

3.0 ENVIRONMENTAL TOPICS

This chapter provides updated information, describing existing site conditions and the current, applicable policies and regulations, and an environmental assessment of the proposed 2012 Oakland Army Base Project. For each environmental topic, the chapter summarizes the 2002 EIR analysis and conclusions, describes existing site conditions relevant to that environmental topic, updates the regulations applicable to the environmental topic, and analyzes the effects of the 2012 Project against existing physical conditions.³⁶ In addition, this chapter compares the effects of the 2012 Project with those effects identified in the 2002 EIR. Also, previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted.³⁷ This chapter also identifies the current applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

The following environmental topics are discussed: Aesthetics; Agriculture and Forest Resources; Air Quality; Biological Resources; Cultural Resources; Geology and Soils; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Population and Housing; Public Services; Recreation; Transportation/Traffic; Utilities and Service Systems.

³⁶ The 2002 EIR utilized an "Alternative Baseline" (pursuant to CEQA Guidelines section 15229 and Public Resources Code section 21083.8.1) assessing impacts against physical conditions existing at time of the military base closure (1995) rather than existing at the time of the commencement of CEQA review (2001) for the following environmental topics: traffic, water consumption, wastewater, energy consumption, noise, air quality, schools, and population/employment. This Addendum also utilizes the Alternative Baseline.

³⁷ The 2002 Summary Mitigation Measures are identified in this chapter. Please refer to Appendix I for 2002 Mitigation Measure details and Appendix J for changes to 2002 Mitigation Measures.

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3.1 AESTHETICS

This section evaluates the potential aesthetic impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant aesthetics impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant aesthetics impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

3.1.1 PRIOR ANALYSIS AND CONCLUSIONS

3.1.1.1 2002 EIR Impact Findings

The 2002 EIR concluded that the 2002 Project would have a residual significant and unavoidable impact related to scenic resources and visual character:

Impact 4.11-2: Redevelopment of the project site would remove buildings contributing to a historic district, including visually striking warehouse structures visible from I-80, a locally designated scenic route, and a portion of the State scenic highway system.

The 2002 EIR concluded potentially significant impacts related to light and glare, shadows on solar collectors, and shadows on public park or open space could be reduced to less-than-significant levels:

Impact 4.11-3: New security lighting and/or lighting for nighttime operations would alter current patterns of light or glare, and could alter nighttime views in the area, resulting in a potentially significant impact.

Impact 4.11-4: New construction could introduce building or landscaping elements that would now or in the future cast shadow on existing solar collectors, resulting in a potentially significant impact.

Impact 4.11-5: New construction could introduce building or landscaping elements that would now or in the future cast shadow on that substantially impairs the beneficial use of a public park or open space, resulting in a potentially significant impact.

The 2002 EIR concluded that the 2002 Project would have less-than-significant impacts on scenic vistas:

Impact 4.11-1: Short-term mid-ground views of moderately sensitive viewers of the Bay may be blocked by redevelopment of the project site, resulting in a less-than-significant impact.

3.1.1.2 2002 EIR Mitigation Measures

For the potentially significant impact related to light and glare, the 2002 EIR identified the following mitigation measures to reduce impacts to a less-than-significant level:

Mitigation Measure 4.11-1: New lighting shall be designed to minimize off-site light spillage; “stadium” style lighting shall be prohibited.

Mitigation Measure 4.11-2: At or near the boundary of the proposed Gateway Park, new lighting shall be shielded to prevent light spillage into natural areas. *(Note: This mitigation measure is replaced with SCA-AES-1, which addresses light shielding; see subsection 3.1.5, criterion d below)*

For the potentially significant impact related to shadows cast on solar collectors, the 2002 EIR identified the following mitigation measures to reduce impacts to a less-than-significant level:

Mitigation Measure 4.11-3: New active or passive solar systems within or adjacent to the project area shall be set back from the property line a minimum of 25 feet.

Mitigation Measure 4.11-4: New construction within the Gateway development area adjacent to a parcel containing permitted or existing active or passive solar systems shall demonstrate through design review that the proposed structures shall not substantially impair operation of existing solar systems.

Mitigation Measure 4.11-5: The City and Port shall coordinate with respect to the design of new, permanent buildings constructed along the Port/Gateway boundary to minimize conflicts over solar access.

For the potentially significant impact related to shadows cast on public parks and open space, the 2002 EIR identified the following mitigation measure to reduce impacts to a less-than-significant level:

Mitigation Measure 4.11-6: New construction adjacent to a public park or open space shall demonstrate through design review that development shall not substantially impair enjoyment of the public using the space.

3.1.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project’s environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City’s SCA serve to avoid or substantially reduce potentially significant impacts. The City’s SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

SCA AES-1: Lighting Plan

Prior to the issuance of an electrical or building permit

The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

3.1.3 UPDATED REGULATORY SETTING

Since adoption of the 2002 EIR, the City of Oakland General Plan has been updated. The redevelopment of the Army Base must comply with current regulations. The following discussion reviews provisions of the Oakland General Plan and other regulations that are relevant to aesthetics for the 2012 Project.

3.1.3.1 State

3.1.3.1.1 California State Scenic Highways Program

As identified in the 2002 EIR, Sections 260 through 283 of the California Street and Highways Code describe the California Scenic Highways Program. The program's intent is to protect and enhance California's natural beauty and to protect the social and economic values provided by the State's scenic resources. The Code states that standards for protection of official scenic highways shall require local agencies to take such actions as may be necessary to protect the scenic corridor, including but not limited to the following: regulate land use and development density; require detailed land and site planning; control outdoor advertising; and pay careful attention to and control earthmoving and landscaping as well as the design and appearance of structures and equipment.

The State Scenic Highway System includes Interstate 80/Interstate 580 (I-80/I-580) from Interstate-280 (I-280) in San Francisco to State Route 61 (SR-61) in Oakland, including the Bay Bridge immediately north of the redevelopment program area. Only the I-580 portion from the MacArthur maze to SR-61, however, is a State-designated Scenic Highway.

3.1.3.1.2 Senate Bill 5X Outdoor Lighting Standards

Senate Bill 5X became effective in October 1, 2005, and established authority for the State of California Energy Commission (CEC) to adopt lighting standards for outdoor lighting. The CEC has contracted a team of engineering firms in response to Senate Bill 5X to develop standards for energy conservation and lighting pollution mitigation requirements. Mandatory measures require that outdoor lighting be automatically controlled so that it is turned off during daytime hours and during times when it is not needed.

3.1.3.1.3 Outdoor Advertising Act

The Outdoor Advertising Act (OAA) 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 OAA regulates the size, illumination, orientation, and location of advertising displays. Under the OAA, 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.

3.1.3.1.4 San Francisco Bay Plan

As identified in the 2002 EIR, the portion of the redevelopment program area within 100 feet of the Bay shoreline is subject to the policies of the Bay Conservation and Development Commission's (BCDC) San Francisco Bay Plan. The Bay Plan was prepared by BCDC over a three-year period pursuant to the McAteer-Petris Act of 1965, which established the BCDC as a temporary agency to prepare an enforceable plan to guide the future protection and use of San Francisco Bay and its shoreline. The Bay Plan has been amended periodically since its adoption and BCDC continues to systematically review the plan to keep it current. The Bay Plan addresses appearance, design, and scenic views of development around the Bay, among other issues.

3.1.3.2 Local

3.1.3.2.1 Port of Oakland Exterior Lighting Policy

The Port of Oakland's Exterior Lighting Policy includes requirements and mitigation measures to prevent potential lighting pollution that may be generated by development and operations, and to conserve energy in all areas under the jurisdiction of the Port of Oakland.

3.1.3.2.2 City of Oakland General Plan Policies and Actions

As identified in the 2002 EIR, the Scenic Highways Element of the Oakland Comprehensive Plan (the precursor of the General Plan) designated I-80/I-580 across the Bay Bridge and eastward for its entire length through Oakland as a scenic route (Oakland, 1974). This element also recognizes the visual setting from I-80/I-580 toward the redevelopment program area as industrial in nature, and does not identify the redevelopment program area as a "problem area" along the route. As shown in Figure 3.1-1, although the proposed billboards for the 2012 Project are not located within the boundaries of the MacArthur Freeway Scenic Corridor, they are nevertheless visible from such. Specific policies for the MacArthur Freeway (I-580) scenic route are identified below:

- Policy 1: The signs within the scenic corridor that are visible from the freeway should be for identification purposes only; no advertising should be permitted.
- Policy 2: Visual intrusions within the scenic corridor should be removed, converted, buffered or screened from the motorist's view.
- Policy 3: Panoramic vistas and interesting views now available to the motorist should not be obliterated by new structures.
- Policy 4: New construction within the scenic corridor should demonstrate architectural merit and a harmonious relationship with the surrounding landscape.

As identified in the 2002 EIR, the Open Space, Conservation, and Recreation (OSCAR) Element of the Oakland General Plan recognizes the Oakland shoreline as possessing diverse values, including its value as an aesthetic resource and as a gateway to other aesthetic resources, such as the Bay.³⁸ The OSCAR Element includes specific goals and objectives regarding increased visual access to and from the shoreline, and policies intended to achieve shoreline aesthetic/visual access goals and objectives:

³⁸ Oakland, City of, 1996. *Open Space, Conservation, and Recreation; Oakland General Plan*. June.

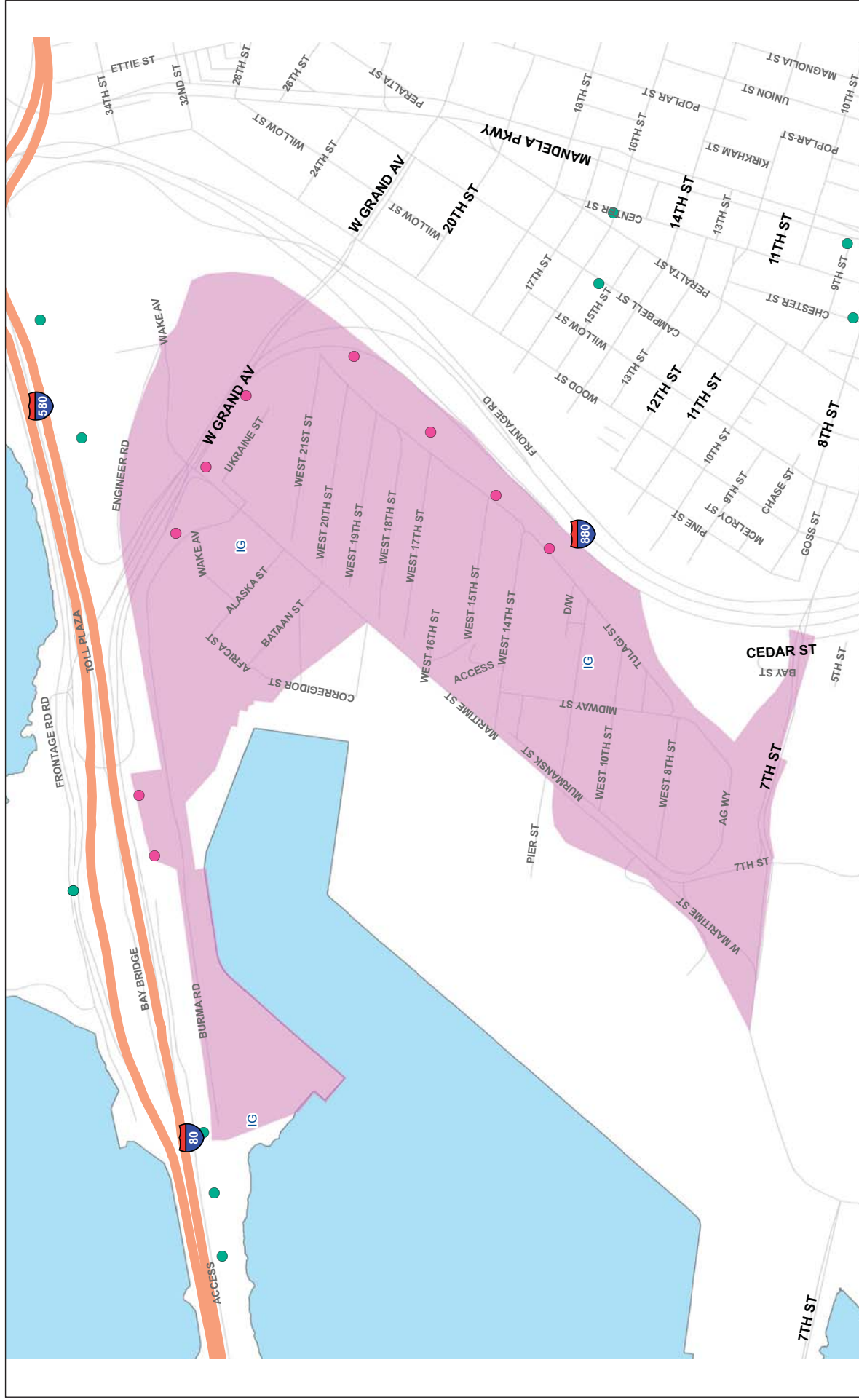


FIGURE 3.1-1

2012 Oakland Army Base Project
Scenic Highways and Billboards

*Source:
City of Oakland General Plan, Scenic Highway Element, 1974.

