentary, volcanic, and metamorphic rocks, including serpentinite. These are generally in faulted contact[2] with the overlying Great Valley Sequence. The San Francisco Bay sits within a broad depression in the Franciscan bedrock, resulting from an east-west extension between the San Andreas and the Hayward Fault systems. The bedrock surface is estimated to lie at elevations ranging from 400 to 600 feet below mean seal level in the local vicinity. The bedrock surface deepens towards the south-southeast and is shallower in other directions.

The unconsolidated geologic formations were deposited on top of the dissected Franciscan bedrock surface. This occurred during several episodes of significant sea level rise and fall associated with past glaciation. From deepest to shallowest, these formations include the Alameda Formation, Old Bay Clay, the San Antonio Formation, and Young Bay Mud soil types, as well as fill. The lower Alameda Formation, consisting of continental sediments,[3] was deposited on top of the bedrock surface between 500,000 and 1,000,000 years ago. Depositional environments likely included alluvial fans, lakes, flood plains, streams, and swamps. From 400,000 to 500,000 years ago the sea entered the bay and deposition of the upper Alameda Formation began. These sediments were deposited in alluvial, estuarine, and marine environments. The Alameda Formation consists of a mixture of clay, silt, sand, and gravel, with a greater proportion of fine-grained sediments. Sand and gravel units are relatively thin and discontinuous. Deposition and subsequent erosion of the upper Alameda Formation ceased approximately 125,000 years ago when Old Bay Clay deposition began.

Old Bay Clay lies above the Alameda Formation and is an unoxidized marine/estuarine unit consisting primarily of gray silty clay with occasional thin, discontinuous sand lenses. It was deposited beginning 115,000 to 125,000 years ago and ending 40,000 to 100,000 years ago during a time when sea level was as high as 20 feet higher than today. Old Bay Clay forms a relatively continuous layer extending a considerable distance inland from the present shoreline.

The San Antonio Formation lies above the Old Bay Clay and consists of continental deposits. Deposition of these units occurred in late Wisconsin time when sea level was lower than at present. The top of the San Antonio Formation was subsequently eroded in very late Wisconsin time.

Deposition of Young Bay Mud has been occurring over the last 10,000 years and continues today. Young Bay Mud occurs above the San Antonio Formation and consists of estuarine/marine gray silty clay with minor discontinuous sand lenses. Young Bay Mud is overlain by undifferentiated fill that was placed in the late 1800s and throughout the 1900s.

Local Seismicity

The San Francisco Bay Area is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in the Bay Area and are associated with crustal

[2] *Faulted contact* is contact between two geologic deposits that have been displaced with respect to each other because of tectonic movement.

[3] *Continental sediments* are sediments deposited on land or in bodies of water not directly connected with the ocean.

movements along a system of subparallel fault zones that generally trend in a northwesterly direction.

The Coast Ranges tectonic province is bounded on the west by the northwest-trending San Andreas Fault system, the primary boundary between the Pacific and North American Plates. The system boundary is represented as a broad region, 62 to 124 miles wide, centered on the plate boundary, including much of the Coast Ranges, and is tectonically dominated by the dextral horizontal shear caused by the relative motion of the two plates. In the San Francisco Bay region, the plate boundary is a 62-mile-wide zone of deformation consisting of several major strike-slip fault zones, including the San Gregorio, San Andreas, Hayward-Rodgers Creek, Calaveras, and Concord-Green Valley Faults. Table 3.5-1 outlines the distance from the project area to nearby major faults, their slip rate, and magnitude.

Table 3.5-1. Major Active Faults in the Project Vicinity

Fault	Distance to Project Area (miles)	Slip Rate (inches/year)	Magnitude[1]
North Hayward	3.7	0.4	7.3
South Hayward	10.6	0.4	7.3
San Andreas-Peninsula	14.9	0.7	8.0
San Gregorio	16.2	0.2	7.2
Calaveras	17.4	0.2	6.9
Concord/Green Valley	19.3	0.1	6.7

Notes:
[1] Maximum Moment Magnitude that a fault is capable of generating.
Source: Fugro Consultants 2014

Earthquakes are a part of the seismic setting of the Bay Area. There is a 72% likelihood that a magnitude 6.7 earthquake will occur in the Bay Area in the next 30 years (Working Group on California Earthquake Probabilities 2015). The City of Oakland lies within the San Andreas Fault system and straddles the Hayward Fault. The last major earthquake on the Hayward Fault occurred in 1868 and caused widespread damage throughout much of the East Bay region. This earthquake caused surface rupture from Fremont to as far north as Berkeley. Although the fault rupture was poorly documented, modeling of survey data suggest that the fault moved as far north as Berkeley, and from these data the average amount of horizontal movement along the fault is inferred to be about 6 feet. Based on empirical relationships among earthquake magnitude, fault rupture length, and displacement, a large event on the Hayward Fault is capable of generating displacements of at least 10 feet. In addition to potential for seismic rupture, the Hayward Fault is undergoing creep; i.e., it is undergoing continuous aseismic slip. This amounts to about .016 to 0.24 inch per year on the Hayward Fault in Fremont, approximately 25 miles south of the project area.

Project Area Geology and Seismicity

Topography and Drainage

The topography in the project area is generally flat, with elevations ranging from a maximum height of approximately 8 to 12 feet above mean lower low water.

Depth to Groundwater

Depth to groundwater is approximately 5 to 6 feet. Groundwater level and flow is expected to be highly variable due to tidal forces.

Fault Rupture

The majority of earthquakes in the Bay Area are associated with the San Andreas Fault and Hayward Fault system. As shown in Table 3.5-1, the nearest active fault is the North Hayward Fault, approximately 3.7 miles to the northeast of the project area. The project area is not located in an Alquist-Priolo Earthquake Fault Zone and is not zoned as susceptible to fault rupture.

Ground Shaking

Due to the proximity of the Hayward Fault, the project area is subject to strong ground shaking during large earthquakes originating on this fault as well as from other regional faults.

Soils

Soils in the project area are Urban Land, Urban Land-Baywood complex, and Urban Land-Clear lake complex (Natural Resources Conservation Service 2017) (Figure 3.5-1). These soils that have been heavily modified by human use are not rated for erosion.

Ground Failure

Geologic or soil units can become unstable or result in settlement for a variety of reasons. Strong ground shaking caused by large earthquakes can induce ground displacement and/or failure, such as liquefaction, compaction settlement, and slope movement. A site's susceptibility to these hazards relates to the site topography, soil conditions, and depth to groundwater. Settlement is another cause of ground failure. Immediate settlement occurs when a load from a structure or the placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in the pore spaces under the continued application of the load.

Source: Soil Data, Natural Resources Conservation Service, Web Soil Survey, 2016
Aerial Imagery, ESRI 2013

0.25 0 0.25
Miles

N

Fencing only
Note: No proposed alterations to highways or railways.

Project Area
Fencing only

Soil Type:
146 Urban land
147 Urban land-Baywood complex
148 Urban land-Clear Lake complex
162 Water

Source: ICF, 2017.

gatewaypark

Figure 3.5-1
Soils in the Project Area

Liquefaction

As shown on Figure 3.5-2, the liquefaction susceptibility of the sediments in the project area is mapped by the U.S. Geological Survey as *very high*. *Liquefaction* is a soil behavior phenomenon whereby sediments temporarily lose shear strength[4] and collapse. This condition is caused by cyclic loading[5] during earthquake shaking that generates high pore water pressures[6] within the sediments. The soil most susceptible to liquefaction is loose, cohesionless, granular soil below the water table and within about 50 feet of the ground surface. Liquefaction can result in loss of foundation support and settlement of overlying structures, ground subsidence, and translation[7] due to lateral spreading and differential settlement of affected deposits.

Based on data in the preliminary geotechnical report prepared for this project (Fugro 2014), the project area is generally underlain by fill consisting of loose to medium-dense cohesionless sand approximately 7 to 28 feet thick. In addition, fill known as the Mole Fill was placed in the 1930s specifically for construction of the old San Francisco–Oakland Bay Bridge (Bay Bridge). This fill consists of granular, poorly graded sand with silt to silty sand and includes variable amounts of debris, cobbles, boulders, and shore protection riprap. The northern portion is underlain by buried remnants of east-west-trending rock dikes. In the early 2000s, additional fill was placed on the northern portion of the Mole Fill for construction of the new Bay Bridge. Construction of this new fill involved removing some of the old rock dikes and replacing them with new fill. However, no information is available on the constituents of the fill. As stated above, depth to groundwater is approximately 5 to 6 feet. Deeper sand layers include some thin layers of 1 to 2 feet of medium-dense sand, but the majority of the sand layers tend to be dense and/or somewhat cohesive. Dense or cohesive layers are expected to have a relatively low potential to liquefy during a major seismic event. Where cohesionless deposits are below the water table, there is a high potential for them to liquefy during a major seismic event. Liquefaction was documented in the project area following the 1989 Loma Prieta earthquake on the San Andreas Fault system.

Lateral Spreading

In locations where there is a liquefiable layer between the surface soil and underlying soil on a slope or adjacent to a free face such as a stream bank, excavation, or open body of water such as the Bay, the surface soil may be transported downslope, initiated by either seismic or gravitational forces, in a phenomenon referred to as lateral spreading. Soils in the project area are subject to seismically induced lateral spreading.

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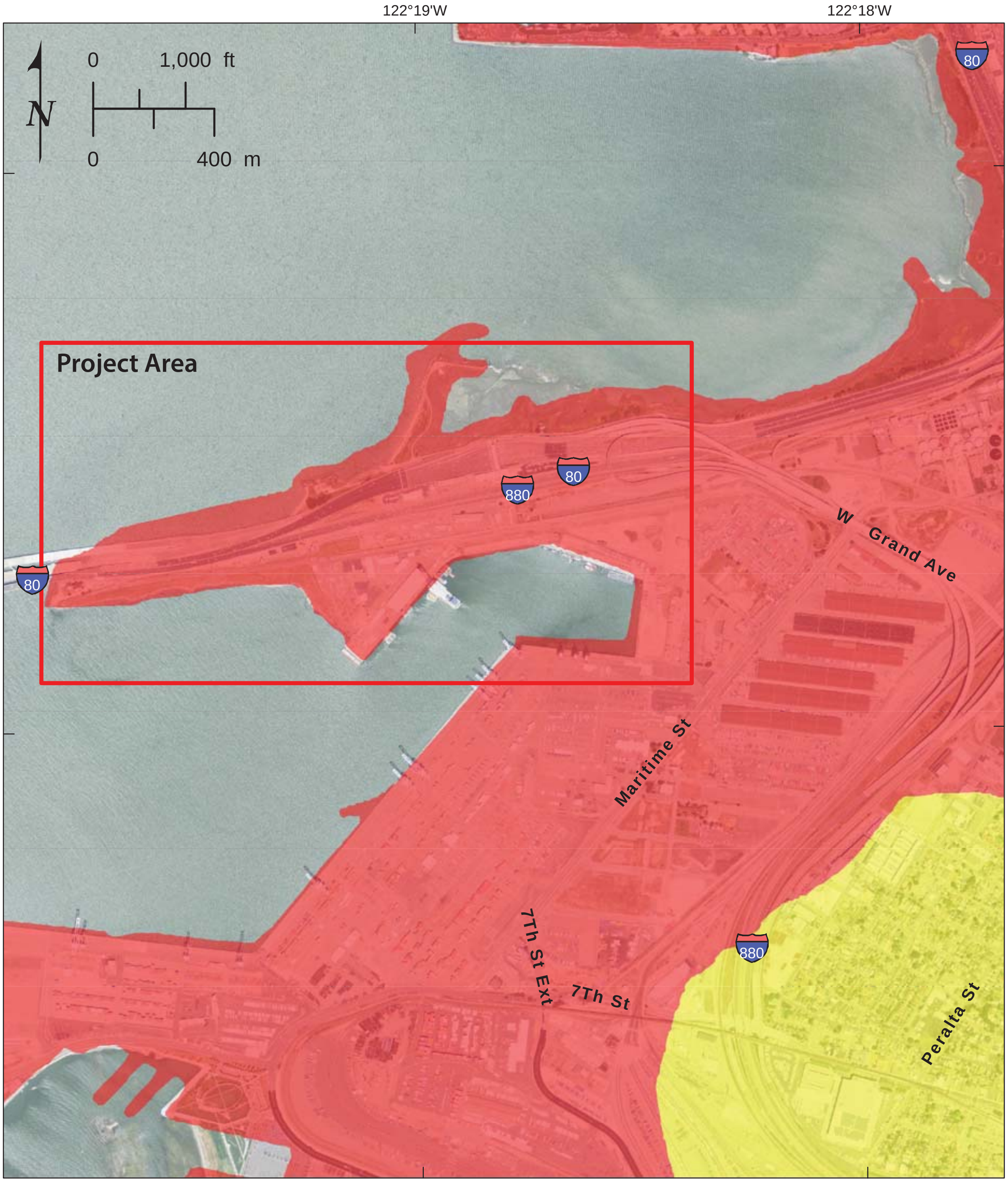
[4] *Shear strength* describes an earthen material's resistance to deformation. It is a factor of cohesiveness of the material, the load on the material, and internal friction.

[5] *Cyclic loading* is the distribution of forces or stresses that change over time in a repetitive fashion, such as under conditions of seismic ground shaking.

[6] *Pore water pressure* is the pressure of groundwater held within soils or rock, in gaps between particles.

[7] *Ground subsidence* is the downward movement of the ground surface relative to its previous position. *Ground translation* is the lateral movement of the ground surface relative to its previous position.



Imagery from NAIP, 2012

Liquefaction Susceptibility
(Knudsen et al., 2000; USGS OFR 00-444)

- Very High
- High (not within map extent)
- Moderate
- Low (not within map extent)
- Very Low (not within map extent)

Source: Fugro, 2014.

gatewaypark

Figure 3.5-2
Liquefaction Susceptibility in the Project Vicinity

During the 1989 Loma Prieta earthquake, lateral spreading produced numerous fissures in the road pavement parallel to the shoreline. Many of these pavement cracks were of considerable length (more than 300 feet long), and open fissures approximately 1 to 4 inches wide were common. Many of these fissures caused by lateral spreading discharged fine sand and silty sand, a phenomenon known as sand boils. An associated result of seismic activity, sand boils are an eruption of sand and water from a localized source that result from seismically caused liquefaction. Numerous additional sand boils erupted along the median strip of the roadway and off the shoulders of the roadway in undeveloped land at the Bay's edge.

Settlement

Soils in the project area are subject to seismically induced settlement and differential settlement resulting from liquefaction as well as consolidation settlement. Seismically induced settlement results when liquefaction causes soils to densify. Factors include the liquefiable soil's relative density and thickness and any load on the soil. Differential settlement is the uneven settling of the soil across an area.

Following the 1989 Loma Prieta earthquake, liquefaction-induced settlement of the pavement adjacent to the Toll Plaza, administration building, and maintenance buildings resulted in the loss of some buried utilities entering the buildings. Settlement of the fill supporting the approach to the Bay Bridge, Interstate 580 eastbound onramp and the West Grand Avenue onramp structures were severe, resulting in pavement settlement and open fissures as much as approximately 1 foot wide at the soil-structure interface. The approach fill settled below the bridge- and ramp-road level by as much as approximately 1.5 feet.

In addition, soils at the project site are subject to consolidation settlement. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation settlement from Young Bay Mud deposits, as well as poorly engineered fill materials, is one of the characteristic hazards in the San Francisco Bay. At the project site, approximately 7 to 28 feet of artificial fill overlie approximately 10 to 28 feet of compressible Young Bay Mud, which would consolidate under development, depending on the thickness of existing fill, new fill, and Young Bay Mud.

Landslide

Due to the relatively flat topography of the project area, landslides are not considered hazards.

3.5.2.3 Paleontological Resources

The project area is situated on 7 to 28 feet of artificial fill overlying Young Bay Mud, which in turn overlies San Antonio Formation, which overlies Old Bay Clay of Pleistocene age (Fugro Consultants 2014). The San Antonio Formation is known to contain paleontological resources (Casteel and Hutchison 1973). Remains of land mammals (such as extinct mammoth and sloth) have been reported from localities of similar age and origin in the nearby area (Casteel and Hutchison 1973). Vertebrate fossils are considered sensitive paleontological resources.

Table 3.5-2 shows likelihood of fossil types and paleontological sensitivity of the map units in the project area (see Section 3.5.3.2, *Impact Analysis Methods, Paleontological Resources*, for a discussion of how paleontological sensitivity is determined).

Table 3.5-2. Geologic Units in the Project Area and Paleontological Sensitivity

Age	Geologic Unit	Location with Respect to Project Area	Depth Relative to Ground Surface (feet)	Paleontological Sensitivity
Historic	Artificial fill	Underlying project area	+12 to -20	None
Holocene	Young Bay Mud	Underlying project area	-7 to -43	Low
Late Pleistocene	Merritt Sand/Posey Sand deposits	Underlying project area	-25 to -51	Undetermined
	San Antonio Formation			High
Late Pleistocene	Old Bay Clay	Underlying project area	-36 to max depth explored	Undetermined

Sources: Paleobiology Database 2017, Fugro Consultants 2014, Casteel and Hutchison 1973

The Pleistocene-aged San Antonio Formation is medium dense to very dense and contains estuarine, alluvial, and Aeolian sands with a varying amount of silt and clay. The Pleistocene-aged Merritt Sand is a dense to very dense Aeolian deposit that ranges from clean to containing silt and clay. The Pleistocene-aged Posey Sand is reworked Merritt Sand that is medium dense and clayey.

The San Antonio Formation includes the following fossils. These specimens were all recovered from Alameda County (Paleobiology Database 2017, Casteel and Hutchison 1973.)

- Mammals: indeterminate squirrel species (Sciuridae), horse species (*Equus sp*.), indeterminate proboscidean species (Proboscidea),[8] deer species (Cervidae).
- Birds: indeterminate species (Aves).
- Fish: indeterminate species of carps or minnows (Cyprinidae).
- Reptiles: indeterminate species of pond turtles (Emydinae); indeterminate snake species (Colubridae).
- Amphibians: frog species (*Rana sp*.) and salamander species (*Taricha sp*.).

3.5.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on geology, soils, and paleontological resources associated with the construction and operation of the project.

[8] The only living member of this family is the elephant. Extinct species include the woolly mammoth and the American mastodon.

3.5.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on geology, soils, and paleontological resources in the study area.

- The site-specific preliminary geotechnical report prepared for this project and provided in the *Preliminary Geotechnical Report San Francisco-Oakland Bay Bridge Gateway Park* (Fugro Consultants 2014).
- Soils mapping from the Natural Resources Conservation Service web soil survey online service (Natural Resources Conservation Service 2017).
- Mapping of seismic liquefaction and landslide hazards at and near the project area (California Geological Survey 2003).
- Earthquake probability forecasts (Working Group on California Earthquake Probabilities 2015).
- Mapping of Quaternary faults near the project area (U.S. Geological Survey 2016).
- Published literature of paleontological resources (Casteel and Hutchison 1973).

3.5.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on geology, soils, and paleontological resources in the study area as defined in Section 3.5.2.1, *Study Area*.

Geology and Soils

Impacts related to geology and soils were analyzed qualitatively, based in part on analysis presented in the preliminary geotechnical report prepared for this project (Fugro 2014). The analysis was also based on data from peer-reviewed and government reports and mapping, as described under *Principal Information Sources*. The analysis focused on the project's potential to affect the environment as a result of project actions.

Paleontological Resources

The fossil-yielding potential of a particular area depends on the geologic age and origin of the underlying rocks. It also depends on the processes that the rocks have undergone, both geologic and anthropogenic.[9]

The Impact Mitigation Guidelines Revisions Committee of the Society for Vertebrate Paleontology (SVP) has published Standard Guidelines. The Standard Guidelines include procedures for the investigation, collection, preservation, and cataloguing of fossil-bearing sites. The Standard Guidelines are widely accepted among paleontologists and are followed by most investigators. The Standard Guidelines identify the two key phases of paleontological resource protection as (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant nonrenewable paleontological resources that could be damaged or destroyed by project excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects. SVP defines the level of potential as one of four sensitivity

[9] *Anthropogenic* means caused by human activity.

categories for sedimentary rocks: High, Undetermined, Low, and No Potential (Society for Vertebrate Paleontology 2010).

- **High Potential.** Assigned to geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered; and sedimentary rock units suitable for the preservation of fossils ("e.g., middle Holocene and older, fine-grained fluvial sandstones…fine-grained marine sandstones, etc."). Paleontological potential consists of the potential for yielding abundant fossils, a few significant fossils, or "recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data."
- **Undetermined Potential.** Assigned to geologic units "for which little information is available concerning their paleontological content, geologic age, and depositional environment." In cases where no subsurface data already exist, paleontological potential can sometimes be assessed by subsurface site investigations.
- **Low Potential.** Field surveys or paleontological research may allow determination that a geologic unit has low potential for yielding significant fossils, e.g., basalt flows. Mitigation is generally not required to protect fossils.
- **No Potential.** Some geologic units have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Mitigation is not required.

To determine the project's potential impact on paleontological resources, the paleontological sensitivity of the geologic units present at the project site according to SVP guidelines was assessed. A significant impact would occur if geologic units of high or undetermined potential were present at the site. A less than significant impact would occur if geologic units of low potential were present at the site. No impact would occur if the units at the site had no paleontological potential.

3.5.3.3 Significance Criteria

The project would have a significant impact on geology, soils, and paleontological resources if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42
    - Strong seismic ground shaking
    - Seismic-related ground failure, including liquefaction
    - Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse

- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Topics Not Evaluated in Detail

The following potential impacts related to geology, soils, and paleontological resources were not evaluated in this EIR for the reasons described below.

Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslide The project area is nearly level and not adjacent to any hillsides where seismically induced landslides or other downslope movements of rock or soil could pose a hazard. The project area is not located within a mapped landslide hazard area (California Geological Survey 2015). The project would not cause or exacerbate a landslide hazard. Because the project would not increase the exposure of people to landslide hazards, this impact is not discussed further.

Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Wastewater produced by the project would be conveyed to East Bay Municipal Utility District sewer system. New construction of alternative wastewater disposal systems is not required as part of the project. Further, existing alternative wastewater disposal systems or septic tanks would not be used as part of the project. Therefore, no impacts related to soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems would occur, and this impact is not discussed further.

Directly or indirectly destroy a unique geologic feature. The project area, located along the San Francisco Bay waterfront, is generally flat and has no unique geologic or physical features. Therefore, no impacts related to destruction of unique geologic or physical features would occur, and this impact is not discussed further.

3.5.4 Impacts and Mitigation

This section describes the potential impacts related to geology, soils, and paleontological resources that would result from construction and operation of the project.

With regard to Impact GEO-1, GEO-2, and GEO-6, the California Supreme Court concluded in the *California Building Industry Association vs. Bay Area Air Quality Management District* (*CBIA v. BAAQMD*) decision that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents."[10] Therefore, the discussions under

[10] The *CBIA v. BAAQMD* ruling provides several exceptions to the general rule regarding analysis of a project's impact on the environment:(1) if a project qualifies for certain specific exemptions (e.g., certain housing projects or transportation priority projects, per PRC 21159.21(f),(h); 21159.22(a),(b)(3); 21159.23(a)(2)(A); 21159.24(a)(1),(3); or 21155.1(a)(4),(6)), (2) if project occupants would be exposed to potential noise or safety impacts due to proximity to an airport (per PRC 21096), and (3) if the project is a school project that requires assessment of certain environmental hazards (per PRC 21151.8). None of these exceptions applies to the project.

these impact headings of potential impacts on future users are provided for informational purposes only. However, the Court also found that in certain instances, a project may exacerbate the environmental hazards or conditions that already exist, and in those instances an agency must analyze the potential impact of such hazards on future residents. The Court characterized this as a situation in which the project was affecting the environment by exacerbating these existing hazards. The potential for the project to exacerbate existing conditions is addressed below.

Impact GEO-1. The project would not expose people or structures to risk of loss, injury, or death involving rupture of a known earthquake fault (no impact)

As discussed in Section 3.5.2, *Environmental Setting*, *Fault Rupture* and in Section 3.5.1, *Regulatory Framework*, *Alquist-Priolo Earthquake Fault Zoning Act*, the project area is not located in an Alquist-Priolo Earthquake Fault Zone, nor are there active or potentially active faults in the project area. The nearest active fault is the North Hayward Fault, approximately 3.7 miles from the project area. Therefore, the potential for surface fault rupture to affect the project site is extremely low. The project will not involve any activity that might exacerbate an existing conditions on the project site related to a known earthquake fault, and thus there would be no impact related to the project.

Impact GEO-2. The project would not expose people or structures to strong seismic ground shaking (no impact)

One of the primary earthquake hazards in the project area is ground shaking. The project area is likely to experience strong ground shaking during the life of the project. The foundation for the Visitor Center is not yet specified. It would either be supported on piles or a foundation on improved ground. Piers and the bulkhead structure would be constructed on piles. As discussed previously, the project area is located near several faults that are capable of generating a large earthquake. There is a 72% likelihood that a magnitude 6.7 earthquake will occur in the Bay Area in the next 30 years. If the project buildings are not properly constructed, ground shaking could result in significant damage to structures, including collapse. The 2016 California Building Standards Code requires that geotechnical investigations provide design criteria that minimize impacts associated with strong ground shaking during an earthquake. The project implementer would be required to prepare a design-level geotechnical report in accordance with California Building Standards Code requirements and implement the project-specific recommendations contained therein. The design-level geotechnical report would be subject to review and approval by the City in order to secure project building permits. The project will not involve any activity that might exacerbate existing conditions related to strong seismic ground shaking, and thus there would be no impact related to the project.

Impact GEO-3. The project would not expose people or structures to seismic-related ground failure, including liquefaction (less than significant)

Construction of the project would include the construction of buildings, paths, piers, and a boardwalk; and construction of play structures. Piers would be constructed both in water and on dry ground. As discussed in Section 3.5.2.2, *Geology and Soils, Project Area Geology and Seismicity*, groundwater is at approximately 5 to 6 feet below ground surface. Proposed foundations for the Visitor Center and existing buildings are not yet specified. They would either be supported on piles or foundations constructed on improved ground. Piers and the bulkhead structure would be constructed on piles.

The project area is located in a *very high* liquefaction susceptibility zone as mapped by the U.S. Geological Survey. Liquefaction is a factor of the soil's cohesiveness, internal friction, and the load on the soil. The structures constructed as part of the project would exacerbate the liquefaction tendencies of soils present at the site, rendering structures and adjacent land subject to seismically induced liquefaction. The geotechnical report prepared for this project (Fugro 2014) notes that liquefaction-induced settlements would induce down-drag loads on piles; therefore, down-drag and impacts of soils displacements on structures should be evaluated as part of the detailed design phase. Down-drag is a term used to define the forces on piles installed through soil deposits undergoing consolidation. These forces increase the load on piles and result in additional settlement, thereby reducing the usable capacity of the piles installed.

However, the project implementer would be required to comply with the 2016 California Building Standards Code. The 2016 California Building Standards Code requires that geotechnical investigations provide design criteria that minimize impacts associated with seismic-related ground failure (e.g., liquefaction), including preparation of a site-specific geotechnical investigation. The site-specific geotechnical investigation would characterize the subsurface conditions and develop site-specific recommendations for treatment. The geotechnical investigation would perform additional investigations and laboratory testing to determine soil characteristics, including but not limited to liquefaction susceptibility within the limits of the project, if deemed necessary, by a professional geologist/engineer and certified analytical laboratory. The additional investigations would include review of available literature prepared for other nearby structural and transportation projects to evaluate the expansive nature of soils in the project area. In addition, if deemed necessary by a qualified geologist, soils boring and laboratory testing would be conducted to evaluate the expansive nature of the soils within the limits of the project area. With preparation of the site-specific geotechnical report and implementation of its recommendations, which would be required in order to comply with the California Building Standards Code and receive a building permit, the project would result in less-than-significant impacts related to exposure of people or structures to seismic-related ground failure, including liquefaction. No mitigation would be required.

Impact GEO-4. The project would not result in adverse soil erosion or the loss of topsoil (less than significant)

As discussed in Section 3.8, *Hydrology and Water Quality*, grading and other construction activities could result in soil erosion or loss of topsoil. Because the project would result in a net reduction of approximately 0.3 acre of impervious area, there is likely to be a minor overall decrease in stormwater runoff and potential for erosion. Because the project would disturb more than 1 acre of land, the preparation and implementation of a stormwater pollution prevention plan (SWPPP) in accordance with the National Pollutant Discharge Elimination System (NPDES) would be required. The SWPPP would list best management practices that would be implemented to minimize stormwater runoff, control erosion, and monitor effectiveness. If grading must be conducted during the rainy season, the best management practices would focus on erosion control. Therefore, with implementation of the SWPPP, the project would not result in substantial soil erosion. This impact would be less than significant. No mitigation would be required.

Impact GEO-5. The project would not result in adverse on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse related to unstable soils (less than significant)

Construction of the project would involve excavation; pile driving; construction of buildings, paths, piers, and a boardwalk; construction of play structures, restoration at Radio Beach, and construction of stormwater treatment swales. Piers would be constructed both in water and on dry ground. As discussed in Section 3.5.2.2, *Geology and Soils,* groundwater is at approximately 5 to 6 feet below ground surface.

The project area is located in a *very high* liquefaction susceptibility zone as mapped by the U.S. Geological Survey. The site is subject to consolidation settlement as well as seismic densification because of liquefaction. Consolidation settlements are estimated between approximately 2 and 23 inches. Table 3.5-3 shows the anticipated consolidation settlement in different park areas.

Table 3.5-3. Consolidation Settlement due to New Fill

Locations	Existing Fill Thickness (feet)	Proposed New Fill Thickness (feet)	Young Bay Mud Thickness (feet)	Consolidation Settlement (inches)
Bridgeyard	10 – 20	0 – 9	33	0.25 – 23
Key Point	10 – 28	0 – 5	15 – 25	0.25 – 0.75
Port Playground	10 – 17	1 – 6	22 – 28	1 – 1.5
EBMUD Outfall	10 – 28	2 – 10	10 – 20	0.75 – 2.25

Source: Fugro 2014
EBMUD = East Bay Municipal Utility District

In addition, the potential for lateral spreading in the project area is high.

However, the project implementer would be required to comply with the 2016 California Building Standards Code, which requires a geotechnical report to be prepared that addresses ground stability and improvements. The geotechnical report would include recommendations for foundation support and ground improvement. Therefore, the impacts related to unstable soils that could result in liquefaction, lateral spreading, or subsidence related to consolidation or seismic densification would be less than significant. No mitigation would be required.

Impact GEO-6. The project would not be located on expansive soils where construction would create substantial risks to life or property (no impact)

The project area is underlain by artificial fill consisting of loose to medium dense cohesionless sand approximately 7 to 28 feet thick. This fill is not rated for expansive properties; however, sand is not an expansive soil. Underlying the fill is Young Bay Mud. This mud is soft, highly plastic, highly compressible, and expansive. However, given the depth of groundwater of 5 to 6 feet, the Young Bay Mud would remain submerged and therefore would not exhibit expansive properties. Expansive soils are unlikely to pose a risk for building foundations. The project would not include any activity that might exacerbate existing conditions related to expansive soils, and thus there would be no impact.

Impact GEO-7. The project would not cause a substantial adverse change in the significance of paleontological resources (less than significant with mitigation)

Project activities could involve soil removal for ground improvement at the Visitor Center and existing buildings, pile driving at the pier and path to the beach, or both. Project activities would involve pile driving for the piers. If ground improvement is used, depth of excavation for ground improvement at the Visitor Center would be determined after future subsurface investigations. Excavation for the purpose of ground improvement would likely not be to depths that would encounter the sensitive San Antonio Formation.

Piles would be driven to a maximum depth of approximately 160 feet at the fishing pier and bicycle path to Radio Beach and to a maximum depth of approximately 90 feet at the bulkhead structure. Both of these maximum depths of pile driving would penetrate into both Young Bay Mud and San Antonio Formation and Posey Sand/Merritt Sand and potentially Old Bay Clay. However, with pile driving, no material would actually be excavated from the sensitive geological formations (for paleontological resources) at depth and thus there would be no recoverable material and no way to determine if paleontological resources were actually present. Even if present, there would be no way to actually recover such resources below a driven pile. Given that such resources are not readily recoverable for scientific study at present and it would be speculative to assert that limited pile-driving would somehow substantially harm such resources, this is not considered a significant impact.

For ground excavation separate from pile-driving, although the likelihood of encountering paleontological resources is very low, mitigation measure **MM-GEO-1** is recommended to ensure that any inadvertent impact on any encountered resources would be less than significant.

MM-GEO-1. Establish and follow procedures in case of accidental discovery of a paleontological resource

Before the start of any drilling or pile-driving activities, the project implementer shall retain a qualified paleontologist, as defined by SVP, who is experienced in teaching generalists. The qualified paleontologist shall train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who shall evaluate the significance.

If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work near the find and notify the project implementer. Construction work in the affected areas shall remain stopped or be diverted to allow recovery of fossil remains in a timely manner. The project implementer shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with SVP guidelines (Society for Vertebrate Paleontology 2010). The recovery plan may include a field survey, construction monitoring, sampling, data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the project implementer to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered. The project implementer shall be responsible for ensuring that the monitor's recommendations regarding treatment and reporting are implemented.

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Section 3.6

Greenhouse Gas Emissions

This section describes greenhouse gas emissions in the study area. It then describes impacts on greenhouse gas (GHG) emissions that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate significant impacts resulting from project implementation.

3.6.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to greenhouse gas emissions.

3.6.1.1 Federal

Although periodically debated in Congress, there is no overarching federal legislation concerning GHG emissions limitations.

In *Massachusetts et al. v. Environmental Protection Agency* 549 U.S. 497 (2007), the U.S. Supreme Court held that GHG emissions are pollutants within the meaning of the Clean Air Act (CAA). In issuing the opinion, the court also acknowledged that climate change results, in part, from anthropogenic causes. The Supreme Court's opinion in this case allowed the EPA to regulate GHG emissions.

On December 7, 2009, the EPA signed the Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the CAA. Under the Endangerment Finding, the EPA finds that the current and projected concentrations of the six key well-mixed GHGs, CO2, methane (CH4), nitrous oxide (N2O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF6), and hydrofluorocarbons (HFCs), in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Findings, EPA finds that the combined emissions of these well mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

In *Coalition for Responsible Regulation, Inc., et al. v. EPA,* the U.S. Court of Appeals upheld the U.S. Environmental Protection Agency's authority to regulate GHG emissions under the Clean Air Act. In absence of an overarching federal law specifically related to climate change or the reduction of GHGs, the U.S. Environmental Protection Agency under President Obama proposed regulations under the Clean Air Act. These regulations are currently stayed due to multiple lawsuits. Further regulation of GHGs from the current Congress or the current federal administration appears unlikely for at least the near future.

In October 2012, the EPA and the National Highway Traffic Safety Administration (NHTSA) established the final rule for fleet-wide passenger car and light-truck model years 2017 to 2025. The new CAFE standards aim to reach an emissions rating of 163 grams of carbon dioxide per mile, or the equivalent of 54.5 miles per gallon (mpg), by model year 2025. Fleet-wide fuel economy standards will become more stringent with each subsequent model year through 2025. Because of a statutory requirement that requires NHTSA to set average fuel economy standards five model years at a time, NHTSA requires model years 2017 to 2022 to have an industry fleet-wide average of 40.3 to 41.0 mpg and estimates that 2025 model year vehicles will range from 48.7 to 49.7 mpg (U.S. Environmental Protection Agency 2012).

3.6.1.2 State

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. Governors of California have also issued several executive orders related to the state's evolving climate change policy.

The following policies, legal cases, regulations, and legislation apply to GHG emissions.

Assembly Bill 1493—Pavley Rules

Known as Pavley I, Assembly Bill (AB) 1493 (2002, amendments 2009, 2012 rulemaking) set the nation's first GHG standards for automobiles. AB 1493 requires the California Air Resources Board (ARB) to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as Pavley II, now referred to as the Advanced Clean Cars measure) has been proposed for vehicle model years 2017 to 2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon by 2025.

Executive Order S-03-05

Governor Schwarzenegger signed Executive Order (EO) S-03-05 in 2005. This EO is designed to reduce California's GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050.

Assembly Bill 32—California Global Warming Solutions Act

AB 32, the California Global Warming Solutions Act (2006), codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. Since being adopted, ARB, California Energy Commission, California Public Utilities Commission, and the Building Standards Commission have been developing regulations that will help meet the goals of AB 32 and Executive Order S-03-05. The Scoping Plan for AB 32 identifies specific measures to reduce GHG emissions to 1990 levels by 2020. The plan requires ARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. Specifically, the plan articulates a key role for local governments, recommending they establish GHG reduction goals for both their municipal operations and the community consistent with those of the state.

Executive Order S-01-07—Low Carbon Fuel Standard

EO S-01-07, the Low Carbon Fuel Standard (2007) mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 and that a Low Carbon Fuel Standard for transportation fuels is established in California.[1]

Senate Bill SB 375 (Steinberg)

Senate Bill (SB) 375 (2008) requires regional transportation plans (RTPs), developed by Metropolitan Planning Organizations, to incorporate a sustainable communities strategy in their RTPs that will achieve GHG emission reduction targets set by ARB, which finalized the regional targets in February 2011. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted the first *Regional Transportation Plan/Sustainable Communities Strategy*, which incorporates the sustainable communities strategy, on July 18, 2013. ABAG and MTC adopted an updated RTP/SCS on July 27, 2017 which provides a strategy for achieving per capita GHG emissions reduction targets from passenger vehicles set by ARB of approximately 7% by 2020 and 15% by 2035 over base year 2005. The targets are planned to be updated in 2018; ARB recommended updated targets for the Bay area are a per capita GHG emissions reduction from passenger vehicles by approximately 10% by 2020 and 19% by 2035 over base year 2005.

State CEQA Guidelines

The State CEQA Guidelines (2010) require lead agencies to make a good faith effort to describe, calculate, or estimate the amount of GHG emissions that would result from a project. Section 15064.4 further states that the analysis of GHG impacts should include consideration of (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions." Under the Guidelines a project's incremental contribution to a cumulative impact is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (Guidelines, section 15064(h)(3)). The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

State CEQA Guidelines Section 15126.4 provides that lead agencies must consider feasible means of mitigating greenhouse gas emissions, if such emissions are determined to be significant, that may include, but not be limited to the following: measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision; implementation of project features, project design, or other measures that are incorporated into the project to

[1] ARB approved the Low Carbon Fuel Standard on April 23, 2009 and the regulation became effective on January 12, 2010. The U.S. District Court for the Eastern District of California ruled in December 2011 that the standard violates the Commerce Clause of the U.S. Constitution. ARB appealed this ruling in 2012 and on September 18, 2013, a 9th U.S. Circuit Court of Appeals panel upheld the standard, ruling that the program does not violate the Commerce Clause and remanded the case to the Eastern District.

substantially reduce energy consumption or GHG emissions; offsite measures, including offsets that are not otherwise required.

Executive Order B-30-15

EO B-30-15 (2015) establishes a statewide GHG reduction target of 40% below 1990 levels by 2030. As of December 2016, California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, which was previously established in AB 32. The State's new emission reduction target will make it possible to reach the overall goal of reducing emissions 80% under 1990 levels by 2050. EO B-30-15 established a medium-term goal for 2030 of reducing GHG emissions by 40% below 1990 levels and requires the CARB to update its current AB 32 Scoping Plan to identify measures to meet the 2030 target. The EO supports EO S-3-05.

Senate Bill 350

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions are to require a renewables portfolio standard of 50% and a doubling of energy efficiency (electrical and natural gas) by 2030, including improvements to the efficiency of existing buildings. These mandates will be implemented by future actions of the California Public Utilities Commission and the Energy Commission.

Senate Bill 32 and Assembly Bill 197

SB 32 (2016) requires ARB to ensure that statewide GHG emissions are reduced to at least 40% below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. AB 197 (2016) creates requirements to form a the Joint Legislative Committee on Climate Change Policies, requires the CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires ARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of the CARB, and adds two legislators as nonvoting members of ARB. Both bills were signed by Governor Brown on September 8, 2016.

3.6.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, <u>Port of Oakland,</u> Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to GHG emissions.

City of Oakland

City of Oakland General Plan

The *City of Oakland General Plan* (City of Oakland 1998) Open Space, Conservation, and Recreation Element (City of Oakland 1996) includes the following policies relevant to greenhouse gas emissions.

- **Policy CO-13.2 Energy Efficiency.** Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and City operations become more energy efficient.
- **Policy CO-13.3 Construction Methods and Materials.** Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.
- **Policy CO-13.4 Alternative Energy Sources.** Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.

City of Oakland Climate Action Plan

The *City of Oakland Energy and Climate Action Plan* (City of Oakland 2012a) includes the following priority actions relevant to GHG emissions associated with the project.

- **Priority Action 15 Create an Oakland-Specific Water-Efficient Landscaping Ordinance.** The City will create an Oakland-specific WELO providing citywide standards for public space that ensure stormwater retention and water conservation features are incorporated into landscaping.
- **Priority Action 17 Improve Energy Performance of New City Facilities.** The City will modify energy efficiency requirements within the Civic Green Building Ordinance to increase energy efficiency for new construction and major renovations of municipal facilities.
- **Priority Action 20 Refine Implementation of C&D Recycling Ordinance.** Refine implementation of Oakland's Construction and Demolition (C&D) Debris Waste Reduction & Recycling Ordinance (OMC 15.34) to capture greater amounts of materials for reuse, recycling and composting.
- **Priority Action 21 Promote Waste Reduction at Community Events.** The City will require waste reduction and recycling plans as part of the event permitting process, and require recycling in agreements for City facility rentals. The City will develop and implement waste reduction and recycling plans for City-sponsored events.
- **Priority Action 31 Improve Transportation & Land Use Planning Integration in Every Planning Effort.** Require the integration of land use and transportation planning and consideration of GHG reduction opportunities in every planning, major project and redevelopment effort undertaken by the City.

- **Priority Action 34 Accelerate Completion of Bicycle and Pedestrian Plans.** Accelerate the completion of bicycle and pedestrian networks as noted in the Bicycle and Pedestrian Master Plans and other General Plan policies to provide safe, healthy transportation choices for all residents.
- **Priority Action 38 Develop an Urban Forestry Master Plan.** Develop an urban forestry master plan outlining how the City will protect, develop and maintain diversified and appropriate tree plantings on City right-of-ways.
- **Priority Action 50 Facilitate Community Solar Programs.** Encourage and collaborate with local partners to launch a community solar program to increase local use of renewable energy, including solar-thermal energy to produce heat and hot water.
- **Priority Action 53 Enforce Mandatory Recycling.** Enforce mandatory recycling and/or bans on the use, sale, or disposal of certain product types.

East Bay Regional Park District

The *East Bay Regional Park District Master Plan* (East Bay Regional Park District 2013) includes the following policies relevant to GHG emissions associated with the project.

- **Policy PA4.**The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.
- **Policy PA5.**The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
- **Policy RM1b.** The District will specifically track and monitor the effects of Climate Change on its resources, interceding when necessary to relocate or protect in-situ resources that are being degraded or lost by this shift in the environment.

Association of Bay Area Governments

ABAG is the regional planning agency for the nine-county San Francisco Bay Area Region. It addresses regional issues relating to transportation, economy, community development, and environment. With respect to GHG planning, ABAG prepares the RTP every 4 years. The current RTP includes the sustainable communities strategy for the San Francisco Bay Area Region, pursuant to SB 375, and includes 2020 and 2035 GHG reduction targets of 10% and 16%, respectively.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission is the Metropolitan Planning Organization for the nine-county San Francisco Bay Area Region. It addresses regional issues relating to transportation, economy, community development, and environment. With respect to GHG planning, the commission prepares the RTP every 4 years in coordination with ABAG, as described above.

3.6.2 Environmental Setting

This section describes existing conditions related to GHG emissions that could be affected by the construction and operation of the project.

3.6.2.1 Study Area

The project area is located in the larger San Francisco Bay Area Air Basin; the air basin comprises the study area for evaluating construction and operations impact of project on GHG emissions.

3.6.2.2 Greenhouse Gases

The principle anthropogenic (human-made) GHGs contributing to global warming are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic sources.

The primary GHGs of concern associated with the project are CO_2, CH_4, and N_2O. Principal characteristics surrounding these pollutants are discussed below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal solid waste landfills.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

General methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential methods defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents. IPCC defines the global warming potential of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a global warming potential of 1 by definition).

Table 3.6-1 lists the global warming potential of CO_2, CH_4, and N_2O, as well as their lifetimes[2] and abundances in the atmosphere.

[2] The *lifetime* of a GHG is the approximate amount of time it would take for the anthropogenic increment of a concentration of that GHG to return to its natural level because it either is converted to another chemical compound or is removed from the atmosphere via a sink.

Table 3.6-1. Table Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years) [a]	Lifetime (years)	2015 Atmospheric Abundance
CO_2	1	50–200	400 ppm
CH_4	25	9–15	1,834 ppb
N_2O	298	121	328 ppb

Note:
[a] Global warming potential compares the warming potential of each GHG to carbon, which has a warming potential of 1 on a normalized scale.
Sources: IPCC 2007; Blasing 2016
CO_2e = carbon dioxide equivalent; CH_4 = methane; CO_2 = carbon dioxide; N_2O = nitrous oxide; ppm = parts per million; ppb = parts per billion

3.6.2.3 Greenhouse Gas Emissions Inventories

A GHG inventory is a quantification of all GHG emissions and sinks[3] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (for global and national entities) or on a small scale (for a particular building or person).

Table 3.6-2 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

Table 3.6-2. Global, National, State, and Local Greenhouse Gas Emissions Inventories

Emissions Inventory	CO_2e (metric tons)
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2014 EPA National GHG Emissions Inventory	6,870,000,000
2014 ARB State GHG Emissions Inventory	441,500,000
2011 SFBAAB GHG Emissions Inventory	86,600,000
2015 SFBAAB GHG Emissions Inventory	86,540,000
2013 City of Oakland GHG Emissions Inventory	2,768,150

Sources: Intergovernmental Panel on Climate Change 2015; U.S. Environmental Protection Agency 2016a; California Air Resources Board 2016; Bay Area Air Quality Management District 2015; Bay Area Air Quality Management District 2017; City of Oakland 2016
GHG = greenhouse gas; CO_2e = carbon dioxide equivalent; IPCC = Intergovernmental Panel on Climate Change; EPA = U.S. Environmental Protection Agency; ARB = California Air Resources Board; SFBAAB = San Francisco Bay Area Air Basin.

3 A greenhouse gas *sink* is a process, activity, or mechanism that removes a GHG from the atmosphere.

3.6.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on GHG emissions associated with the construction and operation of the project.

3.6.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on GHG emissions in the study area.

- Appendix D, *Air Quality Analysis Technical Memorandum* (ICF International 2015).
- Appendix E, *Construction and Operations Assumptions*.
- Appendix H, *Transportation Impact Analysis* (Fehr & Peers 2014).

3.6.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on GHG emissions in the study area as defined in Section 3.6.2.1, *Study Area*.

Impacts of project construction and operations on mass GHG emissions were assessed and quantified using standard software tools, techniques, and emission factors. This section describes the primary assumptions and key methods use to quantify emissions and estimate potential impacts. Assumptions used in the GHG analysis and model output files can be found in Appendix E, *Construction and Operations Assumptions*.

Construction

The California Emissions Estimator Model (CalEEMod), version 2013.2.2, was used to estimate construction emissions of GHGs, based on the project-specific inputs regarding construction phases as well as the schedule, duration, equipment, demolition, and earthmoving volume associated with each phase. Construction data, including phases, schedule, construction equipment type and hours of operation per day, equipment horsepower, and imported fill volumes, were provided by the project's engineering consultant, T.Y. Lin International. Further detail is provided in the air quality technical report for this project (ICF International 2015). Proposed fill volumes for each phase of construction were divided evenly amongst sub-phases that include grading activities.

Construction assumptions and CalEEMod inputs and outputs are provided in Appendix E, *Construction and Operations Assumptions*. Construction equipment defaults, such as emissions factors, horsepower, and load factors, from CalEEMod were used for the analysis. The default vehicle trip lengths and the number of truck trips (for hauling) and worker trips from CalEEMod for the land uses of each subphase were used for the analysis.

The excavation and fill estimates for project development are shown in Table 3.6-3.

Table 3.6-3. Estimated Excavation and Fill Material[a]

Phase	Excavated Material[b]	Imported Fill Material
1	11,000 cy	30,000 cy
2	41,000 cy	35,000 cy
3	15,000 cy	101,000 cy

[a] The volume of fill required for shoreline protection is included in the estimated totals.
cy = cubic yards
[b] Unless it is determined to be unsuitable for reuse as fill, all excavated material would be reused on site as fill for the project's shoreline protection improvements.
cy= cubic yards

As described in Chapter 2, the project would be developed in three phases over approximately 15 years, as funding becomes available, with anticipated build-out in 2030. The first two phases would develop the Bridge Yard (Phase 1) and Key Point (Phase 2) areas. A windbreak spanning the Bridge Yard, Key Point, and Port Playground West areas would also be constructed during Phase 2. These phases would each take approximately 2 years each. It is anticipated that construction of Phase 3, which includes Port Playground and Radio Beach, as well as landscaping beneath the freeways, would occur later as funding becomes available. Appendix E, *Construction and Operations Assumptions*, includes the assumed construction duration and periods for each phase and subphase of development.

The majority of construction activities would be limited to the hours between 8 a.m. and 6 p.m., Monday through Saturday. There would be no construction on Sundays or national holidays. Based on construction data provided by the project engineers, it is anticipated that construction equipment would operate for a maximum of 8 hours per day. The actual construction activity data assumed in the analysis is presented in Appendix E, *Construction and Operations Assumptions*. The project falls within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which has not adopted a GHG threshold of significance for construction-related emissions. However, BAAQMD recommends implementation of best management practices to help control and reduce construction-related GHG emissions.

Operations

CalEEMod, version 2013.2.2, was used to estimate direct GHG emissions from motor vehicle trips and natural gas consumption as well as indirect GHG emissions from electricity, natural gas, and water consumption and waste generation associated with proposed facility use. Full-buildout (2030) indoor and outdoor water usage values were provided by T.Y. Lin and used to model project water usage conservatively after completion of Phase 1. Indoor water usage was conservatively estimated to be 400,000 gallons per year, and irrigation water usage was estimated to be 17,191,000 gallons per year after completion of Phase 1 construction. Default values from CalEEMod for natural gas and electricity consumption, as well as waste generation, were used to model operational emissions for each subphase land use that includes those services. The default vehicle trip lengths and vehicle trip types from CalEEMod for the applicable land use for each sub-phase were also used for the analysis; project-specific values were not available.

Although default trip length and vehicle trip types were assumed in the project analysis, project-specific trip generation rates were based on the trip generation estimates in the transportation impact assessment prepared for this project (Fehr & Peers 2014). In the *San Francisco–Oakland Bay Bridge Regional Bicycle & Pedestrian Connection: Gateway Park Report* (Fehr & Peers 2014). That analysis estimated that the project would generate up to 5,490 local daily weekend trips and 5,150 local daily weekday trips based on the projected 2 million annual visitors at full buildout (2030) (Fehr & Peers 2014). Because the project would be constructed in three phases, total trips at buildout in 2030 were apportioned equally amongst the three phases (one-third of the total 2030 full-buildout trips were attributed to Phase 1 after Phase 1 completion and two-thirds of the total full-buildout trips were attributed to Phase 2 after completion). For example, 1,830 weekend trips (5,490 multiplied by one-third) and 1,717 weekday trips (5,150 multiplied by one-third) were used for daily vehicle trips after Phase 1 of the project is complete (Lillie pers. comm.). The estimated number of daily vehicle trips to and from Gateway Park is based on published trip rates from the Institute of Transportation Engineers, surveys of similar uses in the region, and visitor projections (Fehr & Peers 2014). The daily trip values are based on 2 million annual visitors to Gateway Park at full buildout, assuming that 90% of the visitors would arrive/depart by private vehicle, average vehicle occupancy would be two people per vehicle on weekdays, and average vehicle occupancy would be three people per vehicle on weekends.

With all of the project features developed, approximately 15 to 30 employees would be required, with four to 10 employees at visitor-serving uses in the Key Point area, six to 13 employees at visitor-serving uses in the Port Playground area, and five to seven employees for other operational and maintenance needs elsewhere in Gateway Park. Trips associated with staff and maintenance activities were included in the weekday and weekend trip generation values (Fehr & Peers 2014).[4]

Vegetation and land use changes associated with the project were also modeled with CalEEMod. An estimated 2,375 new trees are proposed to be planted on the project area over the three phases of construction, and 10.75 acres of grassland are proposed to be planted as well, acting to sequester CO_2 and reduce the project's net GHG emissions. CalEEMod generates vegetation and land use change as total metric tons (MT) of CO_2e sequestered over a 20-year active growth period. Therefore, total CO_2e sequestered by vegetation and land use change was divided by 20, resulting in units of MT CO_2e sequestration per year.

3.6.3.3 Significance Criteria

Climate change is a global problem and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes (Table 3.6-1), GHGs emitted by countless sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative.

[4] The analysis of operational GHG emissions is based on full buildout activity but does not include special events. At this time, the nature and extent of special events is unknown. It is also not known if special events at the project site would be additive to existing special events or whether current special events would relocate to the site. As such, no estimate of GHG emissions associated with special events can be made without speculation.

BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, BAAQMD recommends that lead agencies should quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction-generated GHG emissions impacts in relation to meeting AB 32 GHG reduction goals.

No federal or state standards for GHG emissions apply to this project. BAAQMD has a number of recommended thresholds including for stationary sources (10,000 MT CO_2e/year) and for commercial, residential and mixed use project (1,100 MT CO_2e/year). There are no published thresholds for park projects from BAAQMD or any other air district in California or for any other source. Given the unique nature of this project, instead of deriving a new significance threshold related to state reduction targets, this analysis instead conservatively relies on a zero increase threshold for the determination of significance, given the long-term need to make significant reductions in overall emissions as reflected in AB 32, SB 32, and Executive Order S-03-05.

The analysis also examines consistency with plans to reduce GHG emissions. The City of Oakland adopted its Energy and Climate Action Plan (City of Oakland 2012a), a GHG reduction strategy, in 2012 and the CEQA review process was completed in the form of the Addendum to Previous CEQA Documents (City of Oakland 2012b). The City's projected emissions and the climate action plan are consistent with measures necessary to meet statewide 2020 goals established by AB 32 and addressed in the Climate Change Scoping Plan. For the period after 2020, project consistency with the 2017 Updated Scoping Plan, which is ARB's plan to reduce GHG emissions consistent with the 2030 reduction target in SB 32, is evaluated.

The discussion of impacts addresses the relative impacts of project construction and operation. However, because GHGs are, by definition, cumulatively significant, the significance criteria are based on whether project emissions would make a cumulatively considerable contribution to climate change as determine first by identification of whether the project would result in a net increase in emissions and secondly by examining consistency with the City of Oakland Energy and Climate Action Plan and statewide efforts in the 2017 Scoping Plan Update to curb GHG emissions.

3.6.4 Impacts and Mitigation

This section describes the potential impacts related to GHG emissions that would result from construction and operation of the project.

Impact GHG-1. The project will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment (significant and unavoidable with mitigation)

Construction

GHGs associated with construction of the project are presented in Table 3.6-4.

Table 3.6-4. Yearly Construction-related GHG Emissions (MT/yr)

Yearly Emissions	CO_2e
Phase 1	
Year 1	1,746
Year 2	135
Phase 2	
Year 1	3,279
Year 2	349
Phase 3	
Year 1	2,162
Year 2	813
Year 3	<1
Total	8,485

Notes:
See Appendix E, *Construction and Operations Assumptions*, for construction assumptions and CalEEMod inputs and outputs.
Values may not add up because of rounding.
MT/yr = metric tons per year; CO_2e = carbon dioxide equivalent

Total construction-related GHG emissions for the project would equal 8,485 MT CO_2e, which corresponds to CO_2e emissions from 1,792 passenger vehicles in 1 year, assuming that each vehicle emits 4.7 MT CO_2e per year (U.S. Environmental Protection Agency 2016b). As indicated in Section 3.6.1, *Regulatory Setting*, no federal or state standards for GHG emissions apply to the project. In addition, BAAQMD has not established CEQA thresholds of significance for construction activities. However, BAAQMD recommends that best management practices be incorporated into construction practices to reduce GHG emissions during construction, as feasible and applicable. Implementation of mitigation measures **MM-AQ-2** and **MM-AQ-4**, which are required for impacts described in Section 3.2, *Air Quality*, would result in implementation of best management practices for construction-related GHG emissions by limiting vehicle idling times and requiring regular maintenance of construction equipment. Despite reductions that may be achieved with implementation of best management practices, given the no net increase threshold used for evaluation of significance of GHG emissions, the construction GHG emissions for this project would be significant and unavoidable.

Operations

GHG emissions from project operations associated with motor vehicle trips and natural gas consumption as well as indirect GHG emissions from electricity, water consumption and waste generation were estimated with CalEEMod. The motor vehicle GHG emissions are by far (99%, see Appendix E) the dominant source of operational emissions as the project has limited building energy demands, water demands, and waste generation. These operational emissions would be partially offset by emissions reductions from the proposed tree and vegetation plantings (see Table 3.6-5).

Table 3.6-5 presents a summary of GHG emissions associated with project operations. Because GHG emissions for the existing project site were conservatively assumed to be zero, existing GHG emissions were not subtracted from the project's operational GHG emissions to calculate net project-related operational GHG emissions.

Table 3.6-5. Yearly Operational GHG Emissions per Phase (MT/yr)

Yearly Emissions	CO_2	CH_4	N_2O	CO_2e
Phase 1	1,743	< 1	< 1	1,745
Phase 2	3,744	<1	< 1	3,746
Phase 3	4,704	2	< 1	4,745
Tree + Vegetation	-108	0	0	-108
Total (Full Buildout)	4,637	2	< 1	4,637

Notes:
See Appendix E, *Construction and Operations Assumptions*, for operation assumptions and CalEEMod inputs and outputs.
Values may not add up because of rounding.
MT/yr = metric tons per year; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent

Emissions from project operations would total 4,637 MT CO_2e per year at full buildout, equivalent to yearly CO_2e emissions from 979 passenger vehicles, based on the assumption that each vehicle emits 4.7 MT CO_2e per year (U.S. Environmental Protection Agency 2016b). The total emissions for the project are nearly entirely (99%) due to vehicle emissions from visitors to the park. While the park's building will meet the energy efficiency requirements of the current Title 24 regulations at the time of their construction, given that non-transportation emissions make up a very small amount of the project emissions, compliance with Title 24 will have a limited effect on project emissions. As described in Chapter 2, the project is being designed to provide multi-modal access, including alternatives to individual vehicle access through connections to transit and the pedestrian and bicycle linkages. The project also provides for some tree planting and vegetation which will offset some of the operational emissions. However, as noted above, the project will increase GHG emissions compared to existing conditions and thus, per the significance criteria noted above, the project would have a significant GHG emissions impact.

Mitigation measure **MM-GHG-1** will help to reduce operational GHG emissions. However, most of the requirements of this measure concern non-transportation emissions which are only 1% of overall project emissions. While the park will be accessible via multiple-modes, one of those modes will be vehicles, and thus mobile emissions will increase over baseline conditions. The sponsoring agencies and the ultimate ~~implementing agency~~ project implementer cannot legally control the means of access by the public to the park. While in concept, the project implementer ~~implementing agency~~ could decide to provide no parking to deter vehicle access to the site (and related emissions), this would be in conflict with the purpose of a public park accessible to the entire public, some of whom rely on personal vehicles.

Vehicle emissions over time will be reduced by the improvement in vehicle efficiency standards by the state as well as implementation of the Low Carbon Fuel Standard, but project mobile emissions are still expected to increase over existing levels, and thus this impact is considered significant and unavoidable.

MM-GHG-1. Implement Operational GHG emission reduction measures

In accordance with the Oakland Energy and Climate Action Plan, the project implementer ~~implementing agency~~ shall complete the following.

- **Comply with EBMUD Water-Efficiency Standards.** The project implementer ~~implementing agency~~ shall comply with EBMUD Water Efficient Landscaping requirements for compliance with Section 31 water efficiency in landscape design.
- **Improve Energy Performance of New Buildings.** The project implementer ~~implementing agency~~ shall comply with the Oakland Civic Green Building Ordinance to increase energy efficiency for new facilities.
- **Comply with Oakland C&D Recycling Ordinance.** The project implementer ~~implementing agency~~ shall comply with the Oakland C & D ordinance to capture greater amounts of materials for reuse, recycling and composting.
- **Promote Waste Reduction.** The project implementer ~~implementing agency~~ shall provide information regarding waste reduction and recycling as part of park information. The project implementer ~~implementing agency~~ shall require waste reduction and recycling plans for special events and shall also abide by City of Oakland mandatory recycling and/or bans on the use, sale, or disposal of certain product types. The project implementer ~~implementing agency~~ shall also comply with Bay Friendly Landscaping, a program of StopWaste.org. This program defines prescriptive measures for the design, construction, and maintenance of landscapes with the goals of reducing green waste, conserving water, and reducing pollution in local watersheds.
- **Explore small-scale solar for on-site buildings.** In order to power on-site park buildings, the project implementer ~~implementing agency~~ shall explore the feasibility of on-site solar installations.
- **Integrate multi-modal access to the park**. In order to reduce vehicle trips and emissions, the project implementer ~~implementing agency~~ shall ensure multi-modal access (including transit, bike, and pedestrian) to the park for routine operations. The project implementer ~~implementing agency~~ shall also require special event proponents to develop and implement a trip reduction plan for their events to encourage access via transit, carpooling, bicycle, and walking.
- **Urban Heat Island Controls.** Cool surface treatments will be considered for new parking facilities.

Impact GHG-2. The project would not conflict with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs (less than significant with mitigation)

City of Oakland Energy and Climate Action Plan

The *City of Oakland Energy and Climate Action Plan* (2012) identifies a series of GHG emissions reduction measures to be implemented by development projects that would allow the City to achieve its GHG reduction goals. The measures focus on three areas: transportation and land use, building energy use, and material consumption and waste.

The Energy and Climate Action Plan includes measures applicable to City government, existing development, and new development projects in Oakland. The project's conformance with the applicable reduction measures for City government and new development projects in the plan are summarized in Table 3.6-6.

Table 3.6-6. Energy and Climate Action Plan Sustainability Policies

Emission Reduction Policies	Project Consistency
Transportation and Land Use	
• Priority Action 31: Improve Transportation & Land Use Planning Integration in Every Planning Effort. Require the integration of land use and transportation planning and consideration of GHG reduction opportunities in every planning, major project and redevelopment effort undertaken by the City. • Priority Action 34: Accelerate Completion of Bicycle and Pedestrian Plans. Accelerate the completion of bicycle and pedestrian networks as noted in the Bicycle and Pedestrian Master Plans and other General Plan policies to provide safe, healthy transportation choices for all residents. • Priority Action 38: Develop an Urban Forestry Master Plan. Develop an urban forestry master plan outlining how the City will protect, develop and maintain diversified and appropriate tree plantings on City rights-of-way.	• A complete and uninterrupted trail network through Gateway Park would connect to transportation systems and the regional trail network, including the Bay Bridge Trail. Biking and walking would be the primary mobility modes throughout the park. Linkages over the railroad, through the port, and along the water's edge would be designed to achieve direct access to the park. • Gateway Park would be accessible from multiple directions by a variety of transportation modes, including vehicular, bike and pedestrian, transit bus, and shuttle. • A design principle of the project is to consider site forestation as a way to improve the quality of the Gateway Park environment. To this end, 2,825 trees would be planted as part of the project.
Building Energy Use	
• Priority Action 15: Create an Oakland-Specific Water-Efficient Landscaping Ordinance. The City will create an Oakland-specific WELO providing citywide standards for public space that ensure stormwater retention and water conservation features are incorporated into landscaping. • Priority Action 17: Improve Energy Performance of New City Facilities. The City will modify energy efficiency requirements within the Civic Green Building Ordinance to increase energy efficiency for new construction and major renovations of municipal facilities. • Priority Action 50: Facilitate Community Solar Programs. Encourage and collaborate with local partners to launch a community solar program to increase local use of renewable energy, including solar-thermal energy to produce heat and hot water.	• The project is required by statue to comply with C-3 Regulations for storm water management, and various regulations aimed to reduce water consumption in irrigation and planting design. • Per MM-GHG-1, the project would be mandated to comply with Bay Friendly Landscaping, a program of StopWaste.org. This program defines prescriptive measures for the design, construction, and maintenance of landscapes with the goals of reducing green waste, conserving water, and reducing pollution in local watersheds. • Per MM-GHG-1,the project would be mandated to comply with EBMUD Water Efficient Landscaping requirements for compliance with Section 31 water efficiency in landscape design. This is similar to the irrigation design goals of Bay Friendly Landscaping, though some interpretations of the regulations are more stringent. • Per MM – GHG-1, the project will comply with the Oakland Civic Green Building Ordinance and will consider on-site solar for new buildings

Emission Reduction Policies	Project Consistency
Material Consumption and Waste	
• Priority Action 20: Refine Implementation of C&D Recycling Ordinance. Refine implementation of Oakland's Construction and Demolition (C&D) Debris Waste Reduction & Recycling Ordinance (OMC 15.34) to capture greater amounts of materials for reuse, recycling and composting. • Priority Action 21: Promote Waste Reduction at Community Events. The City will require waste reduction and recycling plans as part of the event permitting process, and require recycling in agreements for City facility rentals. The City will develop and implement waste reduction and recycling plans for City-sponsored events. • Priority Action 53: Enforce Mandatory Recycling. Enforce mandatory recycling and/or bans on the use, sale, or disposal of certain product types.	• Per MM GHG-1, the project will comply with the Oakland C &D ordinance to promote reuse of onsite materials ranging from urbanite to large existing structures will help to reduce the cost of demolition. • Per MM GHG-1, events on park premises will promote reduction and recycling plans. • Per MM GHG-1, the park will abide by City of Oakland mandatory recycling and/or bans on the use, sale, or disposal of certain product types.

EBMUD = East Bay Municipal Utility District

The project would replace blighted industrial land with park uses that are centered on bicycle-, pedestrian-, and transit-friendly circulation. The project also is consistent with emissions reduction measures in all three areas of the City of Oakland Energy and Climate Action Plan, as shown in Table 3.6-6.

Bay Area 2017 Clean Air Plan

The Bay Area 2017 Clean Air Plan includes performance objectives, consistent with the State's climate protection goals under AB 32 and SB 375, designed to reduce GHG emissions to 1990 levels by 2020 and 40% below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The 2017 Clean Air Plan identifies a total of 85 stationary source, mobile, transportation control, land use and local impacts, and energy and climate measures that make up the Clean Air Plan's control strategy for emissions, including GHGs. The 2017 Clean Air Plan is not a mandatory plan requiring compliance by the project but rather a plan of how the BAAQMD will support GHG reductions across the Bay Area and how it will regulate sources under its regulatory authority (BAAQMD does not have jurisdiction over land use projects, like the park; only stationary sources). Because the Clean Air Plan is not legally applicable to the project (except in relation to stationary sources), a detailed consistency analysis is not necessary.

The only potential stationary sources associated with the project may be emergency backup generators, which would have to obtain permits from BAAQMD and thus would de facto comply with Clean Air Plan stationary source requirements. A main design feature of the project is to improve bicycle and pedestrian access and facilities. This is consistent with Transportation Control Measures (TCM) TR3, and TR9 in the Clean Air Plan. With mitigation measure **MM-GHG-1**, the project would be consistent with the Clean Air Plan buildings, waste management, and water conservation control measures. Another design feature of the project is to plant 2,825 trees on site, which is consistent with Natural and Working Lands Control Measure NW2 in the Clean Air Plan. Thus, the project is considered consistent with the overall intent of the GHG reduction strategies in the Clean Air Plan.

Plan Bay Area/ California Senate Bill 375

Under the requirements of SB 375, the Metropolitan Transportation Commission and ABAG have developed a sustainable community strategy with the adopted *Plan Bay Area* to achieve the Bay Area's regional GHG reduction target. Current targets for the San Francisco Bay Area, originally adopted in September 2010 by ARB, include a 7% reduction in GHG per capita from passenger vehicles by 2020 compared to emissions in 2005. The current target for 2035 is a 15% reduction per capita from passenger vehicles compared to emissions in 2005. The emission reduction targets are for those associated with land use and transportation strategies only. As noted above, ARB is considering updated targets that it plans to adopt in 2018 that would require a 10% reduction by 2020 and 19% reduction by 2035 for the Bay Area region.

As described in Section 3.6.3.2, *Impact Analysis Methods*, it is estimated that Gateway Park would generate up to 5,490 local daily weekend trips and 5,150 local daily weekday trips, based on the projected 2 million annual visitors at full buildout in 2030 (Fehr & Peers 2014). As described in Table 3.6-6, Gateway Park would connect to transportation systems and the regional trail network, including the Bay Bridge Trail; biking and walking will be the primary mobility modes throughout the park. Thus, the project is considered consistent with the overall intent of Plan Bay Area.

State Climate Change Strategies and Policies

Emissions from fossil-fuel related sources (e.g., visitor motor vehicles) will decline through the life of the project as new technologies are adopted and implemented and as existing and future regulations reduce fuel consumption and emissions over time. SB 350, which was adopted after preparation of the Assembly Bill 32 Scoping Plan, will also support California's long-term climate change objectives. SB 350 extends the State's Renewables Portfolio Standard (RPS) from 33% in 2020 to 50% in 2030 and requires a doubling of statewide energy efficiency. Because the 2030 RPS is 50% in 2030, it is reasonable to assume that GHG emissions generated by project electricity consumption will continue to drop.

In December 2017, an updated Climate Change Scoping Plan was adopted by the ARB, consistent with the AB 32 requirement to update the scoping plan every five years and consistent with the 2030 goals of SB 32 (California Air Resources Board 2017). The 2017 plan continues the discussion from the original scoping plan and 2014 update of identifying scientifically-backed policies within six of the state's economic sectors to reduce GHGs. The updated Scoping Plan includes various elements, including doubling energy efficiency savings, increasing the low carbon fuel standard from 10 to 18 percent, adding 4.2 million zero-emission vehicles on the road, implementing the Sustainable Freight Strategy, implementing a post-2020 Cap-and-Trade Program, creating walkable communities with expanded mass transit and other alternatives to traveling by car, and developing an Integrated Natural and Working Lands Action Plan to protect land-based carbon sink. In general, the project is built around the concept of sustainability. This is manifested through increased density, mixed-use and transit-oriented development, and green-building principles, including an emphasis on energy efficiency, water conservation, and waste reduction. Although the measures included in the updated scoping plan are necessarily broad, the project is generally consistent with the goals and desired outcomes of the updated Scoping Plan (i.e. increasing energy efficiency, water conservation, waste diversion, transportation sustainability, etc.). The consistency of the project with the policies in the 2017 Climate Change Scoping Plan to achieve the 2030 GHG target is analyzed in Table 3.6-7.

Table 3.6-7. Consistency of Project with 2017 Scoping Plan Policies[a]

Policy	Primary Objective	Project Consistency Analysis
SB 350	Reduce GHG emissions in the electricity sector through the implementation of the 50 percent RPS, doubling of energy savings, and other actions as appropriate to achieve GHG emissions reductions planning targets in the Integrated Resource Plan process.	This policy is a State program that requires no action at the local or project level. Per Mitigation Measure GHG-1, the project will promote energy efficiency and use of on-site solar power.
Low Carbon Fuel Standard	Transition to cleaner/less-polluting fuels that have a lower carbon footprint.	This policy is a State program that requires no action at the local or project level.
Mobile Source Strategy (Cleaner Technology and Fuels [CTF] Scenario)	Reduce GHGs and other pollutants from the transportation sector through transition to zero-emission and low-emission vehicles, cleaner transit systems and reduction of vehicle miles traveled.	This policy is a State program that requires no action at the local or project level. Nonetheless, as discussed above, the project would support the reduction of vehicle miles traveled by supporting pedestrian and bicycle connections which would help to control vehicle miles travelled.
SB 1383	Approve and Implement Short-Lived Climate Pollutant strategy to reduce highly potent GHGs	This policy is a State program that requires no action at the local or project level, and is not applicable to the project. Mitigation Measure GHG-1, and AQ-1 through AQ-5 will help to reduce methane and black carbon in construction and operations.
California Sustainable Freight Action Plan	Improve freight efficiency, transition to zero emission technologies, and increase competitiveness of California's freight system.	This policy is a State program that requires no action at the local or project level, and is not applicable to the project.
Post-2020 Cap-and-Trade Program	Reduce GHGs across largest GHG emissions sources	This policy is a State program that requires no action at the local or project level, and is not applicable to the project.

Note:
N/A = not applicable.
[a] The Scoping Plan policies included in this table are those representing the State strategy for meeting the 2030 GHG target of SB 32.

Systemic changes will be required at the state level to achieve the statewide future GHG reduction goals. Regulations, such as future amendments to the low carbon fuel standard; the SB 350 mandated 50 percent RPS and potential legislation to achieve 100 percent renewable portfolio standard by 2045 (SB 100); and future updates to the state's Title 24 standards, will be necessary to attain the magnitude of reductions required for the state's goals. The proposed project would be required to comply with these regulations in new construction (in the case of updated Title 24 standards), or would be directly affected by the outcomes (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future low carbon fuel standard amendments and increasingly stringent RPS's). Thus, for the foreseeable future, the project would not conflict with any other state-level regulations pertaining to GHGs.

Thus, with mitigation, implementation of the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and this impact would be less than significant.

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Section 3.7
Hazards and Hazardous Materials

This section describes hazards and hazardous materials in the study area. It then describes impacts on hazards and hazardous materials that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.7.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to hazards and hazardous materials.

3.7.1.1 Federal and State

The following federal and state regulations, laws, and guidelines apply to hazards and hazardous materials.

Federal Hazardous Material Regulations

The U.S. Environmental Protection Agency (EPA) is the lead agency with responsibility for enforcing federal laws and regulations that govern hazardous materials that can affect public health or the environment. The major federal laws and regulations pertaining to the management of hazardous materials are the Resources Conservation Recovery Act (RCRA), Toxic Substances Control Act (TSCA), and Federal Insecticide, Fungicide, and Rodenticide Act.

In 1976, RCRA was enacted to provide a general framework for EPA to regulate hazardous waste from the time it is generated until its ultimate disposal. Under RCRA, a waste may be considered hazardous if it exhibits certain hazardous characteristics (ignitability, corrosivity, reactivity, or toxicity) or if it is included on a specific list of wastes that EPA has determined are hazardous. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the waste is properly managed from "cradle to grave" by complying with the federal waste manifest system. In California, the Department of Toxic Substances Control (DTSC) administers the RCRA program, as well as additional state-specific requirements for managing hazardous waste in accordance with the California Hazardous Waste Control Law (Health & Safety Code 25100 *et seq*.). The state criteria for identifying hazardous waste (22 California Code of Regulations [CCR] 66261.10–66261.24) are more comprehensive than the federal RCRA hazardous waste criteria; therefore, hazardous wastes in California can be identified as either RCRA hazardous waste or non-RCRA hazardous waste.

In 1976, TSCA was enacted to provide EPA authority to regulate the production, transportation, use, and disposal of chemicals that pose a risk of affecting public health and the environment. TSCA and subsequent amendments give EPA authority to regulate the cleanup and/or abatement of sites with specific toxic chemicals, such as polychlorinated biphenyls (PCBs), asbestos-containing materials (ACM), and lead-based paint (LBP).

In 1972, an amendment to the Federal Insecticide, Fungicide, and Rodenticide Act provided EPA authority to regulate the manufacture, distribution, and import of pesticides. EPA approves registered uses of a pesticide based on an evaluation of its potential effects on human health and the environment. EPA has granted the California Department of Pesticide Regulation authority to enforce federal laws pertaining to the proper and safe use of pesticides (CCR Title 3). The DPR can also designate pesticides as "restricted material" based on potential effects on public health, applicators, farm workers, domestic animals, honeybees, the environment, wildlife, or crops other than those being treated.

U.S. Department of Transportation Hazardous Materials Regulations

U.S. Department of Transportation Hazardous Materials Regulations (49 Code of Federal Regulations [CFR] 100–185) cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 177 (Highway Transportation), would all apply to the project and/or surrounding uses.

California Health and Safety Code

DTSC, a department of Cal/EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Division 20, Chapter 6.5 of the California Health and Safety Code deals with hazardous waste control through regulations pertaining to transportation, treatment, recycling, disposal, enforcement, and permitting of hazardous waste. Division 20, Chapter 6.10 contains regulations applicable to the cleanup of hazardous materials releases. Title 22, Division 4.5 contains the environmental health standards for the management of hazardous waste. This includes standards for identification of hazardous waste (Chapter 11) and standards applicable to transporters of hazardous waste (Chapter 13).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9)

This program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the environmental and emergency response programs and provides authority to the Certified Unified Program Agency (CUPA). The CUPA is designed to protect public health and the environment from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. This is accomplished via inspections, emergency response, enforcement and site mitigation oversight. The CUPA for the City of Oakland is the Oakland Fire Department Office of Emergency Services.

California Code of Regulations, Title 8—Industrial Relations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal OSHA) and the federal OSHA are the agencies responsible for assuring worker safety in the workplace. Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would be applicable to both construction and operation of the project. The standards included in the Cal OSHA's Title 8 include regulations pertaining to hazard control (including administrative and engineering controls), hazardous chemical labeling and training requirements, hazardous exposure prevention, hazardous material management, and hazardous waste operations.

California Labor Code (Division 5, Parts 1, and 7)

The California Labor Code is a collection of regulations that include the regulation of the workplace to ensure appropriate training on the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5 ensures employees that are in charge of the handling of hazardous materials are appropriately trained on, and informed of, the materials they are handling. Division 5, Part 7 ensures employees who work with volatile flammable liquids are outfitted in appropriate safety gear and clothing.

Worker Health and Safety

The federal Occupational Safety and Health Administration (OSHA) is the federal agency responsible for enforcing and implementing federal laws and regulations pertaining to worker health and safety. OSHA's Hazardous Waste Operations and Emergency Response regulations require training and medical supervision for workers at hazardous waste sites (29 CFR 1910.120). Additional regulations have been developed regarding exposure to lead (29 CFR 1926.62) and asbestos (29 CFR 1926.1101) to protect construction workers.

State worker health and safety regulations related to construction activities are enforced by Cal/OSHA. These regulations include requirements for protective clothing, training, and limits on exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigation and abatement. These regulations equal or exceed their federal counterparts. Specific worker safety measures for excavation hazards (e.g., falling or cave-in of the excavation wall) are described in 8 CCR 1541.

Hazardous Building Materials

Hazardous building materials are commonly found in a variety of structures, including buildings, bridges, roadways, and railroad corridors. The proper management of hazardous building materials in accordance with various regulations during demolition and renovation activities is described below.

Asbestos-Containing Materials

Exposure to asbestos, a state-recognized carcinogen, can result in lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), or asbestosis (scarring of lung tissues that results in constricted breathing). ACMs, such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in building and bridge structures constructed prior to 1981 (8 CCR 5208). Therefore, workers who conduct asbestos abatement must be trained in accordance with state and federal OSHA requirements. California's local air districts oversee the removal of regulated ACMs; the near-term and longer-term improvements are located within the jurisdictions of the Bay Area Air Quality Management District (BAAQMD) and the San Joaquin Valley Air Pollution Control District. All friable (i.e., crushable by hand) ACMs or nonfriable ACMs that may be damaged must be abated prior to demolition in accordance with applicable requirements. Friable ACMs must be disposed of as asbestos waste at an approved facility. Nonfriable ACMs may be disposed of as non-hazardous waste at landfills that accept such wastes.

Lead-Based Paint

Exposure to lead, a state-recognized carcinogen, can result in stomach and lung cancer and impair nervous, renal, cardiovascular, and reproductive systems. Although LBP in residential structures was banned in 1978, this restriction did not apply to commercial and industrial structures (e.g., buildings and bridges); therefore, any commercial or industrial structures, regardless of construction date, could have surfaces that have been coated with LBP. Loose and peeling LBP must be disposed of as a state and/or federal hazardous waste if the concentration of lead equals or exceeds applicable waste thresholds. State and federal OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where LBP may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where LBP is present.

Prior to 1997, the California Department of Transportation (Caltrans) also used LBP for yellow traffic stripe and pavement markings along roadways. The residue that may be produced from the yellow thermoplastic and yellow paint during road improvement activities may contain lead and chromium. The debris produced during the removal of yellow thermoplastic and yellow paint may need to be disposed of as a state or federal hazardous waste if the concentrations of lead or chromium exceed applicable hazardous waste thresholds.

Universal Wastes

Universal wastes include a wide variety of hazardous wastes that are commonly produced in households and businesses. For example, universal wastes include electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats that could contain hazardous materials such as PCBs, diethylhexyl phthalate, mercury, and other metals. The disposal of these materials is regulated under the California Universal Waste Rule, which is less stringent than most other federal and state hazardous waste regulations. To manage universal waste in accordance with the streamlined requirements for the state, generators must relinquish the waste to a universal waste transporter, another universal waste handler, or a universal waste destination facility.

Treated-Wood Waste

Railroad ties along existing railroad corridors are commonly treated with wood preservatives, such as arsenic, chromium, copper, pentachlorophenol, or creosote. If treated-wood waste is not properly disposed of, the chemicals it contains can potentially contaminate soil, surface water and/or groundwater. If treated-wood waste is classified as hazardous, it must be managed under full hazardous waste management requirements or under the Alternative Management Standards adopted by DTSC under 22 CCR 34. In general, the DTSC's Alternative Management Standards lessen storage requirements, extend accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler, and allow disposal at specific non-hazardous waste landfills.

California Department of Forestry and Fire Protection Fire Prevention Program

The program encompasses multiple different facets of fire prevention techniques, including fire engineering, vegetation management, fire planning, education, and law enforcement. These techniques can include fire break construction and other fire fuel reduction activities that lessen the risk of wildfire to communities and evacuation routes, and brush clearance around communities, along roadways, and evacuation routes. The fire prevention program also includes defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, implementation of the State Fire Plan, and fire-related law enforcement activities such as arson investigation.

3.7.1.2 Regional and Local

The project lies within the jurisdiction of the following local governing entities: Alameda County, City of Oakland, and East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to Hazards and Hazardous Materials.

Alameda County

Alameda County Department of Environmental Health CUPA coordinates and enforces numerous local, state, and federal hazardous materials management and environmental protection programs in the County, specifically:

- Hazardous Materials Business Plan Program
- Hazardous Waste Generator Program
- Underground Storage Tank Program
- California Accidental Release Program
- Tiered Permitting Program
- Aboveground Storage Tank Program
- Survey and inspection of waste tire facilities using a grant from the CalRecycle

These programs are relevant to facilities that use, handle, store, treat, or dispose of hazardous materials and/or waste. The Alameda County CUPA is responsible for the City of Oakland (City of Oakland 2017).

City of Oakland

City of Oakland General Plan

City of Oakland General Plan Safety Element

The Safety Element includes the following policies relevant to the project, hazardous materials, and public safety (City of Oakland 2004).

- **Policy HM-1:** Minimize the potential risks to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials.

- **Policy HM-3:** Seek to prevent industrial and transportation accidents involving hazardous materials, and enhance the city's capacity to respond to such incidents.
- **Policy PS-1:** Maintain and enhance the city's capacity to prepare for, mitigate, respond to and recover from disasters and emergencies.

City of Oakland General Plan Open Space, Conservation, and Recreation Element

The Open Space, Conservation, and Recreation Element includes the following policy relevant to the Project, hazardous materials and public safety (City of Oakland 1996).

- **Policy CO-1.2: Soil Contamination Hazards.** Minimize hazards associated with soil contamination through the appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean-up of contaminated sites. In this regard, require soil testing for development of any site where contamination is suspected due to prior activities on the site.

City of Oakland Local Hazard Mitigation Plan

The City of Oakland Local Hazard Mitigation Plan (City of Oakland 2012) identifies the hazards the community is facing, assesses the City's vulnerability to the hazards, and identifies specific actions to be taken to reduce the risk from these hazards.

East Bay Regional Park District

Master Plan 2013

No Master Plan 2013 policies apply to hazards and hazardous materials.

3.7.2 Environmental Setting

This section describes existing conditions related to Hazards and Hazardous Materials that could be affected by the construction and operation of the project.

3.7.2.1 Study Area

The study area for direct impacts on hazards and hazardous materials is the 45-acre project area and a 0.25-mile buffer around the project site.

3.7.2.2 Areas of Contamination

Areas of Historical Contamination and Current Recognized Environmental Conditions

A Phase I Initial Site Assessment (Phase I ISA) was performed by Fugro Consultants, Inc. (Fugro) for the project (Fugro 2014) to identify areas of current and past use or contamination with hazardous materials and hazardous waste. In particular, the Phase I ISA identified recognized environmental conditions (RECs) in the project area. A REC as defined by the ASTM is "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

A significant portion of the site is located within the boundaries of the former Oakland U.S. Army Base (Oakland Army Base). Soil, groundwater, and offshore sediment impacts currently exist within the boundaries of this former military facility which could potentially impact the proposed park development. Known contaminants of concern include heavy metals, volatile organic compounds (VOCs), PCBs, polynuclear aromatic hydrocarbons (PAHs), and organochlorine pesticides.

Based on the age of the existing structures as well as observation of peeling paint on structures at Key Point, asbestos-containing materials and/or lead-based paint could be present in existing on-site structures. Table 3.7-1 lists both current RECs and closed cases in the project area.

Oakland Army Base

The former Oakland U.S. Army Base was closed under the Base Realignment and Closure (BRAC) program. BRAC Parcel 1 consists of approximately 20 acres and encompasses the western portion of the project site. Of these 20 acres, approximately 14 acres are upland and approximately 6 acres are submerged sediments in the intertidal and subtidal zones. The project site also encompasses slightly less than 1 acre along the western boundary of BRAC Parcel 2 that abuts Parcel 1 and that contains storm sewers that discharge to Parcel 1, as well as 47 acres of marine sediments in a strip abutting the shoreline of Parcel 1 that are under the control of the US General Services Agency (GSA).

Four upland areas of concern (AOCs) were identified that are located on the project site:

- AOC 1-1: Landfill/disposal site
- AOC 1-2: VOC hot spot area
- AOC 1-3: Open storage area
- AOC 1-4: Storm sewer area

One AOC was identified adjacent to the project site:

- AOC M-1: Marine sediments, including approximately 47 acres offshore from BRAC Parcel 1.

AOC 1-1: Landfill/Disposal Site

This 3.4-acre portion of the former Oakland Army Base is situated on the western portion of the project area. The remedial investigation included soil and groundwater assessment and concluded the following.

- Pesticides (including dieldrin and 4,4-DDT) were present.
- Semivolatile organic compounds (SVOCs) (including benzo(a)pyrene, benzo(a)anthracene, and chrysene) were present.
- Arochlor (a PCB compound) was widespread. It may have been present in previous fill activities.
- Heavy metals (including chromium and lead) were detected. Lead was present at concentrations up to 7,960 milligrams per kilogram in one location.
- Groundwater sampling detected pesticides and SVOCs listed above as well as arsenic and manganese. The investigation concluded groundwater was "marginally" impacted by the landfill.

Table 3.7-1. Recognized Environmental Conditions and Closed Environmental Cases in the Project Area

EDR ID No.	Property Name	Project Location Impact	Databases	Status	REC	Notes
I94	Former Oakland U.S. Army Base	Western portion of project site (Key Point and Port Playground)	DOD, Cortese, LUST	Open deed restriction Other cases closed	Yes	See discussion below under Oakland Army Base.
425	Caltrans SF-Oakland Bay Bridge	Port Playground and Bridge Yard	Cortese and LUST	Closed	No	Not considered a REC because of its closed regulatory status.
6	Caltrans SF-Oakland Bay Bridge Toll Plaza	Port Playground and Bridge Yard	Cortese and LUST (two cases)	One closed case and one open case	Yes	The closed LUST case involved a release of gasoline and kerosene case granted closure in 2010. The open case is not found on the GeoTracker website. It involves a release of diesel fuel and motor oil and elevated arsenic detected in the soil. This open case is currently under investigation.
B3	Charles W. Armes DBA Socks Trucking 171 Burma Road	Port Playground	RCRA-NonGen	Closed	No	Former RCRA hazardous waste generator with no violations.
B5	Can Transport 196 Burma Road	Port Playground and Bridge Yard	VCP, Envirostor, SLIC, and Cortese	VCP and Envirostor case is open (inactive) SLIC case is closed	Yes	The open (inactive) VCP/Envirostor case is a REC. Contaminants of concern include gasoline, diesel fuel, motor oil, and metals. Past vehicle storage and refueling area on land that is part of the Oakland Army Base.
B4	SF Oakland Bay Bridge Skyway Project 220 Burma Road	Port Playground and Bridge Yard	RCRA-SQG and HAZNET	NA	No	RCRA small quantity generator of hazardous waste; HAZNET listing due to a past manifesting of hazardous wastes. No reported releases at this address.
Not listed in EDR	PG&E Substation	Key Point	Envirostor and VCP	Open	Yes	Open as 2012 according to Envirostor website. Contaminants of concern include PCBs, asbestos, and lead.
Not listed in EDR	Caltrans East Bay Service Road Tent	Key Point, Port Playground, and Bridge Yard	LUST	Closed	No	LUST case closed in 2010. Gasoline, diesel fuel, and kerosene impacts to soil remediated. Minor groundwater impact.

Notes:
REC = Recognized Environmental Condition

AOC 1-2: Volatile Organic Compound (VOC) Hot Spot Area

This 0.4-acre portion of the former Oakland Army Base is situated on the far western end of the former base. The remedial investigation included soil and groundwater assessment and concluded the following.

- Pesticides exceeding preliminary remedial goals (PRGs) (including dieldrin and 4,4-DDT and byproducts 4,4-DDD and 4,4-DDE) were present.
- VOCs were present in the soil in a small area only.
- No PCB compounds were detected.
- Arsenic was detected in the soil at ambient levels.
- Groundwater sampling detected pesticides at concentrations above PRGs, including alpha BCH, dieldrin, gamma BHC, 4,4-DDT, and beta BHC. VOCs exceeded PRGs: vinyl chloride was detected as high as 90 micrograms per liter.

AOC 1-3: Open Storage Area

This 6-acre portion of the former Oakland Army Base encompasses most of the former army base portion of the project site. This AOC was the location of equipment and material storage of the former army base. The remedial investigation included soil and groundwater assessment and concluded the following.

- Pesticides exceeding PRGs (dieldrin) were present in two soil samples.
- SVOC compound benzo(a)pyrene was detected sporadically at low concentrations exceeding PRGs.
- Groundwater sampling detected dieldrin and benzo(a)pyrene above PRGs in one sample. Manganese was also detected above PRG, although this was attributed to natural occurrence.

AOC 1-4: Storm Sewer Area

This 1.8-acre portion of the former Oakland Army Base encompasses the storm sewer lines that run along the boundary of BRAC Parcels 1 and 2. This AOC is in the central and eastern portions of the former army base. The remedial investigation included soil assessment and concluded the following.

- Pesticides exceeding PRGs (dieldrin) were present in the soil.
- Arsenic exceeding PRGs was present in the soil.
- Polynuclear aromatic hydrocarbons (PAHs) were detected adjacent to the storm sewers. However the concentrations were very low.
- Total petroleum hydrocarbons were detected sporadically. There is no PRG established for total petroleum hydrocarbon compounds.

AOC M-1: Marine Sediments.

AOC M-1 consists of the GSA sediments of BRAC Parcel 1 as well as approximately 47 acres of sediments within an inferred boundary placed 500 feet offshore from Parcel 1. Stormwater from the former Oakland Army Base and surrounding areas is discharged to the Oakland Outer Harbor through a series of storm drains and outfalls that are located along the bayside perimeter of Parcel 1.

The remedial investigation assessment of this AOC concluded the following:

- Polynuclear aromatic hydrocarbons (PAHs) were detected in sediments in samples obtained near the outfalls.
- 4,4-DDT and PCBs were detected in most sediment samples obtained near AOCs 1- 1 through 1-4.
- Metals including cadmium, lead, and selenium were detected in most of the samples analyzed.

According to the remedial investigation, detected concentrations of most contaminants decreased with depth and with distance from the shore with the exception of 4, 4,-DDT in one sample at Outfall 12 (increased with depth). For PCBs, total PCBs increased with depth in one sample at Outfall 1 and two samples at Outfall 12.

AOC Remediation Plans

According to Oakland Army Base and City of Oakland representatives interviewed in the Phase I ISA, the Oakland Army Base prepared a Remedial Action Plan (RAP), Feasibility Study (FS), and Record of Decision (ROD) in the early to mid 2000's for AOCs 1-1 through 1-4, which moved forward through the approval process until the DTSC questioned in 2012 whether the California Toxic Rule Water Quality Criteria were considered. The representatives confirmed that the DTSC is in discussion with the Oakland Army Base regarding additional assessments/next steps to secure approval of the ROD and complete remediation of AOCs 1-1 through 1-4. The timing of the submittal of the ROD is unknown.

As of the date of this report, the remediation of AOCs 1-1 through 1-4 has not been fully completed within the Gateway Park portion of the former Oakland Army Base. However, completion of the remediation by the U.S. Army and DTSC approval is required prior to transferring the site to the East Bay Regional Parks District for recreational use. Further, a Land Use Covenant (deed restriction) would be recorded prior to transfer restricting use of the property to a recreational land use.

At present, the U.S. Army is not proposing to remediate contaminated sediments associated with the former Oakland Army Base (AOC M-1).

Areas with Potential to Affect Water Quality

A review of Geotracker, the California State Water Board's data management system for sites that have the potential to impact water quality in California, identified the following on-land sites within the project study area with contaminants present in groundwater or soil. Table 3.7-2 shows both open and closed investigations.

Table 3.7-2. Geotracker Reports on Contamination Sites within the Hazardous Materials Study Area

Site Name	Location	Type of Site	Status	Case Numbers	Contaminants of Concern
PG&E Substation P[a]	West end of Burma Road at base of Bay Bridge Oakland, CA 94612	Cleanup Program Site	Open - Site Assessment	RB Case #: 01S0732 Loc Case #: 60001634	Lead
CALTRANS East Bay Service Road Tent	0 Bay Bridge Toll Plaza Oakland, CA 94607	LUST Cleanup Site	Completed - Case Closed	RB Case #: 01-1990 Loc Case #: RO0000051	Gasoline, kerosene in other groundwater (uses other than drinking water)
Oakland Army Base - Oakland Army Base UST 3 (Wharf No. 7)	Oakland Army Base (OARB) Oakland, CA 94607	Military UST Site	Completed - Case Closed	RB Case #: 01D9638	None specified
Can Transport Inc	196 Burma Rd Oakland, CA 94607	Cleanup Program Site	Completed - Case Closed	RB Case #: NA Loc Case #: RO0002654	None specified
CALTRANS Bay Bridge Toll Plaza (West)	0 Bay Bridge Toll Plaza (West) Oakland, CA 94623	LUST Cleanup Site	Completed - Case Closed	RB Case #: 01-3629	Diesel, gasoline, heating oil / fuel oil in other groundwater (uses other than drinking water)
CALTRANS SF-Oakland Bay Bridge (East)	0 Bay Bridge Toll Plaza (East) Oakland, CA 94623	LUST Cleanup Site	Completed - Case Closed	RB Case #: 01-2286 Loc Case #: RO0000032	Gasoline in other groundwater (uses other than drinking water)
CALTRANS East Bay Paint Yard	0 Burma Oakland, CA 94649	LUST Cleanup Site	Completed - Case Closed	RB Case #: 01-2391 Loc Case #: RO0002423	Gasoline in other groundwater (uses other than drinking water)
Oakland Army Base - Oakland Army Base - A Parent (Port Development Area)	2475-D West 12th St. Oakland, CA 94607	Military UST Site	Open - Eligible for Closure	RB Case #: T0600182530 Loc Case #: 80001200	Gasoline in other groundwater (uses other than drinking water)
Oakland Army Base - Oakland Army Base AST - 4	Burma Road, Building 14 (POV loading doc Oakland , CA 94607	Military Cleanup Site	Completed - Case Closed	RB Case #: 01D9607	Misc. motor fuel

Site Name	Location	Type of Site	Status	Case Numbers	Contaminants of Concern
Oakland Army Base	0 Alaska Oakland, CA 94626	LUST Cleanup Site	Completed - Case Closed	RB Case #: NA Loc Case #: RO0000876	Gasoline in other groundwater (uses other than drinking water)
Oakland Army Base Tank 1A	Bataan Avenue, BRAC Parcel 9, OU 1 Oakland, CA 94607	MILITARY UST SITE	Completed - Case Closed		Diesel in other groundwater (uses other than drinking water)
Oakland Army Base UST 1 (Bldg. 1)	Oakland Army Base (OARB) Oakland, CA 94607	MILITARY UST SITE	Completed - Case Closed		None specified
Oakland Army Base - Oakland Army Base	Oakland Army Base Oakland, CA 94607	Military Cleanup Site	Open - Site Assessment	RB Case #: T0601392099 Loc Case #: 01970016	Aviation, benzene, crude oil, DDD / DDE / DDT, diesel, dioxin / furans, endrin, gasoline, lead, MTBE / TBA / other fuel oxygenates, methane, nickel, polychlorinated biphenyls (PCBS), tetrachloroethylene (PCE), trichloroethylene (TCE) In contaminated surface / structure, other groundwater (uses other than drinking water), sediments, soil
Oakland Army Base - Oakland Army Base Tank M	65 feet east and 25 feet north of Building Oakland, CA 94607	Military UST Site	Completed - Case Closed	RB Case #: T06001822530	Gasoline
Oakland Army Base - Operable Unit 2 (OU2) Wetland	Frontage Road Oakland, CA 94612	Military Cleanup Site	Open - Site Assessment		None specified
Oakland Army Base - Oakland Army Base Bldg. 991 AST	Oakland Army Base Oakland, CA 94607	Military Cleanup Site	Completed - Case Closed	RB Case #: T06001822530	Diesel in soil

Notes:
[a] PG&E Substation was demolished in 2015.

3.7.2.3 Nearby Schools

A review of federal records for public and private schools with grades ranging from pre-kindergarten to 12 indicates that no schools are within 0.25 mile of the project area (National Center for Education Statistics 2017). The closest school is Vincent Academy, serving grades kindergarten through fifth, at 2501 Chestnut Street 0.6 mile southeast of the project area.

3.7.2.4 Nearby Airports

The project area is not located within an airport land use plan area or within 2 miles of a public airport or public use airport. The closest airport is the Oakland International Airport, located approximately 8 miles to the southeast of the project area. San Francisco International Airport is located approximately 14 miles to the southwest (across the Bay), and Hayward Executive Airport is located approximately 14 miles to the southeast. There are no private airstrips in the vicinity of the project.

3.7.2.5 Wildfire Risk

According to the Very High Fire Hazards Severity Zones in LRA—Alameda County map from the Fire and Resource Assessment Program, California Department of Forestry and Fire Protection (CalFire), the Project is not located within a High Fire Risk Area (CalFire 2008). The area surrounding the project area is completely developed and is not intermixed with wildlands.

3.7.2.6 Emergency Planning and Hazardous Materials Response

Alameda County is responsible for hazardous materials management. The City of Oakland is responsible for emergency planning/response.

Alameda County Department of Environmental Health

The Alameda County Department of Environmental Health serves as CUPA for the Hazardous Materials/Waste Program for the City of Oakland, enforcing federal, state, and local legislation related to hazardous materials.

Oakland Office of Emergency Services

The Oakland Office of Emergency Services assists local governments in their emergency preparedness, response and recovery efforts; serves as the conduit for federal disaster assistance; provides emergency information to the public; and coordinates the statewide mutual aid system.

Oakland Fire Department, Hazardous Materials Response

The Oakland Fire Department is responsible for hazardous materials response in the project area. The responsibilities for the department’s Special Operations for Hazardous Materials Response include on-scene management of hazardous-materials incidents such as accidental releases of toxic substances, industrial fires and explosion of petroleum products and other chemicals. The hazmat team includes specialists to provide technical expertise in isolation, identification of chemicals, hazard assessment, containment, mitigation, decontamination and disposal.

3.7.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on Hazards and Hazardous Materials associated with the construction and operation of the project.

3.7.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on Hazards and Hazardous Materials in the study area.

- *Phase I Initial Site Assessment, Gateway Park Project, Oakland, California* (Fugro Consultants 2014).
- Geotracker (California State Water Resources Control Board 2015).
- National Center for Education Statistics (2017)
- Very High Fire Hazard Severity Zones in LRA: Alameda County (CalFire 2008)

3.7.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on Hazards and Hazardous Materials in the study area as defined in Section 3.7.2.1, *Study Area*.

As described under *Regulatory Setting*, above, the use of hazardous materials is subject to numerous laws and regulations. In most cases, the laws and regulations pertaining to hazardous materials management minimize risks to human health and the environment. The impact analysis identifies areas where impacts related to the use of hazardous materials during project construction and operation would be subject to applicable laws and regulations.

As stated in Section 2.2.2, *Land Use and Zoning* in Chapter 2, *Project Description*, the project area is planned for transfer to EBRPD for public benefit after remediation for onshore hazardous waste contamination. This analysis assumes that all onshore hazardous materials would be remediated to appropriate levels for proposed uses prior to or as part of park construction, and that it would be completed prior to park operation. Accordingly, after identifying presence of onshore hazardous materials present as contaminants in the soil and groundwater, this analysis assumes remediation to acceptable levels prior to operation, subject to DTSC approval. Refer to Section 3.7.2.2, *Areas of Contamination,* regarding ongoing remediation plans and requirements.

Construction impacts related to emergency response and evacuation plans were based on traffic analysis that found that construction-related traffic would not interfere with site access. Operation impacts related to emergency response and evacuation plans were based on project design.

Impacts related to wildland fire were analyzed using data from CalFire, which shows the danger of wildland fire in the project area.

3.7.3.3 Significance Criteria

The project would have a significant impact related to hazards and hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Topics Not Evaluated in Detail

Cortese List Sites. The Cortese List is a compilation of several different lists of hazardous material release sites that meet criteria specified in Section 65962.5 of the California Government Code. Although there are documented releases of hazardous materials on the Project site, there are currently no hazardous materials release sites in the study area that meet the criteria for inclusion on the Cortese List. Therefore, the Project would have **no impact** related to development on a hazardous materials release site included on the Cortese List, and this impact is not evaluated further.

Airport Hazards. The Project site is located approximately 8 miles northwest of the nearest public use airport, Oakland International Airport. In addition, there are no private airstrips within 2 miles of the Project site. Therefore, the Project would have **no impact** on the navigable airspace of public use airports or private airstrips, and this impact is not evaluated further.

Wildland Fires. Implementation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. According to the figure, "Very High Fire Hazards Severity Zones in LRA – Alameda County (CalFire 2008), the Project is not located within a High Fire Risk Area. Furthermore, the area immediately surrounding the

Project area is completely developed and is not intermixed with wildlands. The Project would have **no impact** related to wildland fire hazards. This impact is not evaluated further.

3.7.4 Impacts and Mitigation

This section describes the potential impacts related to hazards and hazardous materials that would result from construction and operation of the project.

Impact HAZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (less than significant)

Construction

Project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Construction of the project is expected to occur over seven years, spread over three phases, anticipated to be completed by 2030. During construction, fuel and small amounts of solvents, paints, oils, grease and caulking would be transported, used, and disposed in compliance with applicable regulations such as the RCRA, Department of Transportation Hazardous Materials Regulations, and the Alameda County Department of Environmental Health CUPA regulations. This would minimize hazards to the public and environment. Therefore, the impact would be less than significant. No mitigation would be required.

Operations

Operation and maintenance activities for the project would include trash removal, landscaping, sweeping, and inspections. Materials are expected to be used in small localized amounts, typical of a recreational/open space use, and any spills would be cleaned up as they occur. The use or storage of any hazardous materials on site during normal project operations would be conducted in accordance with existing regulations. Therefore, the impact would be less than significant. No mitigation would be required.

Impact HAZ-2. The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (less than significant with mitigation)

Hazardous materials are currently present as contaminants in the soil, groundwater, and sediments at sites identified as RECs in the Phase I ISA, as discussed above in Table 3.7-1. Construction activities such as grading could disturb contaminants in the soil and sediments and cause releases to the environment. Construction activities such as excavation and pile driving could disturb contaminants in groundwater and cause contaminated groundwater to migrate. Pile driving can also introduce contaminated soil into groundwater that was not previously contaminated.

As discussed in Section 3.7.2.2 under *Oakland Army Base* and Table 3.7-1, the sites containing RECs are the former Oakland Army Base, Can Transport at 196 Burma Road, Caltrans SF-Oakland Bay Bridge Toll Plaza, and PG&E Substation. As discussed under *Areas with Potential to Affect Water Quality*, active sites are the PG&E Substation P, the Oakland Army Base - Oakland Army Base - A

Parent (Port Development Area), the Oakland Army Base - Oakland Army Base, and the Oakland Army Base - Operable Unit 2 (OU2) Wetland.

At the former Oakland Army Base, including the Can Transport at 196 Burma Road; Oakland Army Base - Oakland Army Base - A Parent (Port Development Area); and Oakland Army Base - Operable Unit 2 (OU2) Wetland, contaminants of concern are the following.

- Pesticides (dieldrin, 4,4-DDT, alpha BCH, gamma BHC, and beta BHC), SVOCs (benzo(a)pyrene, benzo(a)anthracene, and chrysene)
- VOCs
- PCBs
- Arsenic, manganese, and heavy metals (chromium and lead)
- Petroleum products (gasoline, diesel fuel, motor oil)

At the Caltrans SF-Oakland Bay Bridge Toll Plaza, the investigation concerns a release of diesel and motor oil and elevated arsenic detected in the soil. At the PG&E Substation, contaminants of concern present in the soil are PCBs, asbestos, and lead. This impact is potentially significant.

As discussed in Section 3.7.2.2 under *Oakland Army Base*, the U.S. Army is required to clean up known onshore contamination within the former Oakland Army Base prior to transferring the site to the East Bay Regional Parks District for recreational use. A Land Use Covenant (deed restriction) would be recorded prior to transfer restricting use of the property to a recreational land use. Prior to property transfer, the project implementer should confirm whether remedial actions planned for the former Oakland Army Base have been completed. Mitigation measure **MM-HAZ-1** requires the preparation of a limited Phase II Environmental Site Assessment (ESA) to ensure that onshore contamination within the former Oakland Army Base has been remediated to acceptable levels. The Phase II ESA would assess the level of potential contaminant impacts at identified RECs and, if needed, provide for managing these impacts through development of a site mitigation plan.

At present, the U.S. Army is not proposing to remediate contaminated sediments associated with the former Oakland Army Base (AOC M-1). As such, the park proposal does not include facilitation of swimming or wading in areas of potential contaminated sediment. Park patrons could be exposed to contaminated marine sediments if they were to swim or stand in the water adjacent to the Port Playground area. Mitigation Measure **MM-HAZ-2** would minimize this risk to the extent feasible by installing warning signage that indicates that swimming and standing in the water is dangerous and prohibited.

With implementation of **MM-HAZ-1** and **MM-HAZ-2**, the impact would be less than significant.

MM-HAZ-1. Prepare a limited Phase II Environmental Site Assessment for the terrestrial portions of the project <u>within the boundary of the former Oakland Army Base</u> and, if appropriate, a site mitigation plan

The project implementer shall complete a limited Phase II ESA to assess potential contaminant impacts within the terrestrial portions of the Gateway Park development <u>with the boundary of the former Oakland Army Base (Phase 3)</u>. The Phase II ESA shall include a detailed review of historic chemical data available for the former Oakland Army Base as well as sampling and chemical analyses of soil at the Gateway Park development, particularly where soil handling activities are likely to occur. The Phase II ESA shall also consider whether groundwater and sediment sampling are appropriate. Samples shall be tested for some or all the contaminants of concern identified above, and results shall be compared to appropriate Environmental Screening Levels (ESLs) or other criteria with consideration of future park construction/maintenance worker and passive recreational users.

If the Phase II Environmental Site Assessment indicates that soil or groundwater samples have hazardous substances present, the project implementer shall engage a qualified person to develop a Site Mitigation Plan. The Site Mitigation Plan shall describe handling, management, and mitigation of the contamination. The Plan shall be submitted to Alameda County Department of Environmental Health for approval. The Plan shall be implemented prior to commencement of construction.

MM-HAZ-2. Install warning signage that prohibits patrons from swimming or standing in the water on the south side of the park in the area of contaminated sediments

The project implementer shall install warning signage in the park indicating that swimming and standing in the water on the south side of the park is dangerous and prohibited due to the potential for exposure to contaminated marine sediments. The project implementer shall also include the same warnings on a page in the ~~Gateway Park website~~ publicly accessible website.

Impact HAZ-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school (less than significant)

As discussed in Section 3.7.2.3, *Nearby Schools*, there are no schools within 0.25 miles of the project area. The closest school is Vincent Academy at 0.6 mile from the project area.

As discussed under Impact HAZ-1 above, project construction would involve use of hazardous materials typical of a construction project. However, the project would be construction in compliance with federal, state, and local regulations. Further, any potential construction-related hazardous releases or emissions would be from commonly used materials such as fossil fuels, solvents, and paints and would not include substances listed in 40 CFR 355, "Extremely Hazardous Substances and their Threshold Planning Quantities." Any construction-related spills would be localized, immediately contained, and cleaned, pursuant to regulatory requirements.

As discussed under Impact HAZ-2, project construction could result in excavation of soils and subsequent release of hazardous materials from sites identified in the Phase I ISA as being potential RECs. Although this is the case, Vincent Academy is located more than 0.25 miles from the project area. Accordingly, it is unlikely that potentially contaminated matter would affect land uses at the school. Therefore, project construction impacts on schools would be less than significant. Mitigation measure **MM-HAZ-1** would further decrease impacts related to emissions or handling of hazardous or acutely hazardous materials, substances, or waste near an existing school.

Impact HAZ-4. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (less than significant with mitigation)

There are no emergency response plans or emergency evacuation plans applicable to the project site as the project site is mostly vacant. Therefore, this impact focuses on potential impacts related to emergency evacuations. This impact analysis draws on the analysis in Section 3.12, *Transportation and Traffic*, under Impact TR-5.

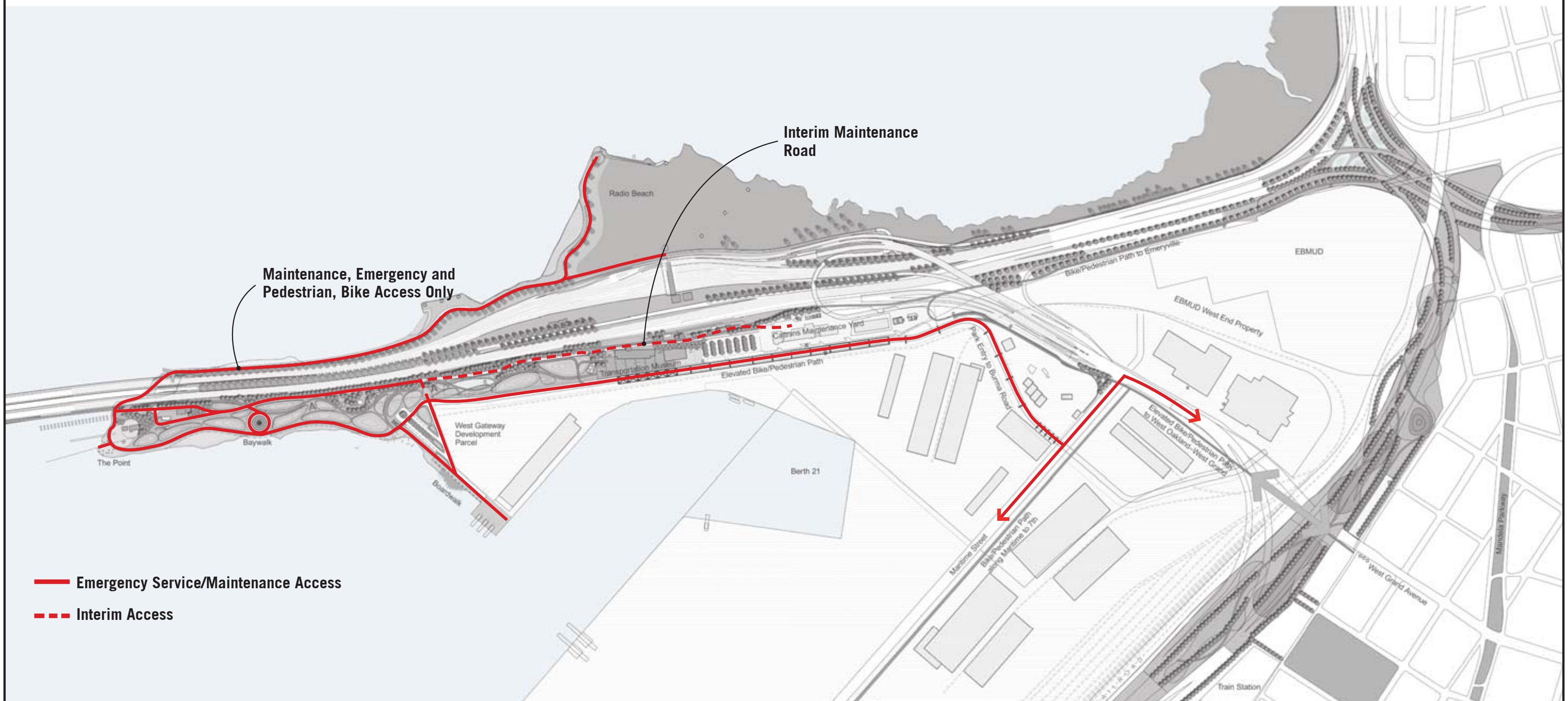
Construction

During the construction period, temporary and intermittent transportation impacts may result from truck movements to and from the project area. The construction-related traffic may temporarily reduce capacities of roadways in the project vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles, which could interfere with emergency response or evacuation. With incorporation of mitigation measure **MM-TRA-1** (Prepare and implement a construction traffic management plan; Section 3.12, *Transportation and Traffic*), which would lessen impacts on roadway performance and safety, the project would have a less than significant impact on emergency response or evacuation.

Operations

The project does not include any features that would physically impair or otherwise interfere with emergency response or evacuation in the project vicinity. The project would not result in any road closures. Emergency access would be provided to the project area via Burma Road (Figure 3.7-1) and alternatively via the Bay Trail (which provides an alternative connection to Maritime Boulevard).

However, the project would add activity to an area with only one designated vehicular access point (Burma Road). If this roadway is blocked or obstructed, emergency vehicle access could be impaired during normal operations or during special events. This impact would be significant. With implementation of mitigation measure **MM-TRA-~~7~~6 (**Provide additional emergency access to Gateway Park, including parking management during special events) in Section 3.12, *Transportation and Traffic*, this impact would be less than significant.



Source: Gateway Park Working Group, 2012.

gatewaypark

Figure 3.7-1
Emergency Access in the Proposed Gateway Park

Section 3.8
Hydrology and Water Quality

This section describes hydrology and water quality in the study area. It then describes impacts on hydrology and water quality that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.8.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to hydrology and water quality.

3.8.1.1 Federal

The following federal regulations, laws, and guidelines apply to hydrology and water quality.

Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States from any point source unlawful unless the discharge complies with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections.

- **Sections 303 and 304** require states to issue water quality standards, criteria, and guidelines.
- **Section 401** requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request.
- **Section 402** establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4).
- **Section 404** establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE). USACE issues two types of 404 permits: General and Standard Permits. There are two types of General Permits: Regional Permits and Nationwide Permits. Regional Permits are issued for a general category of activities when they are similar in nature and cause

minimal environmental impacts. Nationwide Permits are issued to allow a variety of minor project activities with no more than minimal impacts.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard Permits. There are two types of Standard Permits: Individual permits and Letters of Permission. For Standard Permits, the USACE decision to approve is based on compliance with the U.S. Environmental Protection Agency's (EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230) and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines developed by EPA in conjunction with USACE allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The guidelines state that USACE may not issue a permit if there is a *least environmentally damaging practicable alternative* to the proposed discharge that would have lesser effects on waters of the United States and not have any other significant adverse environmental consequences. According to the guidelines, the completion of a sequence of avoidance, minimization, and compensation measures must be documented. The guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. In addition, every permit from USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements (33 CFR 320.4).

Rivers and Harbors Act of 1899, Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through USACE, for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. In addition, the law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures, from the smallest floating dock to the largest commercial undertaking.

3.8.1.2 State

The following state regulations, laws, and guidelines apply to hydrology and water quality.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Act, enacted in 1969, provides the legal basis for water quality regulation in California. This act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State of California. It predates the CWA and regulates discharges to waters of the State of California. These waters include more than just waters of the United States, such as groundwater and surface waters not considered waters of the United States. Additionally, the act prohibits discharges of "waste," which has a broader definition than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by waste discharge requirements (WDR), which may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (State Water Board) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB basin plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards for particular water segments are based on the designated use. In addition, the State Water Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or WDRs), the CWA requires the establishment of total maximum daily loads (TMDL). TMDLs specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Board administers water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving basin plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

The San Francisco Bay RWQCB revised the goals and policies of the *San Francisco Bay Basin (Region 2) Water Quality Control Plan* (Basin Plan) in March 2015 to meet beneficial use and water quality objectives. These apply to water bodies, if any, in the project area.

State Permits

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that are designed or used for collecting or conveying storm water." The portion of the project area in the City of Oakland is in the Alameda County Phase I MS4 under the San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit (Order R2-2015-0049, NPDES Permit CAS612008). See Section 3.8.1.3, *Regional and Local, Local Agency NPDES Permit*, for additional details.

Caltrans holds a general NPDES permit that covers primarily municipal stormwater discharges [Order 2012-0011-DWQ (NPDES CAS000003, as amended by Order 2014-0006-EXEC, Order 2014-0077-DWQ, and Order 2015-0036-EXEC) NPDES Statewide Storm Water Permit WDRs for State of California Department of Transportation (Caltrans MS4 Permit)]. The portion of the project area within Caltrans' right-of-way (i.e., the proposed freeway landscaping areas, residential trash capture from other best management practices) would be subject to the Caltrans MS4 Permit.

Caltrans' MS4 Permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The permit has three basic requirements:

- Caltrans must comply with the requirements of the Construction General Permit.
- Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges.
- Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices (BMP), to the maximum extent practicable, and other measures as the State Water Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The plan assigns responsibilities in Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The plan describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The project would follow the guidelines and procedures outlined in the latest plan to address stormwater runoff.

Per RWQCB's memorandum to Caltrans (July 21, 2008), hydromodification controls are required if a project submits a Report of Waste Discharge and lies within the political boundary of a municipality subject to hydromodification requirements in an NPDES Municipal Permit. However, as noted in Section 3.8.1.3, *Regional and Local, Local Agency NPDES Permit*, the project area is tidally influenced and therefore exempt from hydromodification requirements.

Construction General Permit

The Construction General Permit (Order 2009-009-DWQ, as amended by 2010-0014-DWG and 2012-006-DWQ and adopted on November 16, 2010) became effective on February 14, 2011. The permit regulates stormwater discharges from construction sites that result in a disturbed soil area of 1 acre or more or are smaller sites that are part of a larger common plan of development. For all projects subject to the Construction General Permit, applicants are required to develop and implement an effective stormwater pollution prevention plan (SWPPP).

By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop SWPPPs; implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring, and pre-and post-construction aquatic biological assessments during specified seasonal windows. The project would likely be classified as Risk Level 1 for all three construction phases.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will comply with state water quality standards. The most common federal permit triggering 401 certification is a CWA Section 404 permit, issued by USACE. The 401 certifications are obtained from the appropriate RWQCB and are required for the 404 permit. A water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. Water quality certifications are issued by one of the nine geographically separated RWQCBs. In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue WDRs under the Porter-Cologne Act that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

The project would require the placement of fill materials in waters of the United States, and a 401 certification would be required of the San Francisco Bay RWQCB.

California's National Flood Insurance Program

In response to increasing costs of disaster relief, Congress passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The Federal Emergency Management Agency (FEMA) is the nationwide administrator of the National Flood Insurance Program (NFIP). This program was established by the National Flood Insurance Act to protect lives and property and to reduce the financial burden of providing disaster assistance by subsidizing flood insurance to communities that comply with FEMA regulations limiting development in floodplains. Under the NFIP, FEMA has the lead responsibility for flood hazard assessment and mitigation. FEMA offers federally backed flood insurance to homeowners, renters, and business owners in communities that choose to participate in the program. FEMA has adopted the 100-yr floodplain as the base flood standard for the NFIP. FEMA is also concerned with construction within a 500-year floodplain for proposed projects that are considered "critical actions," which is defined as any activity where even a slight chance of flooding is too great. FEMA issues the Flood Insurance Rate Maps (FIRM) for communities that participate in the NFIP. A FIRM is the official map of a community prepared by FEMA to delineate both the special flood hazard areas and the flood risk premium zones applicable to the community.

In California, nearly all of the flood-prone communities participate in the NFIP, which is locally administered by the California Department of Water Resources Division of Flood Management. Under California's NFIP, communities have a mutual agreement with the State and Federal governments to regulate floodplain development according to certain criteria and standards, which is further detailed in the NFIP. Typically, each county (or community) has a flood insurance study, which is used to develop FIRMs and base flood elevations locally.

3.8.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to hydrology and water quality.

City of Oakland

City of Oakland General Plan

The *City of Oakland General Plan* (City of Oakland 1998) identifies adopted goals, policies, and implementation that govern development in the city. The following policies and actions in the Open Space, Conservation and Recreation Element apply directly to the project.

- **Policy CO-1.1 Soil Loss in New Development.** Regulate development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.
    - **Action CO-1.1.1 Soil-Related Development Controls.** Maintain, enforce, and periodically review development controls affecting soil removal, including the Grading Ordinance and the Sedimentation and Erosion Control Ordinance.
    - **Action CO-2.4.1 Update of Grading Ordinance**. Review the grading ordinance every five years and revise it when necessary to keep it current with new knowledge and construction methods.
- **Policy CO-4.4 Water-Conscious Development Patterns.** Encourage regional development patterns which make environmentally sound use of water resources.
- **Policy CO-5.1 Protection of Groundwater Recharge.** Encourage groundwater recharge by protecting large open space areas, maintaining setbacks along creeks and other recharge features, limiting impervious surfaces where appropriate, and retaining natural drainage patterns within newly developing areas.
- **Policy CO-5.2 Improvements to Groundwater Quality.** Support efforts to improve groundwater quality, including the use of non-toxic herbicides and fertilizers, the enforcement of anti-litter laws, the cleanup of sites contaminated by toxics, and on-going monitoring by the Alameda County Flood Control and Water Conservation District.
- **Policy CO-5.3 Control of Urban Runoff.** Employ broad range of strategies, compatible with the Alameda Countywide Clean Water Program to: a) reduce water pollution associated with stormwater runoff; b) reduce water pollution associated with hazardous spills, illicit dumping, and marina 'live-aboards"; and c) improve water quality in Lake Merritt to enhance the lake's aesthetic, recreational, and ecological functions.
    - **Action CO-5.3.1 Pre-Treatment of Runoff.** In accordance with the Countywide Clean Water Program, study the feasibility of enacting stormwater retention and pre-treatment requirements for developments meeting certain criteria.

- **Policy CO-6.5 Protection of Bay and Estuary Waters.** Protect the surface waters of the San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.
- **Policy OS-7.1 Promotion of Beneficial Waterfront Uses.** Require land use along the shoreline which promote the beneficial uses of the Estuary and Bay water, including a balanced mix of commercial shipping facilities; water-dependent industry, commerce, and transportation; recreation; water-oriented services and housing; and resource conservation.

The following goals and policies in the Safety Element of the General Plan are relevant to the project.

- **Policy FL-1**. Enforce and update local ordinances, and comply with regional orders that would reduce the risk of storm-induced flooding.
- **Policy FL-2.** Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.
- **Policy FL-3.** Seek the cooperation and assistance of other government agencies in managing the risk of storm-induced flooding.
- **Policy FL-4.** Minimize further the relatively low risks from non-storm-related forms of flooding.

City of Oakland Municipal Code

The City of Oakland Municipal Code identifies provisions in the Creek Protection, Stormwater Management and Discharge Control Ordinance (Chapter 13.16), also known as the Waterways Ordinance to ensure the future health, safety, and general welfare of city citizens by managing and controlling activities that would degrade waterways. The City of Oakland's Stormwater Ordinance was amended on December 16, 1997, to include creek protection measures and provide guidelines for development and construction projects. The intent of the ordinance is to minimize negative impacts on creeks associated with development or construction on creekside properties. Other provisions in Chapter 13.16 are related to discharge of pollutants (13.16.070), discharge in violation of permit (13.16.080), reduction of pollutants in stormwater (13.16.100), and watercourse protection (13.16.110).

As required, storm drains will be designed according to City standards (Chapter 13.14). In addition, the City of Oakland uses *Start at the Source: Design Guidelines for Stormwater Quality Protection* (Bay Area Stormwater Management Agencies Association 1999) in the planning and design phases of residential, commercial, institutional, and industrial development and redevelopment to improve stormwater quality.

In accordance with Section 1802B.13, no grading permit will be issued for any site located in a designated flood hazard area unless the grading plan provides for mitigation measures relative to the projected flood hazard. The mitigation methods are subject to the review and approval of the building official. All applications for grading permits are referred to City Planning, which will report on aspects of the proposed grading, excavation, or fill.

East Bay Regional Park District Master Plan

The East Bay Regional Park District provides and manages the regional parks for Alameda and Contra Costa Counties. The Master Plan (East Bay Regional Park District 2013) defines the overall mission and vison for the Park District. The following policies are applicable to land use and planning.

- **Natural Resource Management NRM11.** Park water resources will be used for beneficial purposes. Water quality will be monitored to comply with established standards. The District will participate in cooperative efforts to plan comprehensive watershed management and will adopt "best management practice" guidelines for District land use activities to minimize potential storm water pollution. The District will monitor land use planning and development activities by other agencies and cities to avoid potential adverse impacts to parkland from pollutants generated by off-site or upstream sources.
- **Natural Resource Management NRM13.** The District will identify existing and potential erosion problems and take corrective measures to repair damage and mitigate its cause. The District will manage the parks to assure that an adequate cover of vegetation remains on the ground to provide soil protection. Where vegetation cover has been reduced or eliminated, the District will take steps to restore it using native or naturalized plants adapted to the site. The District will minimize soil disturbance associated with construction and maintenance operations, and will avoid disruptive activities in area with unstable soils whenever possible. The District will arrest the progress of active gully erosion where practical, and take action to restore these areas to stable conditions. The District will notify adjacent property owners of potential landslide situations and risks on District lands, and will conform to applicable law. The District will protect important geological and paleontological features from vandalism and misuse.

Alameda County

Alameda County Ordinances and Policies

The Alameda County Ordinances and Policies contain the following ordinances related to the project.

- **Ch. 6.36 Flood Control and Water Conservation District Use Regulations.** This ordinance establishes the requirement for obtaining a flood encroachment permit as a prerequisite of accessing District property.
- **Ch. 13.08 Stormwater Management and Discharge Control.** This ordinance provides the regulations for discharging into the County storm drain system, including the provisions for stormwater permits.
- **Ch. 13.12 Watercourse Protection.** The watercourse ordinance controls development within and adjacent to privately owned natural bodies of water, and provides the provisions for the issuance of watercourse permits.
- **Ch. 15.36 Grading, Erosion and Sediment Control.** This ordinance is intended to control the construction of cuts and fills on private property, particularly with regard to limiting sedimentation of the County storm drain and flood control systems.
- **Ch. 15.40, Floodplain Management.** The floodplain management ordinance invokes the requirements of the FEMA NFIP with regard to development with areas of special flood hazard.

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program, representing 17 agencies, has been issued NPDES Municipal Stormwater Permits since 1991. Each permit is shared by the 14 cities, the unincorporated area, and the two flood control districts of Alameda County. Updated stormwater quality control measures for the Alameda County Municipal NPDES permit include stormwater treatment and control, source control and site design, and hydromodification management. Alameda County stormwater control measures include design guidelines for landscaped-based stormwater controls, landscape design to minimize pesticide fertilizer pollution, and protecting water quality during construction.

The Alameda County *C.3 Stormwater Technical Guidance* (Alameda Countywide Clean Water Program 2016) guides developers, builders, and project sponsors to include post-construction stormwater controls in their projects to meet local municipal requirements. The municipalities in Alameda County require post-construction stormwater controls or permanent features to be included in a project to reduce pollutants in stormwater and/or erosive flows during the life of the project.

San Francisco Bay Plan

The San Francisco Bay Plan was completed and adopted by the San Francisco Bay Conservation and Development Commission (BCDC) in 1968 and was transmitted to the California Legislature and the Governor in 1969. The Legislature acted on BCDC's recommendations in the Bay Plan and revised the McAteer-Petris Act by designating the BCDC as the agency responsible for maintaining and carrying out the provisions of the act and the Bay Plan for the protection of the Bay and its natural resources, as well as the development of the Bay and shoreline.

The following policies from the reprinted plan (San Francisco Bay Conservation and Development Commission 2012) apply to hydrology and water quality.

Water Quality

- Bay water pollution should be prevented to the greatest extent feasible. The Bay's tidal marshes, tidal flats, and water surface area and volume should be conserved and, whenever possible, restored and increased to protect and improve water quality. Fresh water inflow into the Bay should be maintained at a level adequate to protect Bay resources and beneficial uses.
- Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan, San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the Regional Board, should be the basis for carrying out the Commission's water quality responsibilities.
- New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain nonpolluting materials; and (c) applying appropriate, accepted and effective best management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources.
- When approving a project in an area polluted with toxic or hazardous substances, the Commission should coordinate with appropriate local, state and federal agencies to ensure that

the project will not cause harm to the public, to Bay resources, or to the beneficial uses of the Bay.

- The Commission should support the efforts of federal, state, and local agencies in developing non point source pollution control programs.
- To protect the Bay and its tributaries from the water quality impacts of nonpoint source pollution, new development should be sited and designed consistent with standards in municipal stormwater permits and state and regional stormwater management guidelines, where applicable, and with the protection of Bay resources. To offset impacts from increased impervious areas and land disturbances, vegetated swales, permeable pavement materials, preservation of existing trees and vegetation' planting native vegetation and other appropriate measures should be evaluated and implemented where appropriate.
- Whenever practicable, native vegetation buffer areas should be provided as part of a project to control pollutants from entering the Bay, and vegetation should be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable.

Local Agency NPDES Permit

The project area is regulated as a co-permittee under San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit (Order R2-2015-0049, NPDES Permit CAS612008). This presents the provision for permanent post-construction stormwater requirements. Within the project area, the Municipal Regional Permit is administered regionally by the Alameda Countywide Clean Water Program to assist developers and engineers in complying with treatment and hydromodification requirements (Alameda Countywide Clean Water Program 2016). The Municipal Regional Permit is administered locally by the City of Oakland.

The Municipal Regional Permit states provisions and requirements for permanent stormwater treatment. Stormwater treatment measures must reduce the sediment and pollutant load resulting from the loss of pervious area and creation of impervious area. The permit sets impervious area thresholds at which projects must implement permanent stormwater treatment measures. The thresholds applicable for the project include requiring permanent stormwater treatment measures when 10,000 square feet or more of impervious area is created or replaced. If a project creates and/or replaces impervious area equal to more than 50% of the existing impervious area not previously requiring treatment, then the project must provide treatment for all existing and newly created impervious area.

In addition to permanent stormwater treatment requirements, the Municipal Regional Permit states provisions and requirements for hydromodification mitigation. Hydromodification is defined as the alteration of the hydrologic characteristics of coastal and noncoastal waters, which in turn could degrade water resources. However, per the Alameda Countywide Clean Water Program Hydromodification Management Plan Map (Alameda County Clean Water Program 2009), the project area is tidally influenced and therefore exempt from hydromodification requirements.

The Municipal Regional Permit regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater that is in continuity with surface water cannot cause violations of any applicable surface water standards (San Francisco Bay Regional Water Quality Control Board 2015).

3.8.2 Environmental Setting

This section describes existing conditions related to Hydrology and Water Quality that could be affected by the construction and operation of the project.

3.8.2.1 Study Area

The study area for direct impacts on water resources consists of the surface waters and groundwater in and below the 45-acre project area where project-related ground-disturbing construction, staging, or access activities would occur, as well as the open water area immediately along the shoreline to which surface waters drain. The surface water and groundwater specific to the project area, including their geographic extents, are described in more detail in Section 3.8.2.2, *Regional Setting*.

3.8.2.2 Regional Setting

Surface Water

The project area is in the San Francisco Bay watershed and the East Bay Cities Hydrologic Area in the South Bay Hydrologic Unit, within an undefined hydrologic subarea. There are no creek or stream crossings in the project area. The direct receiving water bodies for the project area are the Central and Lower San Francisco Bay.

There are 2.19 acres of tidal marsh are located at Radio Beach. Radio Beach, on the north side of Interstate 80 (I-80) and land beneath and adjacent to Interstate 880 (I-880) and the I-880/I-80/I-580 interchange, is a 400-foot stretch of narrow, sandy beach with natural features such as low-lying groundcover and shrubs, native vegetation, a large amount of invasive ice plant, marshes, and wetlands. Other habitats and natural communities of concern include shallow bay (estuarine) habitat and deep bay/channel habitat. There are 6.5 acres of shallow bay (estuarine) habitat in the study area and approximately 12.6 acres of deep bay/channel habitat in the study area (ICF International 2015).

Existing treatment BMPs include a retention basin facility west of the Bridge Yard and south of I-80, constructed as part of the Bay Bridge project. It receives stormwater runoff from the Bay Bridge toll plaza area. Another retention basin facility was constructed under the I-80/580/880 interchange area by East Bay Municipal Utility District near their wastewater treatment plant.

Groundwater

The project area is in the East Bay Plain subbasin of the larger Santa Clara Valley groundwater basin (Basin ID 2-9.04). The East Bay Plain is bound by San Pablo Bay to the north, Franciscan Basement rock to the east, and the Niles Cone Groundwater Basin to the south (California Department of Water Resources 2004). The subbasin is a northwest-trending alluvial plain and consists of unconsolidated sediments.

Water levels in the basin's aquifer have varied from −10 to −140 feet mean sea level since the early 1950's. However, water levels rose approximately 5 feet per year from 1965 to 1980, and have continued to rise since then but at a less rapid rate. As of 2000, water levels are very near surface in all aquifers. Recharge of the subbasin occurs through natural recharge such as precipitation and infiltration, artificial/incidental recharge, applied water recharge, and subsurface inflow.