SOURCE: CITY OF OAKLAND, DEPT. OF PLANNING, BUILDING & NEIGHBORHOOD PRESERVATION, APRIL 2012.

I:\COO1001 Oakland Gateway\figures\Fig_3.1-1.ai (4/30/12)

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Objective OS-7: To increase physical and visual access to the Oakland shoreline and create new opportunities for shoreline recreation.

- Policy OS-7.3: 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,
 - Action OS-7.3.1: Work with Caltrans to develop and implement an enhancement plan for the south side of the Bay Bridge, focusing on improved views to the water.
- Policy OS-9.3: 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.

Objective OS-10: To protect scenic views and improve visual quality.

- Policy OS-10.1: 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-10.2: Encourage site planning for new development, which minimizes adverse visual impacts and takes advantage of opportunities of new vistas and scenic enhancements.
- Policy OS-10.3: Enhance Oakland's underutilized visual resources, including the waterfront, creeks, San Leandro Bay, architecturally significant buildings or landmarks, and major thoroughfares.

The 2002 EIR did not include discussion of the Land Use Transportation Element (LUTE)³⁹ of the Oakland General Plan in its Aesthetics section. The LUTE includes the following policy, which encourages billboard removal (see Section 3.10, Land Use and Planning, for more details):

- Policy IC-4.3: Billboards should be reduced or eliminated in commercial and residential areas in Oakland neighborhoods through mechanisms that minimize or do not require the expenditures of City funds.

3.1.4 EXISTING CONDITIONS

As described in the 2002 EIR, the regional area under consideration is bounded by the nearby Oakland Hills to the east and the San Francisco peninsula to the more distant west. To the north are the Bay and Bay shoreline, and to the south are Alameda Island and the Bay. The visual character of the region is varied and represents three visually distinct zones, generally trending east to west: the uplands, flatlands, and the Bay. Within the uplands, the generally steep hills provide a mix of natural and developed views, and between the hills and the Bay, the flatlands show a highly urbanized mixed-use visual setting and the Bay has an industrial maritime shoreline, with the Bay waters and Bay Bridge to the west. The visual setting of the redevelopment program area is generally flat to very gently sloping, and is highly industrialized.

The project site is visually characterized by flat land developed with one- to four-story warehouses and administration/business buildings, industrial maritime and rail facilities (including cargo containers stacked four or more levels high), and undeveloped land. As described in the 2002 EIR, the area is typical of transportation/industrial development and is visually unremarkable. Public views

³⁹ Oakland, City of, 1998. *Land Use and Transportation Element; Oakland General Plan*. March.

of the project site include relatively short-term foreground views from I-880, I-80 (the Bay Bridge), and other public roadways. In addition, there are important views from the redevelopment program area toward the Bay and the Bay Bridge, as well as from planned trail and open space areas. The 2002 EIR identified the OARB sub-district as being visible from the following viewing locations:

- From I-80, east-bound travelers experience short-term, foreground views of the proposed Gateway Park area, mid-ground views of the Outer Harbor, and background views of Oakland central business district and hills;
- From the elevated portions of West Grand Avenue, and I-880, west/north-bound motorists have short-term, mid-ground views of the vacant Subaru site and Baldwin railyard (northeast-most portion of the OARB sub-district);
- From elevated I-880, east/south-bound motorists have short-term, mid-ground views of the entire OARB;
- From the Outer Harbor, boaters have short-term, foreground views of the undeveloped future Gateway Park area, and industrial marine terminals; and
- From upper Maritime Street, motorists have short-term, foreground views of existing OARB buildings.

3.1.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

The 2012 Project would have a significant impact on the environment if it would:

- a) Have a substantial adverse effect on a scenic vista;
- b) Substantially damage scenic resources, including, but not limited to, trees, rock, outcroppings, and historic buildings within a state or locally designated scenic highway;
- c) Substantially degrade the existing visual character or quality of the site and its surroundings;
- d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area;
- e) Introduce structures or landscape that would not or in the future cast substantial shadow on existing solar collectors (in conflict with California Public Resources Code §§ 25980-25986), photovoltaic cells, or impair the function of a building using passive solar heat collection;
- f) Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space;
- g) Cast shadow on a historic resource, as defined by California Environmental Quality Act Section 15064.5(a), such that it would substantially diminish/impair its eligibility for listing in the National Register of Historic Places, California Register of Historic Resources, or a local register of historical resources or a historical resource survey as defined by the PRC; or
- h) Require an exception to the policies and regulation in the General Plan, Planning Code, or Uniform Building Code (UBC), and be inconsistent with policies and regulations in the General Plan, Planning Code, and UBC addressing the provision of adequate light related to appropriate uses.

These criteria are discussed below.

a) Would the project have a substantial adverse effect on a scenic vista?

The 2012 Project would result in the redevelopment of the OARB sub-district's Gateway Development Area and Port Development Area with single to multi-story buildings, roadways, parking areas, a rail terminal, associated rail right-of-way, road improvements, a road/rail grade separation, and varying amounts of public access/open space (see Chapter 2, Project Description, for more detail). As shown in Figure 3.1-2, the 2012 Project would also include the construction of up to nine billboards in locations near the I-80 Toll Plaza, along I-880 at West Grand Avenue, 12th, 13th, and 15th Streets.

As identified in the 2002 EIR, some short-term views of east-bound vehicle travelers on I-80 toward the Outer Harbor would be blocked for several seconds by redevelopment in the Gateway Development Area. These views are toward the industrialized portion of the Bay and do not constitute important views or scenic vistas.

Figures 3.1-3a through 3.1-3o, show views of the project site from vantage points along the Bay Bridge Toll Plaza and I-880. Photos of existing viewpoints (upper photographs) and photo simulation viewpoints (lower photographs) with the proposed billboards are shown in each viewpoint location in Figure 3.1-2. Figure 3.1-1 also shows the locations of each proposed billboard. Table 3.1-1 summarizes visual characteristics of the photo simulations from each of the viewpoints that vehicle travelers would experience along the Bay Bridge Toll Plaza and I-880. The short-term views of vehicle travelers traveling eastbound and westbound along I-880 also would be blocked for several seconds by the proposed billboards; however, similar to the Gateway Development Area, these views are toward the industrialized portion of the Bay.