At the project area, groundwater is expected to occur at or slightly above mean sea level. The depth to groundwater ranges from immediately below ground surface along and near the shoreline, and up to a depth of 10 feet below ground surface at the areas farthest inland (Fugro 2014a). Shallow groundwater in the project area varies from elevation 0 to 3 feet (Fugro 2014b). The tidal influence on the groundwater gradient extends approximately 600 feet inland from the Oakland Harbor and causes groundwater flow to be highly variable. The groundwater gradient in areas beyond 600 feet from the harbor is anticipated to flow westward towards San Francisco Bay. Tidal force should not significantly affect the groundwater level at the project area (WRECO 2014a).

Water Quality

Surface Water Quality

There are no surface streams in the project area. However, the Lower San Francisco Bay and Central San Francisco Bay are the direct receiving water bodies for the project area. The Basin Plan specifies the following beneficial uses of the Lower San Francisco Bay.

- Industrial Service Supply (IND)
- Ocean, Commercial, and Sport Fishing (COMM)
- Shellfish Harvesting (SHELL)
- Estuarine Habitat (EST
- Fish Migration (MIGR)
- Preservation of Rare and Endangered Species (RARE)
- Fish Spawning (SPWN)
- Wildlife Habitat (WILD)
- Water Contact Recreation (REC-1)
- Non-Contact Water Recreation (REC-2)
- Navigation (NAV)

The beneficial uses for Central San Francisco Bay include all of the above-listed uses plus the use of Industrial Process Supply (PROC).

Water quality objectives for the Lower and Central San Francisco Bay are shown in Table 3.8-1. The water quality objectives are general objectives established for the region.

Table 3.8-1. Water Quality Objectives for Surface Waters in the Project Area

Constituent	Water Quality Objective
Bacteria	Various concentrations based on designated beneficial use.
Bioaccumulation	Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.
Biostimulatory substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.
Dissolved oxygen	For nontidal waters, cold-water habitat: 7.0 mg/L minimum. The median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Floating material	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
Oil and grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
Population and community ecology	Waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
pH	Must be maintained between 6.5 and 8.5, and shall not cause changes greater than 0.5 units in normal ambient pH levels.
Radioactivity	Radionuclides shall not be present in concentrations that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
Salinity	Controllable water quality factors shall not increase the total dissolved solids or salinity of waters of the state so as to adversely affect beneficial uses, particularly fish migration and estuarine habitat.
Sediment	Suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.
Settleable material	Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.
Suspended material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Sulfide	All water shall be free from dissolved sulfide concentrations above natural background levels.
Tastes and odors	Waters shall not contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

Constituent	Water Quality Objective
Temperature	**Enclosed bays and estuaries:** objectives are specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California. **Surface waters:** The natural receiving water temperature of inland surface waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8°C) above natural receiving water temperature
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms.
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10% in areas where natural turbidity is greater than 50 NTU.
Unionized ammonia	**Central San Francisco Bay:** The discharge of wastes shall not cause receiving waters to contain concentrations of un-ionized ammonia in excess of 0.16 mg/L as nitrogen **Lower San Francisco Bay:** The discharge of wastes shall not cause receiving waters to contain concentrations of un-ionized ammonia in excess of 0.4 mg/L as nitrogen
Chemical constituents	Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use. Objectives for specific chemical constituents are listed in the San Francisco Bay Regional Water Board Basin Plan.

Source: San Francisco Bay Regional Water Quality Control Board 2015
mg/L = milligrams per liter; NTU = nephelometric turbidity unit

Based on the 2012 California Integrated Report, Table 3.8-2 and Table 3.8-3 show 303(d) listed impairments for the Lower and Central San Francisco Bay regions, respectively (State Water Resources Control Board 2015a).

Table 3.8-2. 303(d) Listed Water Body: Lower San Francisco Bay

Pollutant	Expected TMDL Completion Date	EPA TMDL Approved Date
Chlordane	2013	
DDT	2013	
Dieldrin	2013	
Dioxin compounds (including 2,3,7,8-TCDD)	2019	
Furan Compounds	2019	
Invasive Species	2019	
Mercury		2/29/2008
PAHs	2010	
PCBs		2/29/2010
PCBs (dioxin-like)		2/29/2010
Selenium	2019	

TMDL = total maximum daily limit; EPA = U.S. Environmental Protection Agency; DDT = dichlorodiphenyltrichloroethane; PCB = polychlorinated biphenyl

Table 3.8-3. 303(d) Listed Water Body: Central San Francisco Bay

Pollutant	Expected TMDL Completion Date	EPA TMDL Approved Date
Chlordane	2013	
DDT	2013	
Dieldrin	2013	
Dioxin compounds (including 2,3,7,8-TCDD)	2019	
Furan Compounds	2019	
Invasive Species	2019	
Mercury		2/29/2008
PCBs		2/29/2010
PCBs (dioxin-like)		2/29/2010
Selenium	2016	
Trash	2021	

Source: State Water Resources Control Board 2016

TMDL = total maximum daily limit; EPA = U.S. Environmental Protection Agency; DDT = dichlorodiphenyltrichloroethane; PCB = Polychlorinated biphenyl

Water quality in a typical surface water body is influenced by processes and activities that take place within the watershed. The quality of the stormwater runoff from the project area and surrounding development is typical of urban watersheds, where water quality is affected primarily by discharges from both point and nonpoint sources. Point and nonpoint sources include winter storms, overland flow, exposed soil, roofs, parking lots, and streets. Water quality in the project vicinity is directly affected by stormwater runoff from adjacent streets and properties delivering fertilizers, pesticides, automobile and traffic pollutants (e.g., oil, grease, metals), sediment with associated attached pollutants from soil erosion, trash, and other pollutants.

Constituents or pollutants in stormwater runoff vary with surrounding land uses, impervious surface area, and topography, as well as with the intensity and frequency of rainfall or irrigation. The project area is located in a developed area of the city. A majority of the ground surface is covered by pavement (roads and parking lots) and structures (industrial and commercial buildings). Street surfaces are the primary source of pollutants in stormwater runoff in urban areas. Stormwater runoff generated at the onset of the wet season, or the "first-flush," typically contains the highest pollutant concentrations.

Common sources of stormwater pollution in urban areas include construction sites, parking lots, large landscaped areas, and household and industrial sites. Grading and earthmoving activities associated with new construction can accelerate soil erosion. Grease, oil, hydrocarbons, and metals deposited by vehicles and heavy equipment can accumulate on streets and paved parking lots and carried into storm drains by runoff. Polychlorinated biphenyls (PCB) are also listed as 303(d) impairments in both the Lower and Central San Francisco Bay. PCBs can be found in automobile engines and other sources common in urban areas. Pesticides, herbicides, fungicides, and fertilizers used for landscape maintenance are washed into storm drains when irrigation exceeds the rate of soil infiltration and plant uptake, or when these chemicals are applied in excess. As shown in Table 3.8-2 and Table 3.8-3, the pesticides of chlordane, dichlorodiphenyltrichloroethane (DDT) (no longer permitted for use), and dieldrin are listed as 303(d) impairments in both the Lower and

Central San Francisco Bay. Paints, solvents, soap products, and other toxic materials may be inadvertently or deliberately deposited in storm drains in residential and industrial areas. Trash is also listed as a 303(d) impairment in Table 3.8-2 and Table 3.8-3. Trash can threaten aquatic life and recreational beneficial uses designated by the Basin Plan. Trash and litter can collect in storm drain inlets and ultimately discharge into nearby waterways.

Groundwater Quality

In general, groundwater quality in the Santa Clara Valley is good and suitable for most urban and agricultural uses, with the exception of a few local impairments. The primary constituents of concern are high total dissolved solids, nitrate, boron, and organic compounds. Water from public supply wells meets state and federal drinking water standards without treatment. However, there are some known concerns. Near the Bay margin, historic groundwater overdraft has created areas of saltwater intrusion where groundwater salinity is elevated by contact with seawater infiltrating into subsurface aquifers. The groundwater tends to be quite hard (high mineral content) and have high concentrations of iron and manganese (California Department of Water Resources 2003).

Designated beneficial uses identified for the Santa Clara Valley groundwater basin are as follows:

- Municipal and domestic water supply (MUN)
- Agricultural water supply (AGR)
- Industrial process water supply (PROC)
- Industrial service water supply (IND)

The primary groundwater objective is the maintenance of existing high quality groundwater. At a minimum, groundwater should not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of stated objectives unless naturally occurring background concentrations are greater or would not adversely affect beneficial uses. Groundwater subbasins identified as having the existing groundwater beneficial use of municipal and domestic water supply are subject to further narrative and numeric (that is, qualitative and quantitative) groundwater objectives for bacteria, organic and inorganic constituents, radioactivity, and taste and odor. Groundwater subbasins identified as having the beneficial use of agricultural water supply are subject to additional objectives for organic and inorganic chemical constituents. Table 3.8-4 describes groundwater quality objectives in the project area for groundwater with a domestic or municipal supply beneficial use.

Table 3.8-4. Water Quality Objectives for Groundwater in the Project Area

Constituent	Groundwater Quality Objective
Bacteria	Median of the most probable number of coliform organisms over any seven-day period shall be less than 1.1 most probable number per 100 milliliters.
Organic and inorganic chemical constituents	All groundwater shall be maintained free of organic and inorganic chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, shall not contain concentrations of constituents in excess of the maximum or secondary maximum contaminant levels specified in the following provisions of Title 22.
Radioactivity	At a minimum, shall not contain concentrations of radionuclides in excess of the maximum contaminant levels specified in Table 4 (Radioactivity) of Section 64443 of Title 22

Constituent	Groundwater Quality Objective
Taste and odor	Shall not contain taste or odor-producing substances in concentrations that cause a nuisance or adversely affect beneficial uses. At a minimum, shall not contain concentrations in excess of the secondary maximum contaminant levels specified in Tables 64449-A (Secondary Maximum Contaminant Levels–Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels–Ranges) of Section 64449 of Title 22.
Source: San Francisco Bay Regional Water Quality Control Board 2015	

Improperly abandoned wells or leaking underground storage tanks have the potential to contaminate groundwater supplies. Thirteen distinct locations have been identified as areas of major groundwater pollution, with most contamination due to the release of fuels and solvents (California Department of Water Resources 2004). According to GeoTracker, there is a history of soil contamination on the project site; therefore, a California Department of Toxic Substances Control cleanup site is located in the Project site (State Water Resources Control Board 2015b) and groundwater may be contaminated. Additional information regarding groundwater contamination and potential impacts on human health and the environment is provided in Section 3.7, *Hazards and Hazardous Materials.*

The following recognized environmental conditions have been identified for the project area.

- The project area is near the Oakland Army Base, where there are known impacts on soil, groundwater, and sediments. Additionally, the project area crosses or lies immediately adjacent to several sites known or suspected of soil or groundwater contamination. For the portion of the site within the boundaries of the former army base, known chemicals of concern include heavy metals, volatile organic compounds (VOC), PCBs, polyaromatic hydrocarbons, and organochlorine pesticides.
- A significant portion of the project area is located in the boundaries of the existing Caltrans Maintenance Facility. The facility contains two active fuel-dispensing operations (diesel/gasoline and ethanol) as well as historic fuel-dispensing operations.
- Thirteen other listed facilities near the project area, including the Heroic War Dead–East Bay Municipal Utility District property, the Pfizer Property, and the Southern Pacific Transportation Property, have known chemical of concern releases, including heavy metals, petroleum hydrocarbons, and PCBs.

Flooding

The project area is partially in a 100-year flood hazard area designated by FEMA (2009). The project area is in Zone VE, the 100-year floodplain for coastal areas, along the San Francisco Bay shoreline. This area is subject to coastal flooding due to wave action from the Bay (Map #06001C0054G and #06001C0058G; Figure 3.8-1). The rest of San Francisco Bay is designated beyond Zone VE, which is open water with no defined flood hazard.

Source: ICF, 2017.

gatewaypark

Figure 3.8-1
FEMA Flood Zones within the Project Vicinity

Coastal areas are vulnerable to periodic flooding due to extreme tides, storm surge, storm waves, and El Niño storm events. These conditions can result in many effects, including severe flooding of low-lying areas (e.g., roads, boardwalks, waterfront promenades), storm drain backup, wave damage to coastal structures, and erosion of natural shorelines. Rising sea levels due to climate change have the potential to increase the frequency, severity, and extent of flooding because of these conditions.

Sea levels are rising globally because of climate change, and they are expected to continue to rise at an accelerating rate for the near future. The sea level at the San Francisco tidal gage has risen approximately 0.8 inch per year since 1897, resulting in about 0.6 foot of sea level rise between that time and 2015 (National Oceanic and Atmospheric Administration no date). The National Research Council projects that sea levels in the San Francisco Bay Area will rise 11 inches by 2050 and 36 inches by 2100 (National Research Council 2012).

Ongoing sea level rise will increase the areas of coastal flooding along San Francisco Bay beyond present conditions. The water surface elevation of San Francisco Bay and Oakland Outer Harbor, as well as all low-lying areas, could be affected by future sea level rise. The project area is relatively flat, elevated approximately 8 to 12 feet above the mean lower low water (MLLW), and surrounded by the Bay on the north, west, and south sides (Caltrans 2014).

3.8.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on hydrology and water quality associated with the construction and operation of the project.

3.8.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on hydrology and water quality in the study area.

- *Gateway Park Project—Draft Water Quality Assessment Report* (WRECO 2014a).
- *Gateway Park Project—Draft Location Hydraulic Study Report* (WRECO 2014b).
- *Caltrans—Long Form Storm Water Data Report* (Caltrans 2014).
- FEMA FIRM Panels (Map #06001C0054G and #06001C0058G) (Federal Emergency Management Agency 2009).
- *Gateway Park Natural Environment Study* (ICF International 2015).
- *Technical Memorandum Sea Level Rise Adaptation Gateway Park Project Approval/Environmental Document (PA/ED)* (CH2M Hill 2014).

3.8.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on Hydrology and Water Quality in the study area as defined in Section 3.8.2.1, *Study Area*.

All project elements were analyzed by comparing baseline conditions, as described in Section 3.8.2, *Environmental Setting*, to conditions during construction and operations of the project. The analysis focused on issues related to surface hydrology, groundwater supply, surface and groundwater quality, and flood hazards. The key construction-related impacts were identified and evaluated qualitatively, based on the physical characteristics of the project area and the magnitude, intensity, location, and duration of activities.

- **Surface water.** The surface water impact analysis considered potential changes in the physical characteristics of water bodies, impervious surfaces, and drainage patterns throughout the project area because of project implementation.
- **Groundwater**. The groundwater impact analysis considered existing groundwater use and recharge capabilities with project conditions. Recharge is determined by the ability of water to infiltrate into the soil.
- **Water quality**. The water quality analysis compared existing surface water and groundwater water quality conditions and potential project water quality conditions. Potential project-related sources of water contaminants generated by industrial and project operations, such as vehicle use, building maintenance, pesticide use, trash generation, and the storage or inadvertent release of hazardous materials during project construction, were considered. The potential for water quality objectives to be exceeded and beneficial uses to be compromised was also considered.
- **Flooding.** The flood risk analysis used FEMA data and historical flood information to determine the existing flood zone and whether the project area overlaps designated 100-year floodplains, whether it would affect the drainage system, and whether it was a flood risk. However, the California Supreme Court has determined that CEQA does not generally require lead agencies to consider how existing hazards or conditions might affect a project's users or residents, except where the project would exacerbate an existing environmental hazard. Accordingly, hazards resulting from a project that places development in an existing or future flood hazard area are not considered impacts under CEQA unless the project would exacerbate the flood hazard. Thus, the analysis evaluated whether the project would exacerbate existing or future flood hazards in the project area, resulting in a substantial risk of loss injury or death.

3.8.3.3 Significance Criteria

The project would have a significant impact on hydrology and water quality if it would:

- Violate any water quality standards or WDRs.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on site or off site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Place housing within a 100-year flood hazard area.

Pursuant to the recent Supreme Court case decision in *California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal. 4th 369, Case No. S213478*, CEQA generally does not require an analysis of how the existing environmental conditions will affect a project's residents or users unless the project would exacerbate those conditions. Therefore, when discussing impacts of the environment on the project, such as impacts related to an area prone to flooding, the analysis will first determine if there is a potential for the project to exacerbate the issue. If evidence indicates it would not, then the analysis will conclude by stating such. If it would potentially exacerbate the issue, then evidence is provided to determine if the exacerbation would or would not be significant.

As discussed in the impact analysis below, Gateway Park would not exacerbate flooding at the project area because the project and associated structures and size would not impede or redirect flood flows. Gateway Park would not exacerbate the risk of seiche, tsunami, or mudflow because the project area is adjacent to Lower San Francisco Bay and therefore, the project area is not subject to inundation by a seiche; because the Gateway Park would not increase the potential of a tsunami; and because the project area is not within a designated landslide area.

Topics Not Evaluated in Detail

Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. The project area is not located in a dam inundation area and there are no levees in the project area. Most of the project area is not within FEMA's 100-year floodplain. Therefore, this impact was not analyzed further.

Place housing within a 100-year flood hazard area. No housing is proposed for construction in the project area. Therefore, this impact was not analyzed further.

3.8.4 Impacts and Mitigation

This section describes the potential impacts related to hydrology and water quality that would result from construction and operation of the project.

Impact HY-1. The project would not violate water quality standards or WDRs as a result of construction or operations (construction: less than significant with mitigation; operations: less than significant)

Construction

Stormwater runoff. Construction activities, such as site clearing and grading, new building construction, paving and repaving for parking lots, and the installation of landscaping could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. The project would construct three separate structures for the Visitor Center and an indoor/outdoor auditorium; it would renovate existing buildings, including the Key Building and Bay Bridge Oakland Substation. Other constructed features would include a cement walkway and permanent fencing. These land-disturbing activities and the placement of stockpiles close to storm drain inlets could result a temporary increase in sediment loads to the Lower and Central San Francisco Bay.

Pollutants, such as nutrients, trace metals, and hydrocarbons attached to sediment, can be transported with sediment to downstream locations and degrade water quality. The delivery, handling, and storage of construction materials and wastes (e.g., concrete debris), as well as the use of heavy construction equipment could also result in stormwater contamination, thereby affecting water quality. Construction activities may involve the use of chemicals and operation of heavy equipment, which could result in accidental spills of hazardous materials (e.g., fuel and oil) during construction activities. Such spills could enter the groundwater aquifer or nearby surface water bodies from runoff or storm drains. Constituents in fuel, oil, and grease can be acutely toxic to aquatic organisms and/or bioaccumulate in the environment.

All construction activities would be subject to existing regulatory requirements. Permittees also must comply with the appropriate water quality objectives for the region. Because the land disturbance for the project would be more than 1 acre, coverage under the Construction General Permit would be required. The Construction General Permit contains standards to ensure that water quality is not degraded.

As part of compliance with the Construction General Permit, standard erosion control measures and other BMPs would be identified in a SWPPP. These measures would be detailed during the plan, specification, and implementation phase and implemented during construction. The BMPs would represent the best available technology that is economically achievable and the best conventional pollutant control technology to reduce pollutants. Commonly practiced BMPs consist of a wide variety of measures to reduce pollutants in stormwater and other nonpoint-source runoff. Specific erosion and sediment control BMPs would be implemented for construction during the wet season. The project implementer would minimize the potential for large rain events to mobilize loose sediment during construction, pursuant to the SWPPP. Whenever possible, earth-disturbing construction activities would not be scheduled during anticipated rain events.

The SWPPP would include the following erosion- and sediment-control BMPs:

- Keep disturbed areas (areas of grading and related activities) to the minimum necessary for demolition or construction of the project.
- Keep runoff away from disturbed areas during grading and related activities.
- Stabilize disturbed areas as quickly as possible by vegetative, mechanical, and/or physical methods.
- Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or straw wattles, including perimeter protection.
- Use dirt and sediment tracking BMPs, including stabilized construction entrances and wheel washers.
- Cover exposed soils and material stockpiles to prevent wind erosion.
- Use interceptor ditches, drainage swales, or detention basins to prevent storm runoff from transporting sediment into drainage ways and sediment-laden runoff from leaving any disturbed areas.
- Use landscaping and grading methods that lower the potential for downstream sedimentation (e.g., modified drainage patterns, longer flow paths, encouraging infiltration into the ground, and slower stormwater conveyance velocities).
- During the installation of the erosion and sediment transport control structures, supervise the implementation of the designs and the maintenance of the facilities throughout the grading and construction period.
- Perform routine monitoring of erosion control facilities during construction and during/after rain events.

In-water work. A new pier would be constructed at Key Point extending into the Bay, along the old San Francisco–Oakland Bay Bridge (Bay Bridge) alignment. The new pier would be 300 feet long and 30 feet wide, and would require approximately five new pilings in the Bay. The water depth under the proposed pier at the end of the pier would be between 3.9 feet at mean low tide and 8.75 feet at mean high tide. The path to Radio Beach would also include a new structure for pedestrians and bicyclists to access the existing Radio Beach area. A portion of this path would include a boardwalk over water, requiring eight new pilings in the Bay.

Suspended sediments in the water column can lower levels of dissolved oxygen, increase salinity, increase concentrations of suspended solids, and possibly release chemicals present in sediments into the water. The degree of turbidity resulting from the suspended sediments would vary substantially with the quantity and duration of the construction activity. This would also depend on the methods used, the quality of equipment, and the care of the operator. In all cases, increased turbidity levels would be relatively brief and generally confined to within a few hundred yards of the activity. After initial resuspension of sediment, dispersion would occur, and background levels would be restored within a short period. Normal circulation and tidal effects in the Bay would generally disperse and dilute the water that was temporarily affected by construction activities.

Construction activities in the Bay would be subject to the requirements of a Section 10 permit from USACE, which would receive Water Quality Certification from the RWQCB as well as a Major Permit from the San Francisco Bay Conservation and Development Commission (BCDC). Formal consultations with the National Marine Fisheries Service and California Department of Fish and Wildlife would be conducted to protect biological resources (Section 3.3, *Biological Resources*). The permits would specify BMPs as well as the preparation and implementation of plans for the protection of water quality. These could include a debris management plan; a spill resource and countermeasure plan; equipment fueling requirements to require proper fuel transfer procedures; equipment maintenance requirements to minimize leaks and spills; a materials management disposal plan; barge mooring requirements to capture construction debris (should a barge be required); measures to avoid cement, concrete, and saw water from entering San Francisco Bay; and proper disposal of construction material.

Construction dewatering. Construction dewatering in areas with shallow groundwater may be required during excavation and trenching activities, which could result in the exposure of pollutants from spills or other activities and may contaminate groundwater. For structure footings at areas with a shallow water table, dewatering is expected to occur. As a result, any potentially contaminated soil or groundwater would be sampled, pursuant to the SWPPP. If contaminated groundwater is encountered, a site mitigation plan may be appropriate pursuant to SWPPP requirements, which would detail the excavation and off-site disposal of contaminated soil or groundwater. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges, if dischargers prove the quality of water to be adequate and not likely to affect beneficial uses. However, requirements in addition to those outlined in the Construction General Permit would include discharge sampling and reporting, and the VOC and Fuel General Permit (Order R2-2012-0012) as well as other approvals by the Department of Toxic Substances Control if contaminated groundwater is encountered.

If groundwater is encountered during construction, dewatering discharge methods would include options for direct discharge to the Bay in compliance with WDRs to ensure that any discharges would be within the capacity of existing facilities and would not require the construction or expansion of existing facilities. WDRs also include monitoring and reporting requirements specific to dewatering. If the groundwater does not meet water quality standards, it must either be treated as necessary prior to discharge so that all applicable water quality objectives (as designated in the Basin Plan) are met or hauled off site instead for treatment and disposal at an appropriate waste treatment facility permitted to receive such water. Because groundwater at the project area may be contaminated, the contractor is required to notify the San Francisco Bay RWQCB and comply with the board's mandatory requirements regarding discharge to the Bay. In addition, the contractor may be subject to additional dewatering requirements, including discharge sampling and reporting.

Construction activities could result in short-term surface and groundwater quality impacts associated with the input of sediment loads that exceed water quality objectives or chemical spills into storm drains or groundwater aquifers. However, the project would be required to comply with regulatory controls described above. In addition, the project implementer would implement a SWPPP in accordance with requirements of the Construction General Permit and would submit and adhere to requirements in a General Construction Activity Storm Water Permit to minimize the potential for sediments or contaminants to be discharged into San Francisco Bay. The project implementer also will obtain a 401 Water Quality Certification from the San Francisco Bay RWQCB, which may contain additional BMPs and water quality measures to ensure the protection of water quality. Nevertheless, impacts related to groundwater contamination would be significant. With implementation of mitigation measure **MM-HAZ-1** (Prepare a limited Phase II environmental site assessment for the terrestrial portions of the project <u>within the boundary of the former Oakland Army Base</u> and, if appropriate, a site mitigation plan; see Section 3.7, *Hazards and Hazardous*

Materials, for additional details) and implementation of mitigation measures **MM-HY-1** and **MM-HY-2**, this impact would be less than significant.

MM-HY-1. Implement a toxic materials control and spill response plan

A toxic materials control and spill response plan shall be implemented to regulate the use of petroleum-based products (fuel and lubricants) and other potentially toxic materials associated with project construction.

The project implementer shall review and approve the contractors' toxic materials spill prevention control and countermeasure plan before allowing construction to begin. The project implementer shall routinely inspect the construction site to verity that BMPs specified in the plan are properly implemented and maintained. The project implementer shall notify the contractor immediately if there is a noncompliance issue and shall require compliance.

MM-HY-2. Implement construction dewatering treatment if necessary

The project implementer shall implement dewatering treatment if groundwater is encountered during excavation activities, if dewatering is necessary to complete the project, or if the dewatered water is discharged to any storm drain or surface water body. Because groundwater could be contaminated with VOCs or fuel products at the project area, the project implementer shall comply with the San Francisco Bay RWQCB VOC and Fuel General Permit (Order R2-2012-0012).

If dewatering activities require discharges to the storm drain system or other water bodies, the water shall be pumped to a tank and tested for water quality. Grab samples shall be sent to a certified laboratory for analysis. If the water does not meet water quality standards, it will either be treated to meet all applicable water quality standards (Table 3.8-1 and Table 3.8-2) or hauled off site for treatment and disposal at an appropriate waste treatment facility permitted to receive such water. Water treatment methods that represent the best available technology that is economically achievable shall be selected to achieve maximum removal of contaminants. Methods may include the retention of dewatering effluent until particulate matter has settled before it is discharged, the use of infiltration areas, filtration, or other means. The contractor shall routinely inspect the construction area to verify that the water quality control measures are properly implemented and maintained, conduct visual observations of the water (i.e., check for odors, discoloration, or an oily sheen on groundwater), and perform other sampling and reporting activities prior to discharge. The project implementer shall submit the final selection of water quality control measures to the San Francisco Bay RWQCB for approval prior to construction. If the results from the groundwater laboratory do not meet water quality standards and the identified water treatment measures cannot ensure meeting standards for receiving water quality, then the water shall be hauled off site instead for treatment and disposal at an appropriate waste treatment facility permitted to receive such water.

Operations

The project is the creation of a new public park and would operate and maintain 45 acres of park space, including bicycles and pedestrian paths, a community events venue, and open space. It would reuse urban space and former industrial land, provide access to the shoreline and active and passive recreation opportunities, and ultimately improve stormwater conditions. The project includes 4.1 acres of onsite treatment BMPs and 1.3 acres of self-retaining areas and would potentially treat

8.1 acres of impervious areas. Three additional retention basins (biofiltration swales) would be constructed to treat stormwater runoff from the project features. In addition, a retention basin facility was constructed under the I-80/580/880 interchange area (Caltrans 2014).

Project operations would include landscape maintenance, building maintenance, storage of materials and substances, and vehicle use. The primary pollutants associated with these transportation facilities include heavy metals associated with tire and brake wear, oil and grease, and exhaust emissions and potentially increases in particulate deposition. Generally, highway stormwater runoff pollutants include total suspended solids, nitrate nitrogen, phosphorous, copper, lead, and zinc (WRECO 2014a). The new trails, visitor center, and an indoor/outdoor auditorium would result in negligible change to potential pollutants of concern in the project area, such as metals, oils, and other toxins. Good housekeeping practices, such as regular litter and trash collection and sweeping, would continue to be implemented on site.

Currently, most of the project area is paved. The project would remove more impervious area than it would add (Table 3.8-5). In Areas B (west of Bridge Yard building), C (in Windbreak), and D (Radio Beach), parking lots would consist of porous pavement, gravel, or other pervious material. Pervious roads would extend to Radio Beach. According to 401 certification requirements, the project would replace less than 50% of existing impervious surface and therefore would not be required to treat runoff from the entire site. The impervious areas required to be treated are shown in Table 3.8-5.

Table 3.8-5. Project Area Impervious Cover

Right-of-Way	Disturbed Soil Area(Acres)	Existing Impervious Area (Acres)	Proposed Impervious Area (Acres)	Impervious Areas Required to be Treated (Acres)
Caltrans	20.6	7.4	4.5	2.4
Oakland	25.7	3.1	5.7	5.7
Total	**46.3**	**10.5**	**10.2**	**8.1**

Source: Caltrans 2014

Runoff from impervious surfaces could contain nonpoint pollution sources typical of urban settings. These are normally associated with automobiles, trash, nutrients, pesticides, cleaning solutions, and landscape and building maintenance. Stormwater would be drained by existing and potentially new pipes, drainage inlets, and other storm drain facilities. Stormwater runoff from most of the new impervious path areas would sheet flow to nearby vegetated areas. Overall, water from the project features would discharge into unlined channels and ditches that would be tied into existing drainage systems. The existing drainage systems are anticipated to have sufficient capacity to accommodate stormwater runoff. This will be verified in the planning phase. The storm drain systems would continue to discharge to the Lower and Central San Francisco Bay. At the Bridge Yard, Port Playground, and Key Point, bioretention areas and native plantings would provide water quality treatment for stormwater runoff.

Existing retention basins would be retained and preserved during construction. The project is not anticipated to affect the existing basin facilities. Three additional retention basins (biofiltration swales) would be constructed at the west end in the Key Point area to treat stormwater runoff from the project features, depending on regulatory requirements. The biofiltration swales would include a layer of imported biofiltration soil and, if feasible, an underdrain system. The feasibility of underdrain systems would be assessed based on the existing and proposed drainage facilities and site constraints. Features of the drain systems are discussed in the water quality assessment report prepared for this project (WRECO 2014a).

The project implementer would comply with requirements and stormwater guidance documents from the Alameda Countywide Clean Water Program during the design phase. Also, the project implementer would comply with the City of Oakland and Caltrans' Statewide Permit and the Construction General Permit, as described in the water quality assessment report for this project (WRECO 2014a). The project implementer would take measures to reduce pollutant loadings from the facility to the maximum extent practicable. The project would be designed and maintained in accordance with City, County, and San Francisco Bay RWQCB water quality requirements, the General Construction Permit, San Francisco Bay MS4 Permit, and Provision C.3. The project implementer would implement a SWPPP and other erosion control measures. As a result, pollutant loading is not anticipated to increase significantly, and there would be a minimal increase in the volume and velocity of stormwater flow to downstream receiving water bodies, including the Bay. Therefore, water quality impacts from project operations would be less than significant.

Impact HY-2. The project would not substantially deplete groundwater supplies or interfere with groundwater recharge (less than significant)

Construction

Excavation in areas with shallow groundwater may require dewatering, potentially resulting in localized impacts on groundwater volume. Although dewatering may be necessary during project construction, the groundwater beneath the project area is not used for municipal water supply. Should dewatering be required during construction, it would be conducted on a temporary basis and would not deplete groundwater supplies. In addition, dewatering would comply with San Francisco Bay Water Board dewatering requirements. Furthermore, water supply for construction activities (e.g., dust control, concrete mixing, material washing) would come from nearby hydrants or existing surface supplies to the site or be trucked to the site. Therefore, this construction impact on groundwater supply or recharge would be less than significant. No mitigation would be required.

Operations

Project operations would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge because the project would not increase groundwater demand or decrease groundwater recharge areas. As noted above, project construction would result in a 1% decrease in impervious surface area, slightly increasing groundwater recharge potential at the project area. Project operations would not affect groundwater water quality because there are multiple groundwater aquifer resources in the area (WRECO 2014a).

The project design includes stormwater treatment areas such as bioretention areas. These landscape features would allow for increased groundwater infiltration. Habitat enhancement would expose native soils, and new vegetation zones would slow water flow, allowing it to percolate into the ground and thus provide increased benefits for groundwater recharge. Therefore, this operations impact on groundwater supply or recharge would be less than significant. No mitigation would be required.

Impact HY-3. The project would not alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on site or off site (less than significant)

Construction

Project construction could alter existing drainage patterns and result in local (onsite) and temporary erosion and siltation. However, the project implementer would implement BMPs, described in the project SWPPP, to minimize the potential for erosion and sedimentation in nearby storm drains and temporary changes in drainage during construction as described for Impact HY-1. Construction site BMPs would also include soil stabilization and sediment control such as placing linear sediment barriers such as silt fence at the toe of all excavation and embankment slopes to prevent erosion. For slopes determined to be at high risk for erosion or failure, temporary cover or netting would be placed until permanent erosion control measures can be applied. Wherever possible, early implementation of permanent erosion control seeding or landscape planting would be performed. Efforts would be made by the contractor to conduct the majority of land-disturbing work outside of the typical wet season and minimize the potential for large rain events to mobilize loose sediment during construction. The project would be required to comply with existing regulations as described for Impact HY-1.There are no streams or rivers within the project site, and the project would not alter the course of an existing stream or river.

In-water construction would include the installation of new pilings for pier structures and boardwalks, and it would not affect surface runoff. In-water construction could result in soil disturbance, with resulting turbidity spikes and siltation in Lower and Central San Francisco Bay. As discussed under Impact HY-1, impacts would be minimized through implementation of BMPs and other measures specified in the Construction General Permit SWPPP, 401 certification, and the 404 permit. Water quality monitoring for turbidity and other pollutants during construction may be required as part of permit compliance. Therefore, this construction impact on existing drainage patterns resulting in erosion or siltation would be less than significant. No mitigation would be required.

Operations

Although drainage patterns on the project area would be altered, drainage would ultimately be improved because 0.3 acre of impervious area would be removed (WRECO 2014b). If a new drainage system is required to capture the drainage from the project area, BMPs to prevent erosion and stabilize disturbed soil areas would consider concentrated flow conveyance systems, such as downdrains, ditches, berms, swales, overside drains, flared end sections, outlet protection, and velocity dissipation devices, pursuant to stormwater requirements. Dikes would likely be required in areas where slopes are too steep to allow for sheet flow and are needed to route runoff to existing and proposed drainage inlets. Outlet protection and velocity dissipation devices would be placed at all outlets of drainage systems that discharge into earth-lined ditches/basins. The existing roadway drainage design would either be modified to fit with new drainage systems or be removed and replaced by new systems. The modifications to existing drainage facilities would likely result in changes in the interception of surface runoff (Caltrans 2014).

Stormwater runoff from most of the new impervious path areas would sheet flow to nearby vegetated areas. Overall, water from the project features would discharge into the existing drainage systems, as described for Impact HY-2. The objective of the drainage design would be to limit the flow and velocities such that existing conditions and drainage patterns are maintained. In addition, shoreline protection features would be provided along most southern shoreline areas to minimize erosion. Shoreline protection features would be a combination of gently graded slope, vegetation plantings, riprap, retaining walls, and revetment walls above and below the water line.

Because the project includes features such as retention basins including biofiltration swales, existing retention basins, and additional open space, the potential for erosion and siltation at the project site would be reduced. Additionally, operation of the project would not alter the course of an existing stream or river because these features do not exist on the project area. Therefore, this operations impact on existing drainage patterns resulting in erosion or siltation would be less than significant. No mitigation would be required.

Impact HY-4. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site (less than significant)

Construction

Project construction could alter existing drainage patterns and result in temporary increases in the rate or amount of local surface runoff (on site) and temporary flooding. Sediment transport to local drainage facilities such as drainage inlets, culverts, and storm drains could also reduce stormflow capacity, resulting in localized ponding or flooding during storm events.

Preparation and implementation of the project SWPPP would reduce the potential for flooding on site or off site caused by altering existing drainage patterns or substantially increasing the rate or amount of runoff. The project would be required to comply with NPDES Construction General Permit requirements. Additionally, construction of the project would not alter the course of an existing stream or river. Therefore, this construction impact on existing drainage patterns resulting in flooding would be less than significant. No mitigation would be required.

Operations

Although drainage patterns on the project area would be altered, drainage would ultimately be improved because 0.3 acre of impervious area would be removed (WRECO 2014b). This increase in pervious area would minimize runoff volumes and the potential for ponding and other drainage issues on site. The impact of operations on flow rate and amount of surface runoff would be negligible in comparison to the overall watershed of the Central and Lower San Francisco Bay.

If a new drainage system is required to capture the drainage from the project area, it would be designed to route runoff to existing and proposed drainage inlets. BMPs as part of the SWPPP and design features would incorporate soil stabilization measures. Retention basins (biofiltration swales) would allow for infiltration and minimize runoff volumes as well as the potential for ponding and onsite or offsite flooding during rain events.

Because the project would ultimately reduce the risk of flooding via surface runoff rates and would incorporate additional biofiltration swales, it would comply with the San Francisco Bay Region MS4 Permit Provision C.3 requirements. Therefore, this operations impact on drainage patterns resulting in flooding would be less than significant. No mitigation would be required.

Impact HY-5. The project would not create or contribute runoff water that would exceed the capacity of the planned stormwater drainage system or provide additional sources of polluted runoff (less than significant with mitigation)

Construction

During construction, the project would be required to comply with the SWPPP. The project implementer would implement BMPs to control construction site runoff, ensure proper stormwater control, reduce the discharge of pollution to the storm drain system, and ensure sufficient storm drain capacity. Measures would be employed to prevent any construction material from getting into the receiving water bodies. The construction site BMP strategy would also include waste management and materials pollution control. Concentrated flows would be collected into stabilized drains and channels. The project would not create or contribute runoff water that would exceed the capacity of the existing stormwater drainage system. Therefore, this construction impact on stormwater drainage capacity would be less than significant. No mitigation would be required.

Operations

Water from the project features would discharge into unlined channels and ditches connecting with existing drainage systems, which are anticipated to have sufficient capacity to accommodate existing stormwater runoff without requiring significant upgrade or modification. Flow would eventually discharge to the Bay. The objective of the drainage design would be to limit the flow and velocities such that existing conditions are maintained.

Although drainage patterns on the project area would be altered, drainage would ultimately be improved because 0.3 acre of impervious area would be removed (WRECO 2014b). This increase in pervious area would minimize runoff volumes.

Because both the Central and Lower San Francisco Bay are on the 303(d) List for trash, gross solids removal devices would be considered. Implementation of mitigation measure **MM-HY-3** would improve drainage and remove gross solids. As a result, runoff from the project area would not exceed the capacity of existing or planned stormwater drainage systems. Therefore, this operations impact on stormwater drainage capacity would be less than significant.

MM-HY-3. Implement drainage treatment and gross solids removal devices if necessary

The project implementer shall implement drainage treatment and gross solids removal devices. Additional retention basins (biofiltration swales) shall be constructed at the west end in the Key Point area to treat stormwater runoff from the project features. The proposed types of treatment BMPs for the project site are biofiltration strips and biofiltration swales (WRECO 2014a). The biofiltration swales would be integrated as part of the park landscaping and would include a layer of imported biofiltration soil. If feasible, an underdrain system shall be included, based on the existing and proposed drainage facilities and site constraints. In addition, Austin vault sand filters and detention devices shall be considered. As required by the City of Oakland and Caltrans' Statewide Permit and the Construction General Permit, measures to reduce pollutant loading shall be implemented to the maximum extent practicable. Permanent control measures located within Caltrans' right-of-way shall reduce pollutants in the stormwater runoff from the roadway, and thus prevent pollutants from entering the waterways. These measures shall be incorporated into the final engineering design or landscape design of the project once more site-specific geotechnical information becomes available during the design phase of the project.

Impact HY-6. Construction activities would not otherwise degrade water quality (less than significant)

Construction of the project could result in other water quality impacts, such as impacts resulting from in-water work. Although there are no surface streams in the project area, in-water work could occur during construction of a 300-foot-long multispan concrete trestle pier proposed on the west side of the project area. The pier would extend west into the Bay along the alignment of the old Bay Bridge. New piles and foundation would result in fill in the Bay.[1] Construction could cause soil disturbance, turbidity spikes, resuspension of potential contaminants in the soil, and spills of construction-related materials (e.g., concrete gasoline, oils, grease, solvents, lubricants, and other petroleum products) into the Bay. However, implementing soil stabilization measures and sediment control measures such as silt fences or installing erosion control devices such as fiber rolls or staked straw wattles, as required by the SWPPP would minimize potential impacts related to soil disturbance.

Approximately 233,000 cubic yards of fill material would be used in the park area on the south side of I-80 to elevate the area 2 to 10 feet for protection from anticipated future sea level rise. Fill would also be added for shoreline protection; however, no fill would be added below the mean high tide line, except along the south shoreline (Key Point), where 4,100 cubic yards would be added. The fill material would be supplied from cut material on site as well as imported material.

Fill including asphalt, cement, rock, and trash is currently scattered throughout tidal marsh located at Radio Beach. In some areas, the fill has created berms and isolated sections of tidal marsh and invasive plants have taken over other areas of the marsh. However, implementation of the environmental commitments described in Section 3.3, *Biological Resources*, would ensure the project would minimize construction impacts on tidal marsh and mud flat habitat in and adjacent to the project area. Compliance with the Construction General Permit and other regulations would ensure that water quality standards, as defined by the Basin Plan, would be met; discharges would not violate any WDRs or otherwise substantially degrade water quality. Therefore, this construction impact on water quality would be less than significant. No mitigation would be required.

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[1] As discussed in Chapter 2, Project Description, on January 23, 2018, after preparation of the Draft EIR, the Toll Bridge Program Oversight Committee approved a separate marine foundation public access project that will build out an observation deck between existing marine foundations E21—E23 from the former east span of the San Francisco-Oakland Bay Bridge. The approved pier is a separate project that is outside the scope of this EIR and has been cleared under separate environmental review. With TBPOC approval of the marine foundations public access project, the pier originally conceived by the Gateway Park Working Group will no longer be implemented and impacts would not be realized as part of the Gateway project. Thus, this analysis overstates the environmental impacts of the project in regards to the originally conceived pier.

~~As discussed in Chapter 2, *Project Description*, on January 23, 2018, after preparation of the Draft EIR, the Toll Bridge Program Oversight Committee approved a separate project that will an option exists to reuse existing marine foundations E19—E23 from the former east span of the San Francisco-Oakland Bay Bridge as foundations for a new pier. The approved pier is a separate project that is outside the scope of this EIR and has been cleared under separate environmental review. With approval of the E19—E23 reuse pier, the pier originally conceived by the Gateway Park Working Group will no longer be implemented. Since the installation of new pilings in the Bay would result in greater impacts to biological resources and hydrology and water quality, this analysis overstates the environmental impacts of the project. This option is outside the scope of this EIR and, if taken, would require separate environmental evaluation.~~

Impact HY-7. The project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, but may place park features in areas that could be inundated by flooding due to sea level rise but would not exacerbate coastal flooding (less than significant)

As shown in Figure 3.8-1, the project area is partially located in Zone VE, the 100-year floodplain for coastal areas and a flood hazard area (Federal Emergency Management Agency 2009). The area along the San Francisco Bay shoreline is subject to coastal flooding due to wave action from the Bay. However, the project features would be located in the FEMA-designated flood Zone X which indicates an area of minimal flood hazard, outside of the Special Flood Hazard Area and the 500-year floodplain. The project design itself would avoid or minimize impacts on FEMA floodplains to the maximum extent practicable. The preliminary design takes into account potential sea level rise projections which are described in Appendix B, Sea Level Rise Adaptation (CH2M Hill 2015).The project features include new structures for the visitor center, an indoor/outdoor auditorium, renovations of existing buildings, and other features including a cement walkway and permanent fencing. These buildings and features could impede or redirect localized flood flows resulting in flooding. However, the design of all facilities, utilities, and structures be located above 100-year total water level or consider setback distances (WRECO 2014b) in order to minimize the potential for structures to impede or redirect flood flows. This recommendation will help minimize the impact but is not a requirement because this is not a CEQA impact.

Approximately 233,000 cubic yards of fill material would be added outside of the floodplain in the park area on the south side of I-80 to elevate the area 2 to 10 feet for protection from anticipated future sea level rise. The project features would be elevated as they are developed, as guided by a preliminary assessment of project vulnerability to the coastal hazards of erosion, wave overtopping, inundation, and flooding (CH2M Hill 2014). Table 3.8-6 shows the capacity of the project to adapt to sea level rise.

- **Erosion**. Two areas are considered vulnerable: the bluff along the south shore, which would further deteriorate with sea level rise due to the erosive wave action and varying water levels, and the upland area south of the bridge.
- **Wave overtopping.** The capacity to adapt to wave overtopping was assessed as high during the short- to intermediate-term timeframe (1-foot projected sea level rise) and the intermediate- to long-term timeframe (3-foot projected sea level rise) due to existing bluff features. A gentle slope would dissipate waves effectively.
- **Inundation**. The capacity to adapt to inundation was assessed as high for the short- to long-term timeframes because of the elevation of the project site. The existing elevation is sufficient to allow draining of flooded areas and prevent inundation.
- **Flooding**. The capacity to adapt risks due to flooding for the short- to intermediate-term timeframe (1-foot projected sea level rise) was assessed as medium. The capacity to adapt to flooding was assessed as low during the intermediate- to long-term timeframe. A levee to elevate only the perimeter of the project area could be cost prohibitive. However, facilities, utilities, and structures could be located above the 100-year total water level.

Table 3.8-6.Capacity to Adapt to Sea Level Rise and Associated Coastal Hazards

Time Period	Hazard	Risk	Adaptive Capacity
1-foot sea level rise for the short- to intermediate-term timeframe (present to 2050)	Wave overtopping	Low	High
	Shoreline erosion	High	High
	Flooding	Medium	Medium
	Inundation	Medium	High
3-foot sea level rise for the intermediate- to long-term timeframe (2050 to 2100)	Wave overtopping	Low	High
	Shoreline erosion	High	High
	Flooding	High	High
	Inundation	Medium	Low

Source: CH2M Hill 2014

For a coastal flood protection levee to be recognized by NFIP and be incorporated into flood hazard maps, it must be designed, constructed, and maintained to prevent flooding landward of the levee crest during 100-year total water level. FEMA freeboard[2] requirements for a coastal levee to be certified as providing protection against flooding are defined for 100-year total water level with and without windwave action. For the project, “with wind-wave action” applies, and this would require the levee freeboard to be 1 foot above the 100-year wave height or the maximum wave runup elevation (whichever is greater) associated with the 100-year total water level. Therefore, the top elevation of the levee to protect the project area from flooding in the short- to intermediate-term timeframe (now to 2050) and intermediate- to long-term timeframe (2050 to 2100) scenarios would be approximately 14.7 feet and 16.7 feet MLLW, respectively. However, 44 CFR 65.10 (b)(1)(iv) allows exceptions to the minimum coastal levee freeboard requirement, if appropriate engineering analyses demonstrates adequate protection with a lesser freeboard. However, freeboard will be no less than 2 feet above the 100-year still water surge elevation.

The following adaptation measures, which are part of the design of the project and described in Appendix B could provide protection for the projected sea level rise and associated coastal hazards.

- Construct an engineered structure (e.g., armored slope such as a rock revetment) to protect the bluff from erosion and mitigate wave overtopping.
- For the short- to intermediate-term timeframe (present to 2050), construct a 13- to 14-foot crest elevation levee to protect the project area from flooding.
- For the intermediate- to long-term timeframe (2050 to 2100), construct a levee to protect the project area from flooding could be too expensive and impractical for the following reasons.
    - It would require a top elevation of approximately 15 feet MLLW.
    - It would pose visual obstruction.
    - It would restrict public access.

[2] Freeboard is a factor of safety, usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

    - End-of-century sea level rise projections are uncertain and may not materialize.
- Locate facilities, utilities, structures, and habitats above the 9.7 feet MLLW 100-year total water level plus 1-foot sea level rise or consider setback distances.
- To accommodate the uncertainty of sea-level rise, build storm drain systems for the short- to intermediate-term timeframe and make provisions to pump thereafter.

While there are certain design details to be addressed to protect park structures and areas from future coastal flooding, the project and associated structures and size would not impede or redirect flood flows and the project would not exacerbate coastal flooding due to sea level rise at the project area. As such, the project would not result in a significant impact under CEQA relative to flooding.

Impact HY-8. The project would not exacerbate inundation by seiche, tsunami, or mudflow and any related effects on people or structures (less than significant

The project area is subject to flooding from tsunami inundation. According to the State of California Tsunami Inundation Map for Emergency Planning (Oakland West Quadrangle; California Emergency Management Agency et al. 2009), the project area is located in a tsunami inundation area. Low-lying project features that could be inundated during a tsunami include the Arrival and the Historic Display Plazas, outdoor yard event space, and numerous recreational areas, trails, and retention basins. Conditions under the project would be similar to the existing conditions and would not increase the potential of site inundation.

The project area is adjacent to Lower San Francisco Bay; therefore, the project area is not subject to inundation by a seiche. Due to the relatively flat topography of the Project area, landslides and slope failure are not considered hazards, and the project area is not within a designated landslide area. Therefore, the project area would not be subject to inundation by seiche or mudflows.

There are no project features that would exacerbate the impact of a tsunami by increasing its magnitude or redirecting its energy. In addition, people would be given sufficient warning to evacuate the project site by the West Coast and Alaska Tsunami Warning Center, which monitors earthquakes and issues tsunami warnings when a tsunami is forecast to occur. Therefore, operations of Gateway Park would not exacerbate the risk of seiche, tsunami, or mudflow.

Section 3.9
Land Use and Planning

This section describes land use and planning in the study area. It then describes impacts on land use and planning that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.9.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to land use and planning.

3.9.1.1 Federal

The following federal regulations, laws, and guidelines apply to land use and planning

Americans with Disabilities Act

The Americans with Disabilities Act of 1990, Title II, covers public entities, including local government and any of its "departments, agencies, or other instrumentalities." This act requires public entities to follow either the Uniform Federal Accessibility Standards or Americans with Disabilities Act Accessibility Guidelines for Buildings and Services in design standards for new construction and alterations. Both standards and guidelines require new construction, alterations, and additions include compliant access to entrances, routes, common areas, drinking fountains, and restrooms.

3.9.1.2 State

The following state regulations, laws, and guidelines apply to land use and planning.

California Government Code Section 65300

All cities and counties are required to adopt a general plan establishing goals and policies for long-term development, protection from environmental hazards, and conservation of identified natural resources (California Government Code 65300).

California Government Code Section 65302 lists seven elements or chapters that cities and counties must include in their general plans: land use, circulation, housing, conservation, open space, noise, and safety. The land use element typically has the broadest scope of the mandatory general plan elements. This central element describes the desired distribution, location, and extent of the jurisdiction's land uses, which may include housing; business; industry; open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty; education, public buildings and grounds; solid and liquid waste disposal facilities; and other public and private uses of land. The City of Oakland's General Plan is discussed in Section 3.9.1.3, *Regional and Local*.

3.9.1.3 Regional and Local

The project area includes land owned by the U.S. Army (former Oakland Army Base), Caltrans (Caltrans Maintenance Yard and areas under I-80), ~~and~~ the City of Oakland (~~Radio Beach,~~ Burma Road, and portions of Key Point and Port Playground) and Port of Oakland (Radio Beach). With implementation of the project, the former Oakland Army Base would be transferred to EBRPD ownership after completion of site cleanup and remediation requirements. The portions of the project area within 100 feet of the shoreline also fall within the jurisdictional purview of the San Francisco Bay Conservation and Development Commission (BCDC).

The following regional and local regulations, laws, and guidelines apply to land use and planning on the project area.

City of Oakland

City of Oakland General Plan

The *City of Oakland General Plan* (City of Oakland 1998a) presents broad objectives and policies that guide the land use decisions in the city and represents the vision for the city's physical character. The General Plan is made up of eight elements: Land Use and Transportation, Estuary Policy Plan, Open Space, Conservation and Recreation, Historic Preservation, Housing, Noise, Safety, and Scenic Highways. Together, these elements provide a policy framework that guides future development in the city.

Within the General Plan, the Land Use and Transportation Element and Open Space, Conservation and Recreation Element addresses the city's physical character and order as well as the relationship between people and their environment. The following Land Use and Transportation Element and Open Space, Conservation and Recreation Element policies are applicable to land use decisions associated with the proposed project's compatibility with its surroundings.

- **Policy T2.5 Linking Transportation and Activities.** Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).
- **Policy T4.8 Accommodating Multiple Types of Travel on the Bay Bridge**. The City should encourage the design and engineering for the new Bay Bridge to accommodate multiple means of access and travel by automobile, trucks, transit, bicycles, pedestrians, and future mass transit.
- **Policy T4.9 "Gateway" Public Access Area.** The City, in concert with the East Bay Regional Park District, Port of Oakland, Oakland Base Reuse Authority, and BCDC, should support development of a significant new "gateway" public park area at the terminus of the San Francisco/Oakland Bay Bridge east span that is accessible by auto, bicycle, or walking (see also the Open Space, Conservation, and Recreation Element).
- **Policy D1.5 Planning for the Gateway District.** New development and rehabilitation in the Gateway district should contribute to greater neighborhood cohesion and identity, emphasizing mixed housing type and urban density residential development.
- **Policy OS-2.1 Protection of Park Open Space.** Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.

- **Policy OS-5.1 Priorities for Trail Improvement.** Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront.
- **Policy OS-5.3 Trail Design Principles.** Plan and design all new trails in a manner which: (a) minimizes environmental impacts; (b) fully considers neighbor privacy and security issues; (c) involves the local community in alignment and design; and (d) considers the need of multiple users; including pedestrians, bicycles, and wheelchairs.
- **Policy OS-7.2 Dedication of Shoreline Public Access.** Support BCDC requirements that mandate that all new shoreline development designate the water's edge as publicly accessible open space where safety and security are not compromised, and where access can be achieved without interfering with waterfront industrial and maritime uses. Where such conflicts or hazards would result, support the provision of off-site access improvements in lieu of on-site improvements. In such cases, the extent of off-site improvements should be related to the scale of the development being proposed.
- **Policy OS-7.4 Waterfront Park Enhancement.** Expand and enhance the city's waterfront park areas. Signage and access provisions to existing waterfront parks should be improved. Opportunities for new shoreline parks as depicted in Figure 7 of the General Plan (Shoreline Access) should be pursued as redevelopment along the waterfront occurs. A variety of park environments should be created, including active recreation areas, fishing piers and boating facilities, natural areas, and small "pocket" parks with landscaping and benches, all linked by linear parks or pedestrian paths emphasizing shoreline views and access.
- **Policy OS-9.3 Gateway Improvements.** Enhance neighborhood and city identity by maintaining or creating gateways. Maintain view corridors and enhance the sense of arrival at the major entrances to the city, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger city and neighborhood gateways.
- **Policy REC-2.3 Environmentally Sensitive Design.** Protect sensitive natural areas within parks, including creeks and woodlands, and integrate them into park design. Require new recreational facilities to respect existing park character, be compatible with the natural environment, and achieve a high standard of design quality.
- **Policy REC-5.1 Increase Range of Activities.** Promote an increased range of activities within Oakland's parks as a means of introducing new users to the parks and improving safety through numbers.

The General Plan also specifies the following land use designations for the City's planned uses.

- **Resource Conservation Area**. The Resource Conservation Area classification is intended to identify, enhance, and maintain publicly owned lands for the purpose of conserving and appropriately managing undeveloped areas with high natural resource value, scenic value, or natural hazards that preclude safe development. Future development in this classification is extremely limited, and must relate to the conservation and management of natural resources, public open space, and natural hazards. Buildings are not permitted in Resource Conservation Areas except as required to maintain conservation areas.
- **Urban Park and Open Space**. The Urban Park and Open Space classification is intended to identify, enhance, and maintain land for parks and open space. Its purpose is to maintain an urban park, schoolyard, and garden system that provides open space for outdoor recreation,

psychological and physical well-being, and relief from the urban environment. The facilities that may be included in urban parks and open spaces can include one caretaker dwelling unit per site, if needed. Otherwise, policies call for no net loss of open space. Standards for lot coverage are included in the development of open space zoning.

- **General Industrial/Transportation**. The General Industry and Transportation classification is intended to recognize, preserve, and enhance areas of the city for a wide variety of businesses and related establishments that could cause off-site impacts such as noise, light or glare, truck traffic, and odor. These areas are characterized by sites with good freeway, rail, seaport, and/or airport access. A wide variety of uses are included, such as heavy industrial and manufacturing uses, transportation, railyards, maritime terminals, distribution and warehousing, food processing, heavy impact research and development facilities, and other uses of similar or supporting character. The maximum floor-area ratio for this classification is 2.0.
- **Business Mix**. The Business Mix classification is intended to create, preserve, and enhance areas of the city that are appropriate for a wide variety of business and related commercial and industrial establishments. The classification may allow high-impact industrial uses, including those that have hazardous materials on site, provided they are adequately buffered from residential areas. High-impact or large-scale commercial retail uses should be limited to sites with direct access to the regional transportation system. These areas may accommodate a mix of business such as light industrial, manufacturing, food processing, commercial, bioscience and biotechnology, research and development, environmental technology, business and health services, air/truck/rail-related transportation services, warehouse and distribution facilities, office, and other uses of similar business character. The maximum floor-area ratio for this classification is 4.0. In some business mix locations, zoning should set lower intensities to establish or maintain campus-like business settings. In others, uses and development standards should offer maximum flexibility. In areas where high-impact uses are located, buffering strategies will need to be developed.
- **Regional Commercial**. The Regional Commercial classification is intended to maintain, support, and create areas of the city that serve as region-drawing centers of activity. These include a mix of commercial, office, entertainment, arts, recreation, sports, visitor services, residential, mixed use development, and other uses of similar character or supportive of regional drawing power. The maximum floor-area ratio for this classification is 4.0. Maximum residential density is 125 units per gross acre in a mixed-use project.

City of Oakland Municipal Code

The Zoning Ordinance of the City of Oakland Municipal Code implements the land uses designated in the General Plan. Title 17 of the municipal code was adopted as a precise zoning plan for the city. It is designated to protect and promote the public health, safety, comfort, convenience, prosperity, and general welfare and to achieve the following objectives.

A. To promote the achievement of the proposals, policies and objectives of the Oakland General Plan;

B. To advance Oakland's position as a regional center of commerce, industry, recreation, and culture;

C. To protect residential, commercial, industrial, and civic areas from the intrusion of incompatible uses, and to provide opportunities for establishments to concentrate for efficient operation in mutually beneficial relationship to each other and to shared services;

D. To provide for desirable, appropriately located living areas in a variety of dwelling types and at a wide range of population densities, with adequate provision for sunlight, fresh air, and usable open space;

E. To ensure preservation of adequate space for commercial, industrial, and other activities necessary for a healthy economy;

F. To promote safe, fast, and efficient movement of people and goods, and the provision of adequate off-street parking and loading;

G. To achieve excellence and originality of design in all future developments and to preserve the natural beauty of Oakland's setting;

H. To promote the growth of productivity of the Oakland economy;

I. To stabilize expectations regarding future development of Oakland, thereby providing a basis for wise decisions with respect to such development;

J. To secure equity among individuals in the utilization of their property;

K. To promote an attractive urban environment which will enhance the City's economic potential and encourage decisions to make investments, do business, shop, and live within Oakland;

L. To especially protect and improve the appearance and orderliness of major trafficways and transit lines and views therefrom, thereby increasing the enjoyment of travel, reducing traffic hazards, and enhancing the image of Oakland derived by residents, businesspeople, commuters, visitors, and potential investors;

M. To protect the very substantial public investment in, and the character and dignity of, public buildings, open spaces, thoroughfares, and rapid transit lines;

N. To encourage a maximum of planting and other amenities, and a minimum of excessively intrusive signs, overhead utility lines, and other environmental clutter;

O. To encourage Signs which are in scale and harmony with surrounding uses, which are visually subordinate to the on-site and nearby buildings, which are themselves well designed, and which have good spacing and design relationships to other Signs;

P. To prevent the unnecessary destruction or impairment of structures, other physical features, sites, and areas of special character or special historical, cultural, educational, architectural, aesthetic, or environmental interest or value and to achieve the following purposes:

1) The protection, enhancement, perpetuation, and use of structures and other physical features, sites, and areas that are reminders of past eras, events, and persons important in local, state, or national history, or which provide significant examples of architectural styles of the past or are landmarks in the history of architecture, or which are unique and irreplaceable assets to the City and its neighborhoods, or which provide for this and future generations examples of the physical surroundings in which past generations lived,

2) The development and maintenance of appropriate settings and environment for such structures, and other physical features, on such sites, and in such areas,

3) The enhancement of property values, the stabilization of neighborhoods and areas of the City, the increase of economic and financial benefits to the City and its inhabitants, and the promotion of tourist trade and interest,

4) The preservation and encouragement of a City of varied architectural styles, reflecting the distinct phases of its cultural, social, economic, political, and architectural history,

5) The enrichment of human life in its educational and cultural dimensions in order to serve spiritual as well as material needs, by fostering knowledge of the living heritage of the past.

The zoning ordinance defines the city's zoning districts and identifies the land uses permitted and conditionally permitted in each. The ordinance also establishes development regulations regarding building heights, setbacks, parking ratios, building land cover, and floor area.

The project area is currently zoned M-40 (Heavy Industrial), IG (Industrial General), D-GI (Gateway Industrial District), S-19 (Health and Safety Protection Overlay), CIX-1C (High Intensity Business), CIX-1D (Retail Commercial Mix), CIX-1 (Commercial Industrial Mix), and CR-I (Regional).

- The **M-40 Zone** is intended to create, preserve, and enhance areas containing manufacturing, industrial, or related establishments that are potentially incompatible with most other establishments. This zone is typically appropriate to areas that are distant from residential areas and that have extensive rail or shipping facilities.
- The **IG Zone** is intended to create, preserve, and enhance areas for industrial uses, including manufacturing, scientific and product-related research and development, construction, transportation, warehousing/storage/distribution, recycling/waste-related activities, clean technology, and similar uses. The primary purposes of these areas are to support Oakland's economic base and to provide employment opportunities.
- The **D-GI Zone** is intended to facilitate implementation of the Oakland Army Base Reuse Plan.
- The **S-19 Zone** is intended to promote the public health, safety and welfare by ensuring that activities that use hazardous material substances or store hazardous materials, hazardous waste, or explosives are located appropriately and developed in such a manner as not to be a serious threat to the environment, or to public health, particularly to residents living adjacent to industrial areas where these materials are commonly used, produced, or found.
- The **CIX-1C Zone** is intended to support industrial areas in the West Oakland Specific Plan Area that are appropriate for a broad range of higher intensity commercial, retail, office, and advanced manufacturing-type uses. This zone is applied to areas that can attract high-intensity commercial and light industrial land uses and development types.
- The **CIX-1D Zone** is intended to create, preserve, and enhance industrial areas in the West Oakland Specific Plan Area[1] that are appropriate for a broad range of large-scale retail and commercial uses. This district is applied to areas with a prominent street location.
- The **CIX-1 Zone** is intended to create, preserve, and enhance industrial areas that are appropriate for a wide variety of businesses and related commercial and industrial establishments. This zone is intended to accommodate existing older industries and provide

[1] This plan area borders the project area.

flexibility for new technologies. Large-scale commercial and retail uses are limited to sites with direct access to the regional transportation system.

- The **CR-I Zone** is intended to maintain, support, and create areas that serve as region-drawing centers of activities.

City of Oakland Final Reuse Plan for the Oakland Army Base

The *Final Reuse Plan for Oakland Army Base* (City of Oakland 2002) defines an economically viable direction for reuse of the Oakland Army Base that leverages the best opportunities and assets of the property to meet Oakland's economic and community development objectives. The following goals apply to land use and planning.

- A balanced land use pattern that best leverages Oakland Army Base assets, supports sustainable land utilization and enhances the local quality of development.
- High quality and vibrant districts that provide a safe, attractive, and healthy urban environment.
- A safe, efficient, and effective movement of people and goods to and from Oakland Army Base that minimizes adverse impacts on local communities and roadways.
- Protection, preservation, and enhancement of environmental resources.
- High-quality public and community services.

The *Final Reuse Plan for Oakland Army Base* designates two development areas: the Gateway Development Area and the Port Development Area. The project area is in the Public Park Subarea of the Gateway Development Area. The *Final Reuse Plan for Oakland Army Base* calls for the Public Park Subarea to be conveyed directly to the East Bay Regional Park District and developed as a regional park that would serve as a signature entryway to the East Bay and provide new public access to the waterfront.

City of Oakland Bicycle Master Plan

The *City of Oakland Bicycle Master Plan* (City of Oakland 2007), which is part of the *City of Oakland General Plan*, is the citywide, long-range policy document for promoting bicycling in Oakland. The City promotes the routine accommodation of bicyclists in its projects and programs. The ongoing development of the City's bikeway network, including Safe Routes to Transit and the associated support facilities, will provide the infrastructure for making Oakland more accessible by bicycle. The following goals and policies apply to land use and planning.

- **Goal 1—Infrastructure.** Develop the physical accommodations, including a network of bikeways and support facilities, to provide for safe and convenient access by bicycle.
- **BMP Policy 1A—Bikeway Network.** Develop and improve Oakland's bikeway network.

East Bay Regional Park District Master Plan

The East Bay Regional Park District provides and manages the regional parks for Alameda and Contra Costa Counties, a 1,400-square-mile area that is home to 2.6 million people and forms the eastern shoreline of San Francisco Bay. The Master Plan (East Bay Regional Park District 2013) defines the overall mission and vison for the Park District. The following policies are applicable to land use and planning.

- **Natural Resource Management NRM5.** The District will maintain and manage vegetation to conserve, enhance and restore natural plant communities, to preserve and protect populations of rare, threatened, endangered and sensitive plant species and their habitats; and where possible, to protect biodiversity and to achieve a high representation of native plants and animals.
- **Public Access PA4.** The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.
- **Public Access PA5.** The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the regional parks and trails.
- **Public Access PA6.** The District will comply with the requirements of the Americans with Disability Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs, and facilities throughout the Park District.
- **Interpretation and Recreation Services IRS1.** The District will provide a variety of interpretive programs that focus attention on the region's natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resources for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.
- **Regional Facilities and Areas RFA2.** The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists, and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design signage and trail user education to promote safety and minimize conflicts between users.

San Francisco Bay Plan

The San Francisco Bay Plan was completed and adopted by the San Francisco Bay Conservation and Development Commission (BCDC) in 1968 and was transmitted to the California Legislature and the Governor in 1969. The Legislature acted on BCDC's recommendations in the Bay Plan and revised the McAteer-Petris Act by designating the BCDC as the agency responsible for maintaining and carrying out the provisions of the act and the Bay Plan for the protection of the Bay and its natural resources, as well as the development of the Bay and shoreline.

The Project Site is designated in Map 4 (Central Bay North) of the Bay Plan as a Waterfront Park and Beach Priority Use Area. Note 18 of the map specifies the following policy: "Develop gateway park at Bay Bridge touchdown with gracious access to the Bay Bridge. Incorporate viewing, picnicking, non-motorized small boat launching and interpretation of current and historic transportation infrastructure and natural and cultural factors. Protect eelgrass beds and nearby endangered species habitats. Provide signage regarding fish consumption advisories for anglers."

The following policies from the reprinted plan (San Francisco Bay Conservation and Development Commission 2012) apply to land use and planning.

Recreation

- Diverse and accessible water-oriented recreational facilities, such as marinas, launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels. Periodic assessments of water-oriented recreational needs that forecast demand into the future and reflect changing recreational preferences should be made to ensure that sufficient, appropriate water-oriented recreational facilities are provided around the Bay. Because there is no practical estimate of the acreage needed on the shoreline of the Bay, waterfront parks should be provided wherever possible.
- Waterfront land needed for parks and beaches to meet future needs should be reserved now, because delay may mean that needed shoreline land could otherwise be preempted for other uses. However, recreational facilities need not be built all at once; their development can proceed over time. Interim use of a waterfront park priority use area prior to its development as a park should be permitted, unless the use would prevent the site from being converted to park use or would involve investment in improvements that would preclude the future use of the site as a park.
- Recreational facilities, such as waterfront parks, trails, marinas, live-aboard boats, nonmotorized small boat access, fishing piers, launching lanes, and beaches, should be encouraged and allowed by the Commission [BCDC], provided they are located, improved and managed consistent with the following standards:
    - Be well distributed around the shores of the Bay to the extent consistent with the more specific criteria below. Any concentrations of facilities should be as close to major population centers as is feasible.
    - Not preempt land or water area needed for other priority uses, but efforts should be made to integrate recreation into such facilities to the extent that they are compatible.
    - Be feasible from an engineering viewpoint.
    - Be consistent with the public access policies that address wildlife compatibility and disturbance.
- Where practicable, access facilities for non-motorized small boats should be incorporated into waterfront parks, marinas, launching ramps and beaches, especially near popular waterfront destinations.
    - Access points should be located, improved and managed to avoid significant adverse effects on wildlife and their habitats, should not interfere with commercial navigation, or security and exclusion zones or pose a danger to recreational boaters from commercial shipping operations, and should provide for diverse water-accessible overnight accommodations, including camping, where acceptable to park operators.

    - Sufficient, convenient parking that accommodates expected use should be provided at sites improved for launching non-motorized small boats. Where feasible, overnight parking should be provided.
    - Site improvements, such as landing and launching facilities, restrooms, rigging areas, equipment storage and concessions, and educational programs that address navigational safety, security, and wildlife compatibility and disturbance should be provided, consistent with use of the site.
    - Facilities for boating organizations that provide training and stewardship, operate concessions, provide storage or boathouses should be allowed in recreational facilities where appropriate.
    - Design standards for non-motorized small boat launching access should be developed to guide the improvement of these facilities. Launching facilities should be accessible and designed to ensure that boaters can easily launch their watercraft. Facilities should be durable to minimize maintenance and replacement cost.
- Sandy beaches should be preserved, enhanced, or restored for recreational use, such as swimming, consistent with wildlife protection. New beaches should be permitted if the site conditions are suitable for sustaining a beach without excessive beach nourishment.
- In waterfront parks:
    - Parks should emphasize hiking, bicycling, riding trails, picnic facilities, swimming, environmental, historical and cultural education and interpretation, viewpoints, beaches, and fishing facilities.
    - Public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible.
    - Limited commercial development may be appropriate (at the option of the park agency responsible) in all parks shown on the Plan maps except where there is a specific note to the contrary.
    - Trails that can be used as components of the San Francisco Bay Trail, the Bay Area Ridge Trail or links between them should be developed in waterfront parks. San Francisco Bay Trail segments should be located near the shoreline unless that alignment would have significant adverse effects on Bay resources; in this case, an alignment as near to the shore as possible, consistent with Bay resource protection, should be provided.
    - Bus stops, kiosks and other facilities to accommodate public transit should be provided in waterfront parks to the maximum extent feasible. Public parking should be provided in a manner that does not diminish the park-like character of the site. Traffic demand management strategies and alternative transportation systems should be developed where appropriate to minimize the need for large parking lots and to ensure parking for recreation uses is sufficient.
    - Interpretive information describing natural, historical and cultural resources should be provided in waterfront parks where feasible.

In addition:

- Different types of compatible public and commercial recreation facilities should be clustered to the extent feasible to permit joint use of ancillary facilities and provide a greater range of choices for users.
- Sites, features, or facilities within designated waterfront parks that provide optimal conditions for specific water-oriented recreational uses should be preserved and, where appropriate, enhanced for those uses, consistent with natural and cultural resource preservation.
- Access to marinas, launch ramps, beaches, fishing piers, and other recreational facilities should be clearly posted with signs and easily available from parking reserved for the public or from public streets or trails.
- To reduce the human health risk posed by consumption of contaminated fish, projects that create or improve fishing access to the Bay at water-oriented recreational facilities, such as fishing piers, beaches, and marinas, should include signage that informs the public of consumption advisories for the species of Bay fish that have been identified as having potentially unsafe levels of contaminants.
- Complete segments of the Bay and Ridge Trails where appropriate, consistent with policy 4-a-6.
- Develop and manage historic buildings for recreation uses to the maximum practicable extent, consistent with policy 4-c.

Public Access

- In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location preferably near the project should be provided.
- Federal, state, regional, and local jurisdictions, special districts, and the Commission [BCDC] should cooperate to provide appropriately sited, designed and managed public access, especially to link the entire series of shoreline parks, regional trail systems (such as the San Francisco Bay Trail, referred to as the Bay Trail) and existing public access areas to the extent feasible without additional Bay filling and without significant adverse effects on Bay natural resources. State, regional, and local agencies that approve projects should assure that provisions for public access to and along the shoreline are included as conditions of approval and that the access is consistent with the Commission's [BCDC] requirements and guidelines.
- Public access should be integrated early in the planning and design of Bay habitat restoration projects to maximize public access opportunities and to avoid significant adverse effects on wildlife.
- The Commission [BCDC] should continue to support and encourage expansion of scientific information on the effects of public access on wildlife and the potential of siting, design, and management to avoid or minimize impacts. Furthermore, the Commission [BCDC] should, in cooperation with other appropriate agencies and organizations, determine the location of

sensitive habitats in San Francisco Bay and use this information in the siting, design and management of public access along the shoreline of San Francisco Bay.

Association of Bay Area Governments San Francisco Bay Trail Plan Design Guidelines and Toolkit

The Association of Bay Area Governments (ABAG) *San Francisco Bay Trail Plan Design Guidelines and Toolkit* (2016) proposes development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo Bays. The Bay Trail Plan mandates that the Bay Trail provide connections to existing park and recreational facilities, create links to existing and proposed transportation facilities, and be planned in a way that avoids adverse impacts on environmentally sensitive areas. The Bay Trail Plan policies and design guidelines are intended to complement, rather than supplant, the adopted regulations and guidelines of local managing agencies. Implementation of the Bay Trail Plan relies on continued cooperation among shoreline property owners as well as federal, state, and local agencies with jurisdictions over the trail alignment. The Bay Trail Plan and Design Guidelines would be applicable to the project because the Bay Trail currently traverses Key Point, Port Playground, and Bridge Yard. The following are applicable policies to land use and planning.

- Minimum and maximum standards by use, width, and surface should be developed, to ensure safe enjoyment of the trail and compatibility with surroundings and existing facilities, and to encourage use and design of surfaces for which long-term maintenance will be cost-effective.
- Provision of land or funds for Bay Trail planning or construction shall not be considered mitigation for wetland losses.
- In the short term, attention should be focused on improving safe access to the bridges, possible expansion of bicycle shuttle services and public transit accommodations of bicycles to allow cross-bay access.
- In the long term, unconstrained access on bridge structures is preferred. This can more easily be accomplished in planning future facilities, as long as public access is a requirement for new structures. Legislative action which would require bicycle and pedestrian access on new facilities should be actively sought.
- Local agencies should be sensitive to the natural environment not only in project planning to implement segments of the Bay Trail, but also in maintaining and managing the trail once built.

3.9.2 Environmental Setting

This section describes existing conditions related to land use and planning that could be affected by the construction and operation of the project.

3.9.2.1 Study Area

The study area for direct impacts on land use and planning is the 45-acre project area. This area includes Bridge Yard, Key Point, Port Playground, and Radio Beach, the waterfront near the eastern touchdown of the San Francisco–Oakland Bay Bridge (Bay Bridge), and underutilized industrial land on the south side of Interstate 80 (I-80). The project area also includes land beneath and adjacent to

Interstate 880 (I-880) and the I-880/I-80/I-580 interchange (known as the maze) to Maritime Street in West Oakland.

3.9.2.2 Regional Setting

Land uses in the project vicinity are mostly transportation facilities and industrial land uses. The closest residential land uses are approximately 1 mile southeast of the Bridge Yard, which is the easternmost point of the project area, and on the east side of I-880 near 14th Street and Frontage Road. Raimondi Park is approximately 1 mile east of the project area between 18th and 20th Streets. It is a City-owned park with a playground, restrooms, baseball field, football field, and small putting green. Radio Beach is adjacent to the Emeryville Crescent natural open space area, owned by East Bay Regional Park District, to the east.

3.9.2.3 Existing On-Site Uses

Radio Beach (also referred to as "Royce Beach") is a 400-foot stretch of narrow, sandy beach with natural features such as low-lying groundcover and shrubs, native vegetation, a large amount of invasive ice plant, marshes, and wetlands. Radio Beach is frequently used by kiteboarders (also called kitesurfers) for launching and landing, as the water offshore is shallow for approximately one hundred yards, making it a favorable place for beginning kiteboarders. The site is often used by up to 15 – 20 local kiteboarders during favorable conditions and sometimes more, when weather conditions are optimal. Parking is at informal dirt areas in the vicinity and along the access road. The level of use varies, but infavorable wind and weather conditions, up to 15 to 20 vehicles used by kiteboarders may be present at this location. In addition, the site is also used for bird-watching, fishing and beach uses (walking, sitting, etc.).

The portion of the project site south of I-80 is mostly underutilized industrial land that is only accessible in the area of the trail to the East Span of the Bay Bridge. This portion of the project area serves mainly as a Caltrans maintenance yard and staging area for the removal of the prior Bay Bridge. The site contains several small, temporary buildings for this construction and permanent buildings that were at the site prior to construction of the bridge. This area includes three historic structures: the Bridge Yard Building, Key Pier Substation, and Bay Bridge Oakland Substation.

3.9.2.4 ~~Existing and Planned Land Uses~~ Zoning and Land Use Designations

The City of Oakland zoning designations are described above in Section 3.9.1.3, *Regional and Local, City of Oakland***.** Elements of the study area in each zone are as follows.

- **M-40—Heavy Industrial**. Radio Beach and Key Point are in this zoning district.
- **IG—Industrial General**. Key Point, Port Playground, and Bridge Yard are in this zoning district.
- **D-GI—Gateway Industrial District**. Port Playground and Bridge Yard are in this zoning district.
- **S-19—Health and Safety Protection Overlay**. Portions of areas below I-80 and I-880 where landscaping improvements are proposed are in this zoning district.
- **CIX-1C—High Intensity Business**. Portions of areas below I 880 where landscaping improvements are proposed are in this zoning district.

- **CIX-1D—Retail Commercial Mix**. Portions of areas below I-880 where landscaping improvements are proposed are in this zoning district.
- **CIX-1—Commercial Industrial Mix**. Portions of areas below I-880 where landscaping improvements are proposed are in this zoning district.
- **CR-1—Regional**. Portions of areas below I-80 and I-880 where landscaping improvements are proposed are in this zoning district.

The *City of Oakland General Plan* land use designations for the project area are described in Section 3.9.1.3, *Regional and Local, City of Oakland.* Elements of the study area in each designation are as follows.

- **Resource Conservation Area**. This general plan designation applies to the area where Radio Beach is located.
- **Urban Park and Open Space**. This general plan designation applies to the area where Key Point is located.
- **General Industrial/Transportation**. This general plan designation applies to the area where Port Playground and Bridge Yard are located.
- **Business Mix**. This general plan designation applies to portions of areas below I-880 where landscaping improvements are proposed.
- **Regional Commercial**. This general plan designation applies to portions of areas below I-80 where landscaping improvements are proposed.

3.9.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on land use and planning associated with the construction and operation of the project.

3.9.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on Land Use and Planning in the study area.

- *Gateway Park Project—Community Impact Assessment* (ICF International 2015).
- *City of Oakland General Plan* (1998a).
- City of Oakland Municipal Code.

3.9.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on land use and planning in the study area as defined in Section 3.9.2.1, *Study Area*. The analysis focuses on the consistency of the project with the current planning environment and adjacent land uses.

CEQA requires that an EIR consider whether a proposed project may conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. The former determination (that is intended for consideration in a CEQA document) is based on, and limited to, a review and analysis of environmental matters. The latter determination, by comparison, is made by the decision-making body of the jurisdiction and is based on a jurisdiction's broad discretion to assess whether a proposed project would conform to the policies and objectives of its general plan/specific plan as a whole. In addition, the broader general plan consistency determination takes into account all evidence in the record concerning the project characteristics, its desirability, as well as its economic, social, and other non-environmental effects.

The determination of whether or not the project would conflict with applicable policies is based either on the project description (Chapter 2), or for policies adopted for mitigating an environmental impact, on the environmental analysis provided in the applicable resource section of this Draft EIR. Conflicts of a project with land use policies do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered environmental impacts only when they would result in direct environmental impacts. Decision-makers need to consider the consistency of the proposed development with applicable plans and policies that do not directly relate to physical environmental issues when determining whether to approve or disapprove the project, rather than during the environmental review process.

3.9.3.3 Significance Criteria

The project would have a significant impact on land use and planning if it would:

- Physically divide an established community.
- Conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with applicable habitat conservation plan or natural community conservation plan.
- Introduce new land uses into an area that could be considered to be incompatible with the surrounding land uses or with the general character of the area.

Topics Not Evaluated in Detail

The following potential impact related to land use and planning was not evaluated in this EIR for the reasons described below.

Physically divide an established community. The project would not include any large-scale infrastructure features such as new freeways or high-volume roadways that would physically divide an established community, nor would it remove transportation infrastructure that links neighborhoods. Instead, the project would provide safe access to the new bicycle/pedestrian path on the east span of the Bay Bridge, as well as access to existing and planned segments of the regional Bay Trail. The project would provide access to the shoreline and would be a unique waterfront amenity. Gateway Park would include active and passive recreation[2] opportunities and a venue for community events and art displays. In addition, it would display the natural, maritime, industrial, and transportation history of the East Bay. The project would therefore not divide, remove a means

[2] Passive recreation refers to non-motorized recreational activities including, but not limited to, activities such as walking, bird watching, fishing, kayaking, kiteboarding, and windsurfing.

of access, or impair mobility within an existing community or between a community and surrounding areas.

3.9.4 Impacts and Mitigation

This section describes the potential impacts related to land use and planning that would result from construction and operation of the project.

Impact LU-1. The project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental impact (less than significant with mitigation)

Consistency with the City of Oakland General Plan

General Plan goals and policies. Table 3.9-1 outlines the adopted General Plan goals and policies that are applicable to the project, describes environmental impacts and potential conflicts, and provides a determination of *consistent* or *inconsistent* for each policy. A proposed project can be generally consistent with a general plan, even if it does not promote every applicable goal and policy. Table 3.9-1 shows the project would be consistent with the General Plan. This impact would be less than significant. No mitigation would be required.

Land use designations. As described above, the project area has multiple land use designations.

Radio Beach is located in the Resource Conservation Area land use designation. The project proposes restoration and circulation improvements at Radio Beach but would not change the existing land use at this site. Therefore, the project would not conflict with the Resource Conservation Area land use designation.

Key Point is located in the Urban Park and Open Space land use designation. The project would replace existing industrial land uses in this area with passive recreational uses, which are allowable uses under the Urban Park and Open Space land use designation. Therefore, the project would not conflict with the Urban Park and Open Space land use designation.

The Port Playground and Bridge Yard are located in the General Industrial/Transportation land use designation. The project would replace existing industrial land uses in this area with active and passive recreational uses, including installation of a playground. The *Guidelines for Determining Project Conformity With the General Plan and Zoning Regulations* (City of Oakland 1998b) indicates that allowable land uses within the Industrial/Transportation land use designation are determined by zoning regulations. Recreational uses are not explicitly permitted under this land use designation. Therefore, a general plan amendment and rezoning to the Region-Serving Park zone, or other appropriate zoning as determined by the City of Oakland, would be required from the City of Oakland in order for the project to be consistent with the general plan. ~~The project sponsor will initiate this process under Mitigation Measure **MM-LU-1**.~~

The project also proposes landscaping improvements in areas designated as Business Mix and Regional Commercial. The proposed landscaping improvements would not change the existing use of these areas and would not be in conflict with the underlying General Plan designations.

~~With implementation of Mitigation Measure **MM-LU-1**, the impact would be less than significant.~~

The City of Oakland maintains the discretionary authority to adopt or deny a general plan amendment to bring the underlying land use designation into conformance with the new on-site uses. Should the City elect not to adopt a general plan amendment, the proposed recreational uses in Port Playground and Bridge Yard would result in a conflict with the General Plan, and these uses could not be implemented. If a smaller version of the project is ultimately implemented on areas not subject to City of Oakland jurisdiction (e.g., Radio Beach), where there is no land use conflict, environmental impacts would be less than the levels disclosed in this EIR.

As stated above, the threshold of significance for determining the project's impacts with regard to land use consistency is whether the project will conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) *adopted for the purpose of avoiding or mitigating an environmental effect*. This EIR has disclosed all of the potentially significant environmental impacts of the proposed project related to the proposed recreational use. An inconsistency with a land use plan or zoning is not inherently a physical impact on the environment itself under CEQA; it is only an impact under CEQA if it is associated with a physical impact on the environment.

No significant unavoidable impacts have been identified in the EIR related to the compatibility of the park with adjacent industrial uses, after mitigation. The only potentially significant impact associated with land use inconsistency is discussed under Impact LU-3 below and concerns kayak use in an active shipping channel, which is a common activity in other parts of the Oakland estuary. As discussed below, with implementation of Mitigation Measure **MM-LU-1** (Warning signage re: kayak and Port of Oakland shipping), this inconsistency would result in less than significant impacts.

As a separate point of information, the proposed recreational uses would result in a more environmentally beneficial use of the Port Playground and Bridge Yard than industrial uses allowed by the current General Plan. The existing industrial land use designation at the Port Playground and Bridge Yard is less protective of the environment given the generally adverse effects of industrial uses on resources such as air quality, water quality, and hazards/hazardous materials.

City of Oakland Bicycle Master Plan. As part of the General Plan, the Bicycle Master Plan provides goals and policies for the routine accommodation of bicyclists in City of Oakland projects and programs. The project would provide safe access to the new bicycle/pedestrian path on the east span of the Bay Bridge as well as access to existing and planned segments of the regional Bay Trail. This impact would be less than significant. No mitigation would be required.

Table 3.9-1. Analysis of Project Consistency with City of Oakland General Plan Goals and Policies

General Plan Goal/Policy	Consistency Analysis
Land Use and Transportation Element, adopted March 1998	
Policy l/C5.1 Planning for Military Base Reuse. Plans for the reuse of military base should encourage activities which provide economic development expansion opportunities for the City.	CONSISTENT. The project directly implements the *Final Reuse Plan for Oakland Army Base*, which calls for the project area to be conveyed directly to the East Bay Regional Park District and developed as a regional park that would serve as a signature entryway to the East Bay and provide new public access to the waterfront. The project would meet multimodal transportation and shoreline access needs in West Oakland and the East Bay, fulfill long-standing planning commitments to build a park and improve safe access to the shore in the East Bay, create a safe landing for bicycles and pedestrians using the east span of the Bay Bridge, provide parks and recreation opportunities in West Oakland, and provide public venues for large events and public art displays in West Oakland and the East Bay. The project would not interfere with plans for the reuse of other portions of the former military base to provide economic development expansion opportunities.
Policy l/C5-3 Planning for the Army Base. Land reuse plans for the Oakland Army Base site shall encourage activities that will result in expanded employment opportunities and revenues for the city and the West Oakland community.	CONSISTENT. The project directly implements the *Final Reuse Plan for Oakland Army Base*, which calls for the project area to be conveyed directly to the East Bay Regional Park District and developed as a regional park that would serve as a signature entryway to the East Bay and provide new public access to the waterfront. The project would meet multimodal transportation and shoreline access needs in West Oakland and the East Bay, fulfill long-standing planning commitments to build a park and improve safe access to the shore in the East Bay, create a safe landing for bicycles and pedestrians using the east span of the Bay Bridge, provide parks and recreation opportunities in West Oakland, and provide public venues for large events and public art displays in West Oakland and the East Bay. The project would not interfere with plans for the reuse of other portions of the former military base to expand employment opportunities.
Policy T2.5 Linking Transportation and Activities. Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e. hospitals, parks, or community centers).	CONSISTENT. The project would provide a distinctive entryway park to the East Bay that connects to the new bicycle/pedestrian path on the east span of the Bay Bridge. The project would also provide safe multimodal access to the shoreline and both passive and active recreation opportunities.

General Plan Goal/Policy	Consistency Analysis
Policy T4.8 Accommodating Multiple Types of Travel on the Bay Bridge. The City should encourage the design and engineering for the new Bay Bridge to accommodate multiple means of access and travel by automobile, trucks, transit, bicycles, pedestrians, and future mass transit.	CONSISTENT. The project would provide a distinctive entryway park to the East Bay that connects to the new bicycle/pedestrian path on the east span of the Bay Bridge. The project would also provide safe multimodal access to the shoreline and both passive and active recreation opportunities.
Policy T4.9 "Gateway" Public Access Area. The City, in concert with the East Bay Regional Park District, Port of Oakland, Oakland base Reuse Authority, and Bay Conservation and Development Commission, should support development of a significant new "gateway" public park area at the terminus of the San Francisco/Oakland Bay Bridge east span that is accessible by auto, bicycle, or walking (See also the Open Space, Conservation, and Recreation Element).	CONSISTENT. The project would directly implement this policy. The project would be the result of a multiagency collaborative planning effort between the nine local, regional, and state agencies that form the Gateway Park Working Group. The project would create a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge. The project would provide a distinctive entryway park to the East Bay that connects to the new bicycle/pedestrian path on the east span of the Bay Bridge. The project would also provide safe multimodal access to the shoreline and both passive and active recreation opportunities.
Policy D1.5 Planning for the Gateway District. New development and rehabilitation in the Gateway district should contribute to greater neighborhood cohesion and identity, emphasizing mixed housing type and urban density residential development.	CONSISTENT. The project would create a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge. The proposed project would provide a distinctive entryway park to the East Bay that connects to the new bicycle/pedestrian path on the east span of the Bay Bridge. The project would also provide safe multimodal access to the shoreline and both passive and active recreation opportunities.
Open Space, Conservation, and Recreation Element, adopted June 1996	
Policy OS-2.1 Protection of Park Open Space. Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.	CONSISTENT. The project would create a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge.
Policy OS-5.1 Priorities for Trail Improvement. Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront.	CONSISTENT. The project would provide safe access to the new bicycle/pedestrian path on the east span of the Bay Bridge as well as access to existing and planned segments of the regional Bay Trail. The project would provide access to the shoreline and would be a unique waterfront amenity.
Policy OS-5.3 Trail Design Principles. Plan and design all new trails in a manner which: (a) minimizes environmental impacts; (b) fully considers neighbor privacy and security issues; (c) involves the local community in alignment and design; and (d) considers the need of multiple users; including pedestrians, bicycles, and wheelchairs.	CONSISTENT. The project would provide a distinctive entryway park to the East Bay that connects to Bay Bridge Trail. The project would also provide access to existing and planned segments of the regional Bay Trail and provide safe multimodal access to the shoreline and both passive and active recreation opportunities.

General Plan Goal/Policy	Consistency Analysis
Policy OS-7.2 Dedication of Shoreline Public Access. Support BCDC requirements which mandate that all new shoreline development designate the water's edge as publicly accessible open space where safety and security are not compromised, and where access can be achieved without interfering with waterfront industrial and maritime uses. Where such conflicts or hazards would result, support the provision of off-site access improvements in lieu of on-site improvements. In such cases, the extent of off-site improvements should be related to the scale of the development being proposed.	CONSISTENT. The project would provide safe multimodal access to the shoreline and both passive and active recreation opportunities.
Policy OS-7.4 Waterfront Park Enhancement. Expand and enhance the City's waterfront park areas. Signage and access provisions to existing waterfront parks should be improved. Opportunities for new shoreline parks as depicted in Figure 7 (Shoreline Access) should be pursued as redevelopment along the waterfront occurs. A variety of park environments should be created, including active recreation areas, fishing piers and boating facilities, natural areas, and small "pocket" parks with landscaping and benches, all linked by linear parks or pedestrian paths emphasizing shoreline views and access.	CONSISTENT. The project would create a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge. The project would include interpretive and directional signage along pathways and throughout Gateway Park.
Policy OS-9.3 Gateway Improvements. Enhance neighborhood and city identity by maintaining or creating gateways. Maintain view corridors and enhance the sense of arrival at the major entrances to the city, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger City and neighborhood gateways.	CONSISTENT. The project would provide a distinctive entryway park to the East Bay that connects to the Bay Bridge Trail. The project would provide new opportunities for public view access to scenic resources, including the San Francisco Bay, and would incorporate public art and landscaping.
Policy REC-2.3 Environmentally Sensitive Design. Protect sensitive natural areas within parks, including creeks and woodlands, and integrate them into park design. Require new recreational facilities to respect existing park character, be compatible with the natural environment, and achieve a high standard of design quality.	CONSISTENT. The project would protect and enhance Radio Beach, a 400-foot stretch of narrow, sandy beach with natural features such as a low-lying groundcover and shrubs, native vegetation, a large amount of invasive ice plant, marshes, and wetlands. Radio Beach provides free public beach access and is designated as a shoreline park. Radio Beach would be for limited, passive recreation. Park features would include a new access path from the Key Point area, restoration, and installation of fencing to protect environmentally sensitive areas. This area has an existing informal gravel parking area, which would be improved with oyster shell mulch or comparable material.

General Plan Goal/Policy	Consistency Analysis
Policy REC-5.1 Increase Range of Activities. Promote an increased range of activities within Oakland's parks as a means of introducing new users to the parks and improving safety through numbers.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. The project would provide access to the shoreline and would be a unique waterfront amenity. Gateway Park would include active and passive recreation opportunities. It would include a venue for community events and art displays. In addition, it would display the natural, maritime, industrial, and transportation history of the East Bay.

Compliance with the City of Oakland Zoning Ordinance

The project area is currently zoned M-40, IG, D-GI, S-19, CIX-1C, CIX-1D, CIX-1, CR-I.

Radio Beach is located in the M-40 zoning designation. The project proposes restoration and circulation improvements at Radio Beach but would not change the existing land use at this site. Therefore, the project would not conflict with the M-40 designation.

Key Point is located in the M-40 designation. The project would replace existing industrial land uses in this area with passive recreational uses, which are not allowable uses under the M-40 zoning designation. Therefore, the project would conflict with the M-40 zoning designation.

The Port Playground and Bridge Yard are located in the IG and D-GI zoning designations. The project would replace existing industrial land uses in this area with active and passive recreational uses. Recreational uses are not explicitly permitted under the IG and D-GI zoning designations. Therefore, a general plan amendment and rezoning to the Region-Serving Park zone, or other appropriate zoning as determined by the City of Oakland, would be required from the City of Oakland in order for the project to be consistent with the zoning ordinance. ~~The project implementer would initiate this process under Mitigation Measure **MM-LU-1**.~~

The project also proposes landscaping improvements in areas zoned as S-19, CIX-1C, CIX-1D, CIX-1, and CR-I. The proposed landscaping improvements would not change the existing use of these areas and would not be in conflict with the underlying zoning designations.

~~With implementation of Mitigation Measure **MM-LU-1**, the impact would be less than significant.~~

As described above, the City of Oakland maintains the discretionary authority to adopt or deny a zone change to bring the underlying zoning designation into conformance with the new on-site uses. Should the City elect not to adopt a zone change, the proposed recreational uses in Port Playground, Bridge Yard, and Key Point would result in a conflict with the Zoning Ordinance of the City of Oakland Municipal Code, and these uses could not be implemented. If a smaller version of the project is ultimately implemented on areas not subject to City of Oakland jurisdiction (e.g., Radio Beach), where there is no land use conflict, environmental impacts would be less than the levels disclosed in this EIR.

As stated above, the threshold of significance for determining the project's impacts with regard to land use consistency is whether the project will conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) *adopted for the purpose of avoiding or mitigating an environmental effect*. This EIR has disclosed all of the potentially significant environmental impacts of the proposed project related to the proposed recreational use. An inconsistency with zoning is not inherently a physical impact on the environment itself under CEQA; it is only an impact under CEQA if it is associated with a physical impact on the environment.

No significant unavoidable impacts have been identified in the EIR related to the compatibility of the park with adjacent industrial uses, after mitigation. The only potentially significant impact associated with land use inconsistency is discussed under Impact LU-3 below and concerns kayak use in an active shipping channel, which is a common activity in other parts of the Oakland estuary. As discussed below, with implementation of Mitigation Measure **MM-LU-1** (Warning signage re: kayak and Port of Oakland shipping), this inconsistency would result in less than significant impacts.

Consistency with City of Oakland Final Reuse Plan for the Oakland Army Base

Table 3.9-2 outlines the adopted *Final Reuse Plan for the Oakland Army Base* goals identified as applicable to the project, describes environmental impacts and potential conflicts, and provides a determination of *consistent* or *inconsistent* for each policy. Table 3.9-2 shows the project would be consistent with the Final Reuse Plan for the Oakland Army Base. In fact, the project would directly implement the *Final Reuse Plan for Oakland Army Base*, which calls for the project area to be conveyed directly to the East Bay Regional Park District and developed as a regional park that would serve as a signature entryway to the East Bay and provide new public access to the waterfront. Therefore, there would be no impact.

Consistency with the East Bay Regional Parks District Master Plan

Table 3.9-3 outlines the adopted East Bay Regional Park District Master Plan goals that have been identified as applicable to the project, describes environmental impacts and potential conflicts, and provides a determination of "consistent" or "inconsistent" for each policy. Table 3.9-3 shows the project would be consistent with the East Bay Regional Park District Master Plan. This impact would be less than significant. No mitigation would be required.

Consistency with BCDC San Francisco Bay Plan

The project would be consistent with the recreation and public access guidelines of the San Francisco Bay Plan. The project would create a new 45-acre park along the waterfront and provide safe access to Bay Bridge Trail, as well as access to existing and planned segments of the regional Bay Trail. The project is consistent with the Waterfront Park and Beach Priority Use Area designation in Map 4 of the Bay Plan, and the project directly implements Footnote 18. The project would provide active and passive recreation opportunities, including walking, nature appreciation, interpretation of transportation history, picnicking, bicycling, kiteboarding, windsurfing, fishing (e.g., from the proposed pier), and nonmotorized boating (e.g., from the proposed kayak launch). As discussed in Section 3.1, *Aesthetics*, the project would increase shoreline access, creating opportunities for the public to have physical and visual access to scenic vistas of the Bay's shoreline and waters in an area that is highly urbanized. As discussed in Section 3.3, *Biological Resources*, the project, with mitigation, would result in no net loss of San Francisco Bay due to fill or shading. As discussed in Section 3.4, *Cultural Resources*, the project, with mitigation, would not result in significant impacts to historic buildings on-site. As discussed in Section 3.8, *Hydrology and Water Quality*, the project would provide for adaptation to sea level rise. A complete consistency analysis with the Bay Plan will be performed as part of the application for the BCDC permit, but the project has been designed from the beginning with the participation of BCDC in the Working Group and designed to fulfill Bay Plan policies such that the project would be consistent with the Bay Plan. This impact would be less than significant. No mitigation would be required.

Consistency with the ABAG Bay Trail Plan and Design Guidelines

The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. When complete, the linear Bay Trail will be a continuous 500-mile bicycle/pedestrian trail encircling the entire Bay Area. As shown in Table 2-8 in Chapter 2, *Project Description*, the project implementer would coordinate with ABAG for the Bay Trail project. ABAG is a member of the Gateway Park Working Group, which consists of nine local, regional, and state agencies acting as a multi-agency collaborative planning group. This collaboration will ensure achievement of the overall project objective of connectivity to and incorporation into the Bay Trail. As such, the project would be consistent with the ABAG Bay Trail Design Guidelines. This impact would be less than significant. No mitigation would be required.

~~**MM-LU-1. Initiate and complete the general plan amendment and rezoning process**~~

~~The project implementer shall initiate and complete the general plan amendment and rezoning process to allow for recreational uses in the project area for those districts where recreational use is incompatible with land use designations and zoning at the time of project implementation.~~

Table 3.9-2. Analysis of Project Consistency with City of Oakland Final Reuse Plan for the Oakland Army Base Goals

Final Reuse Plan for the Oakland Army Base Goals	Consistency Analysis
Create a balanced land use pattern that best leverages Oakland Army Base assets, supports sustainable land utilization and enhances the local quality of development.	CONSISTENT. The project is the creation of a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge. Outside the park boundaries, the project could also include installing landscaping near Interstate 880.
Provide high quality and vibrant districts that provide a safe, attractive, and healthy urban environment.	CONSISTENT. The project is the creation of a new 45-acre park along the waterfront near the eastern end of the east span of the Bay Bridge.
Provide for a safe, efficient, and effective movement of people and goods to and from Oakland Army Base in a way that minimizes adverse impacts on local communities and roadways.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. Way-finding elements would include interpretive and directional signage along pathways throughout Gateway Park. Way-finding elements could include old Bay Bridge artifacts and along Burma Road.
Protect, preserve, and enhance environmental resources.	CONSISTENT. The project would involve restoration, including planting and habitat enhancement, of approximately 4 acres in the Radio Beach area. The design goal would be to extend the Emeryville Crescent marsh vegetation and the Upland Coast Scrub vegetation established adjacent to the marsh into the disturbed areas of Radio Beach. This would require grading approximately 1 acre and removing trash, debris, and invasive plant species in both upland and lowland areas. The project would include an approximately 13-acre windbreak/tree buffer that would extend along the south side of I-80 in the Port Playground and Key Point areas. Landscaping would be planted throughout the project area south of I-80. Additionally, landscaping could be planted under the freeways east of the recreational features to improve aesthetics and air quality for visitors and residents.
Provide high-quality public and community services.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. The project would provide access to the shoreline and would be a unique waterfront amenity. Gateway Park would include active and passive recreation opportunities. It would include a venue for community events and art displays. In addition, it would display the natural, maritime, industrial, and transportation history of the East Bay. The project directly implements the *Final Reuse Plan for Oakland Army Base*, which calls for the project area to be conveyed directly to the East Bay Regional Park District and developed as a regional park that would serve as a signature entryway to the East Bay and provide new public access to the waterfront.

Table 3.9-3. Analysis of Project Consistency with East Bay Regional Park District Master Plan Goals

East Bay Regional Park District Master Plan Goals	Consistency Analysis
Natural Resource Management NRM5. The District will maintain and manage vegetation to conserve, enhance and restore natural plant communities, to preserve and protect populations of rare, threatened, endangered and sensitive plant species and their habitats; and where possible, to protect biodiversity and to achieve a high representation of native plants and animals.	CONSISTENT. The project would involve restoration, including planting and habitat enhancement of approximately 4 acres in the Radio Beach area. The design goal would be to extend the Emeryville Crescent Marsh vegetation and the Upland Coast Scrub vegetation established adjacent to the marsh into the disturbed areas of Radio Beach. This would require grading approximately 1 acre and removing trash, debris, and invasive plant species in both upland and lowland areas. The project would include an approximately 13-acre windbreak/tree buffer that would extend along the south side of I-80 in the Port Playground and Key Point areas. Landscaping would be planted throughout the project area south of I-80. Additionally, landscaping could be planted under the freeways east of the recreational features (I-880 and the I-880/80/580 maze) to improve aesthetics and air quality for park visitors and West Oakland residents. The project would include installation of a permanent fence to protect wildlife and the environmentally sensitive existing tidal marsh area. Shoreline protection features (Figure 2-11) would be provided along most southern shoreline areas (south of I-80) to minimize erosion. Shoreline protection features would be a combination of gently graded slope, vegetation plantings, riprap, retaining walls, and revetment walls above and below the water line.
Public Access PA4. The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail.
Public Access PA5. The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail.
Public Access PA6. The District will comply with the requirements of the Americans with Disability Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs, and facilities throughout the Park District.	CONSISTENT. The project would comply with the Americans with Disabilities Act. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. At Port Playground, there would be an ADA-compliant cement ramp (200 feet long, 19 feet wide) extending from the south side of the Visitor Center to the water’s edge. This path and all others would end above the mean high tide line.

East Bay Regional Park District Master Plan Goals	Consistency Analysis
Interpretation and Recreation Services IRS1. The District will provide a variety of interpretive programs that focus attention on the region's natural and cultural resources. Programs will be designed with sensitivity to the needs and interests of people of all ages and backgrounds. Programs will enhance environmental experiences and foster values that are consistent with conserving natural and cultural resources for current and future generations to enjoy. The District will pursue and encourage volunteer support to assist in meeting these objectives.	CONSISTENT. The project would provide interpretive features for natural resources and transportation history and a venue for community events and art installations. It would be designed to meet mitigation commitments for a number of transportation projects, including the east span of the Bay Bridge. There would be interpretive signage along the marsh habitat area and restoration area edge to discourage encroachment onto sensitive habitats. Way-finding elements would include interpretive and directional signage along pathways throughout Gateway Park. Additionally, way-finding elements could include old Bay Bridge artifacts and could be located along Burma Road.
Regional Facilities and Areas RFA2. The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists, and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design signage and trail user education to promote safety and minimize conflicts between users.	CONSISTENT. The project would provide safe access to the Bay Bridge Trail as well as access to existing and planned segments of the regional Bay Trail. The project would provide access to the shoreline and would be a unique waterfront amenity.

Impact LU-2. The project would not conflict with an applicable habitat conservation plan or natural community conservation plan (less than significant)

The 45-acre project area would encompass both industrial lands and existing or proposed recreational features of Gateway Park. The project area is not a part of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. However, Radio Beach is adjacent to the Emeryville Crescent natural open space area, which contains 30 acres of marsh shoreline owned by East Bay Regional Park District, to the east. Because implementation of the project would not involve any construction outside of Radio Beach in the Emeryville Crescent natural open space area, none of the construction activities would interfere with the management of Emeryville Crescent. Therefore, the impact on an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan would be less than significant. No mitigation would be required.

Impact LU-3. The project would not introduce new land uses into an area that could be considered incompatible with the surrounding land uses or with the general character of the area (less than significant with mitigation)

The project would introduce new land uses (park/recreation/open space) that are different from surrounding land uses (industrial). However, these new park/recreation/open space land uses would not present a substantial incompatibility with surrounding industrial land uses and would be consistent with other similar recreational uses in the area. Such uses include Radio Beach, the Bay Bridge Trail, and the regional Bay Trail, to which the project would connect. The project would maintain and allow existing passive recreational uses including kiteboarding, windsurfing, and bird watching would at Radio Beach. In specific, existing parking opportunity will be retained and any new fencing of the wetland area to the east of Radio Beach will be designed to minimize potential conflict with kiteboarding launching and landing. These recreational uses and facilities would ultimately create an integrated network of recreational areas centered around the waterfront, which is an appropriate location for recreational land uses and which the local jurisdictions involved have identified as a goal in their planning documents. Additionally, the project area is adjacent to the Port, at the northern point of the Oakland Outer Harbor, appropriately sited on the fringe rather than the middle of the industrial area. The project area also includes some buffering features, such as landscaping, which provide a sense of autonomy and privacy from the surrounding industrial area. The project could introduce conflicts between kayaks entering the water at the Port Playground kayak launch and maritime traffic associated with the adjacent Port of Oakland, including larger vessels (e.g., shipping containers) and tugboats. With implementation of Mitigation Measure **MM-LU-1~~2~~**, the impact would be less than significant.

MM-LU-1~~2~~. Install warning signage at the Port Playground kayak launch and include warnings on ~~Gateway Park website~~ a publicly accessible website about potential conflicts between recreational kayak use and Port of Oakland uses

The project implementer shall install warning signage at the Port Playground kayak launch indicating potential dangers of recreational kayaking in water shared with vessels that also use the Port of Oakland. The project implementer shall work with the Port of Oakland on safety tips and a public education plan regarding kayak safety. The project implementer shall also include the same warnings on a page in the ~~Gateway Park website~~ a publicly accessible website. Warning signage shall comply with ANSI Z535.4 and ISO 3864-2 standards.

Section 3.10
Noise

This section describes noise in the study area. It then describes noise impacts that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

This section addresses the noise impacts of construction and operation of the project on people. The noise impacts of pile driving on fish and marine mammals are addressed in Section 3.3, *Biological Resources*.

3.10.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to noise.

3.10.1.1 Federal

The following federal regulations, laws, and guidelines apply to noise.

Federal Procedures for Abatement of Highway Traffic Noise and Construction Noise

Noise abatement procedures and criteria are provided in 23 Code of Federal Regulations (CFR) 772 for federal-aid highway projects. Under this regulation, noise abatement must be considered for a Type I federal project if it is predicted to result in a traffic noise impact. A Type I project would construct a highway on a new alignment or alter an existing highway to significantly change either the horizontal or the vertical alignment or increase the number of through traffic lanes. Although this federal regulation requires that construction noise impacts be identified, it does not specify specific methods or abatement criteria for evaluating construction noise.

3.10.1.2 State

No state regulations, laws, or guidelines related to noise apply to the project.

3.10.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to noise.

City of Oakland

City of Oakland Municipal Code

Construction Standards

Noise standards applicable to temporary construction or demolition work are contained in the Oakland Planning Code Section 17.120.050. For construction noise, the planning code specifies short-term operational standards, which apply to residential, commercial, and industrial land uses affected by activities lasting less than 10 days, and long-term operational standards, which apply to activities lasting more than 10 days (Table 3.10-1). Because project construction would occur for more than 10 days and the project is primarily located in an industrial and commercial area, the long-term commercial, industrial noise standards would apply. The portion of the project area that could be used to treat stormwater is located adjacent to residential areas. The residential noise standards would apply to construction occurring for this part of the project area.

Table 3.10-1. City of Oakland Planning Code Maximum Allowable Receiving Noise Level Standards

	Daily 7 a.m. to 7 p.m. (dBA)	Weekends 9 a.m. to 8 p.m. (dBA)
Short-Term Operation[a]		
Residential	80	65
Commercial, Industrial	85	70
Long-Term Operation[b]		
Residential	65	55
Commercial, Industrial	70	60

Source: City of Oakland Planning Code 17.120.050
[a] Short-term operational applies activities that occur for less than 10 days
[b] Long-term operational applies activities that occur for more than 10 days
dBA = A-weighted decibels

Vibration Standards

Under Oakland Planning Code Section 17.120.060 – Vibration, ground vibration caused by temporary construction or demolition work is exempt from vibration standards.

3.10.2 Environmental Setting

This section describes existing conditions related to noise that could be affected by the construction and operation of the project.

3.10.2.1 Study Area

The study area for direct impacts related to noise is the project area and the land uses immediately adjacent to the project area, which are primarily industrial facilities and transportation infrastructure.

3.10.2.2 Noise Analysis Terminology

Noise terms used in this section are defined below. Further detail is provided in the noise analysis technical memorandum prepared for the project (ICF International 2015).

- **Sound:** a vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise:** sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Ambient noise:** the composite of noise from all sources near and far in a given environment, exclusive of particular noise sources to be measured.
- **Decibel (dB):** a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude; the reference pressure is 20 micro-Pascals.
- **A-weighted decibel (dBA):** an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. Table 3.10-2 describes typical A-weighted noise levels for various noise sources.
- **Equivalent sound level (L_{eq}):** the average of sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level that in a stated period contains the same acoustical energy as the time-varying sound that actually occurs during the same period. The Federal Highway Administration and Caltrans use the 1-hour L_{eq} sound level to determine traffic noise impacts.
- **Maximum sound level (L_{max}):** the maximum sound level measured during a measurement period.
- **Minimum sound level (L_{min}):** the minimum sound level measured during a measurement period.

Table 3.10-2 provides typical noise levels associated with common indoor and outdoor activities.

Table 3.10-2. Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet flyover at 1,000 feet		
	— 100 —	
Gas lawnmower at 3 feet		
	— 90 —	
Diesel truck at 50 feet, at 50 miles per hour		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in the next room
Quiet urban nighttime	— 40 —	Theater, large conference room
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: California Department of Transportation 2013
dBA = A-weighted decibel

3.10.2.3 Existing Conditions

Noise-sensitive land uses are land uses where people reside or where unwanted noise could adversely affect the use of the land. Noise-sensitive land uses typically include residences, schools, hospitals, and churches. Recreational areas where quiet is an important value are also sensitive to noise. Land uses surrounding the primary project features (Bridge Yard, Key Point, Port Playground, and Radio Beach) are mostly industrial use and include a Caltrans maintenance facility and Port of Oakland facilities. There are no residences, schools, hospitals, or churches in or adjacent to the main project area. The nearest residences are more than 1 mile away from the main project area. Recreational use of the undeveloped Radio Beach facility and the trail from Emeryville to the Bay Bridge Trail on the east span of the San Francisco–Oakland Bay Bridge (Bay Bridge) adjacent to Interstate 80 (I-80), where freeway noise is dominant, is limited.

East of the primary project features and within the project area, an additional area could be landscaped as part of the project. This area, which would be used to treat stormwater, is located under the freeway maze near the Oakland/Emeryville border and extends southward along Interstate 880 (I-880) to 11th Street in West Oakland. Sensitive land uses adjacent to this part of the project area include numerous single-family and multiple-family residences, Raimondi Park, 14th Street Pocket Park, and Willow Park.

The existing noise environment in the study area is dominated by vehicular traffic traveling on I-80 and the surface roadways contribute a lesser amount of noise. To quantify existing ambient noise levels in the study area, short-term (15-minute) ambient noise measurements were conducted on April 11, 2013 and April 26, 2013 at various locations around the study area (Figure 3.10-1). The results are summarized in Table 3.10-3. The daytime ambient noise measurements indicate the ambient noise level near the project area ranges from 60 to 69 dBA.

Table 3.10-3. Existing Ambient Noise Levels at Selected Locations around the Project Area

Site Location	Site Description	Starting Date/Time	Measured Noise Level (dBA)			Noise Source
			L_{eq}	L_{max}	L_{min}	
ST1	Burma Road in front of Caltrans office.	4/11/2013 at 11:24 am	60.4	80.2	50.1	Vehicle traffic on I-80 and Burma Road.
ST2	Near water shore on south side of access road on EBRPD property.	4/11/2013 at 2:47 pm	63.4	70.6	60.5	Water waves; vehicle traffic on I-80.
ST3	On Radio Beach	4/11/2013 at 3:34 pm	60.3	64.0	57.4	Water waves; vehicle traffic on I-80.
ST4	At Caltrans Maintenance Building	4/26/2013 at 12:01 pm	64.7	75.9	58.7	Vehicle traffic on I-80; truck backup alarm from construction vehicles on I-80.
ST5	Behind EBMUD facility on bike trail	4/26/2013 at 10:50 pm	67.2	77.9	59.2	Vehicle traffic on I-80; Equipment operation (hammer and loader) at EBMUD facility.
ST6	At southeast corner of EBMUD facility next to rail tracks	4/26/2013 at 11:25 pm	63.0	74.1	58.3	Vehicle traffic on elevated interchange structures; train horn.
ST7	On Beach Street, next to rail tracks and under elevated interchange.	4/26/2013 at 12:43 pm	69.3	77.5	66.3	Vehicle traffic on elevated interchange structures and Beach Street.
ST8	On Wood Street north of 24th Street	4/11/2013 at 4:05 pm	64.3	76.5	57.5	Vehicle traffic on elevated interchange structures and Wood Street.

ST = short-term (15 minutes) ambient noise measurement; dBA = A-weighted decibel; L_{eq} = equivalent sound level; L_{max} = maximum sound level; L_{min} = minimum sound level; I=80 = Interstate 80; EBRPD = East bay Regional Park District; EBMUD = East Bay Municipal Utility District

Note: No proposed alterations to highways or railways.

Project Area

Fencing only

ST1 Location of short term (15-minute) ambient noise measurement

gatewaypark

Figure 3.10-1
Locations of Ambient Noise Measurements

3.10.1 Methods

This section describes the sources of information and methods used to evaluate the potential noise impacts associated with the construction and operation of the project.

3.10.1.1 Principal Information Sources

The following sources of information were used to evaluate the significance of potential noise impacts in the study area.

- *Roadway Construction Noise Model* (Federal Highway Administration 2006).
- Appendix G, *Gateway Park Project—Noise Analysis Technical Memorandum* (ICF International 2015).
- Appendix F, *Draft Transportation Impact Analysis: San Francisco-Oakland Bay Bridge Regional Bicycle & Pedestrian Connection: Gateway Park Report.* (Fehr & Peers 2014).

3.10.1.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential noise impacts in the study area as defined in Section 3.10.2.1, *Study Area*.

The following steps were taken to identify construction impacts.

- **Identify construction equipment noise.** The equipment to be used at each phase of construction, the locations where equipment would be used, and the potential for multiple pieces of equipment to generate noise simultaneously was identified (Appendix E, *Construction and Operations Assumptions*).
- **Predict construction noise levels in the study area**. The typical noise levels of construction equipment were summarized and accrued for the equipment that would be operating at full power during construction.

  The FHWA Roadway Construction Noise Model provides typical noise levels produced by various pieces of construction equipment. The combined noise level produced by multiple construction noise sources operating concurrently is calculated using logarithmic summation. For example, if one bulldozer produces a noise level of 80 dBA, then two bulldozers operating side by side would generate a combined noise level of 83 dBA (only 3 dBA louder than the single bulldozer). Human sound perception, in general, is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway typically needs to double to result in a noticeable increase in noise. When distance is the only factor considered, sound levels from isolated point sources of noise (such as construction equipment) typically decrease by about 6 dB for every doubling of distance from the noise source. When the noise source is a continuous line, such as vehicle traffic on a highway, sound levels decrease by about 3 dB for every doubling of distance. Thus, in addition to identifying noise levels of individual sound sources, the combined noise level of all sound sources was calculated.

- **Determine the severity of construction noise impacts.** Impact significance was based on predicted noise levels, local noise standards, the presence of noise-sensitive receptors, and the existing ambient noise environment.
- **Identify the need for mitigation measures.** Optional measures that would abate construction noise and reduce the severity of noise impacts were identified.

The following steps were taken to identify operations noise impacts.

- **Identify changes in traffic.** Estimated project-related increases in traffic on nearby roads were provided in Appendix H, *Transportation Impact Analysis* (Fehr & Peers 2014).
- **Predict traffic noise levels in the study area**. Increases in noise levels from project-related traffic were approximated relative to existing noise conditions.
- **Determine the severity of operations noise impacts**. Impact significance was based on the thresholds of perceptibility of human hearing, and the presence of noise-sensitive receptors.
- **Identify the need for mitigation measures**. No mitigation measures were identified.

3.10.1.3 Significance Criteria

The project would have significant noise impacts if it would:

- Expose persons to or generate noise levels in excess of standards established in the general plan or noise ordinance, or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Cause a substantial permanent increase in ambient noise levels in the project area above levels existing without the project.
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project located within an airport land use plan or, where such a plan has not been adopted with two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Topics Not Evaluated in Detail

The following potential impacts related to noise were not evaluated in this EIR for the reasons described below.

Expose people residing or working in the project area within the vicinity of a private airstrip to excessive noise levels. Because the project area is not within 2 miles of any public airport or private airstrip, impacts pertaining to aircraft noise on the project are not evaluated in this EIR.

3.10.2 Impacts and Mitigation

This section describes the potential noise impacts that would result from construction and operation of the project.

Impact NOI-1. The project would not expose sensitive receptors to excessive temporary noise or vibration impacts during construction activities (less than significant with mitigation)

Noise from construction activities could intermittently dominate the noise environment in the immediate area of construction. Table 3.10-4 shows the L_{max} sound levels at 50 feet along with the typical acoustical use factors. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its noisiest condition) during construction and is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power 50% of the time (acoustical use factor of 50) is 3 dB less than the L_{max} value.

Table 3.10-4. Typical Noise Levels by Construction Equipment

Equipment	Acoustical Use Factor (%)	Typical Noise Level (dBA) at 50 feet from Source	
		L_{max}	L_{eq}
Backhoe	40	78	74
Bulldozer	40	85	81
Cement/Mortar Mixers	40	79	75
Compressor	40	78	74
Concrete Saw	20	90	83
Crane	16	81	73
Excavator	40	85	81
Forklift	40	80	76
Generator	50	81	78
Grader	40	85	81
Loader	40	79	75
Paver	50	77	74
Pile Driver	20	101	94
Roller	20	80	73
Scraper	40	85	81
Tractor	40	84	80
Welder	40	74	70

Source: Federal Highway Administration 2006

Project construction would also require pile driving on land and in water to install supporting columns for the pier and, if needed, the path to Radio Beach. Table 3.10-5 presents the number of piles to be driven for each project element.

Table 3.10-5. Anticipated Pile Driving During Construction

Park Area and Primary Feature Requiring Pile Driving		Estimated Number of Piles	
		On Land	In Water[a]
1	Bridge Yard	None	None
2	Key Point Pier	0	5
3	Port Playground	None	None
4	Path to Radio Beach	0 or 8–10[b]	8

[a] Sound levels in water from in-water pile driving and potential effects on fish species and marine mammals are addressed in Section 3.3, *Biological Resources*.

[b] No piles needed if the path is incorporated into shoreline protection with no columns or piers (rip rap); otherwise 8 to 10 piles would be needed.

To evaluate a reasonable worst-case construction scenario, the three loudest pieces of equipment (pile driver, concrete saw, and bulldozer) that would likely operate concurrently to construct the project were evaluated. The combined L_{eq} level would be at least 94 dBA at 50 feet, which would exceed City of Oakland noise standards. However, construction noise would be short-term and would cease upon completion of construction. In addition, there are no sensitive residential land uses or receptors near the areas of construction activity at the main project area (e.g., the park not the landscaping areas under I-80 and I-880), so construction noise would not adversely affect sensitive land uses.

Radio Beach is used by a small number of recreationalists. Construction here would be limited to fencing improvements, parking improvements, and boardwalk construction. Pile driving for the construction of the path to Radio Beach would be more distant from Radio Beach. Bicyclists and pedestrians use the path from Emeryville to the east span of the Bay Bridge and would traverse adjacent to certain areas of park construction. Because recreational users of the path would be in the area briefly, and because the existing noise environment is dominated by freeway noise from I-80, construction would not have adverse noise impacts on these receptors. Additionally, pile driving is not expected to cause any vibrational impacts on sensitive land uses because there is a substantial distance between the pile driving area and the nearest sensitive land uses, which are residences approximately 1 mile away.[1] Further, ground vibration caused by temporary construction work is exempt from vibration standards under the Oakland Planning Code.

During construction, the project would result in additional vehicle trips when construction workers travel to and from the project site in their personal vehicles and when hauling trucks deliver and

[1] The extent to which vibration travels from a vibration source depends on the magnitude of the energy imparted into the ground by the vibration source and the characteristics of the soil that vibration is traveling through. Using methods recommended by the California Department of Transportation (Caltrans 2013), the distance at which vibration would no longer be "barely perceptible" can be estimated for various types of equipment and soil conditions. Assuming "competent soils: most sands, sandy clays, silty clays, gravel, silts, and weathered rock," the "barely perceptible" distances are as follows:

Pile driver (impact or vibratory): 400 ft.
Hydraulic breaker: 210 ft.
Vibratory roller: 190 ft.
Large bulldozer: 110 ft.
Jackhammer: 55 ft.

remove material. Construction worker trips could occur during the peak hours, but the number of trips would be relatively small (fewer than 30). Haul truck trips would likely occur throughout the day and would not be limited to the peak hours. As shown in Table 3.12-5 in Section 3.12, *Transportation and Traffic*, existing traffic volumes on roadways in the project area are in the range of 7,730 to 15,370 on weekdays and 2,880 to 11,680 on weekends. A fundamental rule of acoustics is that a doubling of traffic volumes results in a 3 dB increase in traffic noise which is generally considered to be a barely perceptible increase in noise. The temporary addition of worker trips and haul trips would not double the traffic volume on any of these roadways and therefore is not expected to result in a perceptible increase in noise. Thus, it is unlikely that the noise environment on any one roadway would be affected substantially by project hauling trips occurring throughout the day.

Vegetation planting areas near I-880 that could be used to treat stormwater would not require the use of heavy-duty construction equipment, and no appreciable noise levels would be generated. The intermittent noise associated with planting grasses and trees would not dominate the ambient noise environment at the sensitive noise receptors adjacent to the proposed stormwater treatment area; ambient noise is already dominated by the freeway. Additionally, the stormwater treatment area near the I-880/80/580 maze is in the City of Oakland but is near the Oakland/Emeryville border. Because vegetation planting is not associated with appreciable noise, no adverse noise impacts on land uses within the City of Emeryville are anticipated.

Although noise from worst-case construction activities is predicted to exceed City of Oakland noise standards, no adverse noise effects on noise sensitive land uses or recreational users are anticipated for the reasons given above. This impact would be less than significant. No mitigation would be required.

While no mitigation is required, it is noted that implementation of Mitigation Measures **MM-AQ-2** and **MM-AQ-4** in Section 3.2, *Air Quality*, which require the implementation of construction best management practices, would also serve to reduce noise impacts during construction.

Impact NOI-2. The project would not cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project (less than significant)

The project would create a new destination for recreational activities. Traffic on nearby roadways would increase by up to 187 weekday p.m. peak hour trips and 394 weekend peak hour trips (T.Y. Lin International 2014). A doubling of traffic volumes on a roadway is typically considered to result in a 3 dB (i.e., barely noticeable) increase in noise. Thus, roadways where traffic increases by a factor of two or more would experience a noticeable change in noise because of project operations. Traffic on the following two roadways in the project vicinity would more than double because of the project (T.Y. Lin International 2014).

- Burma Road west of Maritime Street during the weekday p.m. peak hour and Saturday peak hour.
- Maritime Street between Burma Road/Ukraine Street and West Grand Avenue during the Saturday peak hour.

The noise environment at these two roadways would increase by a noticeable amount; however, the surrounding area is largely undeveloped and industrial. The nearest sensitive land uses, Raimondi Park and residences south of the Park, are located more than 0.5 mile from these roadways. At that distance and given the dominant noise from I-880, the project-related increase in traffic noise would not be noticeable at these land uses. Consequently, no adverse traffic-related noise impacts are anticipated from project operation.

Other sources of noise that could occur during operation of the project include stationary sources, such as mechanical equipment, and crowds during special events. Mechanical equipment could be present at any project building where HVAC or other equipment may be used. Additionally, crowd or other human noise could occur at the Bridge Yard, which will have dedicated areas for special event gatherings, and the Port Playground, which will have play areas that could generate noise from children playing. Noise of this nature is not expected to result in adverse impacts due to the project because there are no sensitive land uses near the primary project features. Thus, no people that would experience or notice noise impacts either from stationary sources or from special events and playgrounds. This impact would be less than significant. No mitigation would be required.

Section 3.11
Public Services

This section describes public services in the study area. It then describes impacts on public services that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.11.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to public services.

3.11.1.1 Federal

No federal regulations, laws, and guidelines apply to public services.

3.11.1.2 State

The following state regulations, laws, and guidelines apply to public services.

California Senate Bill 50

Under the provisions of Senate Bill 50, school districts may collect Level Two and Level Three fees to offset the costs related to increasing school capacities in response to growing student enrollments associated with development. Level Two fees require a project developer to provide half the costs of accommodating students in new schools while the state provides the other half. Level Three fees require a project developer to pay the full cost of accommodating the students in new schools. Fees would be implemented at the time the funds from Proposition 1A (approved by the voters in 1998) are expended. School districts must demonstrate to the state their long-term facilities needs and costs, based on long-term population growth, to qualify for Level Two or Level Three fees.

3.11.1.3 Regional and Local

The project site includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project site owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to public services.

City of Oakland

City of Oakland General Plan

The *City of Oakland General Plan* (City of Oakland 1998) (General Plan) presents broad objectives and policies that guide the land use decisions within the city and represents the vision for the city's physical character. The General Plan is made up of eight elements: Land Use and Transportation, Estuary Policy Plan, Open Space, Conservation and Recreation, Historic Preservation, Housing, Noise, Safety, and Scenic Highways. Together, these elements provide a policy framework that guides future development in the city.

Within the General Plan, two elements are relevant to public services: the Safety Element and the Open Space, Conservation and Recreation Element. The Safety Element provides policies to guide the public decision-making process with regard to safety hazards, including public safety, geologic hazards, fire, flooding, and hazardous materials. The Open Space, Conservation and Recreation Element provides policies addressing the management of open land, natural resources, and parks. The following Safety Element and Open Space, Conservation and Recreation Element policies are applicable to the proposed project:

- **Policy PS-1.** Maintain and enhance the city's capacity to prepare for, mitigate, respond to and recover from disasters and emergencies.
- **Policy PS-2.** Reduce the city's rate of violent crime, in particular the number of crime-related injuries and deaths, and the public fear which results from violent crime.
- **Policy PS-3**. Enhance the city's capacity to prevent and respond to terrorist attacks.
- **Policy FI-1.** Maintain and enhance the city's capacity for emergency response, fire prevention and fire-fighting.
- **Policy FI-2.** Continue, enhance or implement programs that seek to reduce the risk of structural fires.
- **Policy OS-2.1 Protection of Park Open Space.** Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.
- **Policy OS-5.1 Priorities for Trail Improvement.** Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront.
- **Policy OS-5.3 Trail Design Principles.** Plan and design all new trails in a manner which: (a) minimizes environmental impacts; (b) fully considers neighbor privacy and security issues; (c) involves the local community in alignment and design; and (d) considers the need of multiple users; including pedestrians, bicycles, and wheelchairs.
- **Policy OS-7.2 Dedication of Shoreline Public Access.** Support BCDC requirements which mandate that all new shoreline development designate the water's edge as publicly accessible open space where safety and security are not compromised, and where access can be achieved without interfering with waterfront industrial and maritime uses. Where such conflicts or hazards would result, support the provision of off-site access improvements in lieu of on-site improvements. In such cases, the extent of off-site improvements should be related to the scale of the development being proposed.
- **Policy REC-5.1 Increase Range of Activities.** Promote an increased range of activities within Oakland's parks as a means of introducing new users to the parks and improving safety through numbers.

City of Oakland Municipal Code

The City of Oakland Municipal Code is enacted and enforced by the City of Oakland. The following adopted ordinances are applicable to public services.

- **2.29.020—Police Department.** There is established in the City government a Police Department which shall be under the supervision and administrative control of the City Administrator. The powers, functions and duties of said Department shall be those assigned, authorized and directed by the City Administrator. The management and operation of the Police Department shall be the responsibility of the Chief of Police who shall serve as Director of said Department, subject to the direction of the City Administrator. In the Police Department there shall be an Office of the Chief of Police and the following Bureaus: Field Operations East, Field Operations West, and Services; and there shall be the following divisions: Support Operations, Internal Affairs, Office of the Inspector General, Criminalistics, Personnel & Training, Communications, Fiscal Services, Records, Research & Planning, Information Systems, CompStat/Ceasefire, Neighborhood Services, and Criminal Investigation. (Ord. 13325, 2, 7-30-2015)
- **2.29.030—Fire Department.** There is established in the City government a Fire Department which shall be under the supervision and administrative control of the City Administrator. The powers, functions and duties of said Department shall be those assigned, authorized and directed by the City Administrator. The management and operation of the Fire Department shall be the responsibility of the Chief of Fire who shall serve as Director of said Department, subject to the direction of the City Administrator. In the Fire Department there shall be the following Bureaus: Field Operations, Fire Prevention; and there shall be the following subordinate divisions: Fiscal and Administration Services, Emergency Management Services, Medical Services, Communications & Information Technology, and Training and Support Services. (Ord. 13325, 2, 7-30-2015)
- **2.29.080—Oakland Parks & Recreation Department.** There is established in the City government an Oakland Parks & Recreation Department, which shall be under the supervision and administrative control of the City Administrator. The powers, functions and duties of said Department shall be those assigned, authorized and directed by the City Administrator. The management and operation of the Oakland Parks & Recreation Department shall be the responsibility of the Director of Parks & Recreation, subject to the direction of the City Administrator. In the Oakland Parks & Recreation Department there are the following subordinate divisions: Administration, Contract Classes, Aquatics (East Oakland Sports Center, Pools/Boating), City Wide Cultural Arts, City Wide Sports, Citywide Reservations/Activities, Area One Recreation Centers, Area Two Recreation Centers, and Area Three Recreation Centers. (Ord. 13325, 2, 7-30-2015)
- **2.29.100—Oakland Public Library Department.** There is established in the City government an Oakland Public Library Department, which shall be under the supervision and administrative control of the City Administrator. The powers, functions and duties of said Department shall be those assigned, authorized and directed by the City Administrator. The management and operation of the Oakland Public Library Department shall be the responsibility of the Director of Library Services, subject to the direction of the City Administrator. In the Oakland Public Library Department there are the following divisions: African American Museum & Library at Oakland, Branch Services, Library System Wide Support, Literacy Programs, and Main Library Services. (Ord. No. 13325, 2, 7-30-2015)

- **8.50.060—Emergency Plan.** The Emergency Services Manager shall be responsible for the development, maintenance, testing and training associated with the Oakland NIMS/SEMS Emergency Plan to ensure and provide for the effective mobilization of all of the resources of Oakland according to Resolution No. 80021 C.M.S. dated July 18, 2006, and approved by City Council. Such NIMS/SEMS Emergency Plan shall be reviewed on an annual basis and revised as needed by the Emergency Services Manager. (Ord. 12841, 1 (part), 2007)
- **10.08.080—Authority of Police and Fire Department officers and members.**
  - A. It shall be the duty of the officers of the Police Department, or such officers as are assigned by the Chief of Police, to enforce all street traffic laws of this city and all of the state vehicle laws applicable to street traffic in this city.
  - B. Officers of the Police Department, or such officers as are assigned by the Chief of Police, are authorized to direct all traffic by voice, hand or signal in conformance with traffic laws, provided that in the event of a fire or other emergency, or to expedite traffic or to safeguard pedestrians, officers of the Police Department may direct traffic as conditions may require, notwithstanding the provisions of the traffic laws.
  - C. Officers and members of the Fire Department, when at the scene of a fire, may direct or assist the police in directing traffic thereat or in the immediate vicinity.
  - D. Civilian employees of the city, when designated by the Chief of Police, shall enforce those provisions of the Oakland Traffic Code and the State Vehicle Code relating to the standing or parking of vehicles that legally may be enforced by persons other than peace officers.
  - E. Officers, inspectors and engineers of the Fire Department, as designated by the Director of Fire Services, may enforce Vehicle Code Sections 21708, Fire Hoses, and 22514, Fire Hydrants. (Prior traffic code 50)
- **15.12.010—2013 California Fire Code is Adopted and Amended.**
  - A. The 2013 California Fire Code, including referenced National Fire Protection Association Standards and other standards as adopted by the California State Fire Marshal, is hereby adopted and made a part of this chapter as though fully set forth herein, subject to the modifications thereto set forth in this chapter.
  - B. This chapter shall be known as the "Oakland Fire Code" and shall be referred to in this chapter as "this chapter," "this Code" or "the Oakland Fire Code."
  - C. To the extent permitted by law, the Fire Chief may, at his/her sole discretion, revise requirements set forth in the Oakland Fire Code in specific instances due to climatic, geographic or topographic conditions.
  - D. A copy of this Code is on file in the office of the Fire Chief of the City of Oakland. (Ord. 13208, 2, 1-7-2014)

Oakland Police Department Strategic Plan 2016

The Oakland Police Department Strategic Plan 2016 lays out the efforts to achieve a 30% reduction in violent crime over 3 years. The Oakland Police Department (OPD) continues to move toward the vision of the President's 21st Century Policing Task Force and continues to employ the highest standards of accountability. The creation of the strategic plan resulted in the following goals.