Table 3.1-1: Views of Proposed Billboards

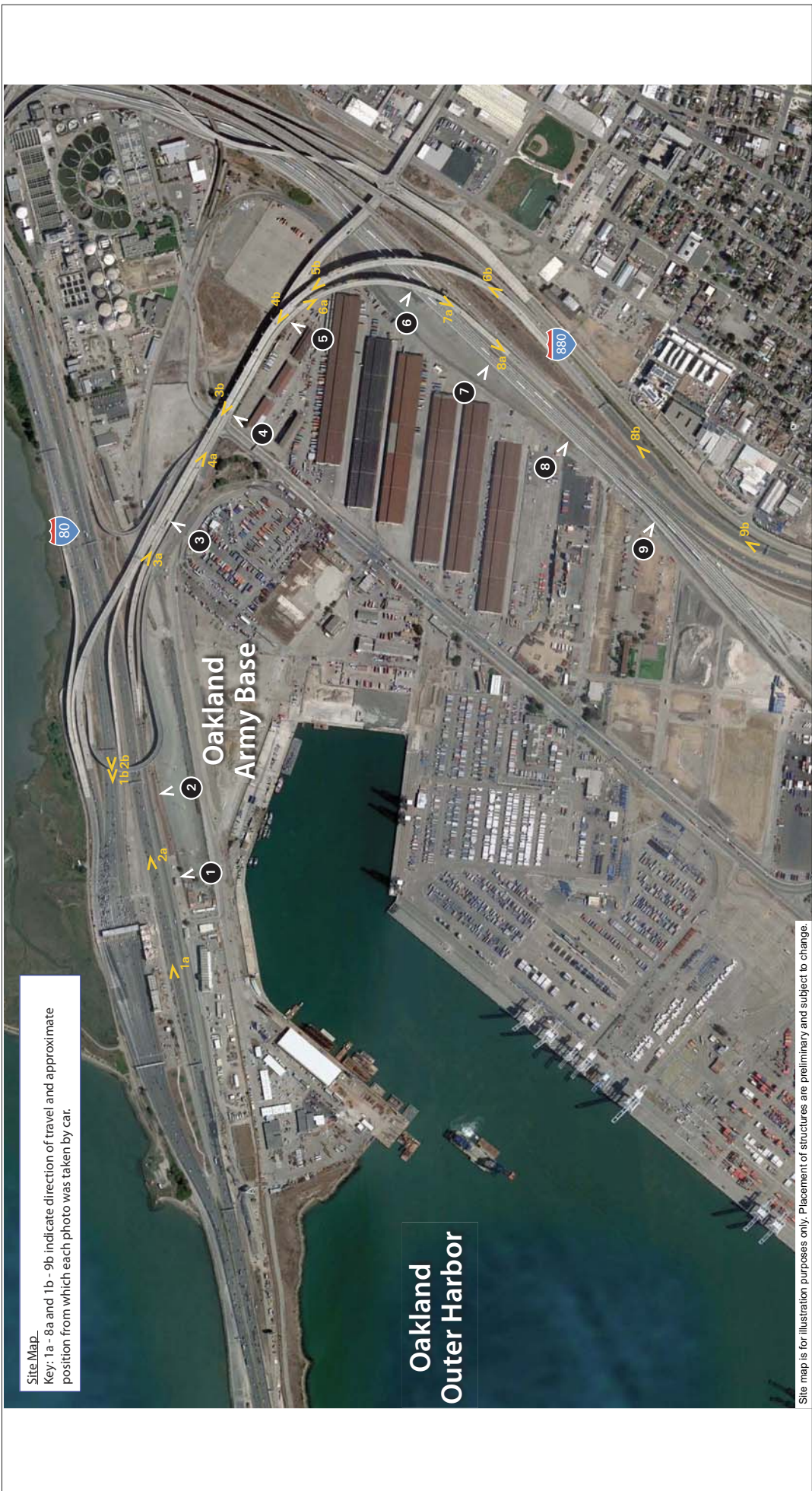
Viewpoint Location ^a	Billboard Number Visible	Location	Visual Characteristics of Location
1a	1, 2	Bay Bridge East of Toll Plaza	<u>Foreground:</u> Billboard 1 and freeway lanes <u>Mid-ground:</u> Billboard 2, warehouse-type building, light and utility poles, elevated portion of I-880 <u>Background:</u> Oakland Hills
1b	1	Bay Bridge East of Toll Plaza	<u>Foreground:</u> Traffic sign, freeway lane, median, and divider <u>Mid-ground:</u> Billboard 1, light and utility poles, industrial maritime facilities <u>Background:</u> City of San Francisco skyline and Yerba Buena Island
2a	2	Bay Bridge East of Toll Plaza	<u>Foreground:</u> Freeway lanes <u>Mid-ground:</u> Billboard 2, elevated portion of I-880 interchange, light and utility poles <u>Background:</u> Oakland Hills and Oakland central business district
2b	2	Bay Bridge East of Toll Plaza	<u>Foreground:</u> Billboard 2, freeway lanes and median <u>Mid-ground:</u> Industrial maritime facilities, lighting poles <u>Background:</u> Utility poles
3a	3, 4, 5	I-880 West Grand Avenue	<u>Foreground:</u> Billboards 3 and 4, freeway lanes, median, and divider <u>Mid-ground:</u> Part of Billboard 5, treetops, rooflines of buildings <u>Background:</u> Oakland central business district
3b	3	I-880 West Grand Avenue	<u>Foreground:</u> Billboard 3, freeway lanes, median, and divider, top of tree <u>Mid-ground:</u> Utility and light poles, freeway signs <u>Background:</u> Mount Tamalpais and Angel Island
4a	4, 5	I-880 West Grand Avenue	<u>Foreground:</u> Billboards 4 and 5, freeway lanes, median and divider <u>Mid-ground:</u> Roofline of buildings, elevated portion of I-880 <u>Background:</u> Oakland central business district
4b	3, 4	I-880 West Grand Avenue	<u>Foreground:</u> Freeway lanes, median, and divider <u>Mid-ground:</u> Billboards 3 and 4, rooflines of buildings, lighting and utility poles, shipping containers <u>Background:</u> Bay waters, Angel Island, and Mount Tamalpais
5b	5	I-880 West Grand Avenue	<u>Foreground:</u> Billboard 5, freeway lanes, medians, and divider <u>Mid-ground:</u> Roofline of buildings, utility and light poles, Bay waters <u>Background:</u> Mount Tamalpais, Angel Island, Emeryville marina area
6a	6	I-880 West Grand Avenue	<u>Foreground:</u> Billboard 6, freeway lanes, median, and divider, traffic sign <u>Mid-ground:</u> Roofline of building, maritime facilities, elevated portion of I-880, lighting pole <u>Background:</u> None
6b	6	I-880 West Grand Avenue	<u>Foreground:</u> Freeway lane, median, and divider <u>Mid-ground:</u> Billboard 6, elevated portion of I-880, lighting poles, warehouse-type buildings <u>Background:</u> Oakland and Berkeley Hills
7a	7, 8, 9	I-880 at 12 th , 14 th , and 15 th Streets	<u>Foreground:</u> Billboard 7, freeway lane, median, divider <u>Mid-ground:</u> Part of Billboards 8 and 9, rail yard and railroad tracks, shipping containers, lighting poles <u>Background:</u> Industrial maritime facilities, San Francisco hills
8a	8, 9	I-880 at 12 th and 14 th Streets	<u>Foreground:</u> Billboard 8, freeway lanes, median, divider, shipping containers, railyard and railroad tracks <u>Mid-ground:</u> Billboard 9, lighting and utility poles <u>Background:</u> Industrial maritime facilities, San Francisco hills
8b	6, 7, 8	I-880 West Grand Avenue, I-880 at 14 th and 15 th Streets	<u>Foreground:</u> Billboards 7 and 8, freeway lanes, median, divider <u>Mid-ground:</u> Billboard 6, elevated portions of I-880, lighting and utility poles, freeway signs <u>Background:</u> Oakland and Berkeley Hills
9b	7, 8, 9	I-880 at 12 th , 14 th , and 15 th Streets	<u>Foreground:</u> Billboards 7, 8, and 9, freeway lanes, median, divider <u>Mid-ground:</u> Lighting and utility poles, elevated portions of I-880, freeway signs <u>Background:</u> Berkeley Hills

^a “a” represents viewpoints for vehicle travelers traveling eastbound on I-80 and southbound on I-880.

“b” represents viewpoints for vehicle travelers traveling westbound on I-80 and northbound on I-880.

Note: Viewpoints 5a, 7b, and 9a have been omitted from the figures and this table because viewpoints 6a, 6b, and 8a, respectively, cover similar viewpoint locations.

Source: Foster Interstate Media, Inc. and LSA Associates, Inc., 2012.



Site Map.
Key: 1a - 8a and 1b - 9b indicate direction of travel and approximate position from which each photo was taken by car.

Site map is for illustration purposes only. Placement of structures are preliminary and subject to change.

LSA

KEY

- 1 Bay Bridge 300' East of Toll Plaza - West & East Face
- 2 Bay Bridge 800' East of Toll Plaza - West & East Face
- 3 I-880 West Grand 500' North of Maritime - North & South Face
- 4 I-880 West Grand South of Maritime - North & South Face
- 5 I-880 West Grand 600' South of Maritime - North & South Face

- 6 I-880 West Grand 1,800' South of Maritime
- 7 I-880 at 15th Street - North & South Face
- 8 I-880 at 14th Street - North & South Face
- 9 I-880 at 12th Street - North & South Face

- 8b Viewpoint Location
- 4 Location of Proposed Billboard

FIGURE 3.1-2

2012 Oakland Army Base Project
Viewpoint Location and
Proposed Billboard Site Map

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Photo taken from position **1a**
as indicated on Site Map.



Photo taken from position **1a**
as indicated on Site Map.



LSA

FIGURE 3.1-3a

Photo taken from position **1b**
as indicated on Site Map.



Photo taken from position **1b**
as indicated on Site Map.



LSA

FIGURE 3.1-3b

Photo taken from position **2a**
as indicated on Site Map.



Photo taken from position **2a**
as indicated on Site Map.



FIGURE 3.1-3c

Photo taken from position **2b**
as indicated on Site Map.



Photo taken from position **2b**
as indicated on Site Map.

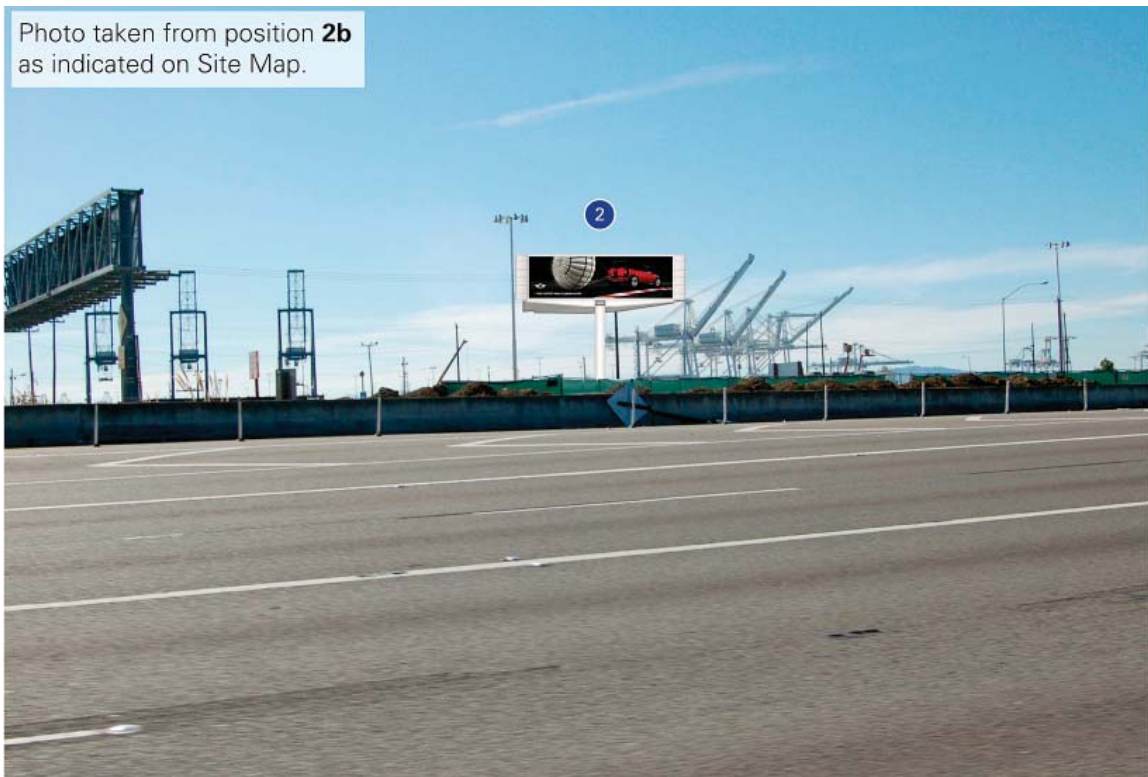


FIGURE 3.1-3d

Photo taken from position **3a**
as indicated on Site Map.



Photo taken from position **3a**
as indicated on Site Map.



FIGURE 3.1-3e

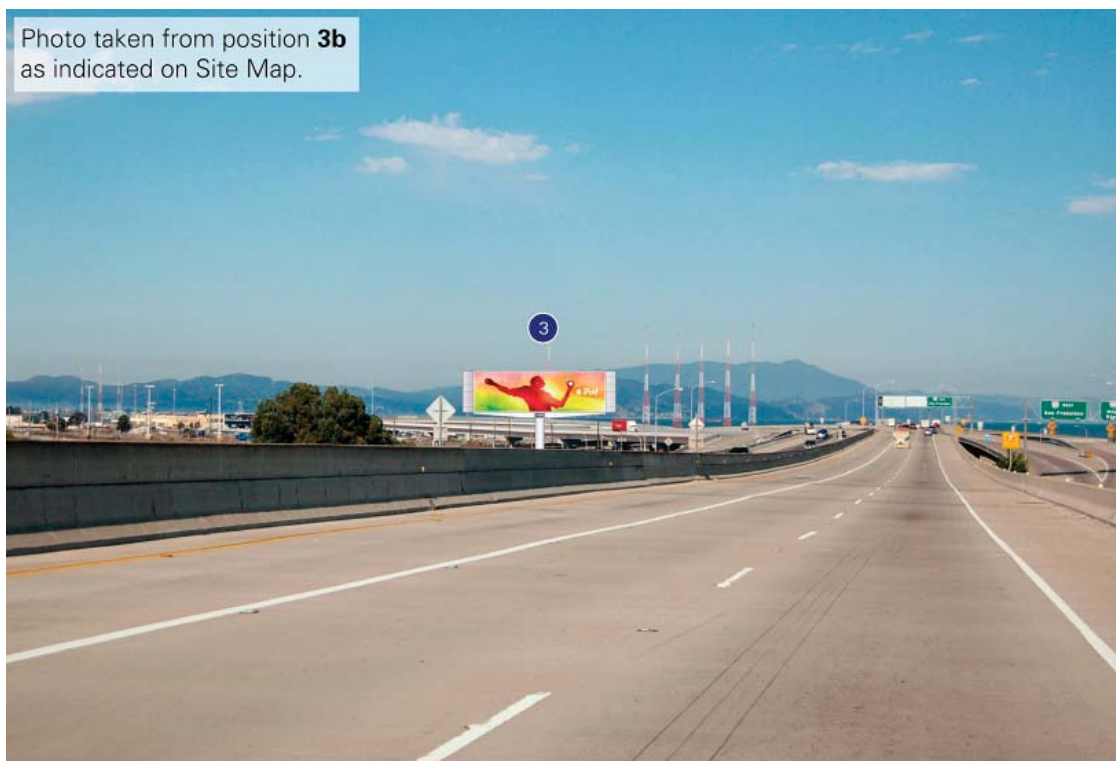


FIGURE 3.1-3f

Photo taken from position **4a**
as indicated on Site Map.

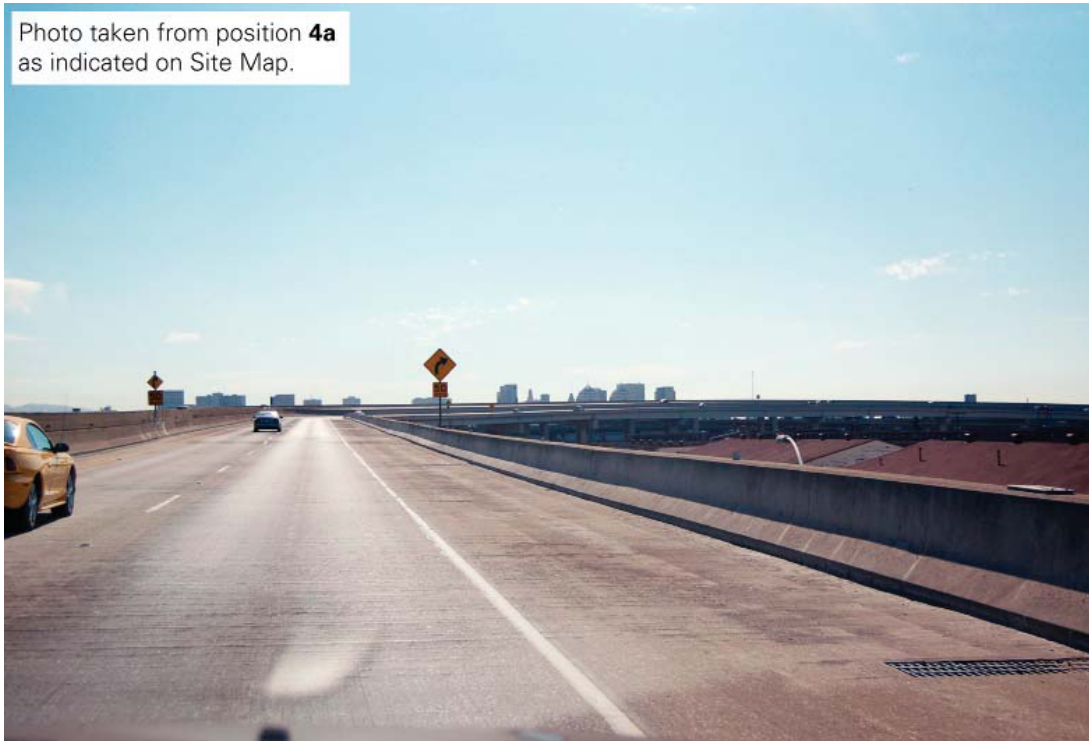


Photo taken from position **4a**
as indicated on Site Map.



FIGURE 3.1-3g

Photo taken from position **4b**
as indicated on Site Map.



Photo taken from position **4b**
as indicated on Site Map.

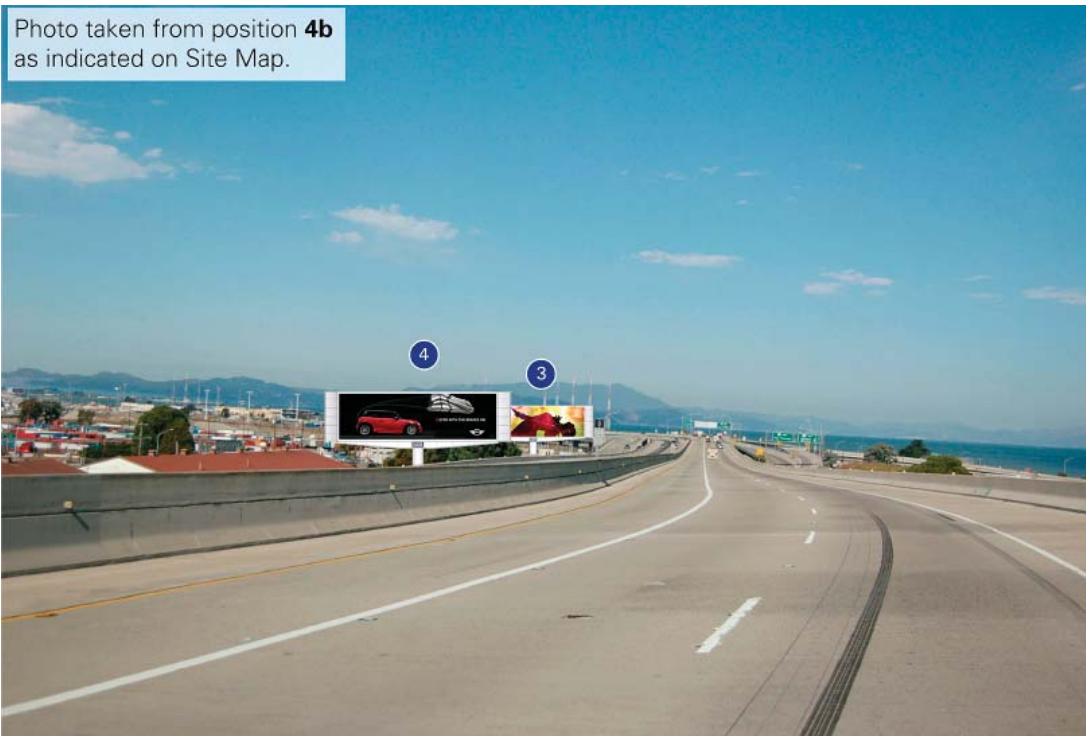


FIGURE 3.1-3h

Photo taken from position **5b**
as indicated on Site Map.



Photo taken from position **5b**
as indicated on Site Map.

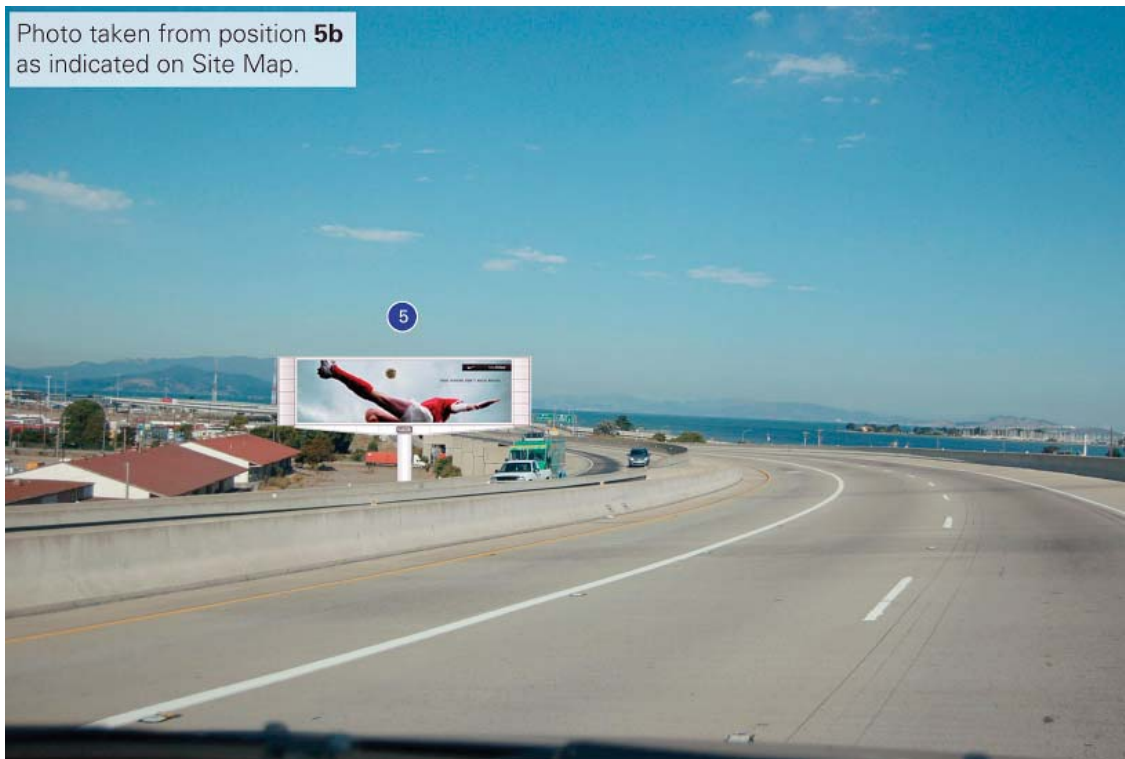


FIGURE 3.1-3i



FIGURE 3.1-3j

Photo taken from position **6b**
as indicated on Site Map.



Photo taken from position **6b**
as indicated on Site Map.

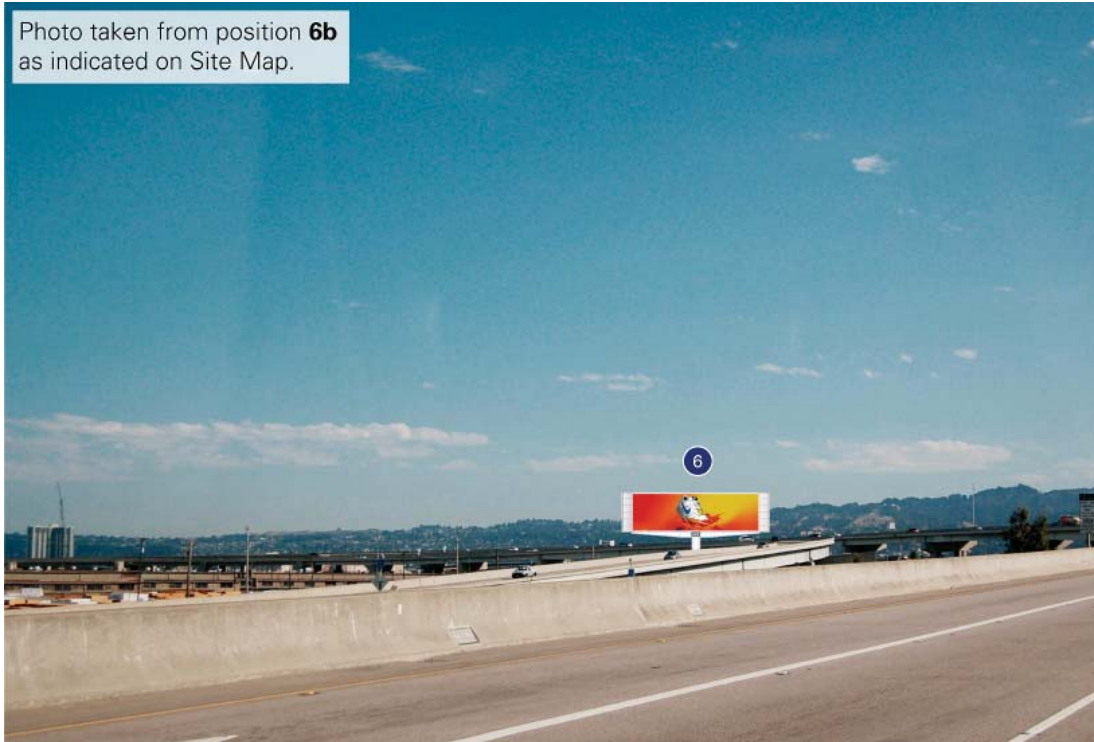


FIGURE 3.1-3k

Photo taken from position **7a**
as indicated on Site Map.



Photo taken from position **7a**
as indicated on Site Map.