- Goal 1: Reduce crime
- Goal 2: Strengthen community trust and relationships
- Goal 3: Achieve organizational excellence

East Bay Regional Park District Master Plan

The East Bay Regional Park District provides and manages the Regional Parks for Alameda and Contra Costa counties, a 1,400-square-mile area that is home to 2.6 million people and forms the eastern shoreline of San Francisco Bay. The Master Plan (East Bay Regional Park District 2013) defines the overall mission and vison for the Park District. The following policies are applicable to public services.

- **Public Access PA4.** The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.
- **Public Access PA5.** The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
- **Public Access PA6.** The District will comply with the requirements of the Americans with Disability Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs, and facilities throughout the Park District.
- **Interpretation and Recreation Services 2.** The District will offer recreational programs and services that appeal to participants of all ages and backgrounds, in keeping with its vision and mission. The District will create and manage a comprehensive offering of recreational opportunities, tours and outdoor skills training that will help visitors use and enjoy the parks and trails, and will collaborate with other agencies, organizations and partners to provide a broad spectrum of regional recreation opportunities.
- **Regional Facilities and Areas RFA2.** The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists, and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design signage and trail user education to promote safety and minimize conflicts between users.

3.11.2 Environmental Setting

This section describes existing conditions related to public services that could be affected by the construction and operation of the project.

3.11.2.1 Study Area

The study area for direct impacts on public services consists of the 45-acre project area. This area includes Bridge Yard, Key Point, Port Playground, and Radio Beach, the waterfront near the eastern touchdown of the San Francisco–Oakland Bay Bridge (Bay Bridge), and underutilized industrial land on the south side of Interstate 80 (I-80). The project area also includes land beneath and adjacent to Interstate 880 (I-880) and the I-880/I-80/Interstate 580 (I-580) interchange (known as the maze) to Maritime Street in West Oakland. The analysis assumes that primary police and fire services would be provided by the East Bay Regional Park District, which would manage the park after the property is transferred from the U.S. Army. Additionally, portions of the study area fall within the service areas of the various emergency service providers in the City, including the Oakland Fire Department (OFD) and OPD.

3.11.2.2 Fire and Emergency Services

The East Bay Regional Park District (EBRPD) Fire Department provides fire and lifeguard services to regional parks in their jurisdiction. The Fire Department is headquartered at 17930 Lake Chabot Road in Castro Valley, approximately 17 miles southeast of the project area. The EBRPD Fire Department has 10 fire stations and 14 engines that serve all 65 regional parks over a 1,750-square-mile area and over 1,250 miles of trails covering all of Alameda and Contra Costa Counties. The EBRPD Fire Department provides all typical emergency services, including fire suppression, search and rescue, fuels management, and emergency medical care. The lifeguards provide public safety during recreational swim, aquatic programs and public water education including swim lessons, first aid training, and lifeguard trainings. The EBRPD Fire Department employs 46 firefighters and 160 to 180 lifeguards. The dispatch team comprises four dispatch supervisors and nine dispatchers that provide dispatch services 24 hours per day, every day of the year. (EBRPD 2017a). The majority of project area is located in the EBRPD Fire Department's service area.

OFD provides fire protection (prevention and suppression) and emergency response (rescue, hazardous materials response, and first responder emergency medical services) to the City of Oakland, including a small portion of the project area along Burma Road and under I-80. The OFD Emergency Management Division is responsible for ensuring that the City of Oakland and community are at the highest level of readiness and able to prevent, mitigate against, prepare for, respond to, and recover from the effects of natural and human-caused emergencies that threaten lives, property, and the environment. The division coordinates the following activities.

- Activities of all City agencies relating to planning, preparation and implementation of the City's Emergency Plan, the response efforts of Oakland's Police, Fire and other first responders in the City's state-of-the-art Emergency Operations Center to ensure maximum results for responders.
- Up-to-date public information and the ability to provide the best resource management during a crisis.
- Operational Area and other partner agencies to guarantee the seamless integration of federal, state, and private resources into local response and recovery operations.

The eight divisions of OFD are Fiscal and Administrative Services; Emergency Management Services Division; Medical Services Division; Fire Prevention & Support Services Bureau; and Field Operations Bureau. Currently, OFD has more than 500 fire service professionals. OFD responds to approximately 60,000 emergency calls annually, of which more than 80% are emergency medical services calls. OFD currently has 24 engines, seven trucks, and numerous other special operations, support, and reserve units throughout three battalions. Under the State of California Master Mutual Aid agreement, OFD provides mutual aid to other cities and communities throughout the state (City of Oakland Fire Department 2017).

OFD is headquartered at 1235 International Boulevard and operates out of 25 fire stations throughout the City and the international airport. Two stations are within 1 mile of the project area: Station 3 at 1445 14th Street and Station 5 at 934 34th Street.

3.11.2.3 Police

The EBRPD Police Department, a full service Police Officer Standard of Training-recognized law enforcement agency, provides protection to 65 different parks over a 1,750-square-mile area and over 1,250 miles of trails covering all of Alameda and Contra Costa Counties. The EPRPD Police Department is headquartered at 17930 Lake Chabot Road in Castro Valley, approximately 17 miles southeast of the project area. The EPRPD Police Department also has substations at the East Bay Municipal Utilities District San Pablo Reservoir in Orinda and Contra Loma Regional Park in Antioch and an Air Support Unit at the Hayward Municipal Airport. The EPRPD Police Department includes the Air Support Unit, Marine Patrol, Equestrian Patrols, K-9 Unit, Special Enforcement Unit, Investigations Unit, and a 24-hour per day 911 Communications Center. The EPRPD Police Department currently has 65 sworn police officers (EBRPD 2017c). The majority of the project would be located within the EBRPD Police Department's service area.

OPD provides police protection to the City of Oakland, including a small portion of the project area along Burma Road and under the I-80. OPD is headquartered at 455 7th Street, approximately 1.7 mile south of the project area. OPD divides the city into five areas, each divided into seven beats, totaling 35 beats. The project area is located in Area 1, bordered by Emeryville to the north, Lake Merritt on the east, the Oakland Estuary on the south, and the Bay on the west. Area 1 comprises 10 community-policing beats. The project area is in the jurisdictional boundary of Beats 5Y and 7X (City of Oakland Police Department 2017).

The California Highway Patrol has jurisdiction over state highways, including Interstate 80 (I-80), I-880, and I-580, and the Bay Bridge for matters involving both traffic and emergency services. The Oakland CHP office is located at 3601 Telegraph Avenue, close to the interchange of I-580, State Route 24, and I-980 and approximately 1 mile east of I-80 and the approach to the Bay Bridge.

3.11.2.4 Schools

The Oakland Unified School District serves the city through seven districts. The project area is in District 3. For the 2016-2017 school year, the Oakland Unified School District is serving approximately 49,600 students (36,668 students in District-run schools and 12,932 students in District-authorized charter schools). The Oakland Unified School District administers 123 schools (86 District-run schools and 37 District-authorized charter schools), including 58 elementary schools, 15 grade K-8 schools, 18 middle schools, one alternative middle school, eight grade 6-12 schools, 14 high schools, eight alternative high schools, and one independent study school. There are also four adult education programs: Career Technical Education, College & Career Readiness Pathways, Family Literacy, and General Education. There are 2,028 Transitional Kindergarten to 12th grade teachers, 51 early childhood education teachers, 387 programs for exceptional children teachers, and eight adult education teachers (Oakland Unified School District 2017).

3.11.2.5 Parks and Recreation

The Oakland Parks and Recreation Department offer a wide variety of recreation, leisure, cultural, educational, and environmental programs and activities. The department oversees 2,500 acres of open space, 140 parks, 66 ball fields, 44 tennis courts, 38 recreation facilities, 14 rental venues, 17 community gardens, five dog play areas, 22 dog parks, three golf courses, and three skate parks. The City of Oakland General Plan establishes a parkland standard of 4 acres per 1,000 residents (for parks that meet the active recreational needs of the community as opposed to passive recreational open space). Oakland provides 1.33 acres of local serving park acreage per 1,000 residents, which falls short of the General Plan parkland standard.

3.11.2.6 Libraries

The Oakland Public Library system currently includes 16 branches, a Main Library, a Second Start Adult Literacy Program, the Tool Lending Library, and the African-American Museum and Library. In 2014-2015, there were almost 2 million virtual visits to the library website, more than 300,000, uses of public internet computers, 2.7 million checks-outs of library materials, 258,343 people with a library card, and 358 people employed by the Oakland Public Library (Oakland Public Library 2015).

3.11.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on public services associated with the construction and operation of the project.

3.11.3.1 Principal Information Sources

The following sources of information were used to identify the potential impacts of the project on Public Services in the study area.

- *Gateway Park Project—Community Impact Assessment Technical Memo* (ICF International 2015).
- *City of Oakland General Plan* (City of Oakland 1998).
- City of Oakland Municipal Code.

3.11.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on Public Services in the study area as defined in Section 3.11.2.1, *Study Area*.

Potential impacts on public services are evaluated by

- Assessing the potential for the Project to increase demand for public services, based on goals established by service providers, and

- Comparing the ability of the service provider/public facility to serve the Project and accommodate the associated increase in demand.

A determination is then made as to whether the existing services and facilities are capable of meeting the demands of the project and, if not, if expansion of existing facilities could cause an adverse environmental impact. The analysis is based on a review of City documents and maps, field reconnaissance, and direct communications with City service providers.

3.11.3.3 Significance Criteria

The project would have a significant impact on public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - Fire protection
  - Police Protection
  - Schools
  - Parks
  - Other public facilities

Topics Not Evaluated in Detail

The following potential impact related to public services was not evaluated in this EIR for the reasons described below.

- **Impacts on Parks.** As described in Chapter 1, *Introduction*, the project would improve the quality and connectivity of existing park and recreational facilities, particularly the Bay Bridge Trail and the regional Bay Trail. Thus, the project would result in a beneficial, rather than adverse, impact on recreational facilities. The potential environmental impacts from construction of the project are analyzed throughout this Draft EIR in the relevant resource sections.

3.11.4 Impacts and Mitigation

This section describes the potential impacts related to public services that would result from construction and operation of the project.

Impact PS-1. The project would not result in the need for new or physically altered fire services facilities (less than significant)

As described above, the majority of the project site would be served by the EBRPD Fire Department. Emergency access to the Park would be via Burma Road. It would follow the vehicle route, then would access maintenance paths within the Park in the Bridge Yard, Port Playground, Key Point, and Radio Beach areas. Project site plans would be reviewed by the EBRPD Fire Department and the OFD to ensure usability and access. The project would be required to comply with all applicable City and/or State Fire Code standards and meet EBRPD Fire Department and OFD standards related to fire hydrants, the design of driveway turnaround and access points to accommodate fire equipment, and other design and access requirements.

Because Burma Road is a City of Oakland public street, OFD would have jurisdiction there and other areas outside the park when developed. However, the project would only install landscape and drainage improvements in these areas, and no substantial change in human use of these areas is expected. Further, the project would not introduce residential development and therefore would not directly generate an increase in population that could affect OFD's ability to maintain acceptable service ratios, response times, or other performance objectives.

While the project would increase daily use of the project area by introducing a new 45-acre park to what is now largely underutilized industrial and vacant land, the increased demand for fire services that would result from the proposed uses would not have a substantial adverse impact on the EBRPD Fire Department's ability to serve the project site. The proposed project would not result in the need for the construction of new EBRPD Fire Department facilities (Takei pers. comm.). Impacts would be less than significant. No mitigation would be required.

Impact PS-2. The project would not result in the need for new or physically altered police service facilities (less than significant with mitigation)

As described above, the majority of the project site would be served by the EBRPD Police Department. As with its other parks, the EBRPD Police Department would respond to calls and patrol the Park, both on land and in the air with the EBRPD helicopter unit (EBRPD 2017b). EBRPD park rangers would assist in alleviating the project's demand for police protection service by providing a regular on-site presence, supervising park areas, and enforcing park rules. The EBRPD has capacity to serve the project's demand for police protection service without the need to construct additional facilities (Love pers. comm.).

Operation of Gateway Park includes amenities, such as an amphitheater for special events. Due to the number of people that attend special events, there is the potential for an increased demand of police services, which could result in a potentially significant impact to police service facilities. **MM-PS-1** would require that the project implementer provide the necessary security staff during special events. With the implementation of **MM-PS-1**, this impact would be less than significant.

Emergency access would be via Burma Road. It would follow the vehicle route, then would access maintenance paths within the Park in the Bridge Yard, Port Playground, Key Point, and Radio Beach areas. Because Burma Road is a City of Oakland public street, the Oakland Police Department would have jurisdiction there and other areas outside the park when developed. However, the project would only install landscape and drainage improvements in these areas, and no substantial change in human use of these areas is expected. The project would not introduce residential development into Oakland and therefore would not directly generate an increase in population that could affect the Oakland Police Department's ability to maintain acceptable service ratios, response times or other performance objectives.

MM-PS-1. Provide security staff during special events

During special events, the project implementer shall ensure that event security-staff are hired to provide additional security during the special event.

Impact PS-3. The project would not result in the need for new or physically altered school facilities (less than significant)

The need for school services is generally associated with increases in residential populations because households may contain school-aged children. The project would not involve the construction of residences and therefore would not increase the number of school-age students in the school district. The project would generate a minimal number of employees (15-30) which would not result in substantial student generation. In addition, project implementation would not affect access to any schools. Because the project would not result in a substantial population or employment increase or a corresponding increase in school-aged children, and the project would not affect access to any schools, impacts on school facilities would be less than significant. No mitigation would be required.

Impact PS-4. The project would not result in the need for new or physically altered library facilities (less than significant)

The project would not involve the construction of residences, and would generate a minimal number of employees (15-30). Therefore, the project would not directly generate substantial population growth and would have a negligible effects on the demand for libraries or the ability for the existing libraries to accommodate the existing population. Implementation of the project would not result in the need for new library facilities. This impact would be less than significant. No mitigation would be required.

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Section 3.12

Transportation and Traffic

This section describes transportation and traffic in the study area. It then describes impacts on transportation and traffic that coul~~f~~d result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.12.1 Regulatory Setting

This section summarizes state, regional, and local laws, regulations, and guidelines relevant to transportation and traffic.

3.12.1.1 Federal

There are no relevant federal for identifying environmental impacts of the project on transportation and traffic.

3.12.1.2 State

The California Department of Transportation (Caltrans) is responsible for operations and maintenance of the state highway system. Caltrans serves as a reviewing agency for environmental impact reports (EIRs) to ensure that impacts of proposed projects are analyzed and significant impacts on state highway facilities are disclosed.

3.12.1.3 Regional and Local

The project area includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project area owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to transportation and traffic.

City of Oakland

City of Oakland General Plan

The *City of Oakland General Plan* Land Use and Transportation Element includes objectives and policies to maintain acceptable traffic operations, reduce congestion, promote the use of alternative transportation modes, and to provide safe streets. The objectives and policies that relate to the project are listed below (City of Oakland 1998:56–60).

- **Objective T3** Provide a hierarchical network of roads that reflects desired land use patterns and strives for acceptable levels of service at intersections. In addition, a certain level of traffic congestions may be desirable in some locations to slow traffic and promote a more bicycle and pedestrian-oriented environment.

- **Policy T3.5** Including Bikeways and Pedestrian Walks.
- **Policy T3.7** Resolving Transportation Conflicts.
- **Policy T3.9** The City should strive to provide parking for multiple modes of transportation throughout the city where it is needed and does not unduly disrupt traffic flow.

- **Objective T4** Increase use of alternative modes of transportation.
  - **Policy T4.8** Accommodating Multiple Types of Travel on the Bay Bridge.
  - **Policy T4.9** "Gateway" Public Access Area
  - **Policy T4.10** Converting Underused Travel Lanes.
- **Objective T6** Make streets safe, pedestrian accessible, and attractive
  - **Policy T6.3** Making the Waterfront Accessible

City of Oakland Pedestrian Master Plan

Pedestrian facilities include sidewalks, pathways, crosswalks, and pedestrian signals. The City of Oakland's Pedestrian Master Plan (City of Oakland 2002) presents minimum design guidelines for each type of route, which consist of the through passage zone, utility zone, and total sidewalk width. The through passage zone is the paved part of the sidewalk usable by pedestrians. The utility zone includes features such as street furnishings, vegetation, and signage. City Routes require an 8-foot through passage zone and a 4-foot utility zone for a 12-foot total sidewalk width.

City of Oakland Bicycle Master Plan

The *City of Oakland Bicycle Master Plan* (City of Oakland 2007) provides goals and policies for the routine accommodation of bicyclists in City of Oakland projects and programs.

- **Goal 1—Infrastructure.** Develop the physical accommodations, including a network of bikeways and support facilities, to provide for safe and convenient access by bicycle.
  - **BMP Policy 1B—Routine Accommodation.** Address bicycle safety and access in the design and maintenance of all streets.
    - **Action 1B.1—Roadway Improvements.** Include bicycle safety and access improvements in roadway resurfacing, realignment, and reconstruction projects.
    - **Action 1B.2—Traffic Signals.** Include bicycle-sensitive detectors, bicycle detector pavement markings, and adequate yellow time for cyclists with all new traffic signals and in the modernization of all existing signals.

East Bay Regional Park District Master Plan

The East Bay Regional Park District provides and manages the regional parks for Alameda and Contra Costa Counties and would manage Gateway Park. The *Master Plan 2013* (East Bay Regional Park District 2013) contains the following policies pertaining to transportation and traffic.

- **Public Access PA4.** The District will provide access to parklands and trails to suit the level of expected use. Where feasible, the District will provide alternatives to parking on or use of neighborhood streets. The District will continue to advocate and support service to the regional park system by public transit.

- **Public Access PA5.** The District will cooperate with local and regional planning efforts to create more walkable and bikeable communities, and coordinate park access opportunities with local trails and bike paths developed by other agencies to promote green transportation access to the Regional Parks and Trails.
- **Public Access PA6.** The District will comply with the requirements of the Americans with Disabilities Act and use the current edition of the California State Parks Accessibility Guidelines as its standard for making the improvements necessary to create accessible circulation, programs and facilities throughout the Park District.
- **Regional Facilities and Areas RFA2.** The District will provide a diverse system of non-motorized trails to accommodate a variety of recreational users including hikers, joggers, people with dogs, bicyclists and equestrians. Both wide and narrow trails will be designed and designated to accommodate either single or multiple users based on location, recreational intensity, environmental and safety considerations. The District will focus on appropriate trail planning and design signage and trail user education to promote safety and minimize conflicts between users.
- **Regional Facilities and Areas RFA5.** The District will continue to plan for and expand the system of paved, multi-use regional trails connecting parklands and major population centers.

Alameda County Transportation Commission Congestion Management Program

The Alameda County Transportation Commission (Alameda CTC) coordinates transportation planning throughout Alameda County and programs local, regional, state, and federal funding for project implementation. Alameda CTC also acts as the congestion management agency for Alameda County, which is legislatively required to develop a congestion management program, a plan that describes the strategies to assess, monitor, and improve the performance of the county's multimodal transportation system and address congestion. The plan sets level of service standards for designated roadways, monitors level of service trends, reports multimodal performance measures, analyzes the impact of land developments on transportation network, and explores ways to manage travel demand.

Alameda CTC requires the analysis of project impacts on metropolitan transportation system (MTS) roadways identified in the congestion management program for development projects that would generate more than 100 weekday PM peak hour trips. In the project vicinity, the MTS network includes all state highways plus the portion of Grand Avenue between Interstate 80 (I-80) and Interstate 580 (I-580). An analysis of the MTS roadways is required because the project could generate more than 100 weekday PM peak hour trips.

3.12.2 Environmental Setting

This section describes existing conditions related to transportation and traffic that could be affected by the construction and operation of the project.

3.12.2.1 Study Area

The study area for direct impacts on transportation and traffic is defined as the regional and local street and highway system, pedestrian and bicycle facilities, and transit services within, adjacent, or connected to the project area.

3.12.2.2 Roadway Network

Regional access to the project area is provided by several regional freeways, including Interstates 80 (I-80), 580 (I-580), 880 (I-880), 980 (I-980), and California State Route 24 (SR 24). Figure 3.12-1 shows the roadway network in the project vicinity.

- **I-80** is an eight- to ten-lane freeway extending west to San Francisco and east through Berkeley, Sacramento, into Nevada, and further east. I-80 has an annual average daily traffic (AADT) of approximately 250,000 vehicles per day east of the San Francisco–Oakland Bay Bridge (Bay Bridge) toll plaza.
- **I-580** is an eight-lane east-west freeway between US 101, in Marin County, and I-5 south of Tracy. I-580 has an AADT of approximately 230,000 vehicles per day near SR 24/I-980.
- **I-880** is a north-south freeway that starts in the project area in Oakland with interchanges from I-80 and I-580 and runs south towards San Jose. I-880 has an AADT of approximately 74,000 vehicles per day south of I-80.
- **I-980** is an eight-lane north-south freeway east of the project area that connects SR 24 and I-580 to I-880. I-980 has an AADT of 113,000 vehicles in the study area.
- **SR 24** is an eight-lane, east-west freeway between I-580 in Oakland and Walnut Creek in the east. East of I-580, SR 24 continues as I-980. SR 24 has an AADT of approximately 146,000 vehicles east of I-980.

Other major roadways near the project area include Mandela Parkway, Adeline Street, Grand Avenue, 7th Street, Frontage Road, Maritime Street, and Burma Road.

- **Mandela Parkway** is a north-south four-lane arterial through the study area. It connects the West Oakland Bay Area Rapid Transit (BART) Station in the south to Emeryville in the north. A 70- to 100-foot-wide median provides a separated pedestrian/bicycle path, many plazas, and grass areas. Mandela Parkway provides on-street parking on both sides of the street and Class 2 bike lanes in both directions. The wide median results in two separate, intersections with the northbound and southbound travel lanes at intersecting streets. Where the intersections are signalized, the traffic signals are interconnected and coordinated.
- **Adeline Street** is a north-south four-lane arterial through the study area. It connects the Oakland Inner Harbor in the south to Berkeley in the north. Adeline Street provides on-street parking on both sides of the street. It does not currently provide any bicycle facilities but is a proposed bikeway. AC Transit operates local bus line 26 along Adeline Street.
- **Grand Avenue** is an east-west four- to six-lane arterial through the study area. It connects the Lake Merritt neighborhoods in Oakland in the east toward the east span of the Bay Bridge to the west. Grand Avenue provides on-street parking on both sides of the street. It currently provides bike lanes east of Market Street and is a proposed bikeway west of Market Street. AC Transit operates the transbay bus line NL along Grand Avenue. Grand Avenue is a designated truck route.

Source: Fehr & Peers, 2016.

gatewaypark

Figure 3.12-1
Project Vicinity Roadway Network

- **7th Street** is an east-west four-lane roadway through the study area. It connects the Lake Merritt BART Station in the east to the Oakland Middle Harbor in the west. 7th Street is one-way (eastbound) east of Castro Street near the I-880/I-980 Interchange. Parking is generally provided on one or both sides of the street east of Mandela Parkway. Limited bicycle facilities are provided along 7th Street; however a portion of the pedestrian and bicycle path along the east span of the Bay Bridge (the Bay Bridge Trail) runs along it west of Wood Street toward the Middle Harbor Shoreline Park. AC Transit operates several local bus lines along 7th Street and BART runs directly above 7th Street, providing access to both the Lake Merritt Station and the West Oakland Station. It is a designated truck route for much of its length.
- **Frontage Road** is a four-lane road that fronts I-880 for approximately 1 mile from 7th Street in the south to Grand Avenue in the north. Parking is not provided along Frontage Road and it has limited access points. No formal bicycle facilities are provided along Frontage Road. Although wide shoulders could provide ample space for a bicyclist, because of its freeway-centric location, high truck volume, and limited connectivity, it is not considered a bicycle-friendly street.
- **Maritime Street** is a north-south four-lane industrial road through the study area. It extends from the Oakland Middle Harbor in the south to Grand Avenue in the north. Parking is not provided along Maritime Street. No bicycle facilities are provided along the roadway; however, wide shoulders provide space for bicyclists and a bikeway is proposed along the facility. It is a heavily used truck route.
- **Burma Road** is currently a low-volume, two-lane local street used primarily to access the Caltrans maintenance facility and port uses in that area. Vehicular access to Gateway Park would be provided from Burma Road. Burma Road would be realigned at Maritime Street as part of a separate project by the Oakland Global project team.

Specific study intersections and roadway segments were selected based on the traffic engineer's review of the project location, travel routes to and from the project area, and operations of intersections as presented in results of the *2012 Oakland Army Base Project Initial Study/Addendum* (LSA Associates 2012). These locations are shown in Figure 3.12-2.

Intersections

The following intersections in the study area are identified by number on Figure 3.12-2.

1. Burma Road/Maritime Street (signalized)
2. I-80 Ramps/West Grand Avenue/Maritime Street/Wake Avenue (signalized)
3. West Grand Avenue/Frontage Road/I-80 Ramps (signalized)
4. West Grand Avenue/Campbell Street (side-street stop)
5. 24th Street/Mandela Parkway (side-street stop)
6. West Grand Avenue/Mandela Parkway (signalized)
7. 20th Street/Mandela Parkway (side-street stop)
8. 7th Street/I-880 NB Off-Ramp/Frontage Road (signalized)
9. 7th Street/Maritime Street (signalized)
10. West Grand Avenue/Adeline Street (signalized)

Source: Fehr & Peers, 2016.

gatewaypark

Figure 3.12-2
Study Intersection Locations

Roadway Segments

The following roadway segments are in the study area.

- Maritime Road, south of Grand Avenue
- Maritime Road, north of 7th Street
- Grand Avenue, west of Frontage Road
- Grand Avenue, east of Mandela Parkway
- 7th Street, east of Maritime Street

Level of Service Conditions

The operations of intersections and roadways in the study area are described in terms of level of service (LOS). LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined, ranging from LOS A (best operating conditions) to LOS F (worst operating conditions). LOS E corresponds to operations “at capacity.” When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

The City of Oakland generally strives to maintain LOS D or better for peak hour intersection operations, although LOS E is allowed at some locations. For the study intersections, LOS E is considered acceptable at the following intersections.

- Study Intersection 3 – West Grand Avenue/Frontage Road/I-80 Ramps
- Study Intersection 6 – West Grand Avenue/Mandela Parkway
- Study Intersection 10 – West Grand Avenue/Adeline Street

Signalized Intersections

Fehr & Peers (2014) determined traffic conditions at signalized intersections using the method from Chapter 16 of the *Highway Capacity Manual* (Transportation Research Board 2000). This operations analysis method uses various intersection characteristics (such as traffic volumes, lane geometry, and signal phasing) to estimate the average control delay experienced by motorists traveling through an intersection. Control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. Table 3.12-1 summarizes the relationship between average delay per vehicle and LOS for signalized intersections.

Table 3.12-1. Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with long delays indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: Fehr & Peers 2014

Unsignalized Intersections

Fehr & Peers (2014) determined traffic conditions at unsignalized intersections using the method from Chapter 17 of the *Highway Capacity Manual* (Transportation Research Board 2000). With this method, operations are defined by the average control delay per vehicle (measured in seconds) for each movement that must yield the right-of-way. At two-way or side street-controlled intersections, the control delay (and LOS) is calculated for each controlled movement, as well as for the left-turn movement from the major street, and for the entire intersection. For controlled approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The delays for the entire intersection and for the movement or approach with the highest delay are reported. Table 3.12-2 summarizes the relationship between delay and LOS for unsignalized intersections.

Table 3.12-3 shows the existing intersection LOS at the 10 study intersections.

Table 3.12-2. Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Fehr & Peers 2014

Table 3.12-3. Existing Intersection Level of Service

	Intersection	Control[1]	Peak Hour	Delay[2]	LOS[3]
1	Burma Road/Maritime Street	Signal	PM	13.4	B
			SAT	12.0	B
2	I-80 Ramps/West Grand Avenue/Maritime Street/Wake Avenue[4]	Signal	PM	26.1	C
			SAT	32.5	C
3	West Grand Avenue/Frontage Road/I-80 Ramps[5]	Signal	PM	39.6	D
			SAT	37.7	D
4	West Grand Avenue/Campbell Street	SSSC	PM	<10 (84.2)	A (F)
			SAT	<10 (20.4)	A (C)
5A	24th Street/Mandela Parkway Southbound	SSSC	PM	<10 (10.7)	A (B)
			SAT	<10 (10.7)	A (B)
5B	24th Street/Mandela Parkway Northbound	SSSC	PM	<10 (16.3)	A (C)
			SAT	<10 (12.7)	A (B)
6A	West Grand Avenue/Mandela Parkway Southbound	Signal	PM	16.6	B
			SAT	14.5	B
6B	West Grand Avenue/Mandela Parkway Northbound	Signal	PM	16.9	B
			SAT	18.4	B
7A	20th Street/Mandela Parkway Southbound	SSSC	PM	<10 (13.3)	A (B)
			SAT	<10 (12.7)	A (B)
7B	20th Street/Mandela Parkway Northbound	SSSC	PM	<10 (12.0)	A (B)
			SAT	<10 (10.3)	A (B)
8	7th Street/I-880 Northbound Off-Ramp/Frontage Road[6]	Signal	PM	26.4	C
			SAT	18.3	B
9	7th Street/Maritime Street	Signal	PM	**59.1**	**E**
			SAT	33.5	C
10	West Grand Avenue/Adeline Street	Signal	PM	14.9	B
			SAT	14.5	B

Notes: **Bold** text indicates potentially unacceptable intersection operations.

1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections; traffic on the main street does not stop while traffic on the side street is controlled by a stop sign.
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented in Intersection average (worst approach).
3. LOS = Level of Service.
4. Delay presented in table for Intersection 2 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: EB left = 43.2/D, EB thru = 24.5/C, EB right = 22.9/C
   b. Sat Peak Hour: EB left = 68.5/E, EB thru = 29.8/C, EB right = 28.2/C
5. Delay presented in table for Intersection 3 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 40.4/D, NB thru/right = 39.7/D, SB left = 41.9/D, SB thru-right = 35.7/D
   b. Sat Peak Hour: NB left = 39.6/D, NB thru-right = 36.6/D, SB left = 40.0/D, SB thru-right = 35.9/D
6. Delay presented in table for Intersection 8 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 24.2/C, NB thru/right = 25.3/C
   b. Sat Peak Hour: NB left = 11.4/B, NB thru-right = 12.1/B

Source: Fehr & Peers 2014

Roadway Segment

Fehr & Peers (2014) calculated roadway segment service levels by comparing the daily roadway volumes to the LOS thresholds presented in the *Highway Capacity Manual* (Transportation Research Board 2000), as provided in Table 3.12-4. The average weekday and Saturday daily volumes are summarized in Table 3.12-5. Pedestrian volumes were estimated based on the peak period count from the closest intersection. The corresponding daily LOS was calculated by comparing the passenger car equivalent adjusted volume to the level of service thresholds. Because trucks behave differently than passenger vehicles, each truck was considered a two-passenger vehicle for the purposes of calculating LOS. The results show that the roadways in the study area operate at LOS A on a daily basis on both a typical weekday and Saturday. Sunday volumes were also reviewed and are 20 to 30% less than Saturday volumes.

Table 3.12-4. Daily Roadway Segment LOS Thresholds

Number of Lanes	Facility Type	LOS A	LOS B	LOS C	LOS D	LOS E
2	Arterial	10,000	11,100	14,000	17,500	20,600
4	Arterial	23,300	25,800	32,600	40,700	47,900
6	Arterial	33,000	37,000	46,600	58,300	68,600
8	Arterial	41,100	45,700	57,600	72,000	84,700

Source: Fehr & Peers 2014
LOS = level of service

Alameda County Transportation Commission Roadway Analysis Study Segments

The following freeway and surface street segments in Oakland and surrounding areas were included in the assessment required by the Alameda CTC because they are close to the project area: I-80, I-580, I-880, I-980, and Grand Avenue.

Table 3.12-5. Existing Conditions Daily Roadway Segment Analysis

Roadway Segment	Facility Type	# of Lanes	Average Weekday					Saturday				
			Bikes	Peds	Vehicles	% Trucks	PCE LOS	Bikes	Peds	Vehicles	% Trucks	PCE LOS
Grand Avenue, west of Frontage Road	Arterial	4	20	10	15,370	14%	A	20	30	11,680	8%	A
Grand Avenue, east of Mandela Parkway	Arterial	6	50	210	14,940	7%	A	50	300	12,160	4%	A
Maritime Street, south of Grand Avenue	Arterial	6	20	10	7,730	45%	A	10	30	2,880	15%	A
Maritime Street, north of 7th Street	Arterial	6	30	10	10,550	50%	A	20	50	2,880	17%	A
7th Street, east of Maritime Street	Arterial	4	20	40	9,490	60%	A	10	10	7,563	20%	A

Source: Fehr & Peers 2014

PCE = passenger car equivalent; LOS = level of service

3.12.2.3 Pedestrian, Bicycle, and Transit Service Facilities

Pedestrian Facilities

Pedestrian facilities include sidewalks, pathways, crosswalks, and pedestrian signals. The City's *Pedestrian Master Plan* (City of Oakland 2002) designates Mandela Parkway as a City Route and Grand Avenue as a Neighborhood Commercial Revitalization area.

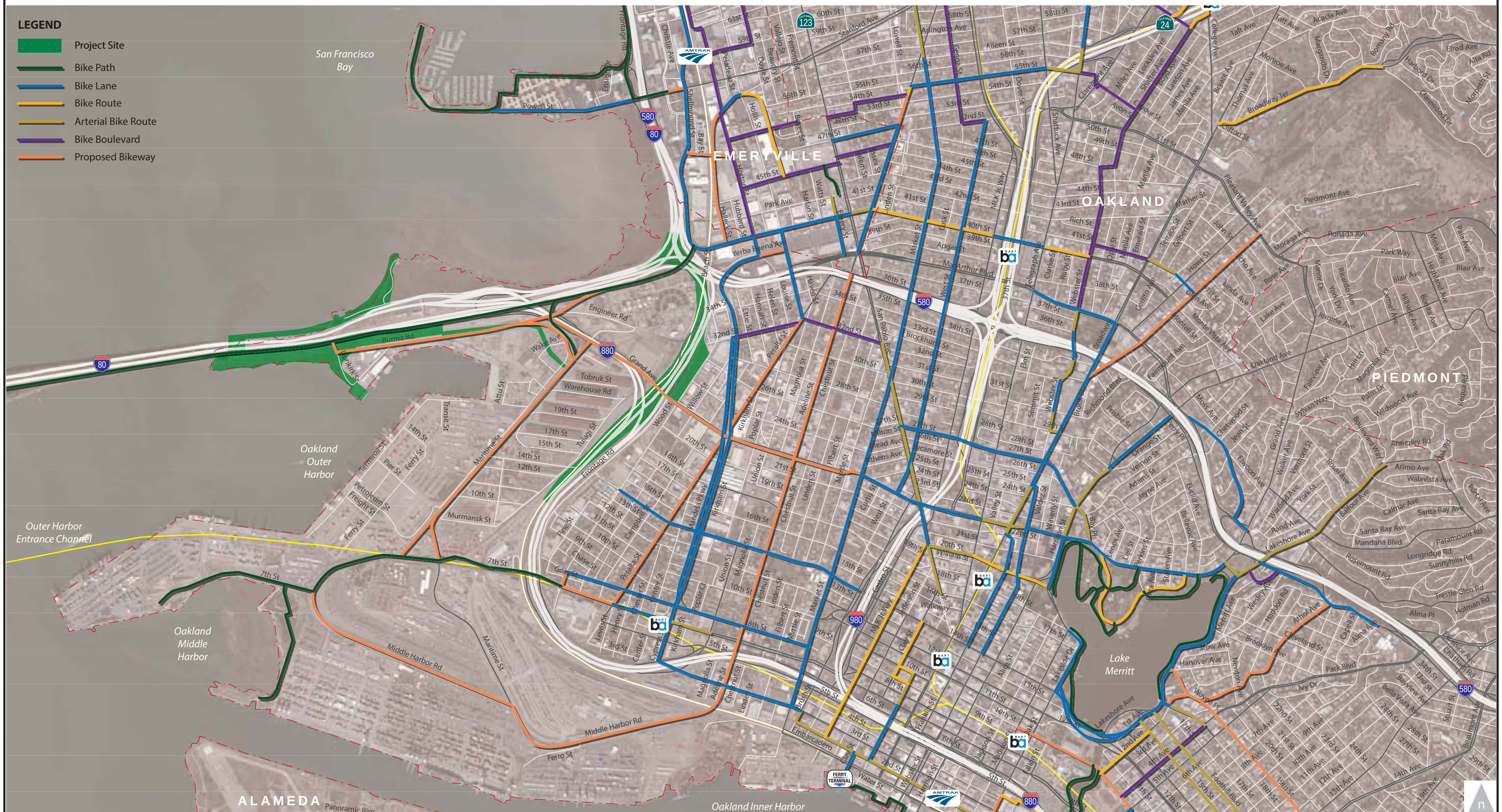
Bicycle Facilities

Bicycle facilities in Oakland include the following types of facilities.

- **Bike paths (Class 1).** Paved trails that are separated from roadways. These facilities are typically shared with pedestrians, although bicycles must yield to pedestrians. Vehicle cross-flow is minimized. Class 1 paths are typically 8 to 10 feet wide.
- **Bike lanes (Class 2).** Provide restricted right-of-way and are designated for the use of bicycles with a striped lane on a street. Bicycle lanes are typically 5 to 6 feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.
- **Bike routes (Class 3).** Provide for a right-of-way designated by signs or pavement markings (sharrows) for shared use with motor vehicles. Sharrows are a type of pavement marking (bike and arrow stencil) placed to guide bicyclists to the best place to ride on the road, avoid car doors, and remind drivers to share the road with cyclists.
- **Arterial bicycle routes (Class 3A).** Found along some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. Speed limits as low as 25 miles per hour, and shared-lane bicycle stencils, wide curb lanes, and signage are used to encourage shared use.
- **Bicycle Boulevards (Class 3B).** Found along residential streets with low traffic volumes. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.

A portion of the Bay Trail, a regional trail that will ultimately encircle the Bay Area, is located adjacent to the study area as an off-street trail connecting Emeryville and Berkeley to Oakland. This trail will ultimately connect the shorelines of all nine Bay Area counties, link 47 cities, and cross major toll bridges with 500 miles of continuous bicycling and hiking trails. The Bay Bridge Trail connects Oakland to Treasure Island. A path on the west span of the Bay Bridge is also planned, ultimately providing a connection between Oakland and San Francisco.

Figure 3.12-3 shows the extent of existing and proposed bicycle facilities in the study area.



Source: Fehr & Peers, 2016.

Figure 3.12-3
Existing and Proposed Bicycle Facilities in the Project Area

Transit Service Facilities

Transit service in the area is provided by AC Transit, Emery-Go-Round, BART, Amtrak, and the Oakland Ferry. The extent of transit service in the study area is described below and shown on Figure 3.12-4. Transit service is not currently provided to the project area, but transit is provided within the study area.

AC Transit provides both local service and transbay service throughout Oakland and the greater East Bay and San Francisco area while providing connections to other transit service providers. AC Transit buses connect major destinations in Alameda and Contra Costa Counties, including downtown areas, employment centers and destinations, and transit hubs such as BART, Amtrak, and ferry stations. Transbay Route NL and Line 31 provide the closest service to the project area and operate along Grand Avenue (Route NL) and Peralta Street (Line 31). A Route NL stop is located on West Grand Avenue at Wake Avenue.

Emery-Go-Round is a free private shuttle providing service to all Emeryville residents, shoppers, visitors, and employees. Shuttles operate 5 to 7 days per week between 6:00 AM and 10:30 PM with 10- to 20-minute frequency. Emery-Go-Round connects with AC Transit local routes, Amtrak, and the MacArthur BART Station.

BART provides regional transportation connections to much of the Bay Area with several lines serving Oakland. The nearest stations are the West Oakland (2.5 miles) and MacArthur (3.25 miles) stations. The West Oakland station provides direct connections to the entire BART system, while the MacArthur Station serves the Fremont-Richmond, Pittsburg-Baypoint/SFO and Richmond/Daly City lines. BART train frequency ranges from 2 to 20 minutes from approximately 5:00 AM to 12:00 AM. Connections to BART are provided by AC Transit and Emery-Go-Round.

Amtrak is a national train operator that connects northern California to the rest of the country via passenger rail. There are two stations in the study area, one in Emeryville and one in Oakland's Jack London Square. Both stations serve the San Joaquin, Capitol Corridor, California Zephyr, and Coast Starlight routes. Connections to Amtrak are provided by AC Transit, Emery-Go-Round, and the Oakland Ferry.

The **Oakland Ferry** operates as part of the San Francisco Bay Ferry and provides weekday, weekend, holiday, and seasonal services to nine terminals around the Bay. The Oakland Jack London Square Terminal provides direct ferry service to the San Francisco Ferry Building, San Francisco Pier 41, AT&T Park, and South San Francisco Oyster Point. Connections to the ferry are provided by AC Transit and Amtrak.

Source: Fehr & Peers, 2016.

Figure 3.12-4
Existing Transit Service in the Project Area

3.12.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on transportation and traffic associated with the construction and operation of the project.

3.12.3.1 Principal Information Sources

The following source of information was used to identify the potential impacts of the project on transportation and traffic in the study area.

- Appendix H, *Draft Transportation Impact Analysis: San Francisco-Oakland Bay Bridge Regional Bicycle & Pedestrian Connection: Gateway Park Report.* (Fehr & Peers 2014).

3.12.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on transportation and traffic in the study area as defined in Section 3.12.2.1, *Study Area*. More detail on analysis methods in Appendix H, *Transportation Impact Analysis* (Fehr & Peers 2014).

Roadway Network and Intersections

Project impacts on the study area roadways were determined by measuring the impact that project traffic would have on 10 intersections near the project area during the weekday evening (4:00 to 6:00 PM) and Saturday afternoon (2:00 to 6:00 PM) peak periods. Intersection turning movement counts were conducted at the study intersections in October 2013. For the study intersections, the single hour with the highest traffic volumes during each count period was identified. Daily traffic volumes, including vehicle classification counts were also collected for the study area roadway segments.

Intersection Analysis Conditions

Intersection conditions and impacts were defined as follows.

- **Existing.** Existing volumes were obtained from 2013 traffic counts and roadway system configuration.
- **Existing with project**. Existing volumes were obtained from traffic counts plus traffic estimated for the project. The roadway system is the same as for Existing plus the project improvements.
- **Cumulative without project.** Projected traffic volumes and the projected roadway system were provided for 2035. Volumes were developed through a combination of the forecasts included in Appendix H, *Transportation Impact Analysis* (Fehr & Peers 2014). This condition assumes potential traffic increases also associated with the Gateway Path project.
- **Cumulative with project.** Traffic volumes and roadway network from Cumulative without Project plus changes from development of the project.

Project-Related Traffic

The amount of traffic associated with the project was estimated using a three-step process.

1. **Trip generation.** The amount of vehicle traffic entering/exiting the project site was estimated
2. **Trip distribution**. The direction trips would use to approach and depart the site was projected
3. **Trip assignment.** Trips were assigned to specific roadway segments and intersection turning movements

Project Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. For this project, in addition to the usual estimate of peak morning and evening commute periods, weekend conditions were estimated because the project would generate trips for recreational use at the park on weekends. A range of potential project-related vehicular trips was developed using Institute of Transportation Engineers published rates for Regional Park (category most similar to the proposed project), survey of similar uses in the East Bay region, and estimates based on a range of visitor projections.

Fehr & Peers (2014) estimated the pedestrian and bicycle activity within Gateway Park, pathways connecting to Gateway Park, and on the east span of the Bay Bridge based on existing volumes on the east span path (Appendix D of Fehr & Peers 2014). The approach uses observations of pedestrian and bicycle activity on Bay Area bridges that have bicycle and pedestrian facilities (east span of the Bay Bridge, the Golden Gate, Dumbarton and Carquinez Bridges); the likelihood of existing transbay transit riders who access their home origin transit stop by bicycle switching to an all bicycle commute; new bicycle commuters; potential tourist activity; and demand from development on Treasure Island.

Project Trip Distribution and Assignment

Project trip distribution percentages were developed based on the site location, surrounding land uses, roadway network, and relative population distribution within the greater East Bay and San Francisco. New trips to and from Gateway Park were assigned to the roadway network based on local access characteristics and project trip distribution estimates.

Alameda County Transportation Commission

A separate analysis of regional roadway segments, including freeway and arterial roadway segments, was conducted to comply with requirements of the Alameda CTC.

The Alameda Countywide Travel Demand Model was used to forecast 2020 and 2035 traffic volumes on the MTS roadway system. The results of the Alameda CTC model were used to forecast the No Project condition for 2020 and 2035. Project trips were distributed to the MTS roadway segments (including both freeways and surface streets) using the project trip distribution for traffic growth projected for the project area not accounted for in the Alameda CTC model. The distribution of project trips onto the MTS segments results in With Project volumes for the near-term and cumulative conditions.

Pedestrian and Bicycle Facilities

Pedestrian and bicycle counts were conducted at the same time as the traffic counts (weekday evening and Saturday afternoon) in October 2013.

A Trail Level of Service Calculator, as developed by North Carolina State University and Toole Design Group and based on the Federal Highway Administration *Shared-Use Path Level of Service Calculator—A User's Guide*, July 2006, was used to assess the pedestrian and bicycle LOS on the Bay Bridge Trail adjacent to the project area. The calculator considers factors such as bicyclist passing, desired buffer space between path users, and the mix of bicyclists, pedestrians, runners and child bicyclists. The trail LOS criteria are as follows:

- Trail LOS A = Excellent. Trail has optimum conditions for individual bicyclists and retains ample space to absorb more users of all modes, while providing a high-quality user experience.
- Trail LOS B = Good. Trail has good bicycling conditions, and retains significant room to absorb more users, while maintaining an ability to provide a high-quality user experience.
- Trail LOS C = Fair. Trail has at least minimum width to meet current demand and to provide basic service to bicyclists. A modest level of additional capacity is available for bicyclists and skaters; however more pedestrians, runners, or other slow-moving users will begin to diminish LOS for bicyclists.
- Trail LOS D = Poor. Trail is nearing its functional capacity given its width, volume, and mode split. Peak period travel speeds are likely to be reduced by levels of crowding. The addition of more users of any mode will result in significant service degradation. Some bicyclists and skaters are likely to adjust their experience expectations or to avoid peak-period use.
- Trail LOS E = Very Poor. Given trail width, volume, and user mix, the trail has reached its functional capacity. Peak-period travel speeds are likely to be reduced by levels of crowding. The trail may enjoy strong community support because of its high usage rate; however, many bicyclists and skaters are likely to adjust their experience expectations, or to avoid peak period use.
- Trail LOS F = Failing. Trail significantly diminishes the experience for at least one, and most likely for all user groups. It does not effectively serve most bicyclists; significant user conflicts should be expected.

Transit Service Facilities

The evaluation of potential impacts on transit service facilities considered whether the project would substantially increase travel times for AC transit buses.

3.12.3.3 Significance Criteria

The project would have a significant impact on transportation and traffic if it would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Cause substantial increase in hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

3.12.4 Impacts and Mitigation

This section describes the potential impacts related to transportation and traffic that would result from construction and operation of the project.

Impact TRA-1. The project would result in increased vehicular, pedestrian, and bicycle traffic and would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during special events (construction: less than significant with mitigation; operations: significant and unavoidable)

Construction

Project construction is expected to take place over a 15-year period. During the construction period, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the project area. The construction-related traffic may temporarily reduce capacities of roadways in the project vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. With implementation of mitigation measure **MM-TRA-1**, this impact would be less than significant because measures would be put in place to lessen the effect on roadway performance and safety.

MM-TRA-1. Prepare and implement a construction traffic management plan

The project implementer and construction contractor shall develop a construction management plan for review and approval by the City of Oakland prior to issuance of any permits. The plan shall include the following measures and requirements to reduce traffic congestion during construction.

- Provide a set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
- Identify haul routes for movement of construction vehicles that would minimize impacts on motor vehicle, bicycle, and pedestrian traffic, circulation, and safety and, specifically, to minimize impacts to the greatest extent possible on streets in the project area. Haul route approval shall be required from the appropriate agencies (e.g., City of Oakland).

- Provide for notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures would occur.
- Maintain emergency service provider access throughout construction.
- Provide for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the project implementer.

Operations

The project would create a new destination for recreational activities. Traffic on nearby roadways would increase by up to 187 weekday PM peak hour trips and 394 weekend peak hour trips (Fehr & Peers 2014) on an average operation day. If special events are scheduled during peak hours, peak hour traffic could increase by a greater amount. Table 3.12-6 presents the LOS at study area intersections under average project operations. Table 3.12-6 does not include the traffic that would be generated during special events, which would occur on an intermittent basis with substantial variation in potential attendance levels.

Table 3.12-6. Peak Hour Intersection Level of Service with Project

Intersection		Control[1]	Peak Hour	Existing		Existing With Project		Significant Impact?
				Delay[2]	LOS[3]	Delay[2]	LOS[3]	
1	Burma Road/Maritime Street	Signal	PM	13.4	B	13.4	B	No
			SAT	12.0	B	13.5	B	No
2	I-80 Ramps/West Grand Avenue/Maritime Street/Wake Avenue[4&7]	Signal	PM	26.1	C	28.1	C	No
			SAT	32.5	C	45.4	D	No
3	West Grand Avenue/Frontage Road/I-80 Ramps[5&8]	Signal	PM	39.6	D	43.1	D	No
			SAT	37.7	D	43.0	D	No
4	West Grand Avenue/Campbell Street	SSSC	PM	<10 (84.2)	A (F)	<10 (96.5)	A (F)	No
			SAT	<10 (20.4)	A (C)	<10 (26.0)	A (D)	No
5A	24th Street/Mandela Parkway Southbound	SSSC	PM	<10 (10.7)	A (B)	<10 (10.7)	A (B)	No
			SAT	<10 (10.7)	A (B)	<10 (10.8)	A (B)	No
5B	24th Street/Mandela Parkway Northbound	SSSC	PM	<10 (16.3)	A (C)	<10 (16.4)	A (C)	No
			SAT	<10 (12.7)	A (B)	<10 (12.9)	A (B)	No
6A	West Grand Avenue/Mandela Parkway Southbound	Signal	PM	16.6	B	16.5	B	No
			SAT	14.5	B	14.5	B	No
6B	West Grand Avenue/Mandela Parkway Northbound	Signal	PM	16.9	B	16.8	B	No
			SAT	18.4	B	17.7	B	No
7A	20th Street/Mandela Parkway Southbound	SSSC	PM	<10 (13.3)	A (B)	<10 (13.3)	A (B)	No
			SAT	<10 (12.7)	A (B)	<10 (12.8)	A (B)	No
7B	20th Street/Mandela Parkway Northbound	SSSC	PM	<10 (12.0)	A (B)	<10 (12.1)	A (B)	No
			SAT	<10 (10.3)	A (B)	<10 (10.4)	A (B)	No
8	7th Street/I-880 Northbound Off-Ramp/Frontage Road[6&9]	Signal	PM	26.4	C	26.6	C	No
			SAT	18.3	B	19.2	B	No
9	7th Street/Maritime Street	Signal	PM	**59.1**	**E**	**64.6**	**E**	Yes
			SAT	33.5	C	35.3	D	No
10	West Grand Avenue/Adeline Street	Signal	PM	14.9	B	15.2	B	No
			SAT	14.5	B	15.0	B	No

Notes: **Bold** text indicates potentially unacceptable intersection operations.

1. Signal = Signalized Intersection; SSSC = Side-street stop-controlled intersections; traffic on the main street does not stop while traffic on the side-street is controlled by a stop sign.
2. Delay presented in seconds per vehicle; for side-street stop-controlled intersections, delay presented in Intersection average (worst approach).
3. LOS = Level of Service.
4. Delay presented in table for Intersection 2 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: EB left = 43.2/D, EB thru = 24.5/C, EB right = 22.9/C
   b. Sat Peak Hour: EB left = 68.5/E, EB thru = 29.8/C, EB right = 28.2/C
5. Delay presented in table for Intersection 3 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 40.4/D, NB thru/right = 39.7/D, SB left = 41.9/D, SB thru-right = 35.7/D
   b. Sat Peak Hour: NB left = 39.6/D, NB thru-right = 36.6/D, SB left = 40.0/D, SB thru-right = 35.9/D
6. Delay presented in table for Intersection 8 average delay/LOS. Existing Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 24.2/C, NB thru/right = 25.3/C
   b. Sat Peak Hour: NB left = 11.4/B, NB thru-right = 12.1/B
7. Delay presented in table for Intersection 2 average delay/LOS. Existing + Project Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: EB left = 47.7/D, EB thru = 28.2/C, EB right = 26.4/C
   b. Sat Peak Hour: EB left = 69.8/E, EB thru = 31.9/C, EB right = 30.4/C
8. Delay presented in table for Intersection 3 average delay/LOS. Existing + Project Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 41.4/D, NB thru/right = 39.6/D, SB left = 41.9/D, SB thru-right = 35.8/D
   b. Sat Peak Hour: NB left = 40.4/D, NB thru-right = 36.6/D, SB left = 40.0/D, SB thru-right = 36.1/D
9. Delay presented in table for Intersection 8 average delay/LOS. Existing + Project Delay/LOS for specific movements from the off-ramp as follows:
   a. PM Peak Hour: NB left = 25.9/C, NB thru/right = 25.5/C
   b. Sat Peak Hour: NB left = 12.6/B, NB thru-right = 12.8/B

Source: Fehr & Peers 2014

Table 3.12-6 shows that the addition of project-generated vehicle trips during the PM peak hours would worsen the LOS E conditions increasing average delay by more than 4 seconds at Intersection 7, 7th Street/Maritime Street. This impact would be significant. However, with the implementation of mitigation measure **MM-TRA-2** this impact would be less than significant because LOS would improve to D during the PM weekday and C during the Saturday afternoon peak hour, except during special events scheduled during peak hours. Such events could worsen LOS conditions. However, because it is not known what special events would be held, when they would be held, and what proportion of attendees would use alternative modes of transportation, it is not possible to assess the degree to which traffic would worsen without speculation. Therefore, it is conservatively concluded that the impact during special events would be significant and unavoidable.

MM-TRA-2. Upgrade traffic signal equipment at the 7th Street/Maritime Street intersection

The ~~City of Oakland~~ project implementer~~, a member of the Gateway Park Working Group,~~ shall coordinate with the City of Oakland and Port of Oakland to upgrade the traffic signal equipment at the intersections to provide video detection for vehicles and bicycles. This would allow for better allocation of the green signal time to movements, improving the LOS to D for vehicles during the weekday PM and to LOS C during the Saturday afternoon peak hour, as shown in Table 3.12-7.

Table 3.12-7. Existing with Project with Mitigation Peak Hour Intersection Level of Service

Intersection		Peak Hour	Existing Conditions		Existing With Project		Existing With Project With Mitigation	
			Delay[a]	LOS[b]	Delay[a]	LOS	Delay[a]	LOS
9	7th Street/Maritime Street	PM	59.1	E	64.6	E	41.4	D
		SAT	33.5	C	35.3	D	31.4	C

Notes: **Bold** text indicates potentially unacceptable intersection operations.
[a] Delay presented in seconds per vehicles
[b] LOS = level of service
Source: Fehr & Peers 2014

Impact TRA-2. The project would conflict with the applicable congestion management program, including level of service standards and travel demand measures, and other standards established by the county congestion management agency for designated roads or highways during special events (significant and unavoidable)

Operations of the MTS freeway and surface street segments were assessed based on volume-to-capacity (V/C) ratios. For freeway segments, a per-lane capacity of 2,000 vehicles per hour was used. For surface streets, a per-lane capacity of 800 vehicles per hour was used. These capacities do not reflect additional capacity provided at intersections through turn pockets. Roadway segments with a V/C ratio greater than 1.0 are assigned LOS F.

The addition of project traffic causes a significant impact on an MTS roadway segment if:

- The addition of project traffic causes a segment's operation to degrade to LOS F.
- The addition of project trips causes the V/C ratio to increase by more than 0.03 on a segment that already operates at LOS F without the project traffic.

The MTS PM Peak Hour roadway segment analysis under 2020 conditions is provided in Table 3.12-8. A comparison of the 2020 conditions with and without Gateway Park is a reasonable and conservative method of analysis because the project, at best, might be partially built by 2020. Results of the analysis indicate that the project is not expected to result in or worsen already deficient operations on roadway segments in the project vicinity in 2020. This impact would be less than significant, except during special events scheduled during peak hours. Such events could worsen LOS conditions. However, because it is not known what special events would be held, when they would be held, and what proportion of attendees would use alternative modes of transportation, it is not possible to assess the degree to which traffic would worsen without speculation. Therefore, it is conservatively concluded that the impact during special events would be significant and unavoidable.

Impact TRA-3. The project would not result in a change in air traffic patterns (less than significant)

The project area is approximately 7 miles northwest of Oakland International Airport. The project structures would be similar to the heights of other existing buildings and structures in the project vicinity and would not introduce any new features that would interfere with air traffic patterns or result in an increased safety risk. Accordingly, the project would have a less-than-significant impact on air traffic. No mitigation would be required.

Impact TRA-4. The project would introduce design features that could cause bicycle and pedestrian conflicts but would not result in a substantial increase in hazards (less than significant with mitigation)

Construction

As discussed under Impact TRA-1, development of the project would take place over a 15-year period. During this time, temporary and intermittent construction-related truck and worker traffic could affect roadway capacity, including roadways used by pedestrians and bicyclists, resulting in potential increased safety hazards. Figure 3.12-3 shows roadways with existing and proposed bike paths in the study area that could be affected during construction, including Mandela Parkway, Grand Avenue, 7th Street, and Maritime Street. Additionally, although there are no existing ~~or proposed~~ bikeway facilities on Frontage Road or Burma Road, bicyclists on those roads could be affected by construction. These impacts would be temporary and intermittent over the construction period. With implementation of mitigation measure **MM-TRA-1**, this impact would be less than significant because measures would be put in place to lessen the effects on roadway performance and safety, including signage to alert drivers, pedestrians and bicyclists of lane closures, detours, or other circulation conditions.

Table 3.12-8. 2020 PM Peak Hour Congestion Management Program Roadway Segment Analysis

Link Location/Segment Limits		# Lanes	No Project Volume	With Project Volume	Percent Increase	V/C Ratio- No Project	V/C Ratio – With Project	No Project LOS	With Project LOS	Change From LOS E or better to LOS F	LOS F And Change In V/C
Freeway Segments											
I-580 Eastbound											
I-80/I-580	MacArthur Blvd	4	9,112	9,116	0%	1.14	1.14	F	F	-	No
MacArthur Blvd	I-980/SR 24	5	8,549	8,553	0%	0.85	0.86	D	D	No	-
I-980/SR 24	Oakland Avenue	5	8,648	8,659	0%	0.86	0.87	D	D	No	-
Oakland Avenue	Grand Avenue	4	9,358	9,369	0%	1.17	1.17	F	F	-	No
I-580 Westbound											
Lakeshore Avenue	Grand Avenue	4	7,654	7,671	0%	0.96	0.96	E	E	No	-
Grand Avenue	Oakland Avenue	4	8,502	8,519	0%	1.06	1.06	F	F	-	No
Oakland Avenue	I-980/SR 24	5	7,744	7,761	0%	0.77	0.78	D	D	No	-
I-980/SR 24	I-580/I-80	5	7,238	7,246	0%	0.72	0.72	C	C	No	-
I-980 Eastbound											
I-880	12th Street	2	3,429	3,434	0%	0.86	0.86	D	D	No	-
12th Street	27th Street	3	4,325	4,330	0%	0.72	0.72	C	C	No	-
27th Street	I-580	5	6,073	6,078	0%	0.61	0.61	C	C	No	-
I-980 Westbound											
I-580	27th Street	5	4,354	4,368	0%	0.44	0.44	B	B	No	-
27th Street	12th Street	3	3,441	3,448	0%	0.57	0.57	B	B	No	-
12th Street	I-880	2	3,788	3,795	0%	0.63	0.63	C	C	No	-
I-880 Northbound											
Broadway	I-980	5	7,695	7,712	0%	0.77	0.77	D	D	No	-
I-980	Market Street	4	5,759	5,776	0%	0.72	0.72	C	C	No	-
Market Street	5th Street	3	5,084	5,101	0%	0.85	0.85	D	D	No	-
5th Street	7th Street	3	5,304	5,321	0%	0.88	0.89	D	D	No	-
7th Street	Grand Avenue	3	4,435	4,435	0%	0.74	0.74	C	C	No	-
Grand Avenue	I-580/I-80	2	3,974	3,982	0%	0.99	1.00	E	E	No	-

Link Location/Segment Limits		# Lanes	No Project Volume	With Project Volume	Percent Increase	V/C Ratio- No Project	V/C Ratio – With Project	No Project LOS	With Project LOS	Change From LOS E or better to LOS F	LOS F And Change In V/C
I-880 Southbound											
I-580/I-80	Grand Avenue	4	4,930	4,939	0%	0.62	0.62	C	C	No	-
Grand Avenue	7th Street	3	4,631	4,631	0%	0.77	0.77	D	D	No	-
7th Street	5th Street	3	5,373	5,384	0%	0.90	0.90	D	D	No	-
5th Street	Market Street	3	4,542	4,553	0%	0.76	0.76	D	D	No	-
Market Street	I-980	3	4,542	4,553	0%	0.76	0.76	D	D	No	-
I-980	Broadway	4	7,903	7,914	0%	0.99	0.99	E	E	No	-
I-80 Eastbound											
East of Toll Plaza		6	12,391	12,402	0%	1.03	1.03	F	F	-	No
I-880 Connector	I-580 Connector	2	4,516	4,527	0%	1.13	1.13	F	F	-	No
I-580 Connector	Powell Street	6	8,793	8,793	0%	0.73	0.73	C	C	No	-
Powell Street	Bay Street/Ashby	4	10,376	10,384	0%	1.30	1.30	F	F	-	No
I-80 Westbound											
Ashby Avenue	Powell Street	4	9,197	9,208	0%	1.15	1.15	F	F	-	No
Powell Street	I-580 Connector	5	10,075	10,086	0%	1.01	1.01	F	F	-	No
I-580 Connector	I-880	3	4,368	4,370	0%	0.73	0.73	C	C	No	-
West of Toll Plaza		5	8,243	8,251	0%	0.82	0.82	D	D	No	-
Arterials											
I-880	Mandela Parkway	2	1,922	1,962	2%	1.20	1.23	F	F	-	No
Mandela Parkway	Adeline Street	3	2,014	2,046	2%	0.84	0.85	D	D	No	-
Adeline Street	San Pablo Ave	3	2,049	2,064	1%	0.85	0.86	D	D	No	-
San Pablo Ave	Telegraph Avenue	3	979	994	2%	0.41	0.41	B	B	No	-
Grand Avenue Westbound											
Telegraph Avenue	San Pablo Ave	3	1,172	1,208	3%	0.49	0.50	B	B	No	-
San Pablo Ave	Adeline Street	3	1,074	1,110	3%	0.45	0.46	B	B	No	-
Adeline Street	Mandela Parkway	3	1,131	1,176	4%	0.47	0.49	B	B	No	-
Mandela Parkway	I-880	2	1,346	1,403	4%	0.84	0.88	D	D	No	-

Notes: ***Bold and italic*** text indicates a potentially significant impact
Source: Fehr & Peers 2014
LOS = level of service; V/C = volume to capacity

Operations

Operation of the project has the potential to result in safety hazards for pedestrians and bicyclists because the increased traffic to existing and proposed facilities could affect LOS or compromise safety conditions associated with vehicular traffic. New bicycle and pedestrian facilities would be designed to meet or exceed City of Oakland and Caltrans standards, with the intent to separate bicycle and pedestrian travel from motor vehicle travel to the greatest extent possible, thus reducing hazards, although the potential for significant impacts still exists, as discussed for each element of pedestrian and bicycle safety, as follows.

Increased bicycle and pedestrian trail use. The project would provide a destination for bicycle and pedestrian trips along the Bay Trail, provide a number of recreational amenities, improve staging and access to the bicycle and pedestrian path along the Bay Bridge Trail, and provide links to existing and planned segments of the Bay Trail. It is expected to attract both local residents as well as visitors.

Gateway Park would provide a pedestrian and bicycle destination and could contribute to increased demand on the Bay Bridge Trail. The projected level of bicycle and pedestrian activity on the Bay Bridge Trail from Table 3.12-9 was used to calculate weekday and weekend peak hour Trail LOS (Section 3.12.3.2, *Impact Analysis Methods, Pedestrian and Bicycle Facilities*).

Table 3.12-9. Near-Term East Span Bicycle and Pedestrian Forecast Range

	Weekday			Weekend	
Source of Activity	**Daily**	**AM Peak Hour**	**PM Peak Hour**	**Daily**	**Peak Hour**
Tourism/Recreation–Pedestrian[a]	300–1,070	10	40–200	2,250–3,270	290–420
Tourism/Recreation–Bicycle[a]	320–500	20	50–90	1,800–1,830	220–330
Treasure Island Development–Bicycle[b]	0–700	0–30	0–40	0–700	0–40
Total Near-term Pedestrian/ Bicycle Activity Range	**620–2,270**	**30–60**	**90–330**	**4,050–5,800**	**540–790**

Notes:

[a] The low end of the range is based on counts of activity on the east span prior to the completion of the Park and the connection to Yerba Buena Island. Maximum of the Near-term activity range is assumed 20% of observed activity on the Golden Gate Bridge on a weekday and 30% of observed activity on a weekend.

[b] Based on the trip generation, mode choice and project trip distribution from the *Treasure Island and Yerba Buena Island Redevelopment Plan Transportation Impact Study* (Fehr & Peers 2010). Range is from 0 as it is uncertain when the Treasure Island Development would be fully built out.

Source: Fehr & Peers 2014

The project would increase pedestrian and bicycle travel in the area. Daily pedestrian and bicycle activity within the park and east span could range from approximately 620 to 2,270 people. With implementation of the project, Trail LOS B (Good) would occur during weekday PM peak hour and Trail LOS E (Very Poor) on a weekend day, assuming a high level of activity. The increased weekday PM peak hour pedestrian and bicycle activity could result in conflicts where Gateway Park would connect to the Bay Bridge Trail, potentially creating hazardous conditions for pedestrians and bicyclists. Impacts could be greater during special events. This impact would be significant. With implementation of mitigation measure **MM-TRA-3**, this impact would be less than significant.

MM-TRA-3. Provide improvements to separate passive park users from active Bay Bridge Trail users

The project implementer shall provide additional pavement width and markings near the Bay Bridge Trail access locations in Gateway Park, including directional signage and striping, and potentially fencing to separate passive park users from active Bay Bridge Trail users.

Bicycle and pedestrian conflicts at intersections. At the West Grand Avenue/Frontage Road/I-80 Ramps intersection (Intersection 3), the project could add pedestrian and bicycle traffic to an intersection where the current pedestrian accommodations are insufficient to accommodate increased demand. This would be a significant impact. With implementation of mitigation measure **MM-TRA-4**, this impact would be less than significant.