FIGURE 3.1-31

Photo taken from position **8a**
as indicated on Site Map.

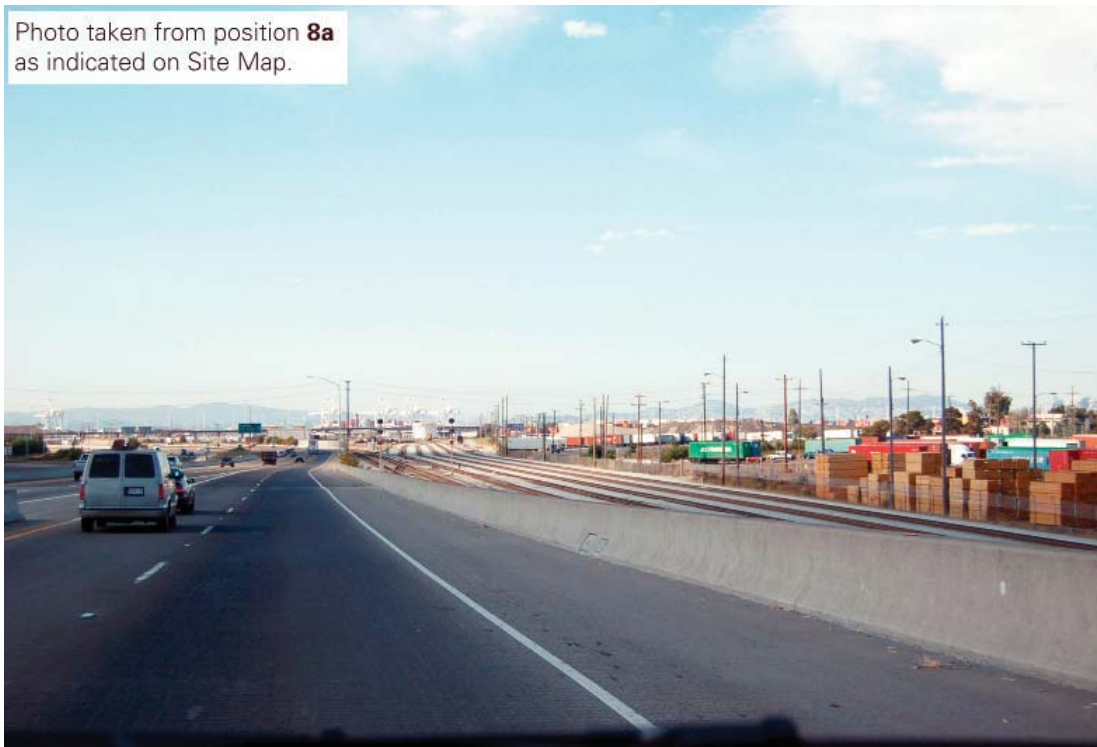


Photo taken from position **8a**
as indicated on Site Map.

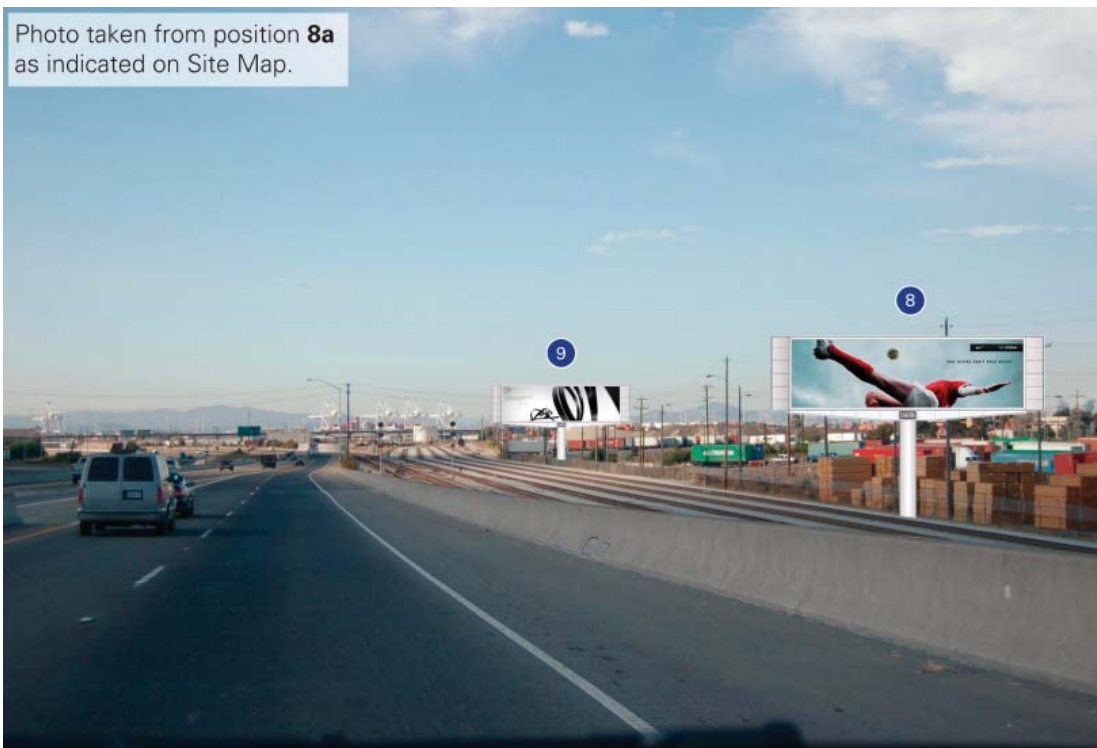


FIGURE 3.1-3m

Photo taken from position **8b**
as indicated on Site Map.

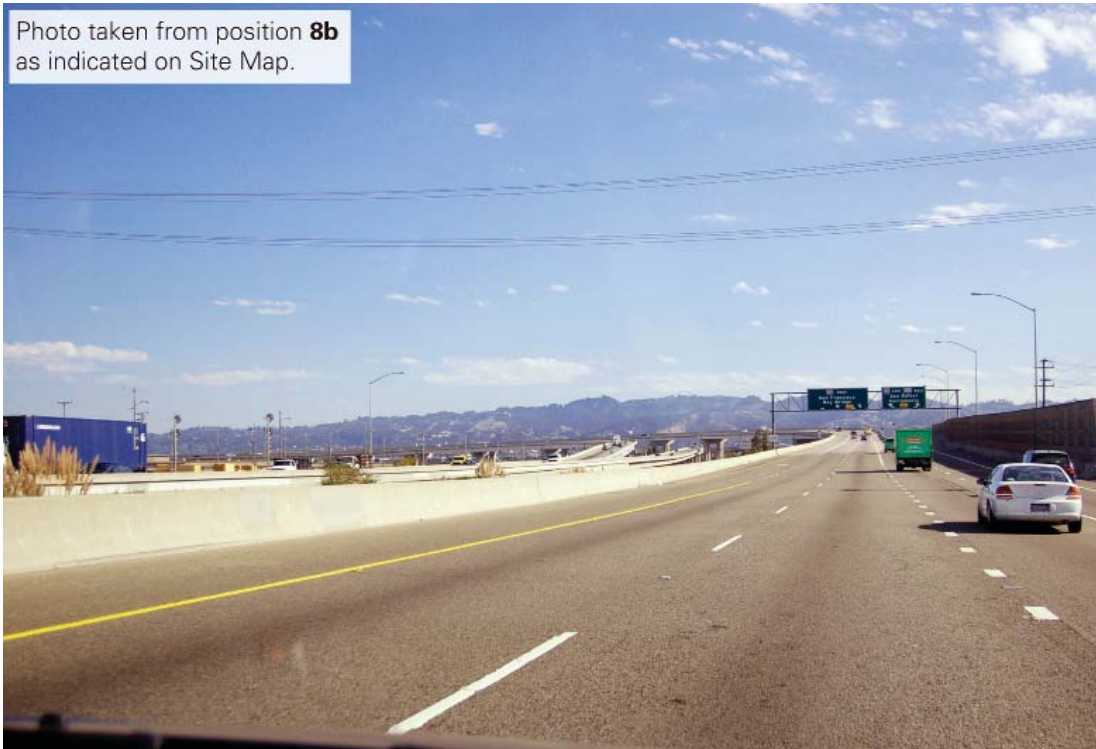


Photo taken from position **8b**
as indicated on Site Map.

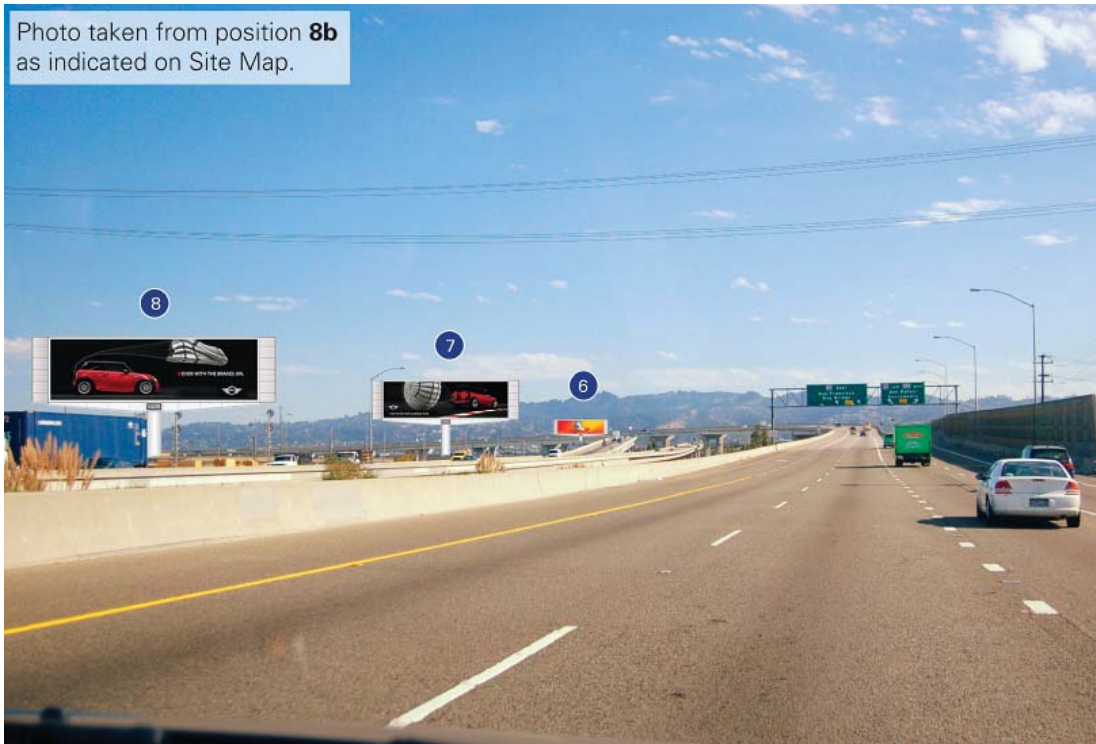


FIGURE 3.1-3n

Photo taken from position **9b**
as indicated on Site Map.



Photo taken from position **9b**
as indicated on Site Map.



FIGURE 3.1-3o

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MacArthur Freeway near Bay Bridge Toll Plaza Looking East

Figure 3.1-3a and Figure 3.1-3c (Viewpoint locations 1a and 2a, respectively) show a view of the eastbound portion of the MacArthur Freeway near the Bay Bridge Toll Plaza. The upper photographs show the view as it currently exists and the lower photographs show a view of the eastbound portion of the MacArthur Freeway with the proposed billboards (specifically Billboards 1 and 2) that would be constructed as part of the 2012 Project. Background views offer a panoramic view of the Oakland Hills and the Oakland central business district to the far right side. Middle ground views are of the elevated portion of the I-880/I-80/West Grand Avenue interchange, lighting and utility poles, the upper portions of warehouse-type buildings, freeway signs, median with fencing, and several ornamental trees and shrubs on the right side. The elevated portion of the I-880/I-80/West Grand Avenue interchange partially obstructs the panoramic view of the Oakland Hills for several seconds as one continues to travel eastbound on MacArthur Freeway. Foreground views are of vehicles traveling eastbound on MacArthur Freeway travel lanes. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground view. The billboard poles are wider than the lighting and utility poles but do not significantly obstruct the panoramic view of the Oakland Hills. The elevated billboards are above the panoramic view of the Oakland Hills, but as one travels further eastbound, the elevated Billboard 2 partially covers a very small portion of the panoramic view of the Oakland Hills for several seconds. As previously described, a portion of the elevated interchange also obstructs the view of the Oakland Hills. The proposed billboards do not obstruct panoramic views of the Oakland central business area from these viewpoint locations.

I-880/West Grand Avenue Interchange Looking East

Figure 3.1-3e and Figure 3.1-3g (Viewpoint locations 3a and 4a, respectively) show a view of the eastbound portion of the I-880/West Grand Avenue interchange. The upper photographs show the view as it currently exists and the lower photographs show a view of the eastbound portion of the I-880/West Grand Avenue interchange with the proposed billboards (specifically Billboards 3, 4, and 5) that would be constructed as part of the 2012 Project. Background views offer a panoramic view of the Oakland central business district. Middle ground views are of treetops, rooflines of buildings, freeway and street signs, and lighting and poles. Foreground views are of vehicles travelling eastbound on the I-880/West Grand Avenue interchange travel lanes, freeway median and dividers. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground and foreground views. The elevated billboards partially obstruct a portion of the panoramic view of the Oakland central business area from these viewpoint locations for several seconds.

I-880 South Looking Southwest

Figure 3.1-3j, Figure 3.1-3l, and Figure 3.1-3m (Viewpoint locations 6a, 7a, and 8a, respectively) show views of the southbound portion of I-880 transitioning from its elevated portion toward the street level. The upper photographs show the view as it currently exists and the lower photographs show a view of the southbound portion of I-880 transitioning from its elevated portion towards the street level with the proposed billboards (specifically Billboards 6, 7, 8, and 9) that would be constructed as part of the 2012 Project. Background views offer a panoramic view of the industrial maritime facilities (i.e., cranes) and the San Francisco hills. Middle ground views of the elevated portion of the I-880 are of the elevated portion of I-880 itself, maritime facilities underneath the

elevated portion, and a lighting pole. Middle ground views of the street level portion of I-880 are of the railyard and railroad tracks, shipping cargo containers, and lighting and utility poles to the right side. Foreground views are of vehicles travelling on the southbound I-880 travel lanes, freeway median, divider, and traffic sign. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground and foreground views. The elevated billboards partially obstruct portions of the panoramic views of the maritime facilities and San Francisco hills for several seconds if one looks to the right side from these viewpoint locations.

The 2012 Project would be visible from other locations than those selected viewpoints shown in the visual simulations for the proposed billboards (Figure 3.1-2). However, the farther viewers are from the project site, the smaller would be the portion of the total view of the project site and the proposed billboards from a public viewpoint (such as Yerba Buena Island, the Outer Harbor Entrance Channel, Alameda Island, and panoramic views from hillside locations) obscured by development in the project area, as compared to the area immediately adjacent to the project site. As a result, the proposed billboards would not have a significant impact on views of the Bay and Bay shoreline from hillside locations and urbanized flatlands. Therefore, development of the 2012 Project would have a less-than-significant impact on scenic vistas.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant impacts related to scenic vistas than were described in the 2002 EIR.

I-880 North Looking Northeast

Figure 3.1-3o, Figure 3.1-3n, and Figure 3.1-3k (Viewpoint locations 9b, 8b, and 6b, respectively) show views of the northbound portion of I-880 transitioning from the street level toward the elevated portion of the freeway. The upper photographs show the view as it currently exists and the lower photographs shows a view of the northbound portion of I-880 transitioning from the street level toward the elevated portion of the freeway with the proposed billboards (specifically Billboards 6, 7, 8, and 9) that would be constructed as part of the 2012 Project. Background views offer a panoramic view of the Oakland and Berkeley hills. Middle ground views are of the elevated portion of the I-880/West Grand Avenue interchange, lighting and utility poles, freeway signs, warehouse-type buildings, and shipping cargo containers. Foreground views are of vehicles travelling on the northbound I-880 travel lanes, and freeway median and divider. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground and foreground views. The elevated billboards partially obstruct portions of the panoramic views of the Oakland and Berkeley hills for several seconds if one looks to the left side from these viewpoint locations.

Elevated Portion of I-880 North Looking Northeast

Figure 3.1-3i, Figure 3.1-3h, and Figure 3.1-3f (Viewpoint locations 5b, 4b, and 3b, respectively) show views of the northbound portion of the elevated portion of I-880 towards the I-80/I-880 interchange. The upper photographs show the view as it currently exists and the lower photographs shows a view of the northbound portion of the elevated portion of I-880 with the proposed billboards (specifically Billboards 3, 4, and 5) that would be constructed as part of the 2012 Project. Background views offer a panoramic view of the Mount Tamalpais, Angel Island, the Emeryville marina area, and Bay waters. Middle ground views are of the elevated portion of I-880 itself, rooflines of buildings,

warehouse-type buildings, shipping cargo containers, lighting and utility poles, freeway signs, several treetops. Foreground views are of vehicles travelling on the northbound I-880 travel lanes, and freeway median and divider. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground and foreground views. The elevated billboards partially obstruct portions of the panoramic views of the Mount Tamalpais and Angel Island for several seconds if one looks to the left side from these viewpoint locations. Taken together, billboards 3, 4, and 5 constitute a series of three billboards that would sequentially block views towards the hills on the left side of the view for several seconds each.

I-880/West Grand Interchange Looking East

Figure 3.1-3b and Figure 3.1-3d (Viewpoint locations 1ba and 2b, respectively) show a view of the eastbound portion of the I-880/West Grand Avenue Interchange near the Bay Bridge Toll Plaza. The upper photographs show the view as it currently exists and the lower photographs shows a view of the eastbound portion of the I-880/West Grand Avenue Interchange with the proposed billboards (specifically Billboards 1 and 2) that would be constructed as part of the 2012 Project. Background views offer a partial panoramic view of the San Francisco skyline and Yerba Buena Island. Middle ground views are of industrial maritime facilities (i.e., cranes), utility and lighting poles, traffic sign, and the rear of a freeway sign. Foreground views are of vehicles travelling westbound on the I-880/West Grand Avenue interchange and of the eastbound travel lanes, median and divider. The lower photos show the proposed billboards, each elevated on top of a pole, appearing in the middle ground view. The billboard poles are wider than the lighting and utility poles but do not significantly obstruct any panoramic views. The elevated billboards are above the panoramic view of the San Francisco skyline and Yerba Buena Island and do not obstruct any panoramic views from these viewpoint locations.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: Less Than Significant (No New Impact)

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock, outcroppings, and historic buildings within a state or locally designated scenic highway?

As identified in the 2002 EIR, redevelopment of the OARB sub-district area would remove warehouse structures contributing to the OARB Historic District. The 2012 Project would deconstruct and remove buildings contributing to the OARB Historic District in order to accommodate the new construction and infrastructure. The contributing buildings have distinctive architectural elements, including rooflines with double eaves and clerestory windows. The warehouse buildings are not clearly visible from I-580, a State scenic highway. However, the buildings are visible from local roadways and I-80, a locally designated scenic route, and a portion of the State scenic highway system. As concluded in the 2002 EIR, development of the 2012 Project would eliminate visual

evidence of a specific period in the history of West Oakland military transportation, and this impact would be considered as a significant and unavoidable visual impact.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant impacts related to scenic resources than were described in the 2002 EIR.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: No Feasible Mitigation Measures Identified

2012 Mitigation: No Feasible Mitigation Measures Identified

Significance After Implementation: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The 2012 Project would deconstruct and remove existing buildings and construct new buildings, infrastructure, and public open space. As described in the 2002 EIR, redevelopment of the OARB sub-district area would alleviate existing visual blight, and would develop currently vacant parcels into modern land uses and replace outdated and/or visually derelict buildings with new and attractive buildings and associated landscaping appropriate to use. Consistent with General Plan Policy OS-9.3, the redevelopment of the project site would create a visually appealing gateway to the City of Oakland.

The construction of 9 billboards along the Bay Bridge Toll Plaza and I-880 (Refer to Criterion a and Figure 3.1-2 for more detail on views of the proposed billboards) as part of the 2012 project would not substantially degrade the existing visual character or quality of the site and its surroundings because views are toward the industrialized portion of the Bay and do not constitute important views or scenic vistas. In addition, the proposed billboards would only partially obstruct panoramic views of mountains, hills, Bay waters, and city skylines only for several seconds at a time.

In addition, as a result of additional nighttime operations lighting as part of the 2012 Project, changes to existing patterns of light or glare and nighttime views would be noticeable in currently vacant and undeveloped areas, such as the proposed open space area and southern portion of the project site. The proposed billboards that would be located near the I-80 Toll Plaza, along I-880 at West Grand Avenue, 12th 13th, and 15th Streets also would contribute to new exterior lighting in the project area. Because the project site is located in a highly industrialized area and, when viewed from a distance during daytime and nighttime, increased lighting on the site would generally blend with existing development (Refer to Criterion d below for more detail on light and glare impacts). Therefore, the new sources of lighting that would be generated from the 2012 Project would not substantially degrade the existing visual character or quality of the site and its surroundings.

The 2012 Project would improve, not degrade, the existing visual character of the site and its surroundings. The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any significant impacts related to visual character or quality than were described in the 2002 EIR.

2002 Impact: No Impact

2012 Impact: Less Than Significant

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: Less Than Significant (No New Impact)

d) Would the project create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?

As identified in the 2002 EIR, security and nighttime operations lighting are present throughout the OARB and Maritime sub-districts, and new development within the sub-districts would require additional nighttime illumination for security. The new lighting systems would alter existing patterns of light or glare and nighttime views across property boundaries. Changes to existing patterns of light or glare and nighttime views would be noticeable in currently vacant and undeveloped areas, such as the proposed open space area and southern portion of the project site. The 2012 Project also would include the construction of up to nine billboards in locations near the I-80 Toll Plaza, along I-880 at West Grand Avenue, 12th 13th, and 15th Streets. The proposed billboards also would contribute to new exterior lighting in the project area.

The project site is located in a highly industrialized area and, when viewed from a distance during daytime and nighttime, increased lighting on the site would generally blend with existing development. Particularly, daytime lighting would generally blend with existing light industrial uses within the project area, and nighttime lighting would blend with existing maritime operation lighting visible along the shoreline, as well as highway safety and roadway lighting and vehicle headlights visible along Maritime Street, the elevated portion of West Grand Avenue, and the I-880 and I-80 corridors.

The 2002 EIR concluded that implementation of Mitigation Measure 4.11-1 throughout the project area and Mitigation Measure 4.11-2 in natural areas, would reduce light and glare impacts to a less-than-significant level. Mitigation 4.11-1 would require new lighting to be designed to minimize off-site light spillage, and would prohibit “stadium” style lighting. Mitigation 4.11-2, would require that new lighting near or at the proposed Gateway Park be shielded to prevent light spillage into natural areas.

The proposed billboards along the eastern edge of the project site (billboards 7, 8, and 9) may create a new source of light in the residential area of West Oakland in proximity to the project site. However, these billboards would be separated from the residential areas by I-880, and existing buildings, fences and vegetation (including street trees), would reduce potential impacts associated with the new source of light. Certain residents currently have views over I-880 and are therefore likely to be able to see the billboards from their homes. However, these residents already have a substantial amount of ambient light from existing port-related activities in views toward the north in which the billboards

would be visible. Therefore the billboards will not likely create a substantial new source of light in these areas.