MM-TRA-4. Upgrade intersection pedestrian and bicycle facilities at the West Grand Avenue/Frontage Road/I-80 ramps (Study Intersection 3)

The ~~City of Oakland~~ project implementer shall coordinate with Caltrans and the City of Oakland to upgrade the marked crosswalk along the south leg of the intersection. The ~~City~~ project implementer shall install pedestrian and bicycle signal heads and upgrade the traffic signal equipment as necessary to accommodate the pedestrian and bicycle movement across the intersection.

Site Access. The project would add a regional destination to an area with potentially confusing access. There are several ways to access the site by both auto and non-auto modes that may not be intuitive to infrequent Gateway Park visitors. These conditions could create circuitous travel and distracted drivers and lead to bicycle and pedestrian conflicts with automobiles. This impact would be significant. With implementation of mitigation measure **MM-TRA-5,** this impact would be less than significant.

MM-TRA-5. Develop and implement a way-finding plan

The ~~City of Oakland~~ project implementer shall develop a way-finding plan for both vehicles and nonmotorized visitors to the site. Installation of signage at various decision points along access routes would reduce driver confusion and reduce circuitous travel though the area for all modes of travel. The project implementer shall coordinate with the City of Oakland, Caltrans, and/or the Port of Oakland as needed for improvements within their respective jurisdictions.

Pedestrian and bicycle safety. The project would construct pedestrian amenities to accommodate increased pedestrian and bicycle demand. Gateway Park hours typically would be from dawn to dusk, with the potential for nighttime special events. Lighting would be provided throughout the park for security and along paths and within parking areas. Impacts on pedestrian safety would be less than significant. No mitigation would be required.

The project would also construct bicycle amenities to accommodate increased bicycle demand, including bicycle connections to the planned Bay Trail and multiuse paths throughout the project site. These bicycle amenities would create more opportunities for connection to the overall bicycle system described in the City of Oakland's Bicycle Master Plan (City of Oakland 2007). The project is consistent with the Bicycle Master Plan. No mitigation would be required.

Railroad crossing hazards. There are numerous at-grade railroad crossings in the Port of Oakland area, including infrequently used spur lines. The project may increase vehicle, pedestrian, and bicycle travel across at-grade railroad crossings in the study area, including rail crossings on Burma Road, west of Maritime Street and on Maritime Street, south of Burma Road. Although these crossings are not currently in use, redevelopment in the Port of Oakland area could put these rail crossings and others back into active use. Mitigation was identified in the *2012 Oakland Army Base Initial Study/Addendum* (LSA Associates 2012) related to the construction of new or relocated at-grade crossings, specifically, Mitigation Measure 3.16-16(d):

> Unless approved otherwise by the California Public Utility Commission (CPUC), construct all rail crossings at a minimum street-crossing angle of 45 degrees consistent with Institute of Transportation Engineers recommendations, 90 degrees is preferred for cross-traffic safety.

However, the project would not alter any at-grade crossings in the area. Should the existing crossings in the study area that are not currently in use be placed back into active use, the Oakland Army Base project proponent would be responsible for upgrading the crossings. Therefore, this impact would be less than significant. No mitigation would be required.

Impact TRA-5. The project would not result in inadequate emergency access (less than significant with mitigation)

Construction

As discussed under Impact TRA-1, development of the project would take place over a 15-year period. During this time, temporary and intermittent construction-related truck and worker traffic could affect roadway capacity and affect emergency access in the study area. These impacts would be temporary and intermittent over the construction period. With implementation of mitigation measure **MM-TRA-1**, these impacts would be less than significant because the project implementer would provide advance notification to emergency service providers as well as ensure there is emergency access available throughout construction.

Operations

The project would add activity to an area with only one designated vehicular access point, Burma Road. If this roadway is blocked or obstructed, emergency vehicle access could be impaired. The Bay Trail may be a possible secondary emergency route that could be utilized to reach Maritime Boulevard from the park in lieu of Burma Road. During special events in particular, when Burma Road is used for vehicular access and egress, the potential for blockage of Burma Road would be higher than under normal park operations. Also during special events, parking at the park would be substantially less than the likely parking demand for large events and thus vehicle traffic on Burma road is likely to be particularly heavy before and after such events, which could hinder emergency vehicle access as well. During normal park operations as well as during special events, this impact would be significant. With implementation of mitigation measure **MM-TRA-6**, this impact would be less than significant.

MM-TRA-6. Provide emergency evacuation plan and additional emergency access to Gateway Park, including parking management during special events.

The project implementer shall ~~work with the Port of Oakland and the City of Oakland to~~ provide a second emergency vehicle access to the Gateway Park, possibly through use of the Bay Trail, or provide an emergency service program and emergency evacuation plan using waterborne vessels. <u>The project implementer shall coordinate with the City of Oakland to implement this measure.</u>

The project implementer shall develop and implement an Emergency Evacuation Plan for Gateway Park that identifies all potential points of access and egress, public communication strategy, emergency procedures and notifications, and an implementing strategy. The plan shall include requirements for training of park staff. The performance standard for the plan is that it provide for the safe access of emergency vehicles to the park at all times and the safe evacuation by vehicle, foot or bicycle of park visitors in the case of an emergency at all times.

For special events, the project implementer shall require the event proponent to prepare a Special Event Emergency Evacuation Plan for any large (> 250 persons) special event planned to be held at the park containing the same information as the park plan, but addressing the specific event parameters. The performance standard for the plan is that it provide for the safe access of emergency vehicles to the park at all times during the event and the safe evacuation by vehicle, foot or bicycle of all event attendees in the case of an emergency during the event.

The project implementer shall also require the event proponent to prepare and implement a parking management plan that identifies strategies to reduce and manage the parking demand during special events. The following strategies could be considered.

- Work with AC Transit to provide fixed-route and special event transit service to the site.
- Provide shuttles from the MacArthur and/or West Oakland BART stations during the event.
- Implement variable event parking pricing.
- Use changeable message signs to direct visitors to other available parking areas, such as at the Middle Harbor Shoreline Park, and shuttle visitors to the park.
- Provide valet parking during special events to maximize capacity of on-site lots.
- Implement parking time limits in the park to encourage vehicle turnover.
- Provide bicycle parking to encourage park guests to use bicycling as their primary mode of travel to the park.
- The performance standard of this measure is the avoidance of lengthy vehicle delays on Burma Road between the Park and Maritime Blvd. that might otherwise hinder emergency vehicle access.

Impact TRA-6. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, but would decrease the performance or safety of such facilities (less than significant with mitigation)

Construction

As discussed under Impact TRA-1, development of the project would take place over a 15-year period. During construction, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the project site. Construction-related traffic would be temporary and would not result in any long-term impacts on operating conditions of project area roadways. The construction-related traffic may temporarily reduce capacities of roadways in the project vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. With implementation of mitigation measure **MM-TRA-1**, these impacts would be less than significant because measures would be put in place to lessen the effect on roadway performance and safety.

Operations

The *City of Oakland General Plan Land Use and Transportation Element* (1998) and the City's Complete Streets Policy (84204 CMS) (City of Oakland 2013) state a strong preference for encouraging the use of non-automobile transportation modes, such as transit, bicycling, and walking. The project would encourage the use of non-automobile transportation modes by providing additional bicycle and pedestrian facilities in Oakland and improving the trail system extending through the larger Bay region.

The project would add Class 1 and Class 2 bicycle facilities in the Gateway Park area, improving access to the Bay Trail corridor, consistent with the City's Bicycle Master Plan. Overall, the project would not conflict with adopted City policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. However, the increased recreational use of Gateway Park, with all modes of transportation, could conflict with the performance or safety of such facilities. This impact would be significant. Implementation of mitigation measures **MM-TRA-3** through **MM-TRA-5** would reduce this impact to less than significant.

Section 3.13
Utilities and Service Systems

This section describes utilities and service systems in the study area. It then describes impacts on utilities and service systems that could result from construction and operation of the proposed project (project or Gateway Park). This section also presents the measures identified to mitigate impacts resulting from project implementation and any remaining significant and unavoidable adverse impacts.

3.13.1 Regulatory Setting

This section summarizes federal, state, regional, and local laws, regulations, and guidelines relevant to utilities and service systems.

3.13.1.1 Federal

No federal regulations apply to utilities for construction or operation of the project. Regulations applicable to soils affecting stormwater runoff and water quality are included in Section 3.8, *Hydrology and Water Quality*.

3.13.1.2 State

The following state regulations, laws, and guidelines apply to utilities and service systems.

California Integrated Waste Management Act of 1989

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties in California were required to divert 25% of all solid waste to recycling facilities from landfill or transformation facilities by January 1, 1995, and 50% by January 1, 2000. The California Integrated Waste Management Board's Department of Resources Recycling and Recovery (now CalRecycle) is designated to oversee, manage, and track California's 92 million tons of waste generated each year.

3.13.1.3 Regional and Local

The project area includes areas within the jurisdiction of the City of Oakland, Port of Oakland, Caltrans, and the U.S. Army. With approval of the project, the portion of the project area owned by the U.S. Army would be transferred to the East Bay Regional Park District. The following regional and local regulations, laws, and guidelines apply to utilities and service systems.

City of Oakland

City of Oakland General Plan

The City of Oakland General Plan, Open Space, Conservation, and Recreation Element (City of Oakland 1996) includes the following policy relevant to the project and utilities.

- **Policy CO-4.3: Use of Reclaimed Water.** Promote the use of reclaimed water for irrigating landscape medians, cemeteries, parks, golf courses, and other areas requiring large volumes of nonpotable water.

City of Oakland Municipal Code

Oakland Municipal Code Chapter 15.34 provides the City's Construction and Demolition Debris Reduction and Recycling Ordinance (C&D Recycling Ordinance). This is part of the City's efforts to meet local and state mandated AB 939 requirements to divert materials from landfill facilities. Affected projects include all new construction, renovations, alterations, or modifications with construction values of $50,000 or more and all demolition (except single-family dwellings). The C&D Recycling Ordinance requires that 100% of all asphalt and concrete materials and 65% of all other materials be recycled. Further, the C&D Ordinance requires the preparation of a waste reduction and recycling plan that shows how the project would salvage and/or recycle 100% of asphalt and concrete debris and at least 65% of all other materials. The ordinance also requires; and preparation of a construction and demolition summary report that documents the actual salvage, recycling, and disposal activity for the completed project (City of Oakland 2016).

East Bay Regional Park District

Master Plan 2013

The East Bay Regional Park District would manage Gateway Park. Their *Master Plan 2013* (East Bay Regional Park District 2013) contains the following policies pertaining to utilities.

- **PRPT28.** New utility lines will be placed underground on land owned, operated, or managed by the District to retain the optimal visual qualities of the area. Rights of way and easements for utilities will not be granted without under-grounding. The District will work in cooperation with the utility companies to place existing overhead utilities underground (unless so doing conflicts with applicable codes) as soon as practical and will work with other agencies and neighbors to reduce visual impacts on adjacent lands. The District will seek to avoid the construction of high voltage power lines within the parklands, particularly, in areas of sensitive or aesthetically important resources and in preserve areas.

3.13.2 Environmental Setting

This section describes existing conditions related to utilities and service systems that could be affected by the construction and operation of the project.

3.13.2.1 Study Area

The study area for direct impacts on utilities and service systems is the project footprint and the service areas of the various utilities that operate in the 45-acre project area.

3.13.2.2 Gas and Electrical Service Systems

Pacific Gas & Electric (PG&E) is the primary provider of gas and electricity service in Alameda County. PG&E electrical and natural gas lines, including a 12-kilovolt electrical line and a 12-inch gas line, are located in the project area, primarily along the eastern touchdown of the San Francisco–Oakland Bay Bridge (Bay Bridge)/Interstate 80 (I-80), Burma Road, and Wood Street. The project area consists mainly of underutilized industrial uses and vacant land and currently generates a negligible demand for electricity and natural gas.

3.13.2.3 Water Supply, Wastewater, and Stormwater Service Systems

Potable water in the project area is provided by East Bay Municipal Utility District (EBMUD). The water system collects, transmits, treats, and distributes high-quality water from its primary water source, the Mokelumne River, within its 322-square-mile service area. The Mokelumne Aqueducts convey water from the Pardee Reservoir to the local storage and treatment facilities in the San Francisco East Bay (East Bay Municipal Utility District 2015). EBMUD projects that the 2040 water demand in the service area will be 230 million gallons per day, and the water supply available will be 230 million gallons per day during normal conditions. EBMUD is not projected to be able to meet the water demand during a single dry year or multiple dry years without rationing (East Bay Municipal Utility District 2015). However, with a combination of reductions in water use and acquisition of supplemental supplies, EBMUD can provide adequate water service in all year types (East Bay Municipal Utility District 2015). In addition to demand-side water savings from conservation, the supplemental supply components that EBMUD may pursue in order to ensure delivery of emergency water supplies during dry-years include, but are not limited to, purchasing water through transfers, exploring a regional desalination project and groundwater banking/exchange efforts, and expanding surface water storage (East Bay Municipal Utility District 2015). With the implementation of supplemental supply components, EBMUD can meet water demand in all year types (East Bay Municipal Utility District 2015). The project area consists mainly of underutilized industrial uses and vacant land and currently generates a negligible demand for water.

Wastewater collection and treatment is also provided by EBMUD. Wastewater is carried by city pipes into the EBMUD collection systems, which deliver it to the wastewater treatment plant. On average, EBMUD treats approximately 63 million gallons of municipal wastewater per day (East Bay Municipal Utility District 2016). EBMUD's plant provides primary treatment for up to 320 million gallons and secondary treatment for a maximum flow of 168 million gallons per day. The storage basins provide plant capacity for a short-term hydraulic peak of 415 million gallons (East Bay

Municipal Utility District 2016). EBMUD's wastewater treatment plant is located east of and adjacent to the project area, immediately north of West Grand Avenue. The project area does not currently demand wastewater services from EBMUD.

EBMUD also maintains wastewater treatment infrastructure outside the project area boundary. A 108-inch diameter outfall pipe conveys treated flows from the treatment plant to the San Francisco Bay, discharging immediately south of the Bay Bridge and approximately 1 mile west of the East Bay shoreline. The outfall alignment runs through the project area along the northern edge of Burma Road. The majority of the outfall is either at grade or less than 3 feet below grade before it reaches an outfall structure at the western perimeter of the project area (in the Key Point area), where it drops into the Bay and is supported by piles (Figure 2-7). Because the outfall is very shallow and breaks ground in some stretches, it must be protected from heavy loads at grade. EBMUD maintains a fence that runs along the length of the outfall to prevent unauthorized vehicle crossings. Six vent stacks are also located along the alignment to guard against excessive pressure buildup during high flow and/or high tide conditions. EBMUD also maintains 13 utility access holes along the outfall alignment to facilitate outfall inspections and repair work. In addition to the outfall easement, the project area also includes a dechlorination facility in the Key Point area (Figure 2-7). At this facility, liquid sodium bisulfite is added to flows in the effluent outfall to remove residual chlorine from the treated wastewater prior to discharge in the Bay. Testing is also conducted to ensure that effluent is meeting applicable regulatory requirements for discharge. Chemical delivery to the dechlorination facility is done several times each week. EBMUD access to the facility, which is provided via the Caltrans maintenance road, must be maintained at all times.

Stormwater in the project area drains into the City of Oakland's municipal storm drain system, which ultimately discharges into the San Francisco Bay. As described in Section 3.8, *Hydrology and Water Quality*, the project would be covered under the Alameda County Phase 1 Municipal Separate Storm Sewer System (MS4) under the Regional Water Board Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (Order R2-2009-0074, NPDES Permit CAS612008).

3.13.2.4 Solid Waste Service Systems

Waste Management Inc. provides solid waste collection and disposal services to the City of Oakland. Four landfill facilities are operated by Waste Management within 100 miles of the project area: Altamont Landfill & Resource Recovery in Livermore, Guadalupe Rubbish Disposal in San José, Kirby Canyon Landfill in Morgan Hill, and Redwood Landfill in Novato (Waste Management 2016). Waste Management Inc. also operates two recycling facilities and provides recycling services in San Leandro (Davis Street Recycling) and San José (Guadalupe Recycling & Disposal Facility). Table 3.13-1 summarizes the landfill locations, maximum permitted capacities, remaining capacities, and estimated closure dates.

Table 3.13-1. Landfill Facility Solid Waste Permitted and Remaining Capacities

Landfill	Landfill Permitted Daily Tonnage (tons per day)	Maximum Permitted Landfill Capacity (cubic yards)	Remaining Landfill Capacity (cubic yards)	Remaining Capacity as of Date	Estimated Permitted Closure Date
Altamont Landfill & Resource Recovery	11,150	124,400,000	65,400,000	December 31, 2014	1/1/2025
Guadalupe Rubbish Disposal	1,300	28,600,000	11,055,000	January 01, 2011	1/1/2048
Kirby Canyon Landfill	2,600	36,400,000	16,191,600	July 31, 2015	12/31/2022
Redwood Landfill	2,300	19,100,000	26,000,000	December 18, 2008	7/1/2024
Total			118,646,600		

Source: CalRecycle 2017a, 2017b, 2017c, 2017d.

3.13.3 Methods

This section describes the sources of information and methods used to evaluate the potential impacts on utilities and service systems associated with the construction and operation of the project.

3.13.3.1 Principal Information Sources

The following sources of information were used to evaluate the potential impacts of the project on utilities and service systems in the study area.

- *Gateway Park Project— Community Impact Assessment* (ICF 2016)
- *Recycling and Garbage. Construction and Demolition Recycling* (City of Oakland 2016)
- *Urban Water Management Plan 2015* (East Bay Municipal Utility District 2015)
- *Wastewater Treatment* (East Bay Municipal Utility District 2016)
- *Find A Facility* (Waste Management 2016)
- *Gateway Park Area: Existing and Future Conditions* (Bay Area Toll Authority 2010)

3.13.3.2 Impact Analysis Methods

This section describes the methods used to evaluate the potential impacts of the project on utilities and service systems in the study area, as defined in Section 3.13.2.1, *Study Area*. Impacts on utilities and service systems were analyzed based on the service providers' websites and the EBMUD 2015 *Urban Water Management Plan*.

3.13.3.3 Significance Criteria

The project would have a significant impact on utilities and service systems if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB).
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources with no new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

3.13.4 Impacts and Mitigation

This section describes the potential impacts related to utilities and service systems that would result from construction and operation of the project. During construction, overhead PG&E utility lines may need to be relocated. The project implementer would be required to coordinate with the utility provider to minimize and/or avoid any potential service disruptions.

Impact UTIL-1. The project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities (less than significant with mitigation)

All wastewater generated during construction and operation of the project would be treated through the EBMUD wastewater treatment plant, which is obligated to meet the requirements of the San Francisco Bay RWQCB. Water quality issues are further addressed in Section 3.8, *Hydrology and Water Quality*. Further, as described under Impact UTIL-4, any increase in wastewater resulting from construction at the site would be minimal and wastewater generation under project operation and maintenance would be similar to existing conditions.

Critical EBMUD infrastructure is located within the project area boundary, including the main outfall line from EBMUD's wastewater treatment plant and a dechlorination facility that treats effluent prior to discharge in the Bay. Because the outfall is very shallow and breaks ground in some stretches, it must be protected from heavy loads at grade. Furthermore, continuous access to both the outfall and the dechlorination facility must be available to EBMUD throughout project construction and operation. Without proper design, construction precautions, and operational protocol, the project could result in damage to EBMUD infrastructure, which could necessitate the need for future construction of new infrastructure. This impact would be significant. With implementation of mitigation measures **MM-UTIL-1** through **MM-UTIL-3**, this impact would be less than significant.

MM-UTIL-1. Coordinate with and obtain approval from EBMUD during design of outfall crossings

The project implementer shall consult with EBMUD to ensure that outfall crossings and other project elements do not result in a substantial hazard to the existing outfall alignment within the project site. The final project design shall incorporate, subject to EBMUD review and approval, the following components.

- Design specifications for engineered bridge crossings and at-grade crossings over the outfall alignment.
- Maximum weight of light maintenance vehicles.
- Precautions to prevent unauthorized crossings (e.g., barriers, signage).
- Maximum permitted fill elevation over the top of the outfall pipe.
- Siting of major project elements in relation to the outfall.
- Tree planting near the outfall alignment.

Issuance of an encroachment permit will indicate EBMUD's approval of the final project design.

MM-UTIL-2. Maintain continued EBMUD access to outfall utility holes and vents

The project implementer shall ensure that EBMUD has continued access to outfall utility holes and vents in order to perform routine and emergency maintenance. Utility holes and vent stack bases shall be raised or adjusted to new grade levels as needed. Park grading and features shall allow EBMUD maintenance vehicle access to all manholes and vent locations. Compliance with this mitigation measure shall be indicated through issuance of an encroachment permit by EBMUD.

MM-UTIL-3. Protect outfall during project construction

Prior to the commencement of project construction activities, the project implementer shall coordinate with EBMUD to establish appropriate measures for protecting the outfall during construction activities. Such measures shall include, but shall not be limited to the following measures.

- Siting distance(s) for materials storage, parking, and operation of vehicles from the center line of the outfall.
- Designated crossing locations for construction vehicles and equipment.
- Inspection and monitoring procedures during construction.

Impact UTIL-2. New stormwater drainage facilities constructed for the project would not cause a significant environmental effect (less than significant)

Under the project, the existing retention basin, south of I-80 and west of the Bridge Yard, would be retained with no changes. It was constructed to receive stormwater runoff from the Bay Bridge toll plaza area. Three additional retention basins (biofiltration swales) would be constructed at the west end in the Key Point area to treat stormwater runoff from the project features. The biofiltration swales would be designed to include a layer of imported biofiltration soil and, if feasible, an underdrain system. The feasibility of underdrain systems would be assessed based on the existing and proposed drainage facilities and site constraints. Specifically, groundwater levels would need to be assessed for underdrain systems. Soils in the facility would need to meet biotreatment soil specifications approved by the RWQCB. A minimum percolation rate of 5 inches per hour and a maximum percolation rate of 10 inches per hour are required. Planting soil layer would be at least 18 inches deep. Shrubs and small trees would be placed to anchor the bioretention area cover, based on guidance in the Alameda County C.3 Storm Technical Guidance (May 2013). A side slope of 4:1 or flatter would be used. The biofiltration swales would be integrated as part of the park landscaping and would not be fenced.

Although drainage patterns on the project area would be altered, drainage would ultimately be improved because Project implementation would remove 0.3 acre of impervious area compared to existing conditions (WRECO 2014). A new drainage system would be constructed to capture the drainage from the Project. Design pollution prevention best management practices to prevent erosion and stabilize disturbed soil areas would consider concentrated flow conveyance systems, such as downdrains, ditches, berms, swales, overside drains, flared end sections, outlet protection, and velocity dissipation devices as necessary to meet the Alameda County C.3 Storm Technical Guidance requirements. Dikes would likely be required by the RWQCB in areas where slopes are too steep to allow for sheet flow and are needed to route runoff to existing and proposed drainage inlets. Outlet protection and velocity dissipation devices would be placed at all outlets of drainage systems that discharge into earth-lined ditches/basins, as required by the RWQCB. The existing drainage design would either be modified to fit with new drainage systems or be removed and replaced by new systems. The modifications to existing drainage facilities would likely result in changes in the interception of surface runoff (Caltrans 2014).

Stormwater runoff from most of the new impervious path areas would sheet flow to nearby vegetated areas, which would include the new retention basins to be constructed. Overall, water from the project features would discharge into unlined channels and ditches that would be tied into existing drainage systems, which are anticipated to have sufficient capacity to accommodate existing stormwater runoff without requiring significant upgrade or modification. However, the project design would also incorporate soil stabilization measures (e.g., vegetation and other protective cover) as part of stormwater management measures. Low-impact development techniques in the project area such as retention basins (biofiltration swales), detention devices, and Austin vault sand filters, would allow for infiltration, minimize runoff volumes, reduce the volume of runoff entering the storm sewer system, and improve onsite water quality conditions. Additionally, there would be an increase in pervious surface area relative to existing conditions which would ultimately reduce stormwater volumes. While the project includes new stormwater infrastructure, the potential environmental impacts of constructing this infrastructure are analyzed throughout this Draft EIR as part of the project. Therefore, the impact would be less than significant. No mitigation would be required.

Impact UTIL-3. The project's estimated water demand would not exceed existing water supply (less than significant)

Construction

Project construction would require the occasional use of water for mixing concrete for creating the paved areas of the project features, washing equipment and vehicles, controlling dust, and other activities. The amount of water used on a daily basis would be minimal. Accordingly, construction impacts on water supply would be less than significant. No mitigation would be required.

Operations

EBMUD currently provides approximately 170 million gallons of water per day to its service areas (East Bay Municipal Utility District 2015). Proposed landscaping in Gateway Park would use native drought-tolerant species to minimize water use from City facilities. Estimated irrigation water usage would be 17.2 million gallons per year (approximately 47,099 gallons per day) (see Appendix E). Water would also be used in some project features, such as the two renovated buildings for visitor services at Key Point. The estimated potable water usage during project operations is 400,000 gallons per year (approximately 1,096 gallons per day) for the worst-case projection of 2 million annual visitors and 15 to 30 daily employees. EBMUD's *2015 Urban Water Management Plan* uses 2040 growth projections to estimate future water demand. It projects that the 2040 water demand in the service area will be 230 million gallons per day. As discussed in Section 3.13.2.3, EBMUD projects that in 2040 there would be sufficient water supply available during normal condition years, but not during a single dry year or multiple dry years without rationing or purchase of supplemental supplies. However, with a combination of reductions in water use and acquisition of supplemental supplies such as purchasing water through transfers, exploring a regional desalination project and groundwater banking/exchange efforts, and expanding surface water storage, EBMUD can provide adequate water service in all year types.

The water demand generated by the project would account for 0.02% of this additional demand. While the project would incrementally increase the demand for water in the service area, the estimated increase in demand could be accommodated by anticipated water supply, as discussed above. The impact would be less than significant. No mitigation would be required.

Impact UTIL-4. The project would not exceed the capacity of the wastewater treatment provider (less than significant)

Construction

Construction of the project would not affect wastewater or wastewater treatment facilities. Because construction workers usually use portable toilets, any increase in wastewater resulting from construction workers at the site would be minimal. Accordingly, the impact on wastewater treatment facilities would be less than significant. No mitigation would be required.

Operations

The project is not expected to result in a substantial change in wastewater generation. The project could include new restrooms at the Bridge Yard, Key Point, and Port Playground Visitor Center. The project would also result in an increase of employees and park users using the facilities. The estimated number of annual visitors at Gateway Park could be as high as 2 million, and there would be 15 to 30 daily employees at the project site. This would generate approximately 400,000 gallons per year (1,096 gallons per day) of wastewater, equal to the potable water estimate in Impact UT-3. This is a conservative assumption because not all potable water used at Gateway Park would be discharged into the wastewater system. This increase would represent only a 0.002% increase in the EBMUD average daily treatment capacity of 63 million gallons per day for the project (East Bay Municipal Utility District 2016). The wastewater generated by the project would not exceed the capacity of the wastewater treatment provider. Accordingly, impacts on wastewater treatment facilities would be less than significant. No mitigation would be required.

Impact UTIL-5. The project would not exceed the capacity of nearby landfills (less than significant)

Construction

Construction of the project would generate solid waste. Old asphalt would be removed in some areas for repaving and construction of new features. As discussed in Section 2.4.7.2, *Grading,* project construction could result in up to 11,500 cubic yards of cut material. During excavation, the soils would be tested for contamination. Clean soils would be reused on site as fill. Contaminated soils, if found, would be disposed at an appropriate hazardous waste facility. Disposal of other construction and demolition materials could require the services of a landfill with permitted capacity to accommodate construction-related solid waste. These types of facilities generally do not face capacity shortage issues, since construction and demolition and inert materials are usually taken to a C&D processing facility for intermediate processing such as sorting by material type and size reduction for sale for construction fill or raw feedstock material (CalRecycle 2016).

As described above, the City's C&D Recycling Ordinance requires that 100% of all asphalt and concrete materials and 65% of all other materials be recycled. Compliance with this ordinance and SCA 35 (waste reduction and recycling) described above would ensure the project does not affect landfill capacity. Therefore, this impact would be less than significant. No mitigation would be required.

Operations

Project operations would generate approximately 145 tons of solid waste per year (0.4 ton per day) associated with park visitors. As shown in Table 3.13-1, the four landfills that could serve the project have a combined remaining capacity of 118,646,600 cubic yards, which is sufficient capacity to accommodate 145 tons of solid waste per year. Because this increase in solid waste would be accommodated by existing landfill capacity, the impact would be less than significant. No mitigation would be required.

Impact UTIL-6. The project would comply with federal, state, and local statutes and regulations related to solid waste (less than significant)

As described under Impact UT-5, the project would comply with requirements to recycle and divert all construction waste and noncontaminated soils from landfills and to ensure proper disposal of any contaminated soils to an appropriate landfill. The project would comply with all other statutes and regulations related to solid waste. The impact would be less than significant. No mitigation would be required.

Chapter 4
Other CEQA Considerations

4.1 Cumulative Impacts

CEQA requires that environmental impact reports (EIRs) discuss a proposed project's potential contributions to cumulative impacts, in addition to project-specific impacts. CEQA Guidelines Section 15130(a)(1) states that a "cumulative impact consists of an impact which is created as a result of the combination of the proposed project evaluated in the EIR together with other proposed projects causing related impacts." Other proposed projects include past, present, and reasonably foreseeable future proposed projects.

4.1.1 Approach and Method

A cumulative impact analysis is required only for the project impacts that could contribute to a cumulative impact. The only project impacts that could contribute to a cumulative impact are those that are less than significant, less than significant with mitigation, or significant and unavoidable. If the project were to result in no impact or in a beneficial impact on a particular resource (for example, on aesthetics), the project would not contribute to a negative cumulative impact. Therefore, no cumulative impact analysis is provided if the project would result in no impact on that resource or if the project would result in a beneficial impact.

CEQA Guidelines Section 15130(b)(1) states that the approach to the cumulative impact analysis may be based on either of the following approaches, or a combination thereof.

- A list of past, present, and reasonably foreseeable future projects producing related or cumulative impacts.
- A summary of projections contained in an adopted general plan or related planning document that describes or evaluates conditions that contribute to the cumulative effect.

This EIR used a hybrid approach to best disclose different cumulative impacts.

- **Projections.** This approach discloses broad, regional cumulative impacts related to regional air quality, greenhouse gas emissions, public services, and utilities and service systems.
- **List approach.** The geographic scope of the cumulative impact analyses and the reasonably foreseeable projects and plans included in the analyses may vary, depending on the specific environmental issue being analyzed. While the cumulative impact study area is consistent with the study area defined for each resource, the reasonably foreseeable projects considered in the cumulative impact analysis are all within 0.5 mile of the project area for all resources. The list approach analyzes impacts related to aesthetics, local air quality, biological resources, cultural resources, geology/soils/paleontological resources, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and vibration, and transportation/traffic.

Table 4-1 summarizes the method used for each cumulative subject analysis as well as the geographic area of analysis.

Table 4-1. Summary of Cumulative Impact Analysis Method

Resource Issue	Cumulative Method	Geographic Area of Impact
Aesthetics	List	Gateway Park and vicinity
Air Quality	Projection (criteria pollutants) List (toxic air contaminants)	San Francisco Bay Area Gateway Park and immediate vicinity
Biological Resources	List	Gateway Park and vicinity
Cultural Resources	List	Gateway Park and vicinity
Geology, Soils, and Paleontological Resources	List	Gateway Park and vicinity
Greenhouse Gas Emissions	Projection	The planet
Hazards and Hazardous Materials	List	Gateway Park and vicinity
Hydrology and Water Quality	List	Gateway Park and vicinity
Land Use and Planning	List	Gateway Park and vicinity
Noise and Vibration	List	Gateway Park and vicinity
Public Services	List (Construction) Projection (Operations)	Gateway Park and vicinity Service areas of regional providers
Transportation and Traffic	List (Construction) Projection (Operations)	Gateway Park and vicinity San Francisco and Alameda Counties
Utilities and Service Systems	List (Construction) Projection (Operations)	Gateway Park and vicinity Service areas of regional providers

Table 4-2 describes the reasonably foreseeable plans and projects within 0.5 mile of the project area.

Table 4-2. Recent, Ongoing, and Foreseeable Projects within 0.5 Mile of Project Area

Project Name	Location (Address or APN)	Dwelling Units	Retail (gross square feet)	Commercial (gross square feet)	Industrial (gross square feet)	Open Space	Other
San Francisco Bay Bridge East Span Seismic Safety Project (East Span project)	Between Oakland and Yerba Buena Island	--	--	--	--	--	New vehicle bridge with bicycle/ pedestrian path; removal of former bridge
San Francisco–Oakland Bay Bridge Regional Bicycle/Pedestrian Connection Project	From Bay Bridge Trail end near Maritime Road at West Grand Avenue, along West Grand Avenue to Mandela Parkway	--	--	--	--	--	Bicycle and Pedestrian path connecting West Oakland to Bay Bridge Trail; a 100 to 200-space parking lot on the west side of Wood Street, north of West Grand Avenue; and bike lanes on surface streets extending to the parking lot.
Oakland Army Base Redevelopment Project	Maritime St. and West. Grand Ave. APN: multiple	--	--	--	1,500,000		Excavation and fill within San Francisco Bay
Oakland Army Base Redevelopment Project					880,000		Warehouse/Distribution
Oakland Army Base Redevelopment Project	Rail lines along Tulagi St. from 8th St. to Warehouse Rd. APN: multiple				2,660,000		Joint Intermodal Terminal

Project Name	Location (Address or APN)	Dwelling Units	Retail (gross square feet)	Commercial (gross square feet)	Industrial (gross square feet)	Open Space	Other
West Gateway Public Access Area	At the Oakland Touchdown of the San Francisco–Oakland Bay Bridge, at the terminus of Burma Road (currently under construction), and west of Wharf 7 in the West Gateway area of the former Oakland Army Base	--	--	--	--	90,583	New parking area
Maintenance Complex Training Facility – Phase 3	200 Burma Road, Oakland, CA	--	--	--	15,900	--	New parking area
1676 7th Street (PLN16056)	1662-1676 7th Street APN 006 001701800, 006 001701700, 006 001701900, 006 001702000, 006 001702100	79	20,000	--	--	--	--
500 Kirkham Street (PLN15211)	Bounded by 7th St, Union St and 5th St. APN 004 004900300, 004 004900100	424	22,000	--	--	--	--
1708 Wood Street (PLN16007)	1708 Wood Street APN 007 056200100	128	--	--	--	--	--
3250 Hollis Street (PLN15256)	3250 Hollis Street APN 007 059301901, 007 059302001, 007 059301501, 007 059300901, 007 059300800, (+ various)	124	2,900	--	--	--	--
1405 Wood Street (PLN15245-PUDF01)	1405 Wood Street APN 018 031001301	44	--	--	--	--	--

Project Name	Location (Address or APN)	Dwelling Units	Retail (gross square feet)	Commercial (gross square feet)	Industrial (gross square feet)	Open Space	Other
1549 32nd Street (PLN15184)	1549 32nd St, 2868 Hannah St APN 007 058900100, 007 058902400	47	--	--	--	--	--
2011-2195 Wood Street (PLN14262, PUDF01)	2011-2195 Wood Street APN 018-0310-003-08; 018-0310-003-09; 018-0310-003-10; 018-0310-003-11	235	--	13,615	--	--	--
Wood Street Project Area 4 (PLN14076)	Block bounded by Wood Street; 14 St., 16th St. and Frontage Road. APN 018 031001201	176	--	5,100	--	--	--
Mandela Transit Village (CMDV03051)	1357 5th Street APN 018-0390-010-07	120	--	38,500	--	--	--
2850 Hannah Street (DV13236)	2850 Hannah Street APN 007 -0589-029-00, 007 0589-023-00	90	--	2,800	--	--	--
Red Star (CMDV05166)	1396 5th Street APN 004 006900400	119	--	3,300	--	--	--
0 10th Street Wood Street (PLN15047-PUDF01)	Between 10th and 14th Street APN 006 002900700	47	--	--	--	--	--
Total		**1,633**	**44,900**	**63,315**	**1,500,000**	**90,583**	--

Sources: City of Oakland 2002b and 2016; San Francisco Bay Conservation and Development Commission 2012 and 2016

4.1.2 Aesthetics

The project would have a beneficial impact on the aesthetics of the area. The addition of the park would improve the visual character, visual quality, scenic vistas, and scenic resources. The addition of vegetation would screen, absorb, and buffer light and the addition of lighting for the project would be pleasant to recreationalists. Because the project would have a beneficial impact on the aesthetics of the area, the project would not contribute to a negative cumulative impact.

4.1.3 Air Quality

The geographic context for the analysis of cumulative impacts associated with air quality is the applicable air basin, the San Francisco Bay Area Basin (SFBAAB). The project would contribute to the following cumulative impact on air quality.

Impact C-AIR-1. The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (less than cumulatively considerable with mitigation)

A significant cumulative impact on air quality could occur if the emissions generated by the cumulative projects and the project combined to exceed Bay Area Air Quality Management District (BAAQMD) thresholds. BAAQMD has identified project-level thresholds to evaluate criteria pollutant impacts (Section 3.2, *Air Quality,* Table 3.2-2). In developing these thresholds, BAAQMD considered levels at which project emissions would be cumulatively considerable. As noted in their CEQA Guidelines (2011):

> In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary.

The criteria pollutant thresholds presented in Table 3.2-2 represent the maximum emissions the project may generate before contributing to a cumulative impact on regional air quality. Consequently, exceedances of the project-level thresholds would be cumulatively considerable before mitigation. As discussed for Impact AQ-2 and Impact AQ-3, construction emissions and overlapping construction and operations emissions are above BAAQMD's thresholds. The project could have a significant contribution to the cumulative air quality impact before mitigation. Mitigation measures described in Section 3.2, *Air Quality*, would reduce construction emissions and overlapping construction and operations emissions to below BAAQMD's thresholds and would not result in a cumulatively considerable net increase of criteria pollutants in the San Francisco Bay Area Air Basin. Accordingly, the project's contribution to potential cumulative impacts, with implementation of mitigation measures, would be less than cumulatively considerable.

Impact C-AIR-2. The project would not result in cumulatively considerable emissions of toxic air contaminants (less than cumulatively considerable with mitigation)

Diesel particulate matter. Receptors in West Oakland are presently exposed to diesel particulate matter (DPM) from the Port of Oakland, railroad activity, and trucks accessing the Port and using local roadways. Future expansion of the Port or expansion of operations due to redevelopment of the former Oakland Army Base may also result in DPM emissions due to road and rail activity. However, federal, state, regional, and local initiatives have been effective at reducing DPM exposure levels from 2005 to the present and are expected to further reduce DPM levels in the future.

As discussed in Section 3.2, *Air Quality,* no schools, hospitals, or residences would be located within 1,000 feet of the main project area (e.g. the park area where substantial construction activity would occur)[1]; however, park users within the existing Radio Beach and Bay Bridge Trail, would be sensitive receptors. Construction-related DPM emissions generated within the immediate construction area are expected to be low and to dissipate as construction work moves farther away from these receptors. Moreover, implementation of mitigation measure **MM AQ-2** and **MM-AQ-4** would further reduce DPM emissions.

While there are ongoing DPM exposures in the project vicinity, the project's contribution due to construction emissions, with mitigation, is not expected to exceed the BAAQMD risk thresholds or expose sensitive populations to substantial pollutant concentrations and thus would have a less than considerable contribution to cumulative DPM impacts.

Carbon monoxide. As discussed in Section 3.2, *Air Quality*, the project would not result in any intersection traffic volumes greater than the BAAQMD's screening criteria of 44,000 vehicles per hour. Accordingly, the project would not contribute considerably to or worsen localized carbon monoxide concentrations from increased traffic or congestion associated with the project.

Naturally occurring asbestos. As discussed in Section 3.2, *Air Quality,* the project area is not located in an area that is known to contain naturally occurring asbestos. Accordingly, the project is not required to comply with the California Air Resource Board notification requirements but must employ the best available dust mitigation measures to reduce and control dust emissions (**MM-AQ-1** and **MM-AQ-3**). Therefore, the project is not expected to contribute to any asbestos exposure.

4.1.4 Biological Resources

The installation of the East Span project resulted in impacts on biological resources, including the aquatic habitat in the Bay. The East Span project included a substantial mitigation program and avoidance and minimization practices during construction. These included removal of the east span of the old bridge, onsite restoration of habitat, offsite restoration of habitat, funding of an offsite mitigation program to restore shallow water submerged land and wetland habitat (including support for restoration actions at Skaggs Island, habitat restoration at Eastshore Park, and funding for restoration programs (Federal Highway Administration and Caltrans 2001). Because this project has already resulted in impacts on biological resources and because previous and current implementation of mitigation measures would ensure that there is no net loss of habitat, the East Span project would not contribute to a cumulative biological resources impact related to habitat.

[1] While there are residences within 1,000 feet of area of potential landscaping under I-80 and I-880, landscaping activity would require only limited construction activity that is not expected to generate substantial DPM.

This project is, therefore, not discussed further as a cumulative project, except in relation to pile driving.

4.1.4.1 Habitats and Natural Communities

Impact C-BIO-1. The project would not contribute considerably to cumulative impacts on habitats and sensitive natural communities (less than cumulatively considerable with mitigation)

Tidal Salt Marsh

The redevelopment of the Oakland Army Base, including the Gateway West project which is immediately adjacent to the Gateway Park project, would result in the loss of up to 0.5 acre of isolated, urban wetlands located in the Union Pacific railyard, which is adjacent to Interstate 880 (I-880). Mitigation adopted for the redevelopment project requires compliance with all conditions by applicable agencies. Because the subject wetlands are isolated, they may not be waters of the United States, but would remain waters of the state, and the redevelopment project would be required to compensate for their loss through Regional Water Quality Control Board (RWQCB) permitting. The wetlands at the rail yard are not adjacent to or in any way connected to the tidal salt marsh that would be affected by the project (City of Oakland 2002a).

While other development projects are planned throughout the region, many of these projects occur on already developed land and would not affect the Bay or its margins. Where development projects are proposed in areas of tidal salt marsh, they would be required by federal and state regulations to result in no net loss of wetlands. In addition, there are numerous efforts throughout San Francisco Bay to restore tidal salt marsh. Examples include the Hamilton Wetland Restoration Project in San Pablo Bay and the South Bay Salt Pond Restoration Project in southern San Francisco Bay.[2] Because future cumulative projects would be required to mitigate for impacts to tidal salt marsh habitat and because there is active restoration of tidal salt marsh habitat in the area, it is unlikely that impacts from other projects would combine with the impacts of the proposed project to generate a significant cumulative impact. The cumulative impact on tidal salt marsh would, therefore, be less than significant and the project's contribution would be less than considerable.

Seasonal Wetland

Cumulative impacts on seasonal wetland habitat would be similar to the impacts discussed above for tidal salt marsh. The Oakland Army Base redevelopment would affect isolated wetlands in the Union Pacific railyard, but compensation would be required through RWQCB permitting (City of Oakland 2002a). Other development projects in the Bay Area would affect seasonal wetlands but are also subject to federal and/or state permitting requirements. Therefore, the cumulative impact on seasonal wetlands would be less than significant and the project's contribution would be less than considerable.

[2] Other projects were considered, but not discussed, in the cumulative analysis because they would occur in developed areas and would not contribute to natural resource impacts are the Bay Bridge regional bike/pedestrian path, Caltrans maintenance complex, and renewable energy improvements at the East Bay Municipal Utility District wastewater treatment plant.

Shallow Bay and Deep Bay/Channel

Cumulative impacts could result from infrastructure projects near the project area, operational and maintenance dredging, development projects that encroach on bay habitat, and restoration projects, in combination with project effects.

The redevelopment of the Oakland Army Base adjacent to the project area would result in the net loss of approximately 27 acres of open and covered water due to the New Berth 21 element of the redevelopment plan. New Berth 21 would replace existing Outer Harbor Berths 21, 20, 10, 9, and 8. To achieve an efficient terminal and berth geometry, the redevelopment project includes reconfiguring a portion of the Outer Harbor shoreline, including both excavation and fill to create new land for a marine terminal. Mitigation adopted by the City of Oakland includes compliance with the U.S. Army Corps of Engineers (USACE), RWQCB, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW) requirements for all bay fill (City of Oakland 2002a). The Gateway West project (which is part of the Oakland Army Base redevelopment) is directly adjacent to the project area and would include establishment of an oversize and bulk terminal on existing disturbed areas, but would use existing Berths 6 and 7 and would not include new fill in the bay.

While other development projects are planned throughout the region, many of these projects occur on already developed land and would not affect the Bay. Where development projects are proposed in areas of bay, they would be required by federal (USACE) and state (RWQCB, Bay Conservation Development Commission [BCDC]) permitting requirements to result in no net loss of bay habitats and no net increase in shading. In addition, there are numerous efforts throughout San Francisco Bay to restore bay habitats, including open water habitat. Examples include the Hamilton Wetland Restoration Project and the Sears Point Project in San Pablo Bay and the South Bay Salt Pond Restoration Project in southern San Francisco Bay.

In combination with cumulative projects previously described, the project would contribute to cumulative impacts on bay (estuarine) habitat due to the project's permanent impacts on 0.24 acre of shallow bay (estuarine) habitat and shading 0.37 acre of shallow bay. The project would also temporarily affect 0.10 acre of shallow bay habitat during construction. Because several projects would affect shallow bay and deep bay/channel habitat, the cumulative impact would be significant. The fill impacts of the project would be compensated through purchase of credits at a 1:1 ratio at an approved mitigation bank, as described in Section 3.3, *Biological Resources*, and the shading impact would be compensated through funding of other projects that involve removal of existing unused overwater structures currently shading the Bay. The impacts of the project would be negligible compared to the overall shallow bay (estuarine) habitat in the project area and with implementation of mitigation, would not contribute to the cumulative loss of shallow bay (estuarine) habitat. The project's contribution to cumulative impacts on shallow bay (estuarine) habitat would be less than cumulatively considerable with mitigation.

Eelgrass Beds

Cumulative impacts would result from construction of other general development projects in Alameda County should they occur in or along the margins of San Francisco Bay. The likelihood of development in or along the Bay is low and its likelihood to affect eelgrass beds is lower because most development in the region would not be located immediately in or along the San Francisco Bay.

The cumulative impact on eelgrass habitat would be less than significant and the project's contribution would be less than considerable.

Northern Foredunes

Cumulative impacts would result from construction of other general development projects in Alameda County. If a substantial number of development projects resulted in the loss of northern foredunes habitat, a significant cumulative impact would occur. Construction of the project would have impacts on the northern foredunes in the proposed trail footprint and the immediate surrounding area but would not add to the cumulative loss of northern foredune habitats because the proposed restoration of this area would compensate for the minor loss due to the trail footprint. The project's contribution to a significant cumulative impact on northern foredunes would be less than cumulatively considerable with mitigation.

Sandy Beach

The Oakland Army Base redevelopment project, outside of the project area, was not identified as having any impacts on sandy beach habitat (City of Oakland 2002a). Cumulative impacts could also result from in-Bay sand mining (which removes sand material that can help sustain/form nearby sandy beach) and any other waterfront development in sandy beach areas throughout San Francisco Bay. These impacts in combination with the loss of sandy beach from the project could result in a significant cumulative impact.

Construction of the project would result in a minor (0.08 acre) loss of sandy beach. Incorporation of the mitigation listed in Section 3.3, *Biological Resources*. No net loss of sandy beach would occur from construction of the project after the incorporation of mitigation. The project's contribution to cumulative impacts on sandy beach would be less than cumulatively considerable.

4.1.4.2 Special-Status Plant Species

Impact C-BIO-2. The project would not contribute considerably to cumulative impacts on habitats and populations of special-status plant species (less than cumulatively considerable with mitigation)

The Oakland Army Base redevelopment project was not identified as having any impacts on the three special-status plant species with potential to occur in the project area (City of Oakland 2002a). It is possible that other development in tidal wetlands or northern foredunes in other parts of San Francisco Bay would affect these species, resulting in a potentially significant cumulative impact. The species are not present in the project area; therefore, the likelihood of the project affecting these species is low. Nonetheless, incorporation of mitigation measure **MM-BIO-9**, which would require preconstruction plant surveys, would ensure no impacts on these species. Therefore, the project would not contribute considerably to cumulative impacts on special-status plants.

4.1.4.3 Special-Status Wildlife Species

Impact C-BIO-3. The project would not contribute considerably to cumulative impacts on habitats and populations of special-status wildlife species (less than cumulatively considerable with mitigation)

Ridgway's Rail, California Black Rail

The Oakland Army Base redevelopment would not affect Ridgway rail or California clapper rail (City of Oakland 2002a). Restoration projects in various parts of the bay, such as the Hamilton Wetland Restoration Project, the Sears Point Project, and the South Bay Salt Pond Restoration Project, are restoring salt ponds and subsided agricultural lands to tidal salt marsh, which will increase the amount of rail habitat in the Bay. While other development projects are planned throughout the region, many of these projects occur on already developed land and would not affect the Bay. However, these projects may affect rail habitat, resulting in a potentially significant cumulative impact.

Impacts on the tidal salt marsh in the study area would be compensated through onsite restoration and thus the project would not add to the cumulative loss of tidal salt marsh habitat or, consequently, rail habitat. With incorporation of mitigation described in Section 3.3, *Biological Resources*, as part of project design, the project's contribution to cumulative impacts on Ridgway's rail and California black rail would be less than cumulatively considerable.

California Least Tern

Least terns have the potential to forage and roost in the study area for the Oakland Army Base redevelopment project (City of Oakland 2002a). New Berth 21, if advanced, would result in the net loss of approximately 27 acres of waters, which would represent a loss of potential forage habitat. The project would be required to compensate for any fill of the Bay. The Army consulted with USFWS in 2000 and USFWS concurred that disposal and reuse of the Oakland Army Base are not likely to adversely affect listed species, including the California least tern. Operations and maintenance dredging at the Port of Oakland may have temporary impacts on foraging habitat in proximity to the nesting area on Alameda. The combination of these impacts could result in a cumulatively significant impact.

Project impacts could result from pile driving, disturbance and permanent loss of foraging habitat from the shoreline protection for the East Bay Municipal Utility District (EBMUD) outfall, and fill and shading due to the Key Point pier and path to Radio Beach. With the incorporation of mitigation listed in Section 3.3, *Biological Resources*, as part of project design, no net loss of foraging habitat for California least tern would occur and the project's contribution to cumulative impacts on California least tern would be less than cumulatively considerable.

Western Snowy Plover

While snowy plovers may forage in or near the Oakland Army Base, that area is unlikely to provide important habitat for this species (City of Oakland 2002a). Regionally, other projects may affect foraging and/or nesting habitat for this species but not near the project area. The project would temporarily disturb foraging habitat during construction. Permanent losses of foraging habitat would be replaced with onsite restoration. No sandy beach habitat would be lost. Increased recreational activity would be controlled through mitigation requiring fencing of certain habitats, access restrictions at night and for dogs, and environmental education. Therefore, the project's contribution to cumulative impacts on western snowy plover would be less than cumulatively considerable.

Northern Harrier, Alameda Song Sparrow and Saltmarsh Common Yellowthroat

The cumulative effects discussion for migratory and nonmigratory birds (Section 4.1.4.4, *Migratory and Nonmigratory Birds*) also applies to northern harrier, Alameda song sparrow, and saltmarsh common yellowthroat.

Salt Marsh Harvest Mouse

As described in Section 4.1.4.1, *Habitats and Natural Communities, Tidal Salt Marsh*, it is unlikely that impacts from other projects would combine with the minimal impacts of the project to generate a significant cumulative impact on tidal salt marsh habitat. The salt marsh harvest mouse uses tidal salt marsh as its primary habitat. The project's impact on tidal marsh will be fully compensated for and thus the project would not contribute considerably to a significant cumulative impact to this species.

4.1.4.4 Migratory and Nonmigratory Birds

Impact C-BIO-4. The project would not contribute considerably to cumulative impacts on habitats and populations of migratory and nonmigratory birds (less than cumulatively considerable with mitigation)

Oakland Army Base redevelopment could result in removal of ornamental trees such as sycamore and date palm, among others. Some of these trees may be used by breeding birds as nesting habitat. Project mitigation for the redevelopment requires timing of tree removal to avoid the nesting season or conducting of nesting surveys and use of buffer zones. Redevelopment would also result in the loss of foraging area if New Berth 21 is advanced, however, the fill area does not appear to be an important foraging area for birds. Several birds (red-winged blackbirds and mourning doves) were observed nesting in the small urban wetlands that would be filled by the redevelopment project as well, but the project would compensate for their loss (City of Oakland 2002a).

The numerous development projects planned throughout the region could displace migratory and nonmigratory bird nesting. However, the requirements of the Migratory Bird Treaty Act and the California Fish and Game Code would apply equally to all such projects to require avoidance of disturbance of active nests.

The Oakland Army Base redevelopment project would not result in the net loss of habitat because compensatory mitigation would be required. Additionally, future projects would be required to avoid impacts on nesting birds. Similarly, the project's impacts on migratory and nonmigratory birds are addressed by mitigation. Thus, the contribution of the project to cumulative impacts on migratory and nonmigratory birds would be less than considerable.

4.1.4.5 Special-Status Fish Species

Impact C-BIO-5. The project, in combination with reasonably foreseeable actions in the project vicinity, would not contribute considerably to the loss of habitats of special-status fish species but could result in unavoidable loss of individual special-status fish species due to pile driving (considerable and unavoidable cumulative contribution)

The redevelopment of the Oakland Army Base, adjacent to the project area, would result in the net loss of approximately 27 acres of open and covered water due to the New Berth 21 element of the redevelopment plan, which would also provide habitat for steelhead. Mitigation adopted by the City of Oakland includes compliance with Corps, RWQCB, USFWS/NMFS, and CDFW requirements for all bay fill (City of Oakland 2002a).

Operations and maintenance dredging and disposal at various locations throughout the Bay would temporarily impair water quality and habitat for steelhead, although dredging is only conducted under permit which required timing of such activity outside of peak steelhead migration seasons.

While other development projects are planned throughout the region, many of these projects would occur on developed land and would not affect the Bay. Where development projects are proposed in areas of bay, they would be required by federal (USACE) and state (RWQCB, BCDC) permitting requirements to result in no net loss of bay habitats and no net increase in shading. In addition, numerous restoration project throughout San Francisco Bay include open water habitat that would benefit steelhead. Examples include the Hamilton Wetland Restoration Project and the Sears Point Project in San Pablo Bay and the South Bay Salt Pond Restoration Project in southern San Francisco Bay, among others.

Past projects have mitigated for their impacts on habitat and ensured no net loss of aquatic habitat, and future projects would be required to mitigate for impacts on habitat, as required by existing federal and state regulations. The cumulative impact on habitat would, therefore, be less than significant and the projects' contribution would be less than considerable.

Construction of the East Span project included substantial underwater pile driving. In consideration of the East Span project's, and other cumulative projects', underwater pile driving impacts on special-status fish species, potential impacts of underwater pile driving on special-status fish species is considered cumulatively significant. As discussed in Section 3.3, *Biological Resources*, the project's impact on special-status fish due to noise from underwater pile driving is significant and unavoidable; thus the project would contribute considerably to cumulative loss of individual special-status fish species specifically related to pile driving.

Impact C-BIO-6. The project would not contribute considerably to cumulative impacts on essential fish habitat for special-status fish species (less than cumulatively considerable with mitigation)

The redevelopment of the Oakland Army Base would result in fill of essential fish habitat (EFH) if New Berth 21 is ultimately implemented, in which case compensatory mitigation would also be required. Operations and maintenance dredging as well as dredge spoil disposal also result in disturbance of EFH in various locations in San Francisco Bay, including nearby in the Port of Oakland. The cumulative impact on EFH would be significant.

The project would affect EFH in up to 0.284 acre of the Bay due to fill and up to 0.37 acre due to shading. Compensatory mitigation, as described in Section 3.3, *Biological Resources*, would avoid net loss of EFH or net increase of shading. The project's contribution to cumulative impacts on EFH would be less than cumulatively considerable with mitigation.

4.1.4.6 Other Protected Species

Marine Mammals

Impact C-BIO-7. The project would not contribute considerably to cumulative impacts on marine mammals (less than cumulatively considerable with mitigation)

Cumulative impacts could result from infrastructure projects near the project area, operational and maintenance dredging, development projects that encroach on bay habitat, and restoration projects.

The redevelopment of the Oakland Army Base, adjacent to the project area, would result in the net loss of approximately 27 acres of open and covered water due to the New Berth 21 element of the redevelopment plan, which would also provide habitat for steelhead. Mitigation adopted by the City of Oakland includes compliance with Corps, RWQCB, USFWS/NMFS, and CDFW requirements for all bay fill (City of Oakland 2002a).

Operations and maintenance dredging and disposal at various locations throughout the Bay would temporarily impair water quality and habitat for marine mammals.

While other development projects are planned throughout the region, many of these projects occur on developed land and would not affect the Bay. Where development projects are proposed in areas of the Bay, they would be required by federal (USACE) and state (RWQCB, BCDC) permitting requirements to result in no net loss of bay habitats and no net increase in shading. In addition, numerous restoration projects throughout San Francisco Bay would restore bay habitats that would benefit marine mammals. Examples include the Hamilton Wetland Restoration Project and the Sears Point Project in San Pablo Bay and the South Bay Salt Pond Restoration Project in southern San Francisco Bay.

Past projects have mitigated for their impacts and ensured no net loss of aquatic habitat, and future projects would be required to mitigate for impacts to habitat, as required by existing federal and state regulations. The cumulative impact on habitat would, therefore, be less than significant.

Construction of the East Span project included substantial underwater pile driving. The project's impact on marine mammals due to noise from underwater pile driving can be mitigated to a less than significant level; thus the project as mitigated would not contribute considerably to cumulative impacts to marine mammals specifically related to pile driving.

Bats

Impact C-BIO-8. The project would not contribute considerably to cumulative impacts on bats as a result of construction and ongoing operations (less than cumulatively considerable)

Cumulative impacts could result from infrastructure projects near the project area, development projects that encroach on bay habitat, and restoration projects that result in tree removals, resulting in a potentially cumulative significant impact. Construction and operations of the project could disturb roosting bats (namely, hoary bat) in the project area, but incorporation mitigation listed in

Section 3.3, *Biological Resources*, would avoid such an impact. Project construction would not result in the removal of protected trees, defined as being moderate to large size (9 or more inches in diameter at breast height) trees, which would be more suitable for bat roosting because larger trees support larger canopies and are more likely to include peeling bark or cavities compared to smaller trees. Because the project would not remove protected trees, it would not contribute to the loss of moderate to large trees in the region. The project's contribution through construction or operation to cumulative impacts on hoary bat roosting habitat would be less than cumulatively considerable.

4.1.4.7 Invasive Species

Impact C-BIO-9. The project would not contribute considerably to the dispersal and cultivation of invasive plant species (less than cumulatively considerable with mitigation)

Cumulative impacts could result from infrastructure projects near the project area, development projects that encroach on bay habitat, and restoration projects that result in ground disturbance or invasive species planting. The project would implement mitigation listed in Section 3.3, *Biological Resources* and will be required to comply with Executive Order 13112. Therefore, the project would not result in significant impacts that contribute to the spread of invasive species. Other projects that result in ground disturbance or planting in the region would be held to similar requirements (through project design or mitigation) consistent with Executive Order 13112 and other permit (USFWS, CDFW, USACE, and RWQCB) requirements, which would prevent the spread of invasive plant species.

The project includes mitigation to prevent the spread of invasive species and thus would not contribute considerably to cumulative impacts related to dispersal of invasive species in the region.

4.1.5 Cultural Resources

The project would contribute to the following cumulative impacts on cultural resources.

4.1.5.1 Archaeological Resources

Impact C-CUL-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to uncover, relocate, alter, or destroy archaeological resources that are listed or eligible for listing in the NHRP or CRHR, and would have the potential to disturb human remains as a result of construction activities (less than cumulatively considerable with mitigation)

Because previously undiscovered resources could be encountered during any demolition and construction project, foreseeable development projects near the project area could result in significant impacts on known and unknown archaeological resources, including human remains. As such, development of the project area, in combination with past projects and the planned projects of the *San Francisco Bay Conservation and Development Commission Plan*, reasonably foreseeable projects could result in a significant cumulative impact on archaeological resources. To the extent that construction activities unearth previously undiscovered archaeological resources and human remains, implementation of the mitigation described in Section 3.4, *Cultural Resources,* would reduce the project's contribution to cumulative impacts on archaeological resources to less than cumulatively considerable.

4.1.5.2 Historical Resources

Impact C-CUL-2. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to alter or destroy historical resources that are listed or eligible for listing in the NRHP or CRHR as a result of construction activities (less than cumulatively considerable with mitigation)

Construction of the present project has the potential to significantly affect two of the five CEQA historical resources located within the study area: the Key Pier Substation and the Bay Bridge Substation. Although the reasonably foreseeable projects do not appear to include the demolition or alteration of known historical resources similar in significance the Key Pier Substation and Bay Bridge Substation, a significant cumulative impact on historical resources could occur if one of those demolished or altered cumulative buildings is determined to be a historical resource. Implementation of the mitigation described in Section 3.4*, Cultural Resources*, would ensure that the project does not substantially alter historical resources and would thereby reduce the project's contribution to cumulative impacts on historical resources to less than cumulatively considerable.

4.1.6 Geology, Soils, and Paleontological Resources

The geographic context for each cumulative impact under geology, soils, and paleontological resources is described below under each impact.

Impact C-GEO-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would not substantially increase soil erosion (less than significant cumulative impact)

The geographic context for the analysis of cumulative impacts resulting from erosion (i.e., permanent loss of soil or topographic changes that can cause or exacerbate erosion) is the watershed. Erosion can affect water quality by contributing sediment and change topography by removing sediment from one location and depositing it in another. The geographic context for erosion impacts for the project would be the West Oakland and West Oakland Bayshore watershed (Alameda County Flood Control and Water Conservation District 2016). These two watersheds in the project vicinity are considered already built out. Consequently, potential growth would most likely occur as redevelopment and not extensive new development on vacant land or open space. Nonetheless, construction and operation of related projects could expose soil surfaces and alter soil conditions. To minimize the potential for cumulatively considerable erosion, all related projects would be required to conform to the provisions of applicable local ordinances and state regulations pertaining to erosion and sedimentation control, including the federal and state National Pollutant Discharge Elimination System (NPDES) and best management practices in site-specific stormwater pollution prevention plans. Therefore, the cumulative impact related to soil erosion would be less than significant and the project's contribution would be less than considerable.

Impact C-GEO-2. The project, in combination with reasonably foreseeable actions in the project vicinity, would not substantially increase soil hazards (less than significant cumulative impact)

The geographic context for the analysis of cumulative impacts resulting from unstable soil conditions, including expansive soils or other conditions that could cause structural problems, is limited to the site. It would not be compounded by additional development. Further, development is required to undergo an analysis of geological and soil conditions applicable to the specific individual project. Restrictions on development would be applied in the event that geological or soil conditions would pose a risk as a result of site-specific geologic or soil instability, subsidence, collapse, liquefaction, and/or lateral spreading. Because the City of Oakland uses and enforces the requirements of the California Building Standards Code as part of its building code, new buildings and facilities in the project area would be required to be sited and designed in accordance with the most current geotechnical guidelines and recommendations. Proposed projects would include all necessary design features, as recommended by the site-specific geotechnical studies, to reduce the risk from seismic activity, unstable slopes, and soil limitations, as required by law. With adherence to the building code and related plans, regulations, and design and engineering guidelines and practices, the cumulative impact would be less than significant and the project's contribution would be less than considerable.

Impact C-GEO-3. The project, in combination with reasonably foreseeable actions in the project vicinity, would have the potential to disturb or destroy paleontological resources (less than cumulatively considerable with mitigation)

The geographic context for the analysis of cumulative impacts on paleontological resources is defined as the San Francisco area and San Francisco Bay. In this area, construction activities associated with the project could disturb or destroy paleontological resources, thereby contributing to the progressive loss of such resources. Cumulative growth and development in the City of Oakland and the broader Bay Area could have impacts if important paleontological resources were to be found during construction activities. Although the potential for other individual projects to affect important paleontological resources is unknown, given the number of projects in the area, it is probable that cumulative growth and development could have impacts on important paleontological resources. Cumulative impacts could be significant. Implementation of mitigation described in Section 3.5, *Geology, Soils, and Paleontological Resources,* would ensure that paleontological resources are evaluated and recovered, if found during construction. Construction of the project would not result in the net loss of paleontological resources. After mitigation, the project's contribution to cumulative impacts would be less than cumulatively considerable.

4.1.7 Greenhouse Gas Emissions

Impact C-GHG-1: The project, in combination with reasonably foreseeable actions in the project vicinity will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment (considerable and unavoidable cumulative contribution)

As discussed in Section 3.6.3.3, Significance Criteria, unlike criteria air pollutants, GHGs are global pollutants that arise from sources across the world and accumulate in the atmosphere. GHG impacts are inherently cumulative. Refer to Section 3.6.4, *Impacts and Mitigation*, for a discussion of project impacts related to GHG emissions. As described in Section 3.6.4, *Impacts and Mitigation*, the project impact would be significant and unavoidable; therefore the project's contribution to cumulative ~~noise~~ greenhouse gas emissions impacts would be cumulatively considerable.

4.1.8 Hazards and Hazardous Materials

The project would contribute to the following cumulative impacts on hazards and hazardous materials.

Impact C-HAZ-1: The project, in combination with reasonably foreseeable actions in the project vicinity, would not create a significant hazard to human health and/or the environment involving the management or release of hazardous materials (less than significant cumulative impact).

Project impacts identified above related to the management and potential release of hazardous materials during construction, operation, and building demolition are site specific. These hazardous materials would be managed in accordance with existing regulatory requirements, which would reduce the risk of hazardous materials emissions and/or accidental releases that could affect receptors outside the project work areas. Therefore, the project would not be expected to contribute considerably to any potential hazardous materials impacts at other nearby project sites. Similarly, hazardous materials impacts from other nearby projects would not be expected to intensify potential impacts on the project site because they, too, would be site specific. Therefore, the cumulative impact from the release of hazardous materials would be less than significant and the project's contribution would be less than considerable.

Impact C-HAZ-2: The project, in combination with reasonably foreseeable actions in the project vicinity, would not create a significant hazard to human health and/or the environment involving the disturbance of subsurface hazardous materials (less than significant cumulative impact)

Project impacts identified above related to the disturbance of hazardous materials encountered in the subsurface during construction and operation are site specific. These hazardous materials would be managed in accordance with existing regulatory requirements, which would reduce the risk of hazardous materials dust emissions and/or accidental releases that could affect offsite receptors; therefore, the project would not be expected to contribute to any potential hazardous materials impacts at other nearby projects. Similarly, hazardous materials impacts from other nearby projects would not be expected to intensify potential impacts on the project site because they, too, would be site specific. Therefore, the cumulative impact from the disturbance of subsurface hazardous materials would be less than significant and the project's contribution would be less than considerable.

Impact C-HAZ-~~4~~3: The project, in combination with reasonably foreseeable actions in the project vicinity, would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan (less than cumulatively considerable with mitigation)

If construction of any cumulative projects were to occur simultaneously with the project, there could be cumulative traffic and emergency access impacts, if the same roads are used to access the construction sites. The project would not alter local roadways or result in permanent road closures. All local development is required to adhere to applicable safety standards regarding emergency response and evacuation. With implementation of mitigation measures **MM-TRA-1** and **MM-TRA-~~7~~**6, the project would not contribute to existing cumulative impacts related to the impairment of emergency response or evacuation plans. The project's contribution to cumulative impacts related to emergency response and evacuation is less than cumulatively considerable.

4.1.9 Hydrology and Water Quality

The geographic context for the analysis of cumulative impacts associated with surface hydrology and water quality is the San Francisco Bay watershed. The context for groundwater hydrology is the East Bay Plain subbasin of the larger Santa Clara Valley groundwater basin. The San Francisco Bay watershed is considered already built out. Consequently, potential growth would most likely occur as redevelopment and not extensive new development on vacant land or open space. The context for cumulative hydrology and water quality impacts is geographic and a function of whether impacts could affect surface water features and watersheds, the city's storm drainage system, or groundwater, each of which has its own physical boundary. This analysis accounts for anticipated cumulative growth within the potentially affected geographic area.

Impact C-HY-1. The project would not contribute considerably to cumulative impacts on water quality (less than considerable cumulative contribution)

Development of the project, combined with other past and future development or redevelopment in the potentially affected geographic area, including the Mandela Transit Village and the 500 Kirkham Street Project, could degrade stormwater quality through an increase in impervious surface area and an increase in contaminated runoff. This could ultimately violate water quality standards, affect beneficial uses, or further impair 303(d)-listed waters in the San Francisco Bay watershed and the East Bay Plain groundwater subbasin.

Other development could affect water quality if the land use changes, the intensity changes, and/or drainage conditions are altered to facilitate the introduction of pollutants to surface or groundwater resources. Changes in land use would alter the associated type and amount of pollutants in stormwater runoff (e.g., higher fecal coliform concentrations in runoff from residential lands compared with commercial lands). An increased intensity in land use would increase potential pollutant loads. Alterations in drainage patterns could increase pollutant loads by increasing the amount of stormwater runoff and downstream flow, thereby transporting pollutants in stormwater runoff; cause or contribute to erosion if the rate of runoff is increased; or expose vulnerable areas to infiltration or runoff.

To prevent construction impacts on water quality, construction of nearby projects would need to comply with the requirements of the NPDES Construction General Permit and Alameda County's Stormwater Management and Discharge Control Ordinance. If the dewatering of natural groundwater would require a discharge into surface waters or nearby storm drains, future projects would be required to comply with the dewatering requirements of the San Francisco Bay RWCQB, to prevent potential water quality impacts on surface waters. Project operations would be subject to Alameda Countywide Clean Water Program requirements as well as other stormwater requirements established by the San Francisco Bay RWQCB and Caltrans MS4 programs. The applicable regulations, which have been developed to protect water quality, as defined in the Basin Plan, require implementation of stormwater best management practices. The project and other foreseeable projects would be required to comply with these regulations. Therefore, the cumulative impacts on water quality would be less than significant and the project's contribution would be less than considerable.

Impact C-HY-2. The project, in combination with other foreseeable actions in the project vicinity, would not contribute considerably to cumulative impacts on groundwater recharge and supplies (less than cumulatively considerable)

Construction of other reasonably foreseeable development projects could require temporary dewatering but would not result in a loss of water that would deplete groundwater supplies. During operation, new impervious areas can reduce the potential for groundwater recharge. Groundwater recharge in the East Bay Plain subbasin occurs through natural recharge such as infiltration of precipitation, landscape irrigation, artificial or incidental recharge, applied water recharge, and subsurface inflow. Most other reasonably foreseeable projects in the basin would be redevelopment or infill projects in highly urbanized areas where recharge would not occur. This development would occur mostly in areas with substantial impervious surfaces. Therefore, groundwater recharge from percolating rainfall would not be adversely affected, and an indirect lowering of the local groundwater table is not likely to occur. However, development outside of areas with prior impervious surfaces could affect groundwater recharge, and the impacts may be cumulatively significant. Groundwater within the Santa Clara Valley groundwater basin is used for municipal and domestic water supply. The water supply necessary for construction and operation of other development projects may reduce the volume of groundwater in the East Bay Plain Subbasin, unless supplied from outside of the groundwater basin. This would be a potentially significant cumulative impact.

Because the impervious surfaces in the project area would be reduced by project construction and operations, the project site would contribute only minimally to cumulative impacts on groundwater recharge. In fact, construction of the project could have the beneficial impact of increasing recharge during operation, after new pervious surfaces have been added to Gateway Park. Therefore, the project's contribution to cumulative impacts on groundwater recharge and supply would be less than cumulatively considerable.

Impact C-HY-3. The project, in combination with other foreseeable actions in the project vicinity, would not contribute considerably to cumulative impacts on storm drain capacity (less than significant cumulative impact)

Other reasonably foreseeable developments could increase the rate and volume of stormwater runoff if there were an overall increase in impervious surfaces. All flows from the project area would be conveyed by existing and potentially new pipes, drainage inlets, and other storm drain facilities and discharged to the Lower and Central San Francisco Bay. It is likely that other projects would also be connected to the existing system, through either existing or new storm drain systems. Increases in the rate or volume of stormwater runoff can cause localized flooding if storm or channel capacities are exceeded and flows are conveyed to overbank areas where flood storage may not be available. Generally, other projects would occur in areas that are already highly developed with impervious surfaces; therefore, changes in flows that could increase localized flood risks would not be expected to be substantial. All projects would be required to include design features to reduce flows to pre-project conditions, consistent with Alameda Countywide Clean Water Program and Alameda County ordinances, including the Stormwater Management and Discharge Control Ordinance and the Floodplain Management Ordinance. Therefore, the cumulative impacts on storm drain capacity would be less than significant and the project's contribution would be less than considerable.

4.1.10 Land Use and Planning

Impact C-LU-1. The project, in combination with other reasonably foreseeable actions in the project vicinity, would not physically divide an established community (less than significant cumulative impact)

Implementation of the projects shown in Table 4-1 and the project would not cut off connected neighborhoods or land uses from each other. No new roads, linear infrastructure, or other development features are proposed that would divide an established community, limit movement, or constrain travel between established land uses. The cumulative impact is, therefore, less than significant.

Impact C-LU-2. The project, in combination with other reasonably foreseeable actions in the project vicinity, would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact (less than cumulatively considerable)

Each individual cumulative development project or plan would be evaluated for consistency with applicable land use policies and programs. A significant cumulative impact could occur if a substantial number of projects conflicted with applicable plans, policies, and regulations. As described in Table 2-8 of Chapter 2, *Project Description*, the project proponent would seek permits or approvals and obtain funding from the state and local agencies or private entities. The discretionary approvals required for the project to proceed as planned would bring the project into compliance with the land use plans and policies that govern development on the project site. The project's contribution to cumulative impacts related to conflicts with applicable plans, policies, and regulations would be less than cumulatively considerable.

Impact C-LU-3. The project, in combination with other foreseeable actions in the project vicinity, would not conflict with applicable habitat conservation plan or natural community conservation plan (less than cumulatively considerable)

As described for Impact LU-3, the project area is not a part of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The project's contribution to cumulative impacts related to conflicts with applicable habitat conservation plans, natural conservation plans, or other approved conservation plan would be less than cumulatively considerable.

4.1.11 Noise

Impact C-NOI-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would not expose sensitive receptors to excessive temporary noise or vibration impacts during construction activities but would cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project (considerable and unavoidable cumulative contribution)

Construction

The West Gateway Public Access Area Project is located in close proximity to the project. Because construction of the project would last 15 years, some portion of construction could overlap construction of the West Gateway Public Access Area Project. Cumulative noise levels could be higher than the noise levels of the project by itself. Nonetheless, the cumulative noise impacts would not affect the following users or locations:

- Sensitive land uses would not be adversely affected by the cumulative noise because there are no sensitive land uses in the area.
- Recreational users would not be adversely affected by the cumulative noise because recreational users would be in the area briefly and the existing noise environment is already dominated by freeway noise from Interstate 80 (I-80).
- Sensitive land uses along haul routes, as haul truck trips would likely occur throughout the day and would not be limited to the peak hours.

Because no adverse noise effects on noise-sensitive land uses or recreational users are anticipated for the reasons given above, the cumulative noise impact from construction would be less than significant.

Operations

Traffic on roadways in the project area is expected to increase from existing conditions primarily as the result of other development in the area. Traffic for the worst-case scenario (cumulative Saturday conditions) is expected to increase by up to a factor of five for the roadway that will be affected most. This corresponds to an increase of about 7 decibels (dB). However, most of the traffic increases would occur even if the project is not constructed. The project's contribution to the increases in traffic would be substantially less. At the two most affected intersections (Mandela Parkway and 20th Street; West Grand Avenue and Campbell Street), the project would cause traffic to increase by 57% and 42%, respectively, which correspond to noise increases of about 2 dB and 1.5 dB respectively.

Combined with cumulative traffic increases from all other development, traffic at these intersections is expected to more than double, resulting in a potentially noticeable change in traffic noise. Because residences, Memorial Park, and Raimondi Park are near the Mandela Parkway and 20th Street intersection and the West Grand Avenue and Campbell Street intersection, there could be a significant increase in cumulative traffic noise at these land uses. A project-related increase of more than 1 dB is considered a cumulatively considerable contribution to a significant cumulative impact. Because the project is predicted to increase cumulative traffic noise by more than 1 dB, the project's contribution to cumulative noise impacts would be cumulatively considerable. No mitigation is available that would reduce the contribution. Therefore, this impact would remain cumulatively considerable and unavoidable.

4.1.12 Public Services

The project would contribute to the following cumulative impacts on public services.

Impact C-PS-1. The project would not contribute considerably to cumulative needs for new or physically altered fire service facilities (less than cumulatively considerable)

Other foreseeable projects would include residential, retail, commercial, and industrial developments, which would increase demand for fire and emergency services. If construction of any of these projects were to occur simultaneously with the project, there could be significant cumulative traffic and emergency access impacts, if the same roads are used to access the construction sites. However, construction activities for the project would be coordinated with emergency access providers, and any construction delays would be temporary, not lasting more than a few days. Therefore, the project construction is not expected to contribute to a cumulatively considerable impact. The project does not include residential development, which could result in an increase in population that would affect fire services in the project area. The increase in usage associated with the creation of a new 45-acre park is not expected to materially increase the need for fire services and the project's contribution would be less than cumulatively considerable.

Impact C-PS-2. The project would not contribute considerably to cumulative needs for new or physically altered police service facilities (less than significant cumulative impact)

The cumulative impact on police facilities would be similar to the cumulative impact on fire service facilities. The cumulative impact on police facilities would be potentially significant due to the increased demand from cumulative residential projects and the project. The project would not increase the population but services may be needed for park visitors. The need for police facilities would be minimized because a Gateway Park-specific East Bay Regional Parks District presence would be established at the project area to serve Gateway Park visitors. EBRPD park rangers would assist in alleviating the project's demand for police protection service by providing a regular on-site presence, supervising park areas, and enforcing park rules. EBRPD police would patrol Gateway Park, as with its other parks. None of the identified cumulative projects would increase the demand for EBRPD police; therefore the cumulative impact on the EBRPD police demand would be less than significant and the project's contribution would be less than cumulative considerable.

Impact C-PS-3. The project would not contribute considerably to cumulative needs for new or physically altered school facilities (less than cumulatively considerable)

Other foreseeable projects would include residential, retail, commercial, and industrial developments, which would increase demand for school facilities. The project would also employ a minimal number of employees (15 to 30) that could have school-aged children. The project impact in combination with the cumulative projects could result in a potentially significant cumulative impact on school facilities. The new employees for the project would likely come from the region and if those employees have school-aged children and live in the region, they would already be using the school facilities in the area. Because the new employees would likely come from the area, the project would not increase the demand for school facilities. The project's contribution to the cumulative impact would be less than cumulatively considerable.

Impact C-PS-4. The project would not contribute considerably to cumulative needs for new or physically altered library facilities (less than cumulatively considerable)

Other foreseeable projects would include residential, retail, commercial, and industrial developments, which would increase demand for library facilities. The project impact in combination with the cumulative projects could result in a potentially cumulative impact on library facilities. As described above, the new employees for the project would likely come from the region and would already be using public services, including library facilities. Because the new employees would not increase the demand for library facilities, the project's contribution to the cumulative impact would be less than cumulatively considerable.

4.1.13 Transportation and Traffic

The project would contribute to the following cumulative impacts on transportation and traffic.

Impact C-TRA-1. The project, in combination with other foreseeable projects in the project vicinity, would result in increased vehicular, pedestrian, and bicycle traffic that could affect the performance of the circulation system during special events (Intersection 7: less than cumulatively considerable; Intersections 3 and 6: less than cumulatively considerable with mitigation; Special Events: considerable and unavoidable cumulative contribution)

Based on information from the City of Oakland Bicycle Master Plan, Class 2 bicycle lanes are proposed to be installed on Adeline Street and West Grand Avenue in the study area. With the installation of bicycle lanes, the number of vehicle travel lanes would be reduced. Intersection improvements at the Grand Avenue/Mandela Street and Grand Avenue/Campbell Street intersections to accommodate the Gateway Path Project (a related project) were also considered in the cumulative analysis.

The addition of project-generated vehicle trips during the cumulative condition weekday PM and/or Saturday peak hours would worsen conditions at study intersections as described below.

- West Grand Avenue/Frontage Road/I-80 Ramps intersection (Intersection 3): During weekday PM and Saturday peak hours would worsen the LOS F conditions and increase the V/C ratio by 0.03 or more (Table 4-3). Cumulative impacts would be significant. With implementation of mitigation measures described in Section 3.12, this cumulative impact would be less than cumulatively considerable.
- West Grand Avenue/Mandela Parkway (Northbound) (Intersection 6): During the weekday PM peak hours would result in LOS F conditions and increase average delay by more than 4 seconds (Table 4-3). Cumulative impacts would be significant. With implementation of mitigation measures described in Section 3.12, this cumulative impact would be less than cumulatively considerable.
- 7th Street/Maritime Street intersection (Intersection 7): During weekday PM peak hours would worsen the LOS F conditions but would not increase the V/C ratio by 0.03 or more. Cumulative impacts would be significant but the project's contribution to the impact (i.e., less than 0.03) would be minimal and less than cumulatively considerable based on City of Oakland significance criteria.

Additionally, the project could contribute to increased traffic volumes along Grand Avenue where AC Transit Route NL and Line 31 operate. Cumulative impacts on Grand Avenue would be significant, even with the incorporation of mitigation measures listed in Section 3.12, *Transportation and Traffic*. Implementation of **MM-TRA-7** would require the installation of improvements, which would result in LOS E conditions during the weekday PM peak hour. With implementation of mitigation measure **MM-TRA-7**, the project's contribution to the cumulative impact related to performance of the circulation system during peak hours would be less than cumulatively considerable.

MM-TRA-7. Install protected-permitted phasing and upgrade traffic signal equipment at the West Grand Avenue/Mandela Parkway (northbound) intersection

The ~~City of Oakland~~ <u>project implementer</u>~~, a member of the Gateway Park Working Group,~~ shall <u>coordinate with the City of Oakland to</u> install protected-permitted phasing for the eastbound left-turn movement and upgrade the traffic signal equipment as necessary to provide video detection bicyclists.

While cumulative impacts during average project operations can be mitigated to a less than significant level, as described in Impact TRA-1, the project could result in a significant and unavoidable impact to intersection LOS during special events if such events are scheduled during peak hours. The project's contribution to cumulative traffic impacts during special events would therefore be cumulatively considerable.

Table 4-3. Cumulative Impact on Peak Hour Intersection Level of Service

Intersection		Peak Hour	Cumulative Without Project		Cumulative With Project		Cumulative With Project With Mitigation	
			Delay[a]	LOS[b]	Delay[a]	LOS[b]	Delay[a]	LOS[b]
3	West Grand Avenue/Frontage Road/I-80 Ramps	PM	106.6 (v/c=0.88)	**F**	>120 (v/c=0.92)	**F**	57.7	E
		SAT	88.0 (v/c=0.66)	**F**	114.2 (v/c=0.75)	**F**	40.0	D
6B	West Grand Avenue/Mandela Parkway Northbound	PM	79.3	E	98.2 (v/c=1.66)	**F**	50.6	D
		SAT	30.3	C	42.5	D	26.0	C

Notes: **Bold** text indicates potentially unacceptable intersection operations.
[a] Delay presented in seconds per vehicle
[b] LOS = Level of Service
Source: Fehr & Peers 2014

Impact C-TRA-2. The project, in combination with other foreseeable projects in the project vicinity, would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards also established by the county congestion management agency for designated roads or highways (considerable and unavoidable cumulative contribution)

The PM peak hour roadway segment analysis under 2035 conditions is provided in Table 4-4. Results of the analysis indicate that the project could worsen projected deficient operations under the cumulative condition on Grand Avenue from Mandela Parkway to I-880 in 2035 by increasing the volume-to-capacity (V/C) ratio by more than 0.03 in the PM peak hour. This cumulative impact would be significant and the project's contribution would be cumulatively considerable.

Table 4-4. 2035 PM Peak Hour Congestion Management Program Roadway Segment Analysis

Link Location/Segment Limits		# Lanes	No Project Volume	With Project Volume	Percent Increase	V/C Ratio- No Project	V/C Ratio – With Project	No Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C
Freeway Segments											
I-580 Eastbound											
I-80/I-580	MacArthur Blvd	4	9,619	9,623	0%	1.20	1.20	F	F	-	No
MacArthur Blvd	I-980/SR 24	5	8,817	8,821	0%	0.88	0.88	D	D	No	-
I-980/SR 24	Oakland Avenue	5	8,638	8,649	0%	0.86	0.86	D	D	No	-
Oakland Avenue	Grand Avenue	4	9,542	9,553	0%	1.19	1.19	F	F	-	No
I-580 Westbound											
Lakeshore Avenue	Grand Avenue	4	8,369	8,386	0%	1.05	1.05	F	F	-	No
Grand Avenue	Oakland Avenue	4	8,761	8,778	0%	1.10	1.10	F	F	-	No
Oakland Avenue	I-980/SR 24	5	8,085	8,102	0%	0.81	0.81	D	D	No	-
I-980/SR 24	I-580/I-80	5	8,175	8,183	0%	0.82	0.82	D	D	No	-
I-980 Eastbound											
I-880	12th Street	2	3,247	3,252	0%	0.81	0.81	D	D	No	-
12th Street	27th Street	3	4,174	4,179	0%	0.70	0.70	C	C	No	-
27th Street	I-580	5	6,097	6,102	0%	0.61	0.61	C	C	No	-
I-980 Westbound											
I-580	27th Street	5	4,969	4,983	0%	0.50	0.50	B	B	No	-
27th Street	12th Street	3	3,689	3,696	0%	0.61	0.62	C	C	No	-
12th Street	I-880	3	4,289	4,296	0%	0.71	0.72	C	C	No	-
I-880 Northbound											
Broadway	I-980	5	7,941	7,958	0%	0.79	0.80	D	D	No	-
I-980	Market Street	4	6,146	6,163	0%	0.77	0.77	D	D	No	-
Market Street	5th Street	3	5,308	5,325	0%	0.88	0.89	D	D	No	-
5th Street	7th Street	3	5,760	5,777	0%	0.96	0.96	E	E	No	-
7th Street	Grand Avenue	3	4,666	4,666	0%	0.78	0.78	D	D	No	-
Grand Avenue	I-580/I-80	2	4,235	4,243	0%	1.06	1.06	F	F	-	No

Link Location/Segment Limits		# Lanes	No Project Volume	With Project Volume	Percent Increase	V/C Ratio- No Project	V/C Ratio – With Project	No Project LOS	With Project LOS	Change from LOS E or better to LOS F	LOS F and Change in V/C
I-880 Southbound											
I-580/I-80	Grand Avenue	4	4,945	4,945	0%	0.62	0.62	C	C	No	-
Grand Avenue	7th Street	3	4,987	4,987	0%	0.83	0.83	D	D	No	-
7th Street	5th Street	3	5,955	5,966	0%	0.99	0.99	E	E	No	-
5th Street	Market Street	3	5,881	5,892	0%	0.98	0.98	E	E	No	-
Market Street	I-980	3	4,487	4,498	0%	0.75	0.75	C	C	No	-
I-980	Broadway	4	8,322	8,333	0%	1.04	1.04	F	F	-	No
I-80 Eastbound											
East of Toll Plaza		6	13,416	13,427	0%	1.12	1.12	F	F	-	No
I-880 Connector	I-580 Connector	2	4,734	4,745	0%	1.18	1.19	F	F	-	No
I-580 Connector	Powell Street	6	9,132	9,132	0%	0.76	0.76	D	D	No	-
Powell Street	Bay Street/Ashby	4	11,045	11,053	0%	1.38	1.38	F	F	-	No
I-80 Westbound											
Ashby Avenue	Powell Street	4	9,703	9,714	0%	1.21	1.21	F	F	-	No
Powell Street	I-580 Connector	5	10,421	10,432	0%	1.04	1.04	F	F	-	No
I-580 Connector	I-880	3	4,696	4,698	0%	0.78	0.78	D	D	No	-
West of Toll Plaza		5	9,785	9,793	0%	0.98	0.98	E	E	No	-
Arterials											
I-880	Mandela Parkway	2	2,016	2,056	2%	1.26	1.29	F	F	-	No
Mandela Parkway	Adeline Street	3	2,725	2,757	1%	1.14	1.15	F	F	-	No
Adeline Street	San Pablo Ave	3	2,817	2,832	1%	1.17	1.18	F	F	-	No
San Pablo Ave	Telegraph Avenue	3	1,979	1,994	1%	0.82	0.83	D	D	No	-
Grand Avenue Westbound											
Telegraph Avenue	San Pablo Ave	3	1,692	1,728	2%	0.70	0.72	C	C	No	-
San Pablo Ave	Adeline Street	3	1,883	1,919	2%	0.78	0.80	D	D	No	-
Adeline Street	Mandela Parkway	3	1,944	1,989	2%	0.81	0.83	D	D	No	-
Mandela Parkway	I-880	2	1,922	1,979	3%	1.20	1.24	F	F	-	*Yes*

Notes: *Bold and italic* text indicates a potentially significant impact.
Source: Fehr & Peers 2014

Widening Grand Avenue to provide three travel lanes in each direction would result in acceptable vehicle operations on this roadway segment. However, Grand Avenue is a major commuter thoroughfare built out to its ultimate configuration as envisioned in the *City of Oakland General Plan*. Three lanes on other segments of this roadway would be reduced to two lanes, to better accommodate other modes of travel along the corridor. This improvement, which is not reflected in the Alameda CTC model, would likely shift travel from Grand Avenue to other corridors and other modes of travel. Further widening of this roadway could encourage additional vehicle traffic that could be accommodated by other modes of travel, if those modes are more convenient. Additionally, intersections along Grand Avenue (Intersections 3 and 6) are projected to operate at acceptable service levels in the cumulative condition with incorporation of mitigation listed in Section 3.12, *Transportation and Traffic*. This indicates that the MTS analysis does not consider the added capacity at intersections, which is usually the constraint in the transportation system.

Improvements to parallel corridors in the region as well as improvements to bicycle, pedestrian, and transit facilities would provide alternative travel routes and additional transportation capacity in the region. However, because it is unknown when these improvements would be implemented, the project's contribution to the cumulative impact related to standards established by the county congestion management agency for designated roads or highways would remain cumulatively considerable. This impact would occur during normal project operations, and would be worsened during special events scheduled during peak hours.

Impact C-TRA-3. The project, in combination with other foreseeable projects in the project vicinity, would introduce design features or incompatible uses that could cause bicycle and pedestrian conflicts, resulting in a substantial increase in hazards (less than cumulatively considerable with mitigation)

In the cumulative condition when it would be feasible to walk or ride a bike between Oakland and San Francisco, an expected 750 to 1,500 people may consider commuting via bicycle over the Bay Bridge each weekday (Table 4-5). Tourism and other recreational activity would likely increase pedestrian activity, especially on weekends.

At the West Grand Avenue/Frontage Road/I-80 Ramps intersection (Intersection 3), the project may add pedestrian and bicycle traffic to an intersection where the current pedestrian accommodations are insufficient to accommodate increased demand. This would be a significant cumulative impact. With implementation of mitigation described in Section 3.12, *Transportation and Traffic,* and **MM-TRA-7,** described above, the project's contribution to cumulative impacts related to bicycle and pedestrian conflicts would be less than cumulatively considerable.

Table 4-5. Cumulative East Span Bicycle and Pedestrian Forecast Range

	Weekday			Weekend	
Source of Activity	**Daily**	**AM Peak Hour**	**PM Peak Hour**	**Daily**	**Peak Hour**
Tourism/Recreation–Pedestrian[a]	300–1,610	20	40–300	2,250–4,350	290–560
Tourism/Recreation–Bicycle[a]	320–750	30	50–140	1,800–2,440	220–440
Treasure Island Development–Bicycle[b]	0–700	0–30	0–40	0–700	0–40
Commute Trips–Bicycle[c]	750–1,490	50–210	50–270	250–750	50–140
Total Pedestrian/Bicycle Activity	**1,370–4,550**	**100–290**	**140–750**	**4,300–8,240**	**560–1,180**

Notes:

[a] The low end of the range is based on counts of activity on the East Span prior to the completion of the Park and the connection to Yerba Buena Island. Maximum of the range is assumed 30% of observed activity on the Golden Gate Bridge on a weekday and 40% percent of observed activity on a weekend.

[b] Based on the trip generation, mode choice and project trip distribution from the *Treasure Island and Yerba Buena Island Redevelopment Plan Transportation Impact Study* (Fehr & Peers 2010).

[c] Based on estimates of existing commuters who ride their bicycles to a BART station within 15 miles of either the touchdown of either the east span or west span that might switch to only bike commuting, and the number of Transbay buses each hour and estimates of bus bicycle rack activity.

Source: Fehr & Peers 2014

4.1.14 Utilities and Service Systems

The project would contribute to the following cumulative impacts on utilities and service systems.

Impact C-UT-1. The project would not contribute considerably to cumulative impacts on treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities (less than significant cumulative impact)

Other development could increase the demands on wastewater infrastructure and treatment facilities. However, as with the project, other development would be required to meet the wastewater treatment requirements of the RWQCB. In addition, other large-scale development projects would be required to verify that existing wastewater infrastructure can accommodate increased demand, or contribute to any needed upgrades to existing facilities. Therefore, the cumulative impact related to demands on wastewater infrastructure and treatment facilities would be less than significant and the project's contribution would be less than cumulatively considerable.

Impact C-UT-2. The project would not contribute considerably to cumulative requirements for the construction of new stormwater drainage facilities or expansion of existing facilities (less than significant cumulative impact)

Other development would consist primarily of infill and redevelopment, which would not substantially increase the amount of impervious surfaces in the city. Existing regulations require new projects to address the need for stormwater treatment. For example, as discussed in

Section 3.8, *Hydrology and Water Quality*, Clean Water Act Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES MS4 permits. MS4 permits require that cities and counties develop and implement programs and measures to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures as appropriate. Because other projects would be required to comply with these regulatory requirements, the cumulative impact related to demands of new stormwater drainage facilities or expansion of existing facilities would be less than significant. Furthermore, the project's stormwater drainage demands would be handled by on-site infrastructure included in the project, thus its contribution to cumulative drainage facility infrastructure needs would be less than considerable.

Impact C-UT-3. The project, in combination with reasonably foreseeable actions in the project vicinity, would not exceed available water supply (less than significant cumulative impact)

Other development and the project would increase demands on water supplies as well as water infrastructure facilities. However, EBMUD, the local water and wastewater service provider, has incorporated the demand from other development projects in its future water service projections. The *Urban Water Management Plan* (East Bay Municipal Utility District 2015) determined that EBMUD would have sufficient water supplies, with some rationing, to serve its retail customers, existing customers, and foreseeable future development in 2040 under normal year, single dry year or first year of multiyear drought, and second dry year scenarios. The *Urban Water Management Plan* (East Bay Municipal Utility District 2015) identifies that if water supplies are severely depleted, EBMUD's Board of Directors may declare a water shortage emergency and implement the Drought Management Program, which is designed to allow EBMUD to minimize drought impacts on its customers while continuing to meet stream flow release requirements and obligations to downstream Mokelumne River water users. The Drought Management Plan guided EBMUD in successfully managing water demand during mandatory and voluntary rationing periods in calendar years 1976-1978, 1987-1994, 2007-2010, and 2014-2015 when supplies were limited. Foreseeable future development in 2040 relied on the adopted general plans of the cities and counties in EBMUD's service area and on a series of meetings with local planning agencies regarding the timing and direction of future development in their respective communities. New or expanded water treatment facilities would not be required because project construction, and construction of cumulative projects, would not adversely affect water supply. Therefore, the cumulative impact related to water supply would be less than significant and the project's contribution would be less than considerable.

Impact C-UT-4. The project, in combination with reasonably foreseeable actions in the project vicinity, would not exceed landfill capacity and would not comply with federal, state, and local statutes and regulations related to solid waste (less than significant cumulative impact)

Construction of the cumulative projects would generate solid waste. Construction waste would include soils from grading and excavating activities, construction and demolition material, and other solid waste. Cumulative growth in the region will also result in increased solid waste generation. Construction of cumulative projects would contribute to the reducing capacity of regional landfills over time. As with the project, other development projects in the City of Oakland would be required to comply with the city's C&D Recycling Ordinance, which requires that 100% of all asphalt and concrete materials and 65% of all other materials be recycled. Other local jurisdictions in the region have similar construction waste diversion goals and standards in accordance with AB 939. It is anticipated that future cumulative development would implement measures to divert construction and demolition waste from landfills. While there are long-term concerns for landfill capacity, the four landfills that would serve the project and the cumulative projects have estimated closure dates of 2022, 2024, 2025, and 2048, which extend beyond the project's anticipated construction period. As discussed in Section 3.13, *Utilities and Service Systems*, landfills that accept C&D waste generally do not face capacity shortage issues since construction and demolition and inert materials are usually taken to C&D processing facilities for intermediate processing and recycling. Thus, landfill capacity exists to serve construction and demolition waste needs for projected future development. Therefore, the cumulative impacts related to landfill capacity and solid waste would be less than significant.

General growth in the region would generate additional solid waste. As shown in Table 3.13-1, there are four existing landfills that would serve the cumulative projects in the region. The four landfills have estimated closure dates of 2022, 2024, 2025, and 2048. It is unknown whether these four can handle the region's solid waste disposal in the future. As a result, cumulative project operations would contribute to reducing capacity of regional landfills over time. Over time, combined with general regional growth, there will be a need for new landfills, the construction of which might result in significant environmental impacts. Project operations would generate approximately 145 tons of solid waste per year (0.4 ton per day) associated with park visitors. As described in Impact UTIL-5, the volume of waste would not be substantial relative to landfill capacity. Therefore, project operations would result in a less-than-significant solid waste generation and would make a less-than-considerable contribution to any potential cumulatively impacts on landfill capacity.

4.2 Significant and Unavoidable Impacts

In accordance with Sections 21100 (b)(2)(A) and 21100.1(a) of the CEQA Statute and Section 15126.2(b) of the State CEQA Guidelines, an EIR is required to identify any significant environmental effects that cannot be avoided if a project is implemented. Many impacts identified for the project either would be less than significant or could be mitigated to a less-than-significant level. However, the project would also result in significant impacts that cannot be mitigated to less-than-significant levels, as listed below.

- **Impact BIO-5.** The project would have a substantial adverse effect on special-status fish species as a result of construction.
- **Impact GHG-1.** The project will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment.
- **Impact TRA-1.** The project would result in increased vehicular, pedestrian, and bicycle traffic and would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during special events.
- **Impact TRA-2.** The project would conflict with the applicable congestion management program, including level of service standards and travel demand measures, and other standards established by the county congestion management agency for designated roads or highways during special events.

- **Impact C-BIO-5.** The project would not contribute considerably to the loss of habitats of special-status fish species but could result in unavoidable loss of individual special-status fish species due to pile driving.
- **Impact C-GHG-1:** The project, in combination with reasonably foreseeable actions in the project vicinity will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment
- **Impact C-NOI-1.** The project, in combination with reasonably foreseeable actions in the project vicinity, would cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project.
- **Impact C-TRA-1.** The project, in combination with other foreseeable projects in the project vicinity, would result in increased vehicular, pedestrian, and bicycle traffic that could affect the performance of the circulation system during special events.
- **Impact C-TRA-2.** The project, in combination with other foreseeable projects in the project vicinity, would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards also established by the county congestion management agency for designated roads or highways.

4.3 Significant Irreversible Environmental Changes

In accordance with Section 21100(b)(2)(B) of the CEQA Statute and Section 15126.2(c) of the CEQA Guidelines, an EIR must identify any significant irreversible environmental changes that could result from implementation of a project. This may include current or future uses of nonrenewable resources and secondary or growth-inducing impacts that commit future uses of nonrenewable resources. Also included are secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to ensure that current consumption is justified. In general, such irreversible commitments include the use of resources, such the materials to construct a project, as well as the energy and natural resources (including water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

The consumption of nonrenewable resources includes conversion of agricultural lands and lost access to mining reserves. As discussed in Chapter 1, *Introduction*, no agricultural land exists in the project area. Therefore, no existing agricultural lands would be converted to non-agricultural uses. In addition, the project site and the area along the margin of the Bay to the west contain no identified mineral resources; therefore, development of the project would not result in the loss of access to mining reserves.

No significant environmental damage, such as accidental spills or explosions of hazardous materials, is anticipated with implementation of the project. Compliance with federal, state, and local regulations would ensure that this potential impact would be reduced to a less-than-significant level. The ~~project sponsor~~ <u>project implementer</u> would be required to demonstrate compliance with the performance standards outlined in the Resource Conservation and Recovery Act, Department of Transportation Hazardous Materials Regulations, and the Alameda County Department of Environmental Health CUPA regulations. The ~~project sponsor~~ <u>project implementer</u> would also prepare a site-specific mitigation plan, if required based on the results of the limited Phase II Environmental Site Assessment, per **MM-HAZ-1**. As such, no irreversible changes related to hazardous materials, such as those that might result from construction of an industrial project, would result from development of the project.

Construction of the project would require the use of energy, including energy produced from nonrenewable resources. Energy consumption would also occur during the operational period of the project. The project would not require the construction of major utility lines to deliver energy or natural gas because these services are already provided in the area.

The consumption of other nonrenewable or slowly renewable resources would occur during construction and operation. These resources include, but are not limited to lumber, concrete, sand and gravel, asphalt, masonry, metals, and water. The project would irreversibly use water and solid waste landfill resources. However, the project would not involve a large commitment of those resources relative to supply, nor would it consume these resources in a wasteful manner, because all resources would be used to achieve the project objectives.

Therefore, the project would not result in a significant impact associated with the consumption of nonrenewable resources.

4.4 Growth-Inducing Impacts

The project would not induce population growth either directly by proposing new residential units or regional employment or indirectly by extending roads or infrastructure. The project would not create housing; therefore, the project would not directly induce population growth. The project would employ minimal number of employees (15 to 30). The number of employees for the project is minimal and would not necessarily induce population growth, since it is likely that the employees of the park would come from the region. Employment for the park would not result in indirect population growth. The project would not result in growth-inducing impacts.

4.5 Energy Consumption

In accordance with Appendix F of the State CEQA Guidelines, this discussion addresses the energy implications of the project. This section represents a summary of the project's anticipated energy needs, impacts, and conservation measures. Information found herein, as well as other aspects of the project's energy implications, are discussed in greater detail elsewhere in this Draft EIR, including Chapter 2, *Project Description*, Section 3.2, *Air Quality*, Section 3.6, *Greenhouse Gases*, and Section 3.12, *Transportation and Traffic.* The project's energy usage would be considered wasteful, inefficient, or unnecessary if it were to violate state or federal energy standards or consume a substantially greater amount of energy in either construction or operation than other similar projects. The project would be designed and constructed in accordance with State green building standards that would serve to reduce the energy demand of the project.

4.5.1 Construction

During project construction, energy would be consumed in three general forms:

- Petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project area, as well as delivery and haul truck trips (e.g., hauling of demolition material to off-site reuse and disposal facilities). Approximately 835,000 gallons of diesel fuel would be consumed during project construction.

- Electricity associated with the conveyance of water that would be used during project construction for dust control (supply and conveyance) and electricity associated with providing temporary power for lighting and electronic equipment inside temporary construction trailers and within the proposed structures. Only one construction trailer would be used during each phase of construction.
- Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass, to be used on site.

Petroleum-based fuels would be used efficiently as required by **MM-AQ-4**, which requires minimizing idling times and maintaining and properly tuning construction equipment. Electricity associated with the conveyance of water would not be used wastefully because it would be used to minimize dust emissions to thresholds established by BAAQMD. The energy used to make the materials would not be wasted because each piece of material would be necessary to construction the project. Therefore, the project's on-site construction activities would not result in the wasteful, inefficient, or unnecessary use of energy resources, create energy utility system capacity problems, create problems with the provision of energy services, or result in a significant impact associated with the construction of new or expanded energy facilities. Furthermore, project construction would not violate state or federal energy standards or consume a substantially greater amount of energy than other similar projects. As such, impacts would be less than significant.

4.5.2 Operations

During operation of the project, energy would be consumed for multiple purposes, including but not limited to heating/ventilating/air conditioning, landscaping and maintenance, and lighting. Energy would also be consumed during project operations related to water usage, solid waste disposal, and vehicle trips. Annual energy use has been calculated for operation of the project. The project would consume approximately 517,900 kilowatt-hours per year of electricity. Electricity would be provided by PG&E, which services approximately 16 million people throughout a 70,000 square-mile area in northern and central California. PG&E generates electricity from its own generators and acquires electricity from independent generators and out of state generators. PG&E would be able to provide electricity to the project. In addition, due to vehicle miles traveled by visitors to the park, the project would consume approximately 52,637,000 thousand British thermal units (Btu) per year. Many visitors would come to the park by bicycle, on foot, or by public transit. These alternative modes of transportation would result in an overall lower consumption of energy due to vehicle miles traveled.

Overall the project would be designed and constructed in accordance with state green building standards that would serve to minimize the project's energy demand. Therefore, the project would not violate state or federal energy standards or consume a substantial amount of energy in either construction or operation as compared to similar projects. Accordingly, development of the project would not cause wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the intent of Appendix F of the CEQA Guidelines. Impacts would be less than significant.

Chapter 5
Alternatives

5.1 Introduction

This chapter summarizes the development of alternatives and compares the impacts of these alternatives.

5.1.1 CEQA Requirements for Alternatives Analysis

The CEQA Guidelines require the analysis of a reasonable range of alternatives to the proposed project or to the location of the project that would feasibly attain most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines Section 15126.6). The range of alternatives required in an environmental impact report (EIR) is governed by a "rule of reason," which stipulates that an EIR shall set forth only those alternatives that are necessary for informed public participation and an informed and reasoned choice by the decision-making body (CEQA Guidelines Section 15126.6(f)). The following factors may also be taken into consideration when assessing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (CEQA Guidelines Section 15126.6(f)(1)).

CEQA also requires that a No Project Alternative be evaluated (CEQA Guidelines Section 15126.6(e)); the analysis of the No Project Alternative is based on the assumption that the project would not be approved. In addition, an environmentally superior alternative must be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative that would result in the least adverse environmental impacts on the project site and affected environment. If the No Project Alternative is found to be the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives.

CEQA Guidelines Section15126.6(c) also requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process. In identifying alternatives for this project, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the project proponent's basic objectives. Those alternatives that would have impacts identical to or more severe than the project, or that would not meet most of the project proponent's objectives, were rejected from further consideration.

5.1.2 Project Objectives and Environmental Impacts

The primary purpose of the project is to provide a distinctive entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge (Bay Bridge Trail). As described in Section 2.3, *Project Objectives*, the project would also provide safe, multimodal access to the shoreline and both passive and active recreation opportunities. The project purpose also includes providing interpretive features for natural resources and transportation history, and a venue for community events and art installations. The project would be designed, at a minimum, to meet mitigation commitments for a number of transportation projects, including the San Francisco Bay Bridge East Span Seismic Safety Project (East Span project) (see Section 2.4, *Minimum Park Requirements from the East Span Project BCDC Permit*). Specific project objectives include transportation and shoreline access objectives and regional park and recreation objectives.

- Transportation and Shoreline Access Objectives
  - Provide public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large.
  - Facilitate multimodal connections to the shoreline and regional park (bicycle, pedestrian, transit, auto, and watercraft).
  - Provide improved staging and access to the bicycle and pedestrian path on the east span of the Bay Bridge.
  - Provide links to existing and planned segments of the San Francisco Bay Trail. When complete, the linear Bay Trail will be a continuous 500-mile bicycle/pedestrian trail encircling the entire Bay Area.
  - Provide staging and access to the planned San Francisco Bay Area Water Trail. The Water Trail program is an ongoing effort to create a network of launch and landing sites for human-powered watercraft throughout the Bay Area. The Water Trail is nonlinear and on the water without specific routes.
- Regional Park and Recreation Objectives
  - Create a distinctive entryway park that reflects the people, history, and culture of the East Bay.
  - Provide a destination for residents and visitors to view and access San Francisco Bay and the east span of the Bay Bridge, as well as to view the Port of Oakland operations.
  - Provide active and passive recreation opportunities, including walking, nature appreciation, interpretation of transportation history, bicycling, fishing, kiteboarding, windsurfing, kayak launching, and nonmotorized boating.
  - Provide opportunities for the interpretation of San Francisco Bay natural resources, transportation history, and the history of the Port of Oakland, and the history of the former Oakland Army Base.
  - Provide a venue for community, regional, and national events.
  - Provide a venue for installations by artists.
  - Provide a learning environment for students to experience San Francisco Bay natural resources and transportation history.
  - Provide a long-term sustainable regional park, including revenue-generation opportunities for funding park operations and maintenance.
  - Provide the required mitigation for transportation projects.

5.1.3 Overview of Alternatives Considered

The project and its potential environmental impacts were presented in the EIR Notice of Preparation (NOP) distributed for agency and public review and at a public scoping meeting (Appendix A, *Notice of Preparation and Scoping Comments*). Several alternatives to specific park features were identified based on comments received in response to the NOP or during the scoping meeting and on input from stakeholders, resource agencies, and early public outreach efforts. To determine which of the alternatives should be evaluated in the EIR, each alternative was screened to determine whether it would meet most of the project objectives, reduce any of the potentially significant impacts identified during preliminary assessment, and be potentially feasible.

Ability to meet most of the project objectives was determined based on whether the alternative would meet the fundamental project purpose and objectives. Feasibility was determined by project engineers. Alternative features were compared to the project features based on their intensity of development.

This chapter provides a description of the alternatives considered but rejected for further review, followed by an analysis of the No Project Alternative and two project alternatives: the Passive Park Alternative and the Active Park Alternative.

5.2 Alternatives Considered but Rejected

5.2.1 Onsite Alternatives

The following onsite alternatives were rejected for further analysis.

5.2.1.1 Kayak Launch at Radio Beach

This alternative would relocate the proposed kayak launch platform from the Port Playground to Radio Beach to reduce potential conflicts between kayakers and Port traffic. This alternative was dismissed because it would result in greater impacts to biologically sensitive habitat in the Radio Beach area.

5.2.1.2 More Fill for Shoreline Protection

This alternative would provide Bay fill and associated structures (e.g., retaining walls) to protect the shoreline and maximize the park area. This alternative was dismissed because it would not reduce any impacts of the project and it would be inconsistent with key policies in the San Francisco Bay Plan (San Francisco Bay Conservation and Development Commission 2012) emphasizing minimization of new fill in the Bay.

5.2.1.3 No Fill for Shoreline Protection

This alternative is based on the concept of "managed retreat" and would not include additional Bay fill or setback of the park features from the shoreline, with the intent of letting the park area flood as the sea level rises instead of constructing formal protection. This alternative would reduce water quality and biological impacts. Without Bay fill or shoreline protection, Gateway Park would be vulnerable to the effects of sea level rise, which could result in more severe shoreline erosion, flooding, inundation, and wave overtopping. Facilities, utilities, structures, and habitats in the park could be damaged or lost if sea level rise projections materialize (Appendix B, *Sea Level Rise Adaptation*). Without Bay fill or shoreline protection, facilities that provide access to the shoreline, such as the path to Radio Beach, boardwalk, and meadow and bluff walk, could be damaged or lost. Because this alternative would not be able to guarantee the protection of features that provide access to the shoreline, it would not meet the project objective of providing safe, multimodal access to the shoreline. In addition, this alternative would not meet the transportation and shoreline access objective of providing public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large. Further, this alternative would not fulfill existing permit and mitigation requirements associated with the East Span project to provide public shoreline access in the project area (Section 5.3.1, *No Project Alternative*). Therefore, this alternative was dismissed from further consideration.

5.2.1.4 Creation of an Artificial Bird Island

This alternative would create a bird refuge island in the Bay using old bridge pilings. This alternative was dismissed because it would not reduce any impacts of the project.

5.2.1.5 Footbridge from Radio Beach to Emeryville

This alternative would construct a footbridge between Radio Beach and Emeryville. This alternative was dismissed because it would not reduce any impacts of the project and would result in additional impacts on sensitive biological resources from construction and human presence in a sensitive mudflat area.

5.2.2 Offsite Alternative

This alternative would create a shoreline park at a different location in the East Bay. This alternative was dismissed because it would not meet the fundamental purpose of the project which is to implement the BCDC Permit No. 2001.008.4~~1~~2 requirement to provide 4.5 acres for unrestricted public access for walking, sitting, viewing, and other related purposes at the project site. Refer to Chapter 2, *Project Description*, for further discussion of the BCDC permit requirements.

5.3 Alternatives Selected for Further Review

Two alternatives, along with the project, were selected for further analysis: the Passive Park Alternative and the Active Park Alternative. Each of these alternatives fulfills the project purpose and most objectives, reduces some likely impacts of the project, responds to agency and public input, and is potentially feasible. Additionally, CEQA requires the analysis of the No Project Alternative. These alternatives are described in the sections that follow. The primary features of the project and alternatives are provided in Table 5-1.

Table 5-1. Comparison of Park Features under the Project, No Project Alternative, Passive Park Alternative, and Active Park Alternative

Park Area and Primary Features		Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Park Acreage		**45 acres**	**45 acres**	**45 acres**	**4.5 acres**
Bridge Yard		Destination recreation and event center in the core park area	Fewer active recreational uses and no event space	Same as project	Limited to pathways connecting the shoreline, Bay Bridge Trail, Bridge Yard Building,[a] and parking area
A	Arrival plaza	Arrival plaza for bicycles, cars, and buses	Same as project	Same as project	N/A
B	Historic display plaza	Display area for historic train from the Key System, picnic tables, and shade canopy with string of lights	None	Same as project	N/A
C	Outdoor yard event space	Event space for small gatherings to large events. Small gatherings could include art displays in the meadow and informal performances for approximately 200 people. Large events could include movies in the meadow for 500–1,000 people and concerts for 1,000–1,700 people	None	Same as project	N/A
D	Bridge Yard Building improvements[a]	Minor improvements and use of the renovated Bridge Yard Building	Same as project	Same as project	N/A
E	Indoor/outdoor auditorium	Indoor/outdoor auditorium embedded into the landscape, for approximately 100–200 people, adjacent to the Bridge Yard Building. Would be used for events or training	None	Same as project	N/A
Key Point		Passive recreation area with a landing for bicycle and pedestrian traffic from the Bay Bridge Trail	No building uses and no pier	Same as project	Limited to the pathways connecting the shoreline, Bay Bridge Trail, Bridge Yard Building, and parking area

Park Area and Primary Features		Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Park Acreage		**45 acres**	**45 acres**	**45 acres**	**4.5 acres**
A	Building renovation	Renovation of two existing structures at far west end. The historic Key Building would be a café and bookstore. The historical Mole Substation would be an artist studio, ranger station, conference room, and restrooms.	No renovation or park use of buildings	Same as project	No renovation or park use of buildings
B	Path to Bay Bridge Trail	Path on structure (e.g., boardwalk) to connect the Key Point area to the Bay Bridge Trail	Same as project	Same as project	Similar to project
C	Pier	Pier extending into Bay from far western end along old Bay Bridge alignment. The pier would be 300 feet long and 30 feet wide	None	Same as project but would include kayak launch	None
Port Playground		Destination for active and passive recreation along the shoreline	Passive uses only	Same as project	No improvements in this area
A	Visitor center	Three separate structures connected with covered, open-air walkways: main lobby with information on park facilities and exhibits, gift shop, and café; lockers and restrooms; and kayak building with bike and kayak storage	No visitor center but provides bathroom (location to be determined) and minor kiosk exhibits	Same as project	No visitor center but provides bathroom and minor kiosk exhibits
B	Play areas	Several play areas, picnic areas, and connecting pathways dispersed throughout the Port playground, including the main playground west of the visitor center, climbing wall area south of visitor center, and climbing towers northwest of the visitor center in the windbreak	None (pathways/benches only)	All of the project features as well as amusement rides, and sports fields	None
C	Kayak launch	ADA-compliant cement ramp from visitor center that would serve as kayak launch	None	None (kayak launch would be at Key Point)	None
D	Boardwalk	Cement walkway extending along the water's edge above the seawall and	None (pathways/benches only)	Same as project	None

Park Area and Primary Features		Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Park Acreage		**45 acres**	**45 acres**	**45 acres**	**4.5 acres**
		including observation areas, benches, and picnic areas			
E	Meadow view point	Topographical viewpoint on the north side of the visitor center to provide an elevated view overlooking the Bay	None	Same as project	None
F	Meadow and bluff walk	Large natural open space with pathways south of the windbreak, extending from Key Point on the west to the main visitor center and kayak launch on the east	Same as project	Smaller natural areas to allow for additional sports fields	None
G	Active view feature	Potential active view feature(s) such as elevated zip line, ropes course, gyro (observation) tower, or other	None (pathways/benches only)	Same as project	None
Radio Beach		Restoration and preservation area with limited recreation use	Restoration and fencing only	Same as project	No improvements or restoration
A	Path to Radio Beach	Path on new structure extending from Key Point under the Bay Bridge to the easterly end of Radio Beach for bicycle and pedestrian access	None	Same as project	None
B	Restoration	Restoration planting and habitat enhancement of approximately 4 acres	Same as project	Same as project	None
C	Fencing	Permanent fence to protect wildlife and the environmentally sensitive existing tidal marsh area	Same as project	Same as project	None
Other Features					
A	Windbreak and tree buffer	Trees planted between I-80 and the core park area to block and diffuse vehicular air emissions, provide visual buffer, and shade	Same as project	Vegetative buffer with berm and trees between I-80 and core park area	None

Park Area and Primary Features		Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Park Acreage		**45 acres**	**45 acres**	**45 acres**	**4.5 acres**
B	Landscaping	Landscaping throughout the park south of I-80 and possibly under the freeways east of the park	Similar to project in the Bridge Yard, but little or no similarity in other areas.	Same as project or more	Drought-tolerant landscaping in the 4.5 acre park area, pathways and parking lot
C	Lighting	A combination of low-level foot lighting along paths, exterior lighting on buildings directed downward, and 20-foot steel light standards in Bridge Yard area and in parking lots. No lighting in the Radio Beach area	Similar to project in the Bridge Yard but little or no lighting in other areas	Same as project or more	Minimal lighting in the 4.5-acre park area, pathways and parking lot
D	Parking	Parking for visitors	Less than the project	More than the project	Approximately 43 parking spaces where the temporary lot is currently located east of the Caltrans maintenance facility or along the existing Caltrans maintenance west of the Caltrans maintenance facility
E	Way-finding elements	Interpretive and directional signage along pathways throughout Gateway Park. Could include old Bay Bridge artifacts and could be located along Burma Road	Same as project	Similar to project	Similar to project, but in limited to areas
F	Shoreline protection	Provided along most shoreline areas to minimize erosion, and including gently graded slope, vegetation plantings, riprap, retaining walls, and revetment walls above and below the water line	Same as project	Same as project	None

Park Area and Primary Features		Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Park Acreage		**45 acres**	**45 acres**	**45 acres**	**4.5 acres**
G	Sea level rise adaptation	Entire south side of Gateway Park (south of I-80) elevated by 2–10 feet by adding 213,500 cubic yards of fill	Same as project	Same as project	None
H	Retention basins and stormwater drainage	Existing retention basin south of I-80 retained and three retention basins (biofiltration swales) constructed at the west end in the Key Point area to treat stormwater runoff	Less than the project given smaller amount of parking and improvements	Greater than project to address greater parking areas and improvements	Less than the project given smaller amount of parking and improvements
I	Hazardous waste clean-up	Assumed clean prior to construction and operation	Same as project	Same as project	Same as project
J	Dogs and pets (park-wide)	All pets allowed in the park on the south side but prohibited on the north side (Radio Beach)	Same as project	All pets allowed throughout park, on north and south sides	All pets prohibited everywhere
K	Hours of operation	Dawn to dusk, with potential for evening special events at the Bridge Yard	Dawn to dusk, no evening events (due to no special events)	Same as project	Dawn to dusk
L	Attendance levels	Up to 500,000 visitors annually (1,370 daily average) based on moderate use; up to 2 million annually (5,479 daily average) based on heavy use	Less than project	Potentially more than project	Less than project

[a] As part of a separate project, the existing Bridge Yard Building has been seismically retrofitted by BATA and rehabilitated by Caltrans, and a new parking lot has been constructed south of the Bridge Yard Building. These features would remain under the project or any alternative. Under the No Project Alternative, the restrooms at the Bridge Yard Building would be open to the public.

5.3.1 No Project Alternative

The No Project Alternative is defined by the Bay Conservation and Development Commission (BCDC) permit 2001.008.~~37~~42, August 19, 2014, for the East Span project. For further discussion of the BCDC permit and its requirements, see Section 2.4, *Minimum Park Requirements from the East Span Project BCDC Permit).* In compliance with the permit requirements, the following features would be developed with or without the project and therefore represent the No Project Alternative. (The No Project Alternative is not a no-build alternative.)

- 4.5 acres for unrestricted public access for walking, sitting, viewing, and other related purposes, as delineated in the BCDC permit.
- An approximate 43-space parking lot currently planned to be completed by Caltrans.
- Trail or pathway connecting the approximately 43-space parking lot to the existing Bay Bridge Trail and to the Emeryville trail and landing area with seating.
- Landscaping with native drought-tolerant vegetation.
- Path system connecting public access on the Bay Bridge to the nearest public roadway (Burma Road or Caltrans maintenance road).
- Stormwater management for new facilities (e.g., vegetated swales).
- Public access signs.
- Maintenance of the required improvements.
- Accessible and American Disabilities Act (ADA)-compliant facilities and pathways.

Under the No Project Alternative, the 4.5-acre park area would be located on Caltrans land south of Interstate 80 (I-80) near the shoreline, and the approximately 43-space parking lot would be located where the temporary lot is currently located east of the Caltrans maintenance facility or along the existing Caltrans maintenance road west of the Caltrans maintenance facility. There would be minimal improvements. The No Project Alternative would include paved pathways to allow public access to the shoreline, Bay Bridge Trail, parking area, and renovated Bridge Yard Building. There would be no improvements for active recreation, no new access to Radio Beach, and no dogs or pets allowed anywhere in the park.

The Bridge Yard Building has already been seismically retrofitted by BATA and has restrooms. Caltrans plans to use the building for training and other uses within the limits of the occupancy, building, and fire code requirements. The No Project Alternative would not provide other renovations or planned uses at the Bridge Yard Building.

5.3.1.1 Ability to Meet Project Objectives

The No Project Alternative would not meet the primary objective of the project to provide a distinctive entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge. The No Project Alternative would not meet the project purpose to provide safe, multimodal access to the shoreline and both passive and active recreation opportunities. The No Project Alternative also would not provide interpretive features for natural resources and transportation history, or a venue for community events and art installations. The No Project Alternative would not meet all of the specific transportation and shoreline access objectives, nor the regional park and recreation objectives described in Section 2.3, *Project Objectives*. The No Project Alternative would not meet the following objectives.

- Provide public shoreline access connecting to West Oakland, the City of Oakland, the East Bay, and the growing urban population at large.
- Create a distinctive entryway park that reflects the people, history, and culture of the East Bay.
- Provide active recreation opportunities.
- Provide a venue for community, regional, and national events.
- Provide a venue for installations by artists.
- Provide a long-term sustainable regional park, including revenue-generation opportunities for funding park operations and maintenance.

5.3.1.2 Impact Analysis

The No Project Alternative would have the following impacts on the resources described below.

Aesthetics

Visual character, visual quality, scenic vistas. As with the project, construction of the No Project Alternative would introduce some heavy equipment into the viewshed of neighbors and users, including backhoes, tractors, and trucks. Because the No Project Alternative would require the construction of fewer site amenities than the project, less heavy equipment would be used. Similar to the project, viewer responses to construction would not be considered adverse because construction activities would be temporary and because viewers are familiar with heavy equipment use in the area. Construction of the No Project Alternative would not substantially degrade visual character, visual quality, and scenic vistas. The impact would be less than significant.

The No Project Alternative would have reduced visual benefits, compared to the project, because it would not rehabilitate existing structures and would result in fewer aesthetic amenities. The addition of a 4.5-acre landscaped park would, however, result in a visual improvement compared to existing conditions. The impact on visual character, quality, and scenic vistas would be less than significant.

Light and glare. Construction of the No Project Alternative would be limited to the same hours as the project and may require the same amount of nighttime construction for the path to the Bay Bridge Trail. As with construction of the project, construction of the No Project Alternative would have a less-than-significant impact from lighting.

The No Project Alternative would have less lighting than the project. Lighting would be limited to the 4.5-acre park area and the parking lot. As with operation of the project, the new sources of light would not substantially increase light in the project area or contribute to light pollution, and the impact would be less than significant.

Air Quality

The No Project Alternative would require the construction of fewer site amenities than the project and would require the use of less heavy machinery, equipment, and vehicles during construction. The major components of the No Project Alternative that would require equipment and machinery during construction would be the path to the Bay Bridge Trail and the parking lot. The No Project Alternative would, therefore, generate lower construction-related dust and exhaust emissions than the project. Given the size and the scope of the project, it is anticipated that implementation of mitigation measures **MM-AQ-1** and **MM-AQ-2** (Section 3.2, *Air Quality*) would reduce the air quality impact from construction emissions to less than significant. No mitigation would be required.

The only potential impact from the combination of construction and operation emissions would be if the path to the Bay Bridge Trail is in operation and the 43-space parking lot is being constructed. This combination of emissions is expected to be lower than the project due to the limited size and scope of the No Project Alternative. Implementation of mitigation measures **MM-AQ-1** and **MM-AQ-2** would ensure that this impact would be less than significant.

The No Project Alternative would have lower operations emissions than the project because it would operate fewer buildings (source emissions) and fewer visitors would visit the park (vehicle emissions). Operations emissions impacts for the project would be less than significant; therefore, the operations emissions impacts for the No Project Alternative would also be less than significant.

As with the project, the No Project Alternative would not expose sensitive receptors to substantial pollutant concentrations during construction. Construction of the No Project Alternative would require the use of equipment that uses diesel and would result in diesel particulate matter emissions; however, such emissions would be less than under the project because equipment usage would be less. As with the project, the impact would be less than significant because exposure to potential recreational users in the area would be brief. In addition, the No Project Alternative would release less carbon monoxide emissions than the project because the No Project Alternative would generate fewer vehicle trips. As with the project, the impact from carbon monoxide emissions would be less than significant. As with the project, the No Project Alternative would not be located in an area known to contain naturally occurring asbestos; therefore, no impact would occur.

The No Project Alternative would result in fewer visitors to the project site. Similar to the project, while park visitor exposure to ambient sources of toxic air contaminants (including diesel particulate matter (DPM)) would occur, the park itself would not exacerbate that exposure because of the addition of park-related emissions.

The No Project Alternative would generate lower emissions than the project and would create less objectionable orders than the project. The impact would be less than significant.

Biological Resources

Sensitive natural communities. As with the project, construction of the No Project Alternative would occur near sensitive natural communities. Although the No Project Alternative would require substantially less construction than the project, there is still the potential for indirect, temporary impacts on sensitive natural communities. The potential for indirect, temporary impacts is lower than the potential for impacts from the project.

The No Project Alternative would avoid all temporary and permanent impacts on sensitive natural communities, including tidal salt marsh, eelgrass beds, northern foredunes, seasonal wetlands, and shallow bay. The structures in the project that would affect these habitats would not be constructed for the No Project Alternative.

Like the project, the impact from indirect, temporary impacts to sensitive natural communities would be less than significant with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4** (Section 3.3, *Biological Resources*).

Special-status plant species. The No Project Alternative has a lower potential to affect special-status plant species because it would not include construction near Radio Beach, and thus would have no impact on special-status plant species.

Special-status wildlife species. The No Project Alternative would avoid all impacts on sensitive habitats; therefore, the only potential impacts on special-status wildlife species (Ridgway's rail, California black rail, salt marsh harvest mouse, California least tern, Western snowy plover, northern harrier, Alameda song sparrow, and saltmarsh common yellowthroat) would be indirect impacts. Implementation of mitigation measures **MM-BIO-1 through MM-BIO-4** (Section 3.3, *Biological Resources*) would ensure that impacts on special-status wildlife species would be less than significant.

Migratory and nonmigratory birds. The No Project Alternative has less potential to affect migratory and nonmigratory birds and their habitat than the project. Nonetheless, the No Project Alternative could affect migratory and nonmigratory birds nesting in the construction area. The No Project Alternative would potentially affect the same migratory and nonmigratory birds as the project and implementation of the mitigation measures (MM-BIO-1, 2, 3, 18, and 19 (Section 3.3, *Biological Resources*) would ensure that impacts on special-status wildlife species would be less than significant.

Special-status fish species. The No Project Alternative would have less of an impact on special-status fish species than the project. The No Project Alternative would not construct the pier at Key Point, the path to Radio Beach, or shoreline protection included in the project, and would thus avoid the permanent loss of aquatic habitat or essential fish habitat (EFH) for special-status species. The No Project Alternative would not permanently affect habitat for special-status fish species or EFH.

The No Project Alternative would not construct the pier at Key Point or the path to Radio Beach, as described in the project, and would thus avoid the noise and vibration impacts associated with pile driving. The No Project Alternative would have no impact on special-status fish species from vibration or noise disturbance and, therefore, would avoid the significant and unavoidable project and cumulative noise and vibration impact associated with construction of the pier at Key Point and the path to Radio Beach.

As with the project, the No Project Alternative could deliver sediment and contaminants to marine waters during construction, which could affect special-status fish species and their habitat, including EFH. The No Project Alternative would have the same impact on water quality as the project and implementation of mitigation measure **MM-BIO-4** (Section 3.3, *Biological Resources*) would ensure that this impact would be less than significant.

Other protected species. The No Project Alternative would not construct the pier at Key Point or the path to Radio Beach, as described in the project, and would thus avoid the noise and vibration impacts associated with pile driving. The No Project Alternative would have no impact on marine mammals from vibration or noise disturbance.

As with the project, the No Project Alternative could affect roosting habitat for special-status bats but to a lesser degree, because the No Project Alternative would affect a smaller area of potential roosting habitat than the project. With implementation of mitigation measures **MM-BIO-1** through

MM BIO-3, the No Project Alternative would have the same less-than-significant impacts on special-status bats as the project (Section 3.3, *Biological Resources*). Additionally, as with the project, the No Project Alternative would have no impact on protected trees.

Invasive plant species. As with the project, construction and operation of the No Project Alternative could result in the dispersal and spread of invasive plant species, but this potential is lower than the potential for the project because the park in the No Project Alternative would be smaller. The No Project Alternative would have the same less-than-significant impact from invasive plants with implementation of the mitigation measures **MM-BIO-23** and **MM-BIO-24** (Section 3.3, *Biological Resources*) would apply.

Cultural Resources

Archaeological resources. No archaeological resources or areas of prehistoric sensitivity are known to occur in the study area of the project. The No Project Alternative would be located in a portion of that study area; therefore, no archaeological resources or prehistoric sensitivity are known to occur. As with the project, the potential remains for previously undiscovered archaeological resources and human remains to be encountered during project demolition or construction. The No Project Alternative has a much lower potential to affect previously undiscovered archaeological resources and human remains because it would involve substantially less excavation than for the project. Like the project, the potential impact would be less than significant after implementation of mitigation measures **MM-CUL-1** and **MM-CUL-2** (Section 3.4, *Cultural Resources*).

Historical resources. The No Project Alternative would not renovate the Key Pier Substation and the Oakland Bay Bridge Substation and would, therefore, avoid any potential impacts on these historical resources. The No Project Alternative would not affect historical resources.

Geology, Soils, and Paleontological Resources

Unstable soils. As with the project, the No Project Alternative would be located in a zone of high liquefaction and lateral spreading susceptibility. A site-specific geotechnical investigation and report would be required prior to construction of any structures. The No Project Alternative would have the same less-than-significant impact as the project concerning exposing people or structures to seismic-related ground failure, including liquefaction due to unstable soils.

Soil erosion. As with the project, soil erosion could occur during construction of the path to the Bay Bridge and a stormwater pollution prevention plan (SWPPP) in accordance with the National Pollutant Discharge Elimination System (NPDES) would be implemented. The No Project Alternative would have the same less-than-significant impact on soil erosion as the project.

Paleontological resources. The likelihood of encountering paleontological resources during excavation for the No Project Alternative would be lower than for the project because the No Project Alternative would construct fewer recreational amenities and excavate a smaller area. The impact would be the same as the project; implementation of mitigation measure **MM-GEO-1** (Section 3.5, *Geology, Soils, and Paleontological Resources*) would ensure that the impact would be less than significant.

Greenhouse Gas Emissions

Greenhouse gas emissions from construction of the No Project Alternative would be lower than emissions from the project because less construction would occur. Nonetheless, the No Project Alternative would still result in a net increase of GHG emissions during construction even with implementation of **MM-AQ-2** and **MM-AQ-4** (see Section 3.6, *Greenhouse Gas Emissions*) and thus have a significant unavoidable impact at both the project and cumulative levels.

Greenhouse gas emissions from operation of the No Project Alternative would be lower than emission from operation of the project because the No Project Alternative would have fewer operating buildings and would generate less traffic from fewer visitors to the park. Nonetheless, the No Project Alternative would still result in a net increase of GHG emissions during operations even with implementation of **MM-GHG-1** (see Section 3.6, *Greenhouse Gas Emissions*) and thus have a significant unavoidable impact at both the project and cumulative levels.

Hazards and Hazardous Materials

Hazardous materials. As with the project, construction of the No Project Alternative would require the use of some potentially hazardous materials (fuel and small amounts of solvents, paints, oils, grease, and caulking). The No Project Alternative would use less hazardous materials for a shorter period than the project due to the smaller scale of the park. Nonetheless, the No Project Alternative would have the same less-than-significant from the transport, use, and disposal of hazardous materials because all applicable regulations would be adhered to, including the Resource Conservation and Recovery Act, Department of Transportation Hazardous Materials Regulations, and the Alameda County Department of Environmental Health CUPA regulations (Section 3.7, *Hazards and Hazardous Materials*).

Release of hazardous materials. The No Project Alternative has a lower potential to release contaminants in the soil and groundwater during construction than the project because it would conduct substantially less excavation and no pile driving. Nonetheless, construction of the No Project Alternative could result in the release of hazardous materials during excavation for the path to the Bay Bridge Trail. With implementation of mitigation measure **MM-HAZ-1** (Section 3.7, *Hazards and Hazardous Materials*), the No Project Alternative would have the same less-than-significant impact from the release of hazardous materials as the project. Mitigation measure **MM-HAZ-2** (Section 3.7, *Hazards and Hazardous Materials*) would not apply since there would be no improvements in the Port Playground area under the No Project Alternative.