The 2012 Project would also be subject to Standard Condition of Approval SCA AES-1 and the Port of Oakland Exterior Lighting Policy. Standard Condition of Approval SCA AES-1 would require proposed light fixtures to be adequately shielded in order to prevent unnecessary glare onto adjacent properties and for the proposed lighting fixtures to be approved by the City's Planning and Zoning Division and Electrical Services Division. As a result, Mitigation Measure 4.11-2 is superseded with SCA AES-1 for the 2012 Project. The Port of Oakland Exterior Lighting Policy would require the project applicant to submit an exterior lighting plan which complies with mitigations specified in the policy for glare control and energy conservation prior to issuance of a Port of Oakland Building Permit. Additionally, the proposed billboards would be subject to the State's Outdoor Advertising Act, which requires the project applicant to obtain an Outdoor Advertising permit to Caltrans. Therefore, with implementation of the 2002 EIR mitigation measure and compliance with the City's Standard Condition of Approval, the Port's Exterior Lighting Policy, and the State's Outdoor Advertising Act, the 2012 Project would not create new sources of substantial light or glare that would adversely affect daytime or nighttime views in the surrounding area.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant impacts related to light and glare than were described in the 2002 EIR.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.11-1 and 4.11-2

2012 Mitigation: 2002 EIR Mitigation Measures 4.11-1 and 4.11-2, superseded by SCA AES-1

Significance After Implementation: Less Than Significant (No New Impact)

e) Would the project introduce structures or landscape that would not or in the future cast substantial shadow on existing solar collectors (in conflict with California Public Resources Code §§ 25980-25986), photovoltaic cells, or impair the function of a building using passive solar heat collection?

Currently, no active or passive solar collector systems are present on the project site. The 2012 Project would include the installation of solar photovoltaic (PV) panels on roof areas of the proposed warehouse buildings. New construction of other buildings on the project site would be of similar height (up to 60 feet) and would not likely cast shadows on the proposed solar PV system such that it would substantially affect the solar PV system's operation.

As identified in the 2002 EIR, new construction within the redevelopment program area that contains solar systems would be subject to Mitigation Measures 4.11-3, 4.11-4, and 4.11-5, which require: 1) new active or passive solar systems within or adjacent to the project area be set back from the property line a minimum of 25 feet; 2) design review to show the proposed structures would not substantially impair the operation of the solar systems; and 3) the City and Port to coordinate with respect to the design of new, permanent buildings constructed along the Port/Gateway boundary to minimize con-

flicts over solar access. Therefore, with implementation of these mitigation measures, the introduction of new structures and landscapes under the 2012 Project would not cast substantial shadows onto the proposed solar PV cells. Therefore, this impact would be considered less than significant.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant impacts related to shadows on solar collectors than were described in the 2002 EIR.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.11-3, 4.11-4, and 4.11-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.11-3, 4.11-4, and 4.11-5

Significance After Implementation: Less Than Significant (No New Impact)

f) Would the project cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space?

Currently, the project site is characterized by a complex of one to four-story warehouses and administration buildings, maintenance facilities, rail yards, and vacant land. The 2012 Project would include the construction of various single to multi-story building structures and facilities with building heights of up to 60 feet. Warehouse or research and development buildings and associated landscaping elements would be constructed adjacent to the proposed Gateway Park area on the northern portion of the project site along the Bay shoreline. The construction of the proposed buildings would not likely cast shadows on the proposed Gateway Park area such that it would substantially impair the beneficial use of the public open space.

As identified in the 2002 EIR, new construction adjacent to a public open space would be subject to Mitigation Measure 4.11-6, which requires design review to show that the proposed buildings would not substantially impair enjoyment of the public using the space. Therefore, with implementation of this mitigation measure, the introduction of new structures and landscapes under the 2012 Project would not cast substantial shadows to the proposed Gateway Park area. This impact would be considered less than significant.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant impacts related to shadows on public park or open space than were described in the 2002 EIR.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.11-6

2012 Mitigation: 2002 EIR Mitigation Measure 4.11-6

Significance After Implementation: Less Than Significant (No New Impact)

- g) Would the project cast shadow on a historic resource, as defined by California Environmental Quality Act Section 15064.5(a), such that it would substantially diminish/impair its eligibility for listing in the National Register of Historic Places, California Register of Historic Resources, or a local register of historical resources or a historical resource survey as defined by the PRC?**

The 2012 Project would deconstruct and remove buildings contributing to the OARB Historic District in order to accommodate the new construction and infrastructure. This condition constitutes a significant and unavoidable impact to cultural resources impact 4.6-2. Therefore, the 2012 Project would not cast shadows on a historic resource and as a result, no impact would occur.

2002 Impact: No Impact

2012 Impact: No Impact

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact (No New Impact)

- h) Would the project require an exception to the policies and regulation in the General Plan, Planning Code, or Uniform Building Code (UBC), and be inconsistent with policies and regulations in the General Plan, Planning Code, and UBC addressing the provision of adequate light related to appropriate uses?**

As identified in the 2002 EIR, redevelopment of the project site would not require an exception to the policies and regulations in the General Plan, Planning Code, or the International Building Code (IBC), which replaced the UBC, and would not be inconsistent with policies and regulations in the General Plan, Planning Code, or IBC addressing the provision of adequate light related to appropriate uses. Therefore, no impact would occur.

2002 Impact: No Impact

2012 Impact: No Impact

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact (No New Impact)

3.1.6 CUMULATIVE IMPACTS

The geographic scope for assessing the potential for cumulative aesthetics impacts consists of the City, surrounding jurisdictions, and the Bay. The Existing Conditions subsection above describes past, present, and foreseeable future conditions in these areas. The following discussion evaluates the potential for cumulative impacts.

The 2012 Project would alter views of the Bay and Bay shoreline from public locations such as Yerba Buena Island, the Oakland Outer Harbor, portions of the Bay Bridge, I-80, I-880, and West Grand Avenue. The 2012 Project would also provide new public Bay and Bay shoreline views from the proposed Gateway Park.

Implementation of the 2012 Project and cumulative development would result in visual changes to neighborhoods in Oakland associated with the intensification of already-developed parcels. Cumulative development, in combination with the 2012 Project, would continue to result in new buildings, and other structures such as billboards, of varying size and scale being developed on infill or vacant sites throughout the area. In general, these visual changes would not adversely affect the visual quality of Oakland as they would be subject to the City's design review process. The purpose of the design review process is to consider the design treatment and relationship to the surrounding built environment and to ensure no significant adverse aesthetic impacts would result. The redevelopment of the project site would create a more appealing maritime shoreline environment and improve linkages between the Port of Oakland and the City. Aesthetics-related policies of the City's General Plan would protect scenic resources and the visual quality of the City. These policies and the design review process are expected to enhance the quality of the visual environment in the City of Oakland over time, and similar policies and design review procedures would be implemented in surrounding cities, with similar expected effects. Therefore, the 2012 Project would not compromise scenic views, including views to the Bay and Bay shoreline.

Cumulative development in the City would generally be expected to increase nighttime lighting; however, the City and surrounding jurisdictions are located in an urban environment where nighttime lighting is appropriate to its context. Other cumulative projects within the City of Oakland would be subject to SCA AES-1. Therefore, the 2012 Project would not make a significant cumulative contribution to patterns of light and glare.

The 2012 Project includes redevelopment of the project site at a similar scale as the 2002 Project and would not result in any new impacts or a substantial increase in the previously identified significant impacts related to aesthetics than were described in the 2002 EIR. Implementation of previously imposed mitigation measures (Mitigation Measures 4.11-1 through 4.11-6), SCA AES-1, compliance with the Port of Oakland Exterior Lighting Policy, Caltrans permitting, the State's OAA, and the City's design review would ensure the 2012 Project would not make a significant cumulative contribution to aesthetics. Therefore, the 2012 Project would not result in or contribute to any significant cumulative aesthetics impacts.

3.1.7 CONCLUSIONS

Redevelopment of the Army Base would not result in significant new aesthetics impacts or a substantial increase in the severity of previously identified significant aesthetics impacts compared to the 2002 EIR. Therefore, impacts would be similar to those addressed in the 2002 EIR, and would continue to be less than significant, except for demolition of historic resources. Previously imposed mitigation measures from the 2002 EIR have been identified and, where appropriate, have been clarified, refined, revised, or deleted. No new mitigation measures are required.

3.1.8 REFERENCES

Oakland, City of, 1974. *Scenic Highways; Oakland Comprehensive Plan*. September.

Oakland, City of, 1996. *Open Space, Conservation, and Recreation; Oakland General Plan*. June.

Oakland, City of, 1998. *Land Use and Transportation Element; Oakland General Plan*. March.

3.2 AGRICULTURE AND FOREST RESOURCES

This section evaluates the potential agriculture and forest resources impacts of the 2012 Project. Agriculture and forest resources were not addressed in the 2002 EIR and are addressed herein. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not mitigation measures are required.

3.2.1 PRIOR ANALYSIS AND CONCLUSIONS

The 2002 EIR did not address agriculture and forest resources.

3.2.2 STANDARD CONDITIONS OF APPROVAL

There are no Standard Conditions of Approval relating to agriculture and forest resources that apply to this project.

3.2.3 UPDATED REGULATORY SETTING

As the 2002 EIR did not address agriculture and forest resources, there is no update to the regulatory setting. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

3.2.4 EXISTING CONDITIONS

The project site is located in an urban industrial setting. There are no areas of agricultural or forest use located within or in the vicinity of the project site.

3.2.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

The 2012 Project would have a significant impact on the environment if it would:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use;
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- d) Result in the loss of forest land or conversion of forest land to non-forest use; or

- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

These criteria are discussed below.

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use?

As described in the Land Use section of the 2002 EIR, the entire region under consideration is urbanized. There are no agricultural resources located on or near the project site. The site is classified as "Urban and Built-Up Land" by the State Department of Conservation.⁴⁰ Therefore, the 2012 Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use.

2002 Impact: 2002 EIR did not address agriculture and forest resources.

2012 Impact: No Impact

2002 Mitigation: 2002 EIR did not address agriculture and forest resources.

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site is zoned as Industrial General (IG) and Commercial Industrial Mix (CIX-1), and is not zoned for agricultural use. No part of the project area is under a Williamson Act contract.⁴¹ Therefore, the 2012 Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

2002 Impact: 2002 EIR did not address agriculture and forest resources.

2012 Impact: No Impact

2002 Mitigation: 2002 EIR did not address agriculture and forest resources.

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact

⁴⁰ California Department of Conservation, 2011. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Alameda County Important Farmland 2010* (map). Website: www.conservancy.ca.gov/dlrp/fmmp/Pages/Index.aspx (accessed August 29, 2011).

⁴¹ California Department of Conservation, 2010. *Alameda County Williamson Act Lands 2009* (map). Website: [ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Map%20and%20PDF/Alameda/AlamedaWA_09_10.pdf](http://ftp.consrv.ca.gov/pub/dlrp/wa/Map%20and%20PDF/Alameda/AlamedaWA_09_10.pdf) (accessed August 29, 2011).

- c) **Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

The project site is zoned as Industrial General (IG) and Commercial Industrial Mix (CIX-1), and is not zoned for forest land or timberland production. Therefore, implementation of the 2012 Project would not conflict with existing zoning for forest land or result in the rezoning of forest land or other land used for the production of timber.