Hazardous emissions near schools. As with the project, no school is located within 0.25 mile of the No Project Alternative and the impact associated with releasing hazardous emissions near schools would be less than significant.

Emergency response plan. The No Project Alternative would have less of an impact on emergency access than the project because fewer construction vehicles would be used for a shorter time, which would result in less construction-related traffic that could interfere with emergency response or evacuation. The No Project Alternative would, nonetheless, have the same less-than-significant impact on emergency response and evacuation during construction as the project with implementation of mitigation measure **MM-TRA-1** (Section 3.7, *Hazards and Hazardous Materials*). The No Project Alternative would also have the same potential to add activity to an area with only one access point (Burma Road) during operation and could result in a potentially significant impact. With implementation of mitigation measure **MM-TRA-~~7~~**<u>6</u> (Section 3.7, *Hazards and Hazardous*

Materials) the No Project Alternative would have the same less-than-significant impact on emergency evacuation.

Hydrology and Water Quality

Water quality. Construction and operation of the No Project Alternative could affect water quality in the same way as the project during construction, except for impacts from in-water work. The No Project Alternative would not construct the pier or the path to Radio Beach or shoreline protection; therefore, no in-water construction would occur. The No Project Alternative would have less of an impact on water quality than the project because the No Project Alternative would affect a smaller area. Other than the in-water work, the No Project Alternative would have the same less-than-significant impact on water quality as the project with implementation of a SWPPP and mitigation measure **MM-HY-1**, **MM-HY-2**, and **MM-HY-3** (Section 3.8, *Hydrology and Water Quality*).

Groundwater supply. As with the project, construction and operation of the No Project Alternative would not substantially deplete groundwater supplies. Construction of the No Project Alternative could require dewatering but would not result in the depletion of groundwater supplies because the groundwater beneath the project area is not used for municipal water supply. Dewatering would be temporary and would comply with San Francisco Bay Regional Water Quality Control Board dewatering requirements. Operation of the No Project Alternative would not increase groundwater demand and would not negatively affect groundwater recharge because the No Project Alternative would not increase the area of impervious surfaces. The addition of the path to the Bay Bridge Trail would add impervious surfaces; however, the area would be offset by the creation of landscaped, pervious surfaces. Like the project, the impact on groundwater would be less than significant.

Drainage patterns. As with the project, the No Project Alternative would not substantially affect drainage patterns. The same best management practices in the project SWPPP would be implemented for the No Project Alternative. The No Project Alternative would also implement the same retention basin as the project. The No Project Alternative would have the same less-than-significant impact on drainage patterns as the project.

Flood hazards. As with the project, all facilities, utilities, and structures would be designed to be located above 100-year total water level or setback distances would be considered (WRECO 2014) to minimize the potential for structures to impede or redirect flood flows. The No Project Alternative would include a cement walkway (path to Bay Bridge Trail) that could impede flood flows. The No Project Alternative would have the same less-than-significant impact on flood hazards as the project.

Seiche, tsunami, mudflow. Because the No Project Alternative would be located in the same area as the project, the risk from seiche, tsunami, or mudflow would be the same as the risk for the project. As with the project, operation of the No Project Alternative would not exacerbate the risk of seiche, tsunami, or mudflow.

Land Use and Planning

~~The only potential land use impact for the No Project Alternative would be from the construction of the path to the Bay Bridge Trail. As with the project, this area is located in the Urban Park and Open Space land use designation. The addition of the path to the Bay Bridge Trail is a compatible land use; therefore, no conflicts with a land use designation would occur. As with the project, the construction of the path to the Bay Bridge Trail may conflict with the M-40 zoning designation (heavy industrial). The No Project Alterative would avoid the potential land use conflict at Radio Beach, Port~~

~~Playground, and Bridge Yard; however, a potential conflict at Key Point would remain. The impact would be less than significant after implementation of mitigation measure **MM-LU-1** (Section 3.9, *Land Use and Planning*), which would require completion of the general plan amendment and rezoning process.~~

The No Project Alternative would be located within a smaller footprint within the project site, and would result in similar but less changes in existing land uses. The No Project Alternative would also require a General Plan Amendment and rezoning, like the proposed project, but of a smaller area. Like the proposed project, this would not result in additional significant impacts on the environment otherwise disclosed in this chapter.

The No Project Alternative would not change conditions at Radio Beach for kiteboarders.

The No Project Alternative would not include a kayak launch like the proposed project. The proposed project's facilitation of kayak activity, however, would not result in a significant land use impact with implementation of **Mitigation Measure MM-LU-1** which will provide for kayaker education on the active shipping channel adjacent to the project site.

Noise

Excessive temporary noise or vibration. Construction of the No Project Alternative would generate lower noise and vibration levels than the project because it would not require pile driving. Pile driving would be the noisiest construction activity for the project. A reasonable worst-case scenario for the No Project Alternative is noise generated from the three loudest pieces of equipment (concrete saw, bulldozer, and generator), which would be approximately 87 A-weighted decibels (dBA). As with the project, the temporary noise and vibration impacts would be less than significant because there are no nearby sensitive residential land uses or receptors and because noise affecting recreational receptors would be brief. Construction of the No Project Alternative would include implementation of mitigation measures **MM-AQ-2** and **MM-AQ-4** (Section 3.10, *Noise*).

Permanent increase in ambient noise. The No Project Alternative would have fewer park visitors and would generate lower traffic noise levels than the project. As with the project, the permanent ambient noise impact would be less than significant because the nearest sensitive land uses are located more than 0.5 mile from the roadways where increased noise levels would occur. Also, because of the size and scope of the No Project Alternative, it is likely that this alternative would not have a cumulatively considerable contribution to traffic noise levels at Mandela Parkway/20th Street and West Grand Avenue/Campbell Street.

Public Services

Fire and police services. As with the project, construction of the No Project Alternative would not result in a population increase and would not substantially alter areas over which the East Bay Regional Park District (EBRPD) has jurisdiction. The small increase in use of the EBRPD fire department and police department by the No Project Alternative would be lower than the increase for the project because fewer visitors would be expected. In addition, the No Project Alternative would not have sufficient area to host large special events, and thus special event security would not be needed. The No Project Alternative would have a less-than-significant impact on police services. The No Project Alternative would have the same less-than-significant impact on fire services as the project.

School, recreational, and library facilities. As with the project, the No Project Alternative would have a less than significant impact on school facilities, recreational facilities, and library facilities because its construction would not result in increases to the residential population.

Transportation and Traffic

Vehicular traffic. The No Project Alternative would generate less traffic during construction because fewer site amenities would be constructed and thus fewer truck and vehicular trips would be generated. Nonetheless, the potential for impacts due to construction-related traffic would still exist. As with the project, with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*), this impact would be less than significant.

The No Project Alternative would also generate less operations traffic than the project because fewer visitors would likely use the fewer recreational amenities of the No Project Alternative. Operation of the project would have a significant impact at the 7th Street and Maritime Street intersection, increasing the delay by 5.5 seconds, which is 1.5 seconds more than the threshold of a 4-second increase. Because of the size and scope of the No Project Alternative, it is likely that the delay at the 7th Street and Maritime Street intersection would not exceed the significance threshold for traffic delay and the operations impact would be less than significant without mitigation. It is also likely that the No Project Alternative would not have a cumulatively considerable contribution to projected deficient operations under the cumulative condition on Grand Avenue from Mandela Parkway to I-880.

The No Project Alternative would also have no project or cumulative impacts on traffic relative to special events as this alternative would not have sufficient area to host large special events.

Traffic congestion. The No Project Alternative would have a less-than-significant impact on the operation of the metropolitan transportation system freeway and surface street segments because unlike the project, the Passive Park Alternative would not hold special events.

Air Traffic. The No Project Alternative would have the same less-than-significant impact on air traffic as the project.

Bicyclists, **pedestrians, and parking**. As with the project, construction of the No Project Alternative would result in potential increased safety hazards to pedestrians and bicyclists. The No Project Alternative would have the same less-than-significant safety hazards impacts as the project with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*).

As with the project, operation of the No Project Alternative would increase bicycle and pedestrian trail use, create bicycle and pedestrian conflicts, and affect pedestrian and bicycle safety. The potential impacts on pedestrians and bicyclists would be less than for the No Project Alternative because operation of the No Project Alternative would have fewer recreationists visiting the park. Nonetheless, potential impacts on pedestrians and bicyclists could occur. The No Project Alternative would have the same impact as the project from increased bicycle and pedestrian trail use, bicycle and pedestrian conflicts at intersections, and pedestrian and bicycle hazards. This impact would be less than significant with implementation of mitigation measures **MM-TRA-3** and **MM-TRA-4** (Section 3.12, *Transportation and Traffic*).

Operation of the No Project Alternative would result in the same impact on site access. This impact would be less than significant with implementation of mitigation measure **MM-TRA-5** (Section 3.12, *Transportation and Traffic*).

The No Project Alternative would also have the same less-than-significant impact from railroad crossing hazards as the project.

The No Project Alternative would provide less parking than the project but would also create less of a demand for parking, because fewer visitors would visit this small park.

Emergency access. The No Project Alternative would generate less construction and operational traffic than the project. Nonetheless, the No Project Alternative would still have the same potential emergency access impacts as the project, including effects from construction traffic and a single access point (Burma Road) for Gateway Park. As with the project, this impact would be less than significant with implementation of mitigation measure **MM-TRA-6** (Section 3.12, *Transportation and Traffic*).

Utilities and Service Systems

Wastewater. As with the project, construction of the No Project Alternative would be required to address the potential impacts from construction and operation of a park near critical East Bay Municipal Utility District (EBMUD) infrastructure, including the main outfall line from EBMUD's wastewater treatment plant and a dechlorination facility. As with the project, this impact would be less than significant with implementation of mitigation measures **MM-UTIL-1** through **MM-UTIL-3** (Section 3.13, *Utilities and Service Systems*).

Stormwater drainage facilities. The No Project Alternative would create less impervious surface area and would construct the same bioretention facilities described for the project. The No Project Alternative would, therefore, have the same less-than-significant impact on stormwater drainage facilities as the project.

Water supply. The No Project Alternative would require less water than the project during construction because fewer construction activities would occur. The No Project Alternative would also require less water during operations because the two existing structures at Key Point would not be renovated and no additional water would be needed for the operation of those buildings. The No Project Alternative would have the same less-than-significant impact on the water supply as the project.

Wastewater capacity. The No Project Alternative would generate less wastewater during construction and operations than the project. Less wastewater would be generated by the No Project Alternative than by the project because the No Project Alternative would require construction workers for a shorter period and would likely have fewer visitors. The No Project Alternative would have the same less-than-significant impact from the generation of wastewater as the project.

Solid waste. The No Project Alternative would require substantially less excavation and would thus generate less solid waste than the project. As with the project, the solid waste generated by the No Project Alternative would not affect landfill capacity and the No Project Alternative would comply with all applicable statutes and regulations relating to solid waste.

5.3.2 Passive Park Alternative

The Passive Park Alternative would provide minimal improvements to allow access to the renovated Bridge Yard Building and to the shoreline. It would not provide improvements for active recreation or new access to Radio Beach.

New improvements in the Bridge Yard area would be more limited compared to the project and would not include a new indoor/outdoor auditorium. In the Port Playground area, the Passive Park Alternative would provide pathways, benches, and restrooms but no visitor center or other recreation activities or improvements and would not include a kayak launch. In the Key Point area, the Passive Park Alternative would construct a path to the Bay Bridge Trail, similar to the project, but it would not construct a pier or renovate buildings. In the Radio Beach area, the Passive Park Alternative would protect the existing tidal marsh area with restoration and fencing, but it would not provide a new access path or parking improvements.

The Passive Park Alternative would have no facilities for events and no special events are assumed to occur with this alternative.

5.3.2.1 Ability to Meet Project Objectives

The Passive Park Alternative would meet the primary objective of providing an entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge (although it would not be particularly distinctive). The Passive Park Alternative would meet the project purpose to provide safe, multimodal access to the shoreline and passive opportunities. The Passive Park Alternative would not meet the project purpose of providing active recreation opportunities. The Passive Park Alternative would not provide new interpretive features for natural resources and transportation history or a venue for community events and art installations, although such features currently exist in the Bridge Yard area and would not be removed under the Passive Park Alternative. The Passive Park Alternative would meet most of the specific transportation and shoreline access objectives, including the regional park and recreation objectives described in Section 2.3, *Project Objectives*. The Passive Park Alternative would not meet the regional park and recreation objective to provide active recreation opportunities.

5.3.2.2 Impact Analysis

The Passive Park Alternative would have the following impacts on the resources described below.

Aesthetics

Visual character, visual quality, scenic vistas. As with the project, construction of the Passive Park Alternative would introduce some heavy equipment into the viewshed of neighbors and users, including backhoes, tractors, and trucks. Because the Passive Park Alternative would not include improvements for active recreation, as described in the project, less heavy equipment would be used. Similar to the project, viewer responses to construction would not be considered adverse because construction activities would be temporary and because viewers are familiar with heavy equipment use in the area. Construction of the Passive Park Alternative would not substantially degrade visual character, visual quality, and scenic vistas. The impact would be less than significant.

The Passive Park Alternative would result in fewer site amenities and less rehabilitation of existing structures. The visual condition of existing buildings at the project site would not be improved but they would also not be altered. Their visual condition may slightly deteriorate over the course of many years, with weather and age; however, the tree buffer would act to limit the weathering effects by reducing the amount of wind hitting the buildings. The features that would be constructed for the Passive Park Alternative would be the same or very similar to those of the project, such as the path to the Bay Bridge Trail, meadow and bluff walk, and I-80 tree buffer. The Bridge Yard improvements, I-80 tree buffer, and meadow and bluff walk constitute some of the largest visual changes associated with the Passive Park Alternative and would have the same impacts as the project by vastly improving visual conditions and visual access in the Portside Visual Assessment Unit. The Passive Park Alternative would have slightly reduced visual benefits, compared to the project, because it would not rehabilitate existing structures and would result in fewer aesthetic amenities. However, the Passive Park Alternative would not differ enough to result in negative visual impacts compared to the project. The Passive Park Alternative would also result in a vast visual improvement compared to existing conditions. With implementation of mitigation measure **MM-AES-1** (Section 3.1, *Aesthetics*), the Passive Park Alternative would have the same less-than-significant impact on visual character, visual quality, and scenic vistas as the project.

Light and glare. Construction of the Passive Park Alternative would be limited to the same hours as the project and may require the same amount of nighttime construction for the path to the Bay Bridge Trail in the Key Point Area. As with construction of the project, construction of the Passive Park Alternative would have a less-than-significant impact from lighting.

Lighting for operation of the Passive Park Alternative would be similar to the project and would be limited to the Bridge Yard Area. As with operation of the project, the new sources of light would not substantially increase light in the project area or contribute to light pollution, and the impact would be less than significant.

Scenic resources and scenic highways. As with the project, the improvements made by the Passive Park Alternative would be visible from the segment of I-80 that passes the project area. This segment of I-80 is an eligible state scenic highway and a city-designated scenic route. The Passive Park Alternative would have slightly reduced visual benefits compared to the project; however, those improvements would result in a vast visual improvement when compared to existing conditions. The changes made by the Passive Park Alternative would be beneficial when viewed from I-80. Like the project, the impact on scenic resources as viewed from I-80 would be less than significant.

Air Quality

Less infrastructure is planned for the Passive Park Alternative than the project. Construction-related emissions would be lower than emissions for the project because fewer construction activities are planned. Nonetheless, the Passive Park Alternative would have the same air quality impact from construction as the project and the same mitigation measures (MM-AQ-1, 2, 3, 4 and 5) would apply (Section 3.2, *Air Quality*).

The Passive Park Alternative would have lower operations emissions than the project because it would operate fewer buildings (source emissions) and fewer visitors would visit the park (vehicle emissions). Operations emissions impacts for the project would be less than significant; therefore, the operations emissions impacts for the Passive Park Alternative would also be less than significant.

The Passive Park Alternative would result in fewer visitors to the project site. Similar to the project, while park visitor exposure to ambient sources of toxic air contaminants (including DPM) would occur, the park itself would not exacerbate that exposure because of the addition of park-related emissions.

The Passive Park Alternative would generate lower emissions than the project and would create less objectionable orders than the project. The impact would be less than significant.

Biological Resources

Sensitive natural communities. As with the project, construction of the Passive Park Alternative would occur near sensitive natural communities. Although the Passive Park Alternative would require less construction than the project, there is still the potential for indirect, temporary impacts on sensitive natural communities. The potential for indirect, temporary impacts is lower than from the project. Like the project, the impact from indirect, temporary impacts on sensitive natural communities would be less than significant with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-4** (Section 3.3, *Biological Resources*).

The Passive Park Alternative would result in fewer operational, permanent impacts on sensitive natural communities than the project. The Passive Park Alternative would completely avoid permanent impacts on tidal salt marsh, eelgrass beds, and northern foredunes because the path to Radio Beach would not be constructed. The Passive Park Alternative would completely avoid permanent impacts on sandy beach because the kayak launch ramp would not be constructed.

As with the project, the 0.01 acre of seasonal wetland on the southern margin of Burma Road would be filled during the sea level rise adaptation construction. The Passive Park Alternative would have the same less-than-significant impact on seasonal wetlands from construction as the project with mitigation measure **MM-BIO-6** (Section 3.3, *Biological Resources*).

The Passive Park Alternative would affect less area of shallow bay than the project because the pier at Key Point and the path to Radio Beach would not be constructed. Shallow bay would, however, still be affected by construction of the Passive Park Alternative because revetment walls and concrete terrace walls would be constructed. As with the project, with implementation of mitigation measure **MM-BIO-7** (Section 3.3, *Biological Resources*), the impact on shallow bay would be less than significant.

Special-status plant species. The Passive Park would not affect special-status plant species because it would not result in construction or change in operations at Radio Beach. Thus it would have no impact on these species.

Special-status wildlife species. The Passive Park Alternative would avoid construction and operations impacts on tidal marsh because the path to Radio Beach would not be constructed. The Passive Park Alternative would, therefore, avoid direct impacts on suitable habitat, including foraging habitat for Ridgway's rail, California black rail, salt marsh harvest mouse, northern harrier, Alameda song sparrow, and saltmarsh common yellowthroat. These species could still be affected by indirect impacts on nearby tidal marsh habitat and from increased recreational use of Gateway Park. The Passive Park Alternative would have a less-than-significant impact on these species with mitigation measures **MM-BIO-1, 2, 3, 13, 17, 18**, and **19** (Section 3.3, *Biological Resources*).

California least tern can use aquatic habitat in the area for foraging. The Passive Park Alternative would not construct the pier and path to Radio Beach; therefore, construction would affect less aquatic habitat than the project. The Passive Park Alternative would still affect some shallow bay habitat from implementation of shoreline protection. Impacts on eelgrass habitat would be avoided. The Passive Park Alternative would have a less than significant impact on California least tern as the project with mitigation measures **MM-BIO-1, 2, 3, 4** and **8**, as appropriate (Section 3.3, *Biological Resources*). .

The Passive Park Alternative would have the same less-than-significant impact on western snowy plover as the project with mitigation measures **MM-BIO-1, 2, 3, 13,** and **17** (Section 3.3, *Biological Resources*).

Migratory and nonmigratory birds. The Passive Park Alternative has less potential to affect migratory and nonmigratory birds and their habitat than the project. Nonetheless, the Passive Park Alternative could affect the same migratory and nonmigratory birds as the project and with mitigation measures **MM BIO-18** and **19** (Section 3.3, *Biological Resources*) this impact would be less than significant.

Special-status fish species. The Passive Park Alternative would have less of an impact on special-status fish species than the project. The Passive Park Alternative would not construct the pier at Key Point or the path to Radio Beach included in the project. The Passive Park Alternative would, however, install shoreline protection, which would result in some loss of aquatic habitat. Like the project, this impact would be less than significant with implementation of mitigation measure **MM-BIO-7** would result in no net loss of aquatic habitat.

The Passive Park Alternative would not construct the pier at Key Point or the path to Radio Beach, as described in the project, and would thus avoid the significant and unavoidable project and cumulative noise and vibration impact associated with pile driving to construct the pier. The Passive Park Alternative would have no impact on special-status fish species from vibration or noise disturbance.

As with the project, the Passive Park Alternative could deliver sediment and contaminants to marine waters during construction, which could affect special-status fish species and their habitat, including EFH. The Passive Park Alternative would have the same less-than-significant impact on water quality as the project with mitigation measure **MM-BIO-4** (Section 3.3, *Biological Resources*).

The Passive Park Alternative would have less of an impact on EFH than the project. The Passive Park Alternative would avoid impacts on eelgrass habitat; however, some EFH may be affected from the fill that would be installed during shoreline protection. Like the project, with implementation of mitigation measure **MM-BIO-7**, this impact would be less than significant.

Other protected species. The Passive Park Alternative would not construct the pier at Key Point or the path to Radio Beach, as described in the project, and would thus avoid the noise and vibration impacts associated with pile driving. The Passive Park Alternative would have no impact on marine mammals from vibration or noise disturbance.

As with the project, the Passive Park Alternative could affect roosting habitat for special-status bats. The Passive Park Alternative would have the same less-than-significant impact on special-status bats as the project with implementation of mitigation measures **MM-BIO-1** through **MM-BIO-3** would apply (Section 3.3, *Biological Resources*). Additionally, as with the project, the Passive Park Alternative would have no impact on protected trees.

Invasive plant species. As with the project, construction and operation of the Passive Park Alternative could result in the dispersal and spread of invasive plant species. The Passive Park Alternative would have the same less-than-significant impact from invasive species as the project and implementation of the mitigation measures **MM-BIO-23** and **MM-BIO-24** (Section 3.3, *Biological Resources*), would apply.

Cultural Resources

Archaeological resources. The Passive Park Alternative would be located in the same area as the project; therefore, the cultural resources data evaluated for the project would apply to the Passive Park Alternative. No archaeological resources or areas of prehistoric sensitivity are known to occur in the study area. As with the project, the potential remains for previously undiscovered archaeological resources and human remains to be encountered during project demolition or construction. The Passive Park Alternative has a slightly lower potential to affect previously undiscovered archeological resources and human remains because it would not require excavation for the indoor/outdoor auditorium, visitor center, play areas, boardwalk, or path to Radio Beach. Like the project, the potential impact would be less than significant after implementation of mitigation measures **MM-CUL-1** and **MM-CUL-2** (Section 3.4, *Cultural Resources*).

Historical resources. The Passive Park Alternative would not conduct any renovations to the Key Pier Substation and the Oakland Bay Bridge Substation and would, therefore, avoid any potential impacts on these historical resources. The Passive Park Alternative would have no impact on historical resources.

Geology, Soils, and Paleontological Resources

Unstable soils. As with the project, the Passive Park Alternative would be located in a zone of very high liquefaction and lateral spreading susceptibility. A site-specific geotechnical investigation and report would be required prior to construction of any structures. The Passive Park Alternative would have the same less-than-significant impact as the project concerning exposing people or structures to seismic-related ground failure, including liquefaction due to unstable soils.

Soil erosion. The Passive Park Alternative would have less of an impact on soil erosion than the project because it would create less impervious surfaces and would disturb less area. The project would decrease impervious area and would thus decrease stormwater runoff and the potential for erosion. The Passive Park Alternative would include fewer structures and would, therefore, create even less impervious area and stormwater runoff than the project. The Passive Park Alternative would also disturb less area than the project. As with the project, a SWPPP in accordance with the NPDES would be implemented. The Passive Park Alternative would have the same less-than-significant impact on soil erosion as the project.

Paleontological resources. The likelihood of encountering paleontological resources during excavation for the Passive Park Alternative would be lower than for the project because the Passive Park Alternative would construct fewer recreational amenities and a smaller area would be excavated. The impact would be the same as the project and implementation of mitigation measure **MM-GEO-1** (Section 3.5, *Geology, Soils, and Paleontological Resources*) would ensure that the impact would be less than significant.

Greenhouse Gas Emissions

Greenhouse gas emissions from construction of the Passive Park Alternative would be lower than emissions from the project because fewer structures would be constructed. Nonetheless, the Passive Park Alternative would have a net increase in construction GHG emissions even with implementation of **MM-AQ-2** and **MM-AQ-4** (see Section 3.6 *Greenhouse Gas Emissions*) and would thus remain significant at both the project and cumulative levels.

Greenhouse gas emissions from operations of the Passive Park Alternative would be lower than emission from operation of the project because the Passive Park Alternative would have fewer operating buildings and would generate less traffic from fewer visitors to the park. Nonetheless, the Passive Park Alternative would result in a net increase in operational GHG emissions even with implementation of **MM GHG-1** (see Section 3.6 *Greenhouse Gas Emissions*) and would remain significant at both the project and cumulative levels.

Hazards and Hazardous Materials

Hazardous materials. As with the project, construction of the Passive Park Alternative would require the use of some potentially hazardous materials (fuel and small amounts of solvents, paints, oils, grease, and caulking). The Passive Park Alternative would have the same less-than-significant impact from the transport, use, and disposal of hazardous materials because all applicable regulations would be adhered to, including the RCRA, Department of Transportation Hazardous Materials Regulations, and the Alameda County Department of Environmental Health CUPA regulations (Section 3.7, *Hazards and Hazardous Materials*).

Release of hazardous materials. The Passive Park Alternative has a lower potential to release hazardous materials in the soil or groundwater than the project because it would conduct less excavation and no pile driving. Nonetheless, construction of the Passive Park Alternative could result in the release of hazardous materials. With implementation of mitigation measure **MM-HAZ-1** (Section 3.7, *Hazards and Hazardous Materials*), the Passive Park Alternative would have the same less-than-significant impact from the release of hazardous materials as the project for construction and with implementation of mitigation measure **MM-HAZ-2** (Section 3.7, *Hazards and Hazardous Materials*) would have the same less than significant impact for operations.

Hazardous emissions near schools. As with the project, no school is located within 0.25 mile of the Passive Park Alternative and the impact associated with releasing hazardous emissions near schools would be less than significant.

Emergency response plan. The Passive Park Alternative would have the same less-than-significant impact on emergency response and evacuation as the project with implementation of mitigation measures **MM-TRA-1** and **MM-TRA-6** (Section 3.7, *Hazards and Hazardous Materials*).

Hydrology and Water Quality

Water quality. Construction and operation of the Passive Park Alternative could affect water quality in the same way as the project, except for impacts from in-water work. The Passive Park Alternative would not construct the pier or the path to Radio Beach, but its shoreline protection work would involve in-water work. On shore, the Passive Park Alternative would have the same less-than-significant impact on water quality as the project with implementation of a SWPPP and mitigation measures **MM-HY-1**, **MM-HY-2**, and **MM-HY-3** (Section 3.8, *Hydrology and Water Quality*).

Groundwater supply. As with the project, construction and operation of the Passive Park Alternative would not substantially deplete groundwater supplies because the groundwater beneath the project area is not used for municipal water supply. Dewatering would be temporary and would comply with San Francisco Bay Regional Water Quality Control Board dewatering requirements. Operation of the Passive Park Alternative would not increase groundwater demand and would not negatively affect groundwater recharge because it would decrease the amount of impervious surfaces in Gateway Park. The Passive Park Alternative would have the same less-than-significant impact on the groundwater supply as the project.

Drainage patterns. As with the project, the Passive Park Alternative would not substantially affect drainage patterns. The same best management practices in the project SWPPP would be implemented for the Passive Park Alternative. The Passive Park Alternative would include fewer structures than the project and would, therefore, create less impervious areas and less stormwater runoff. The Passive Park Alternative would also implement the same retention basin as the project. The Passive Park Alternative would have the same less-than-significant impact on drainage patterns as the project.

Flood hazards. As with the project, all facilities, utilities, and structures would be designed to be located above 100-year total water level or setback distances would be considered (WRECO 2014) to minimize the potential for structures to impede or redirect flood flows. The Passive Park Alternative would include the addition of fill for sea level rise adaption. The Passive Park Alternative would have the same less-than-significant impact on flood hazards as the project.

Seiche, tsunami, mudflow. Because the Passive Park Alternative is located in the same area as the project, the risk from seiche, tsunami, or mudflow would be the same as the risk for the project. As with the project, operation of the Passive Park Alternative would not exacerbate the risk of seiche, tsunami, or mudflow.

Land Use and Planning

The Passive Park Alternative would be located in the same area with the same land use and zoning designations as the project and would result in similar but less changes in existing land uses.

The Passive Park Alternative would also require a General Plan Amendment and rezoning, like the proposed project. Like the proposed project, this would not result in additional significant impacts on the environment otherwise disclosed in this chapter.

The Passive Park Alternative would not change conditions at Radio Beach for kiteboarders.

The Passive Park would not include a kayak launch like the proposed project. The proposed project's facilitation of kayak activity, however, would not result in a significant land use impact with implementation of **Mitigation Measure MM-LU-1** which will provide for kayaker education on the active shipping channel adjacent to the project site. Thus, t~~T~~he Passive Park Alternative would have the same less-than-significant land use impacts as the project.

~~The impact would be less than significant after implementation of mitigation measure **MM-LU-1** (Section 3.9, *Land Use and Planning*), which would require completion of the general plan amendment and rezoning process.~~

Noise

Excessive temporary noise or vibration. Construction of the Passive Park Alternative would generate lower noise and vibration levels than the project because it would not require pile driving. Pile driving would be the noisiest construction activity for the project. A reasonable worst-case scenario for the Passive Park Alternative is noise generated from the three loudest pieces of equipment (concrete saw, bulldozer, and generator), which would be approximately 87 dBA. As with the project, the temporary noise and vibration impacts would be less than significant because there are no nearby sensitive residential land uses or receptors and because noise affecting recreational receptors would be brief. Construction of the Passive Park Alternative would include incorporation of mitigation measures **MM-AQ-2 and MM-AQ-4** (Section 3.10, *Noise*).

Permanent increase in ambient noise. The Passive Park Alternative would have fewer park visitors and would generate lower traffic noise levels than the project. As with the project, the permanent ambient noise impact would be less than significant because the nearest sensitive land uses are located more than 0.5 mile from the roadways where increased noise levels would occur. This impact would be less than significant because there are no sensitive land uses near the primary project features. Also, because of the size and scope of the Passive Park Alternative, it is likely that this alternative would not have a cumulatively considerable contribution to traffic noise levels at Mandela Parkway/20th Street and West Grand Avenue/Campbell Street.

Public Services

Fire and police services. As with the project, construction of the Passive Park Alternative would not result in a population increase and would not substantially alter areas of which EBRPD has jurisdiction. The small increase in use of the EBRPD fire department would be less than the increase for the project. The Passive Park Alternative would have the same less-than-significant impact on fire services as the project. This alternative would not include special events and thus special event security would not be needed. The Passive Park Alternative would have a less-than-significant impact on police services.

School, recreational, and library facilities. As with the project, the Passive Park Alternative would have a less than significant impact on school facilities, recreational facilities, and library facilities because its construction would not result in increases to the residential population.

Transportation and Traffic

Vehicular traffic. The Passive Park Alternative would generate less traffic during construction because fewer site amenities would be constructed and thus fewer truck and vehicular trips would be generated. Nonetheless, the potential for impacts due to construction-related traffic would still exist. As with the project, with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*), this impact would be less than significant.

The Passive Park Alternative would also generate less operations traffic than the project because fewer visitors would likely use the Passive Park Alternative than the project. The operations traffic impact for the project was based on the assumption that the project would increase traffic on nearby roadways by up to 187 weekday PM peak hour trips and 394 weekend peak hour trips. These numbers were conservatively based on Institute of Transportation Engineers (ITE) maximum rates for a regional park for 170 acres. The Passive Park Alternative would be much smaller. With implementation of mitigation measure **MM-TRA-2** (Section 3.12, *Transportation and Traffic*), the impact with the Passive Park would be less than significant, but the mitigation may not be necessary due to the lower traffic levels. Also, because of the size and scope of the Passive Park Alternative, it is likely that this alternative would not have a cumulatively considerable contribution to projected deficient operations under the cumulative condition on Grand Avenue from Mandela Parkway to I-880.

This alternative would also have no project or cumulative impacts on traffic relative to special events as no special events would be held at the park with this alternative.

Traffic congestion. The Passive Park Alternative would have a less-than-significant impact on the operation of the metropolitan transportation system freeway and surface street segments because unlike the project, the Passive Park Alternative would not hold special events..

Air traffic. The Passive Park Alternative would have the same less-than-significant impact on air traffic as the project.

Bicyclists, pedestrians, and parking. As with the project, construction of the Passive Park Alternative would result in potential increased safety hazards to pedestrians and bicyclists. The Passive Park Alternative would have the same less-than-significant safety hazards impacts as the project with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*).

As with the project, operation of the Passive Park Alternative would increase bicycle and pedestrian trail use. The project-related increase in pedestrian and bicycle use in the park and on the Bay Bridge Trail was estimated based on observations of bicycle use in the area and at other bridges, including the Golden Gate, Dumbarton, and Carquinez Bridges. The estimates used for the project would, therefore, be appropriate estimates for the Passive Park Alternative. The Passive Park Alternative would have the same impact as the project from increased bicycle and pedestrian trail use, bicycle and pedestrian conflicts at intersections, and pedestrian and bicycle hazards. This impact would be less than significant with implementation of mitigation measures **MM-TRA-3** and **MM-TRA-4** (Section 3.12, *Transportation and Traffic*).

Operation of the Passive Park Alternative would result in the same impacts on site access as the project. This impact would be less than significant with implementation of mitigation measure **MM-TRA-5** (Section 3.12, *Transportation and Traffic*).

The Passive Park Alternative would have the same less-than-significant impact from railroad crossing hazards as the project (Chapter 3, Section 3.12).

Emergency access. The Passive Park Alternative would generate less construction and operational traffic than the project. Nonetheless, the Passive Park Alternative would still have the same potential emergency access impacts as the project, including effects from construction traffic and a single access point (Burma Road). As with the project, this impact would be less than significant with implementation of mitigation measures **MM-TRA-1** and **MM-TRA-6** (Section 3.12, *Transportation and Traffic*).

Utilities and Service Systems

Wastewater. As with the project, construction of the Passive Park Alternative would be required to address the potential impacts from construction and operation of a park near critical EBMUD infrastructure, including the main outfall line from EBMUD’s wastewater treatment plant and a dechlorination facility. As with the project, this impact would be less than significant with implementation of mitigation measures **MM-UTIL-1** through **MM-UTIL-3** (Section 3.13, *Utilities and Service Systems*).

Stormwater drainage facilities. The Passive Park Alternative would create less impervious surface area and would construct the same bioretention facilities described for the project. The Passive Park Alternative would, therefore, have the same less-than-significant impact on stormwater drainage facilities as the project.

Water supply. The Passive Park Alternative would require less water than the project during construction because fewer construction activities would occur. The Passive Park Alternative would also require less water during operation because the two existing structures at Key Point would not be renovated and no water would be needed for the operation of those buildings. The Passive Park Alternative would have the same less-than-significant impact on the water supply as the project.

Wastewater capacity. The Passive Park Alternative would generate less wastewater during construction and operations than the project. Less wastewater would be generated by the Passive Park Alternative than by the project because the Passive Park Alternative would require construction workers for a shorter period and would likely have fewer visitors. The Passive Park Alternative would have the same less-than-significant impact from the generation of wastewater as the project.

Solid waste. The Passive Park Alternative would require less excavation and would thus generate less solid waste than the project. As with the project, the solid waste generated by the Passive Park Alternative would not substantially affect landfill capacity and the Passive Park Alternative would comply with all applicable statutes and regulations relating to solid waste.

5.3.3 Active Park Alternative

The Active Park Alternative would include most of general improvements for passive and active recreation as the project and additional active use features. Amusement rides and sports fields would be included in the Port Playground Area. The kayak launch would be located at the far western end by the Bay Bridge in the Key Point area instead of at the Port Playground. A berm would be incorporated into the windbreak/tree buffer area south of I-80, dogs or pets would be allowed on both the north (Radio Beach) and south sides of the park, and there would be more parking throughout the park.

5.3.3.1 Ability to Meet Project Objectives

The Active Alternative would meet all objectives. The Active Park Alternative would meet the primary objective of providing a distinctive entryway park to the East Bay that connects to the bicycle/pedestrian path on the east span of the Bay Bridge. The Active Park Alternative would meet the project purpose to provide safe, multimodal access to the shoreline and both passive and active recreation opportunities. The Active Park Alternative also would provide interpretive features for natural resources and transportation history, a venue for community events and art installations, and it would meet mitigation commitments for a number of transportation projects, including the east span of the Bay Bridge. The Active Park Alternative would meet all of the specific transportation and shoreline access objectives, including the regional park and recreation objectives described in Section 2.3, *Project Objectives*.

5.3.3.2 Impact Analysis

Aesthetics

Visual character, visual quality, scenic vistas. As with the project, construction of the Active Park Alternative would introduce heavy equipment into the viewshed of neighbors and users, including backhoes, tractors, and trucks. Because the Active Park Alternative would potentially include construction of more parking, amusement rides, and sports fields, more heavy equipment would be used. Similar to the project, viewer responses to construction would not be considered adverse because construction activities would be temporary and because viewers are familiar with heavy equipment use in the area. Construction of the Active Park Alternative would not substantially degrade visual character, visual quality, and scenic vistas. The impact would be less than significant.

The Active Park Alternative would include amusement rides and sports fields, a tree buffer and berm near I-80, and more lighting. The parking areas would be similar to the project, and all other features would be the same. Depending on the design and location of the amusement rides, the aesthetic impact on views from the Bay Bridge Trail and from I-80 could be significant and unavoidable.

Light and glare. Construction of the Active Park Alternative would be limited to the same hours as the project and may require the same amount of nighttime construction for the path to the Bay Bridge Trail in the Key Point Area. As with construction of the project, construction of the Active Park Alternative would have a less-than-significant impact from lighting.

During operations, the Active Park Alternative may require more lighting at the additional parking areas. If the amusement ride feature or sports fields operate at night, then night lighting impacts could be significant and unavoidable.

Scenic resources and scenic highways. As with the project, the improvements made by the Active Park Alternative would be visible from the segment of I-80 that passes the project area. This segment is an eligible state scenic highway and a city-designated scenic route. The amusement rides and night lighting from sports fields could have significant and unavoidable impacts on views from I-80.

Air Quality

Construction emissions from the Active Park Alternative would be greater than from the project because additional recreational features would be constructed. The mitigation measures **MM-AQ-1** through **MM-AQ-5** (Section 3.2, *Air Quality*) would apply and construction impacts would be reduced to less than significant.

The mobile source emissions were conservatively estimated for the project assuming that the maximum number of annual visitors projected to visit the park under several scenarios, including a range of passive and active uses, would be 2 million (Fehr & Peers 2014). Operations emissions associated with the Active Park Alternative could be greater than under the project because more active recreational features and parking would be constructed. The Active Park Alternative would have greater air quality impacts from operation compared to the project. While the ~~P~~proposed ~~P~~project would have less than significant operational air quality emissions, the Active Park Alternative could have significant operational air quality emissions if it increased visitors by more than 24 percent, in which case it would have significant reactive organic gas emissions. If that were to occur, it would be possible to mitigate operational emissions to a less than significant level through the offset option included in **MM AQ-5**.

The Active Park Alternative could result in a greater number of visitors to the project site. Similar to the project, while park visitor exposure to ambient sources of toxic air contaminants (including diesel particulate matter (DPM)) would occur, the park itself would not exacerbate that exposure because of the addition of park-related emissions.

The Active Park Alternative would generate more emissions than the project and could create more objectionable orders than the project. The impact would be less than significant.

Biological Resources

The Active Park Alternative would have similar impacts as the project on sensitive natural communities, special-status plant species, special-status wildlife species, migratory and nonmigratory birds, special-status fish species, other protected species, and invasive plant species due to construction, including the significant and unavoidable project and cumulative noise impacts due to pile driving for the pier, and the same mitigation measures **(MM_BIO-1** through **MM BIO-22)** would apply (Section 3.3, *Biological Resources*).

The Active Park Alternative would place the kayak launch at Key Point instead of at the Port Playground and would shift impacts for this feature from a sandy beach to open water habitat. Since the kayak launch with the project would be a concrete launch preventing disturbance of the near shore environment, the change in location would not result in a noticeable change in impact.

The addition of amusement rides and sports fields could result in greater nighttime lighting spillover, which would affect adjacent shallow water habitat on the south side of the park and this impact would likely be a significant and unavoidable change in the shallow water habitat quality. Allowing dog use in the Radio Beach area would result in greater impacts on shorebirds, water birds, and terrestrial special-status species in the beach and wetland areas on the north side of the park, which would be a significant and unavoidable impact on shorebird use of the Radio Beach area.

Cultural Resources

Archaeological resources. The Active Park Alternative would be located in the same area as the project; therefore, the cultural resources data evaluated for the project would apply to the Passive Park Alternative. No archaeological resources or areas of prehistoric sensitivity are known to occur in the study area. As with the project, the potential remains for previously undiscovered archaeological resources and human remains to be encountered during project demolition or construction. The Active Park Alternative has a slightly greater potential to affect previously undiscovered archaeological resources and human remains because it would involve more excavation. Like the project, the potential impact would be less than significant after implementation of mitigation measures **MM-CUL-1** and **MM-CUL-2** (Section 3.4, *Cultural Resources*).

Historical resources. Construction of the Active Park Alternative would include the same renovations to buildings and would result in the same impacts on historical resources as the project. With implementation of the same mitigation measure **MM-CUL-3** (Section 3.4, *Cultural Resources*), this impact would be less than significant. While amusement rides and sports parks would be placed in the Port Playground, they would not be placed adjacent to the historic structures in the Bridge Yard and Key Point areas.

Geology, Soils, and Paleontological Resources

Unstable soils. As with the project, the Active Park Alternative would be located in a zone of high liquefaction and lateral spreading susceptibility. A site-specific geotechnical investigation and report would be required prior to construction of any structures, including any additional amusement rides. The Active Park Alternative would have the same less-than-significant impact as the project concerning exposing people or structures to seismic-related ground failure, including liquefaction due to unstable soils.

Soil erosion. The Active Park Alternative would not substantially increase the amount of impervious surfaces in Gateway Park. As with the project, a SWPPP in accordance with the NPDES would be implemented. The Passive Park Alternative would have the same less-than-significant impact on soil erosion as the project.

Paleontological resources. The Active Park Alternative would include the same amount of marine pile driving as the project but could include more foundation construction with amusement rides. The impacts on paleontological resources would be the same as the project; implementation of mitigation measure **MM-GEO-1** (Section 3.5, *Geology, Soils, and Paleontological Resources*) would ensure that the impact would be less than significant.

Greenhouse Gas Emissions

The Active Park Alternative would include more features than the project; therefore, greenhouse gas emissions during construction would be greater. The same mitigation measures (**MM-AQ-2** and **MM-AQ-4**) would apply, but there would still be a net increase in GHG emissions and impacts would remain significant at both the project and cumulative levels.

As described in the air quality impact analysis for the Active Park Alternative, the mobile source emission calculations were conservative, based on the assumption that 2 million visitors would visit Gateway Park annually. Operational greenhouse gas emissions associated with the Active Park Alternative would likely be greater than the project’s operational emissions because of the additional amusement rides and sports fields. Like the ~~P~~proposed ~~P~~project, this alternative would have a significant unavoidable impact on operational GHG emissions at both the project and cumulative levels, even with mitigation measure **MM-GHG-1.**

Hazards and Hazardous Materials

Hazardous materials. As with the project, construction of the Active Park Alternative would require the use of some potentially hazardous materials (fuel and small amounts of solvents, paints, oils, grease, and caulking). The Active Park Alternative would have the same less-than-significant impact from the transport, use, and disposal of hazardous materials because all applicable regulations would be adhered to, including the RCRA, Department of Transportation Hazardous Materials Regulations, and the Alameda County Department of Environmental Health CUPA regulations (Section 3.7, *Hazards and Hazardous Materials*).

Release of hazardous materials. The Active Park Alternative would have the same impact from the release of hazardous materials as the project. With implementation of mitigation measure **MM-HAZ-1** (Section 3.7, *Hazards and Hazardous Materials*), the No Project Alternative would have the same less-than-significant impact from the release of hazardous materials as the project. For operations, mitigation measure **MM-HAZ-2** (Section 3.7, *Hazards and Hazardous Materials*) would apply to prohibit park visitors from swimming or standing in water on the south side of the park in the area of contaminated sediments.

Hazardous emissions near schools. As with the project, no school is located within 0.25 mile of the Active Park Alternative and the impact associated with releasing hazardous emissions near schools would be less than significant.

Emergency response plan. The Active Park Alternative would have the same less-than-significant impact on emergency response and evacuation as the project with implementation of mitigation measures **MM-TRA-1** and **MM-TRA-6** (Section 3.7, *Hazards and Hazardous Materials*) would apply.

Hydrology and Water Quality

Water quality. The Active Park Alternative would have greater impacts on water quality than the project from more construction and possibly larger impervious spaces, but would likely have the same less-than-significant impact on water quality as the project with implementation of a SWPPP and mitigation measures **MM-HY-1**, **MM-HY-2**, and **MM-HY-3** (Section 3.8, *Hydrology and Water Quality*). With active sports fields, turf management would need to use best management practices for weed and pest management to avoid water quality effects of herbicide or pesticide applications.

Groundwater supply. As with the project, construction and operation of the Active Park Alternative would not substantially deplete groundwater supplies. Construction of the Active Park Alternative could require dewatering but would not result in the depletion of groundwater supplies because the groundwater beneath the project area is not used for municipal water supply. Dewatering would be temporary and would comply with San Francisco Bay Regional Water Quality Control Board dewatering requirements. Operation of the Active Park Alternative would not increase groundwater demand and would not negatively affect groundwater recharge because it would not substantially increase the amount of impervious surfaces. Although the Active Park Alternative would include more project features, including more parking, these features would likely be constructed in areas that are already impervious and would not result in an increase in impervious surfaces. The Active Park Alternative would have the same less-than-significant impact on the groundwater supply as the project.

Drainage patterns. As with the project, the Active Park Alternative would not substantially affect drainage patterns. The same best management practices in the project SWPPP would be implemented for the Active Park Alternative. The Active Park Alternative would not substantially increase the amount of impervious surfaces in Gateway Park. The Active Park Alternative would also include implementation of the same retention basin as the project. The Active Park Alternative would have the same less-than-significant impact on drainage patterns as the project.

Flood hazards. The Active Park Alternative would construct the same structures that could impede flood flows, as the project, and some additional structures for the amusement rides. As with the project, all facilities, utilities, and structures would be designed to be located above 100-year total water level or setback distances would be considered (WRECO 2014) to minimize the potential for structures to impede or redirect flood flows. The Active Park Alternative would include the addition of fill for sea level rise adaption. The Active Park Alternative would have the same less-than-significant impact on flood hazards as the project.

Seiche, tsunami, mudflow. Because the Active Park Alternative would be located in the same area as the project, the risk from seiche, tsunami, or mudflow would be the same as the risk for the project. As with the project, operation of the Active Park Alternative would not exacerbate the risk of seiche, tsunami, or mudflow.

Land Use and Planning

The Active Park Alternative would be located in the same area with the same land use and zoning designations as the project and would result in the same changes in existing land uses. The Active

Park Alternative would have the same impacts as the project. ~~The impact would be less than significant after implementation of mitigation measure **MM-LU-1** (Section 3.9, *Land Use and Planning*), which would require completion of the general plan amendment and rezoning process.~~

Noise

Although the Active Park Alternative would include additional construction activities, the noise levels would be the same as for the project. Construction equipment would be similar to the project, although additional crane activity may be necessary to construct amusement rides. The Active Park Alternative would have the same less-than-significant construction noise and vibration impacts as the project. Construction of the Passive Park Alternative would include implementation of mitigation measures **MM-AQ-2 and MM-AQ-4** (Section 3.10, *Noise*). Operationally, the Active Park Alternative would not result in significant noise impacts given the lack of sensitive receptors adjacent to the active park improvements. However, because the Active Park Alternative would generate more operational traffic than the project, cumulative noise impacts due to traffic would remain significant and would be greater than the project.

Public Services

Fire and police services. As with the project, construction of the Active Park Alternative would not result in a population increase and would not substantially alter areas over which EBRPD has jurisdiction. The Active Park Alternative would likely result in more park visitors and could slightly increase the demand for fire and police services for special events. Due to the number of people that attend special events, there is the potential for an increased demand of police services, which could result in a potentially significant impact to police service facilities. **MM-PS-1** would require that the project implementer provide the necessary security staff during special events. With the implementation of **MM-PS-1**, this impact would be less than significant like that for the project.

School, recreational, and library facilities. As with the project, the Active Park Alternative would have no impact on school facilities, recreational facilities, or library facilities because its construction would not result in increases to the residential population.

Transportation and Traffic

Vehicular traffic. The Active Park Alternative would generate more traffic from equipment and vehicles during construction. The traffic impact from construction vehicles would be similar to the impact from the project on a daily basis but the duration of construction would be longer. As with the project, with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*), this impact would be less than significant.

The Active Park Alternative would generate more operations traffic than the project because more visitors would likely use the Active Park Alternative than the project. The operations traffic impact for the project was based on the assumption that the project would increase traffic on nearby roadways by up to 187 weekday PM peak hour trips and 394 weekend peak hour trips. These numbers were based on ITE maximum rates for a regional park for 170 acres. The Active Park Alternative would be much smaller than 170 acres; therefore, it is reasonable to assume that the assumptions made for the project would also be conservative for the Active Park Alternative. With implementation of mitigation measure **MM-TRA-2** (Section 3.12, *Transportation and Traffic*), the impact would be less than significant, except during special events. Like the project, the Active Park Alternative could hold special events. As with the project, it is not known what special events would be held, when they would be held, and what proportion of attendees would use alternative modes of transportation. It is not possible to assess the degree to which traffic would worsen without speculation. Therefore, it is conservatively concluded that the Active Park Alternative would have the same significant and unavoidable project and cumulative impact. **Traffic congestion.** The Active Park Alternative would have the same significant and unavoidable impact on the operation of the metropolitan transportation system freeway and surface street segments as the project because like the project, the Active Park Alternative would hold special events.

Air traffic. The Active Park Alternative would have the same less-than-significant impact on air traffic as the project.

Bicyclists, pedestrians, and parking. As with the project, construction of the Active Park Alternative would result in potential increased safety hazards to pedestrians and bicyclists. The Active Park Alternative would have the same less-than-significant safety hazards impacts as the project with implementation of mitigation measure **MM-TRA-1** (Section 3.12, *Transportation and Traffic*).

As with the project, operation of the Active Park Alternative would increase bicycle and pedestrian trail use. The project-related increase in pedestrian and bicycle use in the park and on the Bay Bridge Trail was estimated based on observations of bicycle use in the area and at other bridges, including the Golden Gate, Dumbarton, and Carquinez Bridge. The estimates used for the project would, therefore, be appropriate estimates for the Active Park Alternative Project. The Active Park Alternative would have the same impact as the project from increased bicycle and pedestrian trail use, bicycle and pedestrian conflicts at intersections, and pedestrian and bicycle hazards. This impact would be less than significant with implementation of mitigation measures **MM-TRA-3** and **MM-TRA-4** (Section 3.12, *Transportation and Traffic*).

Operation of the Active Park Alternative would result in the same impacts on site access as the project. This impact would be less than significant with implementation of mitigation measure **MM-TRA-5** (Section 3.12, *Transportation and Traffic*).

Emergency access. The Active Park Alternative would have the same potential emergency access impacts as the project, including effects from construction traffic and a single access point (Burma Road). As with the project, this impact would be less than significant with implementation of mitigation measures **MM-TRA-1** and **MM-TRA-6** (Section 3.12, *Transportation and Traffic*).

Utilities and Service Systems

Wastewater. As with the project, construction of the Active Park Alternative would be required to address the potential impacts from construction and operation of a park near critical EBMUD infrastructure, including the main outfall line from EBMUD's wastewater treatment plant and a dechlorination facility. The Active Park Alternative would generate more wastewater than the project. As with the project, this impact would be less than significant with implementation of mitigation measures **MM-UTIL-1** through **MM-UTIL-3** (Section 3.13, *Utilities and Service Systems*).

Stormwater drainage facilities. The Active Park Alternative would increase the amount of impervious surface area with the construction of amusement rides and more parking. However, similar stormwater controls would be applied as those for the project. The Active Park Alternative would, therefore, have the same less-than-significant impact on stormwater drainage facilities as the project.

Water supply. The Active Park Alternative would require more water during construction than the project because more construction activities would occur. Like the project, the amount of water that would be used would be minimal and impacts on the water supply from construction would be less than significant.

The Active Park Alternative would require more water during operations because of more visitors and the addition of sports fields. However, adequate water supply is likely available and the Active Park Alternative would have the same less-than-significant impact on the water supply as the project.

Wastewater capacity. The Active Park Alternative would generate a similar amount of wastewater during construction and more wastewater during operations because it would likely have more visitors than the project. Anticipated project impacts are conservative and were determined using the assumption that 2 million visitors would use Gateway Park, a number that would apply to the Active Park Alternative. The Active Park Alternative would have the same less-than-significant impact from the generation of wastewater as the project.

Solid waste. The Active Park Alternative would generate more solid waste than the project because it would construct more features and attract more visitors. As with the project, the solid waste generated by the Active Park Alternative would not significantly affect landfill capacity because facilities that dispose of construction materials generally do not face capacity shortages. The Active Park alternative would comply with the City of Oakland's Recycling Ordinance and all other applicable statutes and regulations relating to solid waste.

5.4 Comparison of Impacts

Table 5-2 compares the significant impacts of the project, No Project Alternative, Passive Park Alternative, and Active Park Alternative in two ways. First, for each impact studied, it identifies the level of impact for the project and each alternative (e.g., no impact, less-than-significant impact, less-than-significant impact with mitigation, significant and unavoidable impact, or significant and unavoidable impact with mitigation). Second, for each alternative and each impact, it indicates whether the resulting degree of impact would be equal to, less than, or greater than the project impact. In some cases, although both the project and alternative would result in the same level of impact, the degree of that impact might differ.

Table 5-2. Comparison of Impacts

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Aesthetics				
Impact AES-1. The project would cause changes to but would not substantially degrade visual character, visual quality, and scenic vistas	LSM	LSM (Less)	PSU (amusement rides/night lighting)	LS (Less)
Impact AES-2. New sources of light and glare associated with the project would not adversely affect day or nighttime views in the area	LS	LS (Less)	PSU (amusement rides/night lighting)	LS (Less)
Impact AES-3. Operation of the project would cause long-term changes to but would not substantially damage scenic resources along a scenic highway	LS	LS (Less)	PSU (Amusement Rides/Night Lighting)	LS (Less)
Air Quality				
Impact AQ-1. The project would not conflict with or obstruct implementation of the applicable air quality plan during construction and routine operations	LS	LS (Less)	LS (Greater)	LS (Less)
Impact AQ-2. The project would not generate emissions of ozone precursors (NO_X) in excess of BAAQMD thresholds during construction or during routine operations	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact AQ-3. The project would not generate overlapping project construction and operations emissions of ozone precursors (ROG and NO_X) in excess of BAAQMD thresholds	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact AQ-4. The project would not expose sensitive receptors to substantial pollution concentrations during construction	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact AQ-5. The project would not exacerbate exposure of park recreational users to Port-related air pollution during operations	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact AQ-6. The project would create objectionable odors affecting a substantial number of people	LS	LS (Less)	LS (Greater)	LS (Less)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Biological Resources				
Impact BIO-1. The project would not have a substantial adverse effect on habitats and sensitive natural communities as a result of construction and ongoing operations	LSM	LSM (Less)	SU (Greater)	LSM (Less)
Impact BIO-2. The project would not have a substantial adverse effect on special-status plant species as a result of construction and ongoing operations	LSM	NI (Less)	LSM (Equal)	NI (Less)
Impact BIO-3. The project would not have a substantial adverse effect on special-status wildlife species as a result of construction and ongoing operation	LSM	LSM (Less)	SU (Greater)	LSM (Less)
Impact BIO-4. The project would not have a substantial adverse effect on migratory and nonmigratory birds as a result of construction and ongoing operations	LSM	LSM (Less)	SU (Greater)	LSM (Less)
Impact BIO-5. The project would have a substantial adverse effect on special-status fish species as a result of construction; the project would not have a substantial adverse effect on special-status fish species as a result of ongoing operations	SU	LSM (Less)	SU (Equal)	LSM (Less)
Impact BIO-6. The project would not have a substantial adverse effect on essential fish habitat as a result of construction and ongoing operations	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact BIO-7. The project would not have a substantial adverse effect on marine mammals as a result of construction and ongoing operations	LSM	NI (Less)	LSM (Greater)	NI (Less)
Impact BIO-8. The project would not have a substantial adverse effect on bats as a result of construction and ongoing operations	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)
Impact BIO-9. The project would not affect coast live oak or other trees larger than 9 inches in diameter as a result of construction and ongoing operations	NI	NI (Equal)	NI (Equal)	NI (Equal)
Impact BIO-10. The project would not have a substantial adverse effect in relation to invasive plant species as a result of construction and ongoing operations	LSM	LSM (Less)	LSM (Equal)	LSM (Less)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Impact C-BIO-5. The project would not contribute considerably to the loss of habitats of special-status fish species but could result in unavoidable loss of individual special-status fish species due to pile driving.	SU	LSM (Less)	SU (Equal)	LSM (Less)
Cultural Resources				
Impact CUL-1. Project construction activities would not cause a substantial adverse change in the significance of archaeological resources that are listed or eligible for listing in the NHRP or CRHR	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact CUL-2. Project construction activities would have the potential to disturb human remains, including those interred outside of formal cemeteries	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact CUL-3. The project would not cause a substantial adverse change in the significance of historical resources that are listed or eligible for listing in the NRHP/CRHR as a result of construction activities	LSM	NI (Less)	LSM (Equal)	NI (Less)
Impact CUL-4. The project would not destroy historical resources that are listed in or eligible for listing in the NRHP/CRHR as a result of construction activities	LS	NI (Less)	LS (Equal)	NI (Less)
Geology, Soils, and Paleontological Resources				
Impact GEO-1. The project would not expose people or structures to risk of loss, injury, or death involving rupture of a known earthquake fault	NI	NI (Equal)	NI (Equal)	NI (Equal)
Impact GEO-2. The project would not expose people or structures to strong seismic ground shaking	NI	NI (Equal)	NI (Equal)	NI (Equal)
Impact GEO-3. The project would expose people or structures to seismic-related ground failure, including liquefaction	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact GEO-4. The project would result in soil erosion or the loss of topsoil	LS	LS (Less)	LS (Equal)	LS (Equal)
Impact GEO-5. The project would result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse related to unstable soils	LS	LS (Equal)	LS (Equal)	LS (Equal)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Impact GEO-6. The project would not be located on expansive soils where construction would create substantial risks to life or property	NI	NI (Equal)	NI (Equal)	NI (Equal)
Impact GEO-7. The project would not cause a substantial adverse change in the significance of paleontological resources	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Greenhouse Gases				
Impact GHG-1. The project will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment	SU	SU (Less)	SU (Greater)	SU (Less)
Impact GHG-2. The project would not conflict with an applicable plan, policy, or regulation adopted for reducing the emissions of GHGs	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact C-GHG-1: The project, in combination with reasonably foreseeable actions in the project vicinity will generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment	SU	SU (Less)	SU (Greater)	SU (Less)
Hazards and Hazardous Materials				
Impact HAZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	LS	LS (Equal)	LS (Equal)	LS (Less)
Impact HAZ-2. The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LSM	LSM (Less)	LSM (Equal)	LSM (Less)
Impact HAZ-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact HAZ-4. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Hydrology and Water Quality				
Impact HY-1. The project would not violate water quality standards or WDRs as a result of construction or operations	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact HY-2. The project would not substantially deplete groundwater supplies or interfere with groundwater recharge	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact HY-3. The project would not alter the existing drainage pattern of the site in a manner that would result in substantial erosion or siltation on site or off site	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact HY-4. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact HY-5. The project would not create or contribute runoff water that would exceed the capacity of the planned stormwater drainage system or provide additional sources of polluted runoff	LSM	LSM (Less)	LSM (Greater)	LSM (Less)
Impact HY-6. Construction activities would not otherwise degrade water quality	LS	LS (Less)	LS (Greater)	LS (Less)
Impact HY-7. The project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, but may place park features in areas that could be inundated by flooding due to sea level rise but would not exacerbate coastal flooding	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact HY-8. The project would not exacerbate inundation by seiche, tsunami, or mudflow and any related effects on people or structures	LS	LS (Equal)	LS (Equal)	LS (Equal)
Land Use and Planning				
Impact LU-1. The project would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental impact	LS~~M~~	LS~~M~~ (Equal)	LS~~M~~ (Equal)	LS~~M~~ (Less)
Impact LU-2. The project would not conflict with an applicable habitat conservation plan or natural community conservation plan	LS	LS (Equal)	LS (Equal)	LS (Equal)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Impact LU-3. The project would not introduce new land uses into an area that could be considered incompatible with the surrounding land uses or with the general character of the area	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)
Noise				
Impact NOI-1. The project would not expose sensitive receptors to excessive temporary noise or vibration impacts during construction activities	LSM	LSM (Less)	LSM (Equal)	LSM (Less)
Impact NOI-2. The project would not cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project	LS	LS (Less)	LS (Equal)	LS (Less)
Impact C-NOI-1. The project, in combination with reasonably foreseeable actions in the project vicinity, would cause a substantial permanent increase in ambient noise or vibration levels in the project vicinity above levels existing without the project.	SU	LS (Less)	SU (Greater)	LS (Less)
Public Services				
Impact PS-1. The project would not result in the need for new or physically altered fire services facilities	LS	LS (Less)	LS (Greater)	LS (Less)
Impact PS-2. The project would not result in the need for new or physically altered police service facilities	LSM	LS (Less)	LSM (Greater)	LS (Less)
Impact PS-3. The project would not result in the need for new or physically altered school facilities	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact PS-4. The project would not result in the need for new or physically altered library facilities	LS	LS (Equal)	LS (Equal)	LS (Equal)
Transportation				
Impact TRA-1. The project would result in increased vehicular, pedestrian, and bicycle traffic and would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system during special events	SU	LSM (Less)	SU (Greater)	LSM (Less)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Impact TRA-2. The project would conflict with the applicable congestion management program, including level of service standards and travel demand measures, and other standards established by the county congestion management agency for designated roads or highways during special events	SU	LS (Less)	SU (Greater)	LS (Less)
Impact TRA-3. The project would not result in a change in air traffic patterns	LS	LS (Equal)	LS (Equal)	LS (Equal)
Impact TRA-4. The project would introduce design features that could cause bicycle and pedestrian conflicts but would not result in a substantial increase in hazards	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)
Impact TRA-5. The project would not result in inadequate emergency access	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)
Impact TRA-6. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, but would decrease the performance or safety of such facilities	LSM	LSM (Equal)	LSM (Equal)	LSM (Less)
Impact C-TRA-1. The project, in combination with other foreseeable projects in the project vicinity, would result in increased vehicular, pedestrian, and bicycle traffic that could affect the performance of the circulation system during special events.	SU	LS (Less)	SU (Greater)	LS (Less)
Impact C-TRA-2. The project, in combination with other foreseeable projects in the project vicinity, would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards also established by the county congestion management agency for designated roads or highways.	SU	LS (Less)	SU (Greater)	LS (Less)
Utilities				
Impact UTIL-1. The project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities	LSM	LSM (Equal)	LSM (Greater)	LSM (Equal)
Impact UTIL-2. New stormwater drainage facilities constructed for the project would not cause a significant environmental effect	LS	LS (Less)	LS (Greater)	LS (Less)

Impact	Project	Passive Park Alternative	Active Park Alternative	No Project Alternative
Impact UTIL-3. The project's estimated water demand would not exceed existing water supply	LS	LS (Less)	LS (Greater)	LS (Less)
Impact UTIL-4. The project would not exceed the capacity of the wastewater treatment provider	LS	LS (Less)	LS (Greater)	LS (Less)
Impact UTIL-5. The project would not exceed the capacity of nearby landfills	LS	LS (Less)	LS (Greater)	LS (Less)
Impact UTIL-6. The project would comply with federal, state, and local statutes and regulations related to solid waste	LS	LS (Equal)	LS (Equal)	LS (Equal)

NI (no impact); LS (less than significant); LSM (less than significant with mitigation); SU (significant and unavoidable); PSU (potentially significant and unavoidable); Equal (equal impact as the project); Less (less impact than the project); Greater (greater impact than the project); Greater Beneficial Impact (greater beneficial impact than the project).

Note: the comparison of cumulative impacts focusses on cumulative impacts that would be significant and unavoidable, as evaluated in Section 4.0, *Other CEQA Considerations*.

5.5 Environmentally Superior Alternative

Section 21002 of the State CEQA Guidelines requires lead agencies to adopt feasible mitigation measures or feasible environmentally superior alternatives in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. CEQA also requires that an environmentally superior alternative be identified among the alternatives analyzed. In general, the environmentally superior alternative is the project that avoids or substantially lessens some or all of the significant and unavoidable impacts of the proposed project (CEQA Guidelines Section 15126.6).

Comparing the extent to which the alternatives would reduce or avoid the significant impacts of the project, the No Project Alternative would be the environmentally superior alternative because it would reduce the most impacts. However, because the No Project Alternative is the environmentally superior alternative, the EIR must also specify which of the build alternatives (including the project) would be environmentally superior.

As shown in table 5-2, the Active Park Alternative would not reduce any environmental impacts. In fact, because the Active Park Alternative would include more active recreational improvements and parking, the Active Park Alternative would increase impacts on most of the environmental resources analyzed.

The Passive Park Alternative would not develop the active recreation features of the project, which would reduce impacts on most of the environmental resources analyzed. The Passive Park Alternative would not require pile driving during construction and would, therefore, eliminate all impacts associated with pile driving, including the significant and unavoidable noise impact on special-status fish species, and the significant but mitigatable project impacts on EFH, marine mammals, and special-status fish. The Passive Park Alternative would also eliminate permanent impacts on tidal salt marsh, eelgrass beds, and northern foredunes because the path to Radio Beach would not be constructed. It would eliminate permanent impacts on sandy beach because the kayak launch ramp would not be constructed. The Passive Park Alternative would also eliminate significant traffic impacts during special events. The Passive Park Alternative would not, however, eliminate significant impacts to greenhouse gas emissions, since it would still result in a net increase in construction and operational GHG emissions.

Overall, the Passive Park Alternative is considered the environmentally superior alternative because it would reduce the severity of adverse environmental impacts across a broad range of environmental resources, minimize impacts on habitats and natural communities, and eliminate impacts associated with pile driving.

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Chapter 6
List of Preparers

6.1 Lead Agency

Metropolitan Transportation Commission/Bay Area Toll Authority

- Peter Lee, Principal Program Manager
- Rosalynn Chongchaikit, PE, Project Program Coordinator

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Gary Clendenin	Geologist/ Hydrologist	Hazards and Hazardous Materials QA/QC	34	M.S., Geology B.S., Geology
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Cory Matsui	Noise Specialist	Noise	6	B.A., Atmospheric Science
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WRECO—Water Quality, Hydrology, and Stormwater

- Erica Cruz, P.E., Associate Engineer
- Analette Ochoa, P.E., Registered Civil Engineer

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Chapter 7
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7.1.1.1 Written Communications

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