2002 Impact: 2002 EIR did not address agriculture and forest resources.

2012 Impact: No Impact

2002 Mitigation: 2002 EIR did not address agriculture and forest resources.

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact

- d) **Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

The 2012 Project would result in the redevelopment of already-developed land in an urbanized area. Although a small number of trees are dispersed around the project site, these trees do not constitute forest land. Therefore, the 2012 Project would not result in the loss of forest land.

2002 Impact: 2002 EIR did not address agriculture and forest resources.

2012 Impact: No Impact

2002 Mitigation: 2002 EIR did not address agriculture and forest resources.

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact

- e) **Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

Implementation of the 2012 Project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

2002 Impact: 2002 EIR did not address agriculture and forest resources.

2012 Impact: No Impact

2002 Mitigation: 2002 EIR did not address agriculture and forest resources.

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact

3.2.6 CUMULATIVE IMPACTS

As noted above, the entire region is urbanized. The site is not used for agricultural production nor does it support forestry resources. Implementation of the 2012 Project would not result in any impacts to agriculture and forest resources; nor would the 2012 Project would not contribute to any cumulative agriculture and forest resources impact in the region.

3.2.7 CONCLUSIONS

As discussed above, there would be no impact to agriculture and forest resources and no mitigation measures are required. There are no changes in the project, change in circumstances, or new information that would result in new significant environmental effects on agriculture and forest resources, or a substantial increase in the severity of a previously identified significant environmental effect on agriculture and forest resources.

3.2.8 REFERENCES

California Department of Conservation, 2010. *Alameda County Williamson Act Lands 2009* (map).
Website: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Map%20and%20PDF/Alameda/Alameda_WA_09_10.pdf (accessed August 29, 2011).

California Department of Conservation, 2011. Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Alameda County Important Farmland 2010* (map).
Website: www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx (accessed August 29, 2011).

3.3 AIR QUALITY

This section evaluates the potential air quality impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant air quality impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant air quality impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

As previously stated in Chapter 1, Introduction, since information on the above mentioned air quality issues was known, or could have been known when the 2002 EIR was being prepared, it is not legally "new information" as specifically defined under CEQA. However, an analysis of the proposed 2012 Project relying on the previously recommended May 2011 BAAQMD *CEQA Guidelines*, and thresholds⁴², has nevertheless been conducted in order to provide more information to the public and decision makers, and in the interest of being conservative. Although the analysis in this Addendum evaluates air quality using both the 2002 EIR thresholds (based upon BAAQMD 1999 CEQA Thresholds) and the BAAQMD May 2011 *CEQA Guidelines* and Thresholds), significance determinations are based on the thresholds from the 2002 EIR. Nevertheless, the City will impose its Standard Conditions of Approval, revise/clarify previously approved mitigation measures from the 2002 EIR and impose other Recommended Measures (that are not legally required mitigation measures), as detailed below.

3.3.1 PRIOR ANALYSIS AND CONCLUSIONS

3.3.1.1 2002 EIR Impact Findings

The 2002 EIR concluded that the 2002 Project would have residual significant and unavoidable impacts related to diesel emissions construction equipment exhaust; diesel emissions from increased port and maritime operations and trucking activities; vehicle emissions from passenger vehicles and delivery trucks:

Impact 4.4-2: Construction Equipment and Diesel Emissions. The 2002 EIR concluded that construction equipment exhaust used on the project site could increase levels of NO_x, ROG, CO, and PM₁₀ that could exceed 15 tons per year, or result in substantial increase in diesel emissions.

Impact 4.4-3: Maritime and Rail Operations. The 2002 EIR concluded that increased Port maritime and rail operations, as well as trucking activities associated with redevelopment operations would emit NO_x, ROG, and PM₁₀ in excess of 15 tons per year or 80 pounds per day, substantially increase diesel emissions, and potentially expose pollution-sensitive receptors to substantial pollutant concentrations.

⁴² On March 5, 2012, the Alameda County Superior Court issued a Judgment invalidating the May 2011 BAAQMD Thresholds and BAAQMD recommends the Thresholds not be used. Nevertheless, in the absence of further technical guidance, the City is generally continuing to use the May 2011 BAAQMD Guidelines in its CEQA review.

Impact 4.4-4: Vehicle Emissions. The 2002 EIR concluded that passenger vehicles and delivery trucks associated with redevelopment would emit NO_x, ROG, CO, and PM₁₀ in excess of 15 tons per year or 80 pounds per day.

The 2002 EIR concluded potentially significant impacts related to fugitive dust and the routine operation and maintenance of buildings, which could be reduced to less-than significant levels:

Impact 4.4-1: Particulate Matter (PM) as Fugitive Dust. The 2002 EIR concluded that construction/remediation activities on the project site would have a potentially significant impact on the emission of PM as fugitive dust.

Impact 4.4-5: Operation of Buildings. The 2002 EIR concluded that space and water heating, as well as routine maintenance of buildings on the project site could emit NO_x, ROG, CO, and PM₁₀ in quantities that could exceed thresholds.

The 2002 EIR concluded that the 2002 Project would have less-than-significant impacts on odorous emissions:

Impact 4.4-6: Odors. The 2002 EIR concluded that the proximity of the New Intermodal Facility to West Oakland, and of the EBMUD Main wastewater treatment plant to the project site, could expose individuals to odorous emissions.

Cumulative Air Quality Impacts. The 2002 EIR concluded that the project would result in significance cumulative air quality impacts associated with emissions of NO_x, ROG, CO, PM₁₀, PM_{2.5} and diesel exhaust. This impact was considered significant and unavoidable.

3.3.1.2 2002 EIR Mitigation Measures

For the potentially significant impact related to emission of PM as fugitive dust, the 2002 EIR identified the following mitigation measure to reduce the impact to a less-than-significant level:

Mitigation Measure 4.4-1: Contractors shall implement all BAAQMD's "Basic" and Optional" PM₁₀ (fugitive dust) control measures at all sites, and all "Enhanced" control measures at sites greater than four acres. *(Note: This mitigation measure is superseded by SCA AIR-2.)*

For the potentially significant impact related to construction equipment and diesel emissions, the 2002 EIR identified the following mitigation measure; however, the residual impact is considered significant and unavoidable:

Mitigation Measure 4.4-2: Contractors shall implement exhaust control measures at all construction sites. *(Note: This mitigation measure is superseded by SCA AIR-2.)*

For significant impact related to maritime and rail operations, the 2002 EIR identified the following mitigation measures to reduce the impact; however, the residual impact is considered significant and unavoidable:

Mitigation Measure 4.4-3: The Port shall develop and implement a criteria pollutant reduction program aimed at reducing or off-setting Port-related emissions in West Oakland from its maritime and rail operations to less than significant levels, consistent with applicable federal, State, and local air quality standards. The program shall be sufficiently funded to strive to reduce emissions from redevelopment related contributors to local West Oakland air quality, and shall continually reexamine potential reduction toward achieving less than significant impacts as new technologies emerge. The adopted program shall define measureable reductions within specific time periods.

Mitigation Measure 4.4-4: The City and the Port shall jointly create, maintain, and fund on a fair share basis, a truck diesel emission reduction program. The program shall be sufficiently funded to strive to reduce redevelopment related contributions to local West Oakland diesel emissions to less than significant levels, consistent with applicable federal, State, and local air quality standards. The adopted program shall define measureable reduction within specific time periods.

For significant impact related to vehicle emissions, the 2002 EIR identified the following mitigation measure to reduce the impact; however, the residual impact is considered significant and unavoidable:

Mitigation Measure 4.4-5: Major developers⁴³ shall fund on a fair share basis BAAQMD –recommended feasible Transportation Control Measures (TCMs) for reducing vehicle emissions from commercial, institutional, and industrial operations, as well as all CAP TCMs the BAAQMD has identified as appropriate for local implementation.

For the potentially significant impact related to the operation of buildings, the 2002 EIR identified the following mitigation measure to reduce the impact to a less-than-significant level:

Mitigation Measure 4.4-6: Title 24 of the Uniform Building Code (UBC) requires that new construction include energy-conserving fixtures and designs. Additionally, the City and Port shall implement sustainable development policies and strategies related to new development design and construction.

For the significant impact related to cumulative air emissions, the 2002 EIR identified the following mitigation measure to reduce the impact; however, the residual impact is considered significant and unavoidable:

Mitigation Measure 5.4-1: The City and the Port shall encourage, lobby, and potentially participate in emission reduction demonstration projects that promote technological advances in improving air quality.

Such encouragement, lobbying and participation may include the following:

- Retrofitting locomotive engines to meet current federal standards.
- Using reduced sulfur fuels in ships while the ships are in the San Francisco Bay.

⁴³ Defined as City, Port, and private developers whose subsequent redevelopment activity would generate more than 20,000 square feet of employment-generating land uses, or that would generate 100 or greater local jobs.

- Treating NO_x with selective catalytic reductions.
- Implementing random roadside emissions tests and developing a system of fines for trucks not in compliance with emission regulations.
- Establishing emissions-based berthing fees.
- Buying relatively old, highly polluting cars to take them off the road.

3.3.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project's environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City's SCA serve to avoid or substantially reduce potentially significant impacts. The City's SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

SCA AIR-1: Construction Management Plan

Prior to issuance of a demolition, grading, or building permit

The project applicant shall submit to the Planning and Zoning Division and the Building Services Division for review and approval a construction management plan that identifies the conditions of approval and mitigation measures to construction impacts of the project and explains how the project applicant will comply with these construction-related conditions of approval and mitigation measures.

SCA AIR-2: Construction-Related Air Pollution Controls (Dust and Equipment Emissions)

Ongoing throughout demolition, grading, and/or construction

During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):

- a) Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- d) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- e) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
- f) Limit vehicle speeds on unpaved roads to 15 miles per hour.

- g) Idling times on all diesel-fueled commercial vehicles over 10,000 lbs. shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points.
- h) Idling times on all diesel-fueled off-road vehicles over 25 horsepower shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes and fleet operators must develop a written idling policy (as required by Title 13, Section 2449 of the California Code of Regulations.)
- i) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- j) Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the City and the BAAQMD shall also be visible. This information may be posted on other required on-site signage.
- k) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- l) All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.
- m) Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- n) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).
- o) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.
- p) Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.
- q) Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- r) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- s) All trucks and equipment, including tires, shall be washed off prior to leaving the site.
- t) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- u) Minimize the idling time of diesel-powered construction equipment to two minutes.
- v) All equipment to be used on the construction site and subject to the requirements of Title 13, Section 2449 of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") must meet Emissions and Performance Requirements one year in advance of any fleet deadlines. The project applicant shall provide written documentation that the fleet requirements have been met.
- w) Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).

SCA AIR-3: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)

Prior to issuance of a demolition, grading, or building permit

- A. Indoor Air Quality: In accordance with the recommendations of the California Air Resources Board (ARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The appropriate measures shall include **one** of the following methods:
- 1) The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the ARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.
 - 2) The applicant shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project.
 - a) Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other sources of air pollution (e.g., loading docks, parking lots).
 - b) Do not locate sensitive receptors near distribution center's entry and exit points.
 - c) Incorporate tiered plantings of trees (redwood, deodar cedar, live oak, and/or oleander) to the maximum extent feasible between the sources of pollution and the sensitive receptors.
 - d) Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.
 - e) Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the pollutant sources.
 - f) Install indoor air quality monitoring units in buildings.
 - g) Project applicant shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.
- B. Outdoor Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA TRANS-1: Parking and Transportation Demand Management

(Please refer to Section 3.16, Transportation/Traffic.)

3.3.3 UPDATED REGULATORY SETTING

Air quality within the Bay Area is addressed through the efforts of various federal, State, regional and local government agencies. The current regulatory setting, including the change in the regulatory setting since the preparation of the 2002 EIR, is summarized in this section.

3.3.3.1 Federal Air Quality Regulations

The federal government is continually updating and revising air quality regulations. The United States Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships and certain locomotives.

As part of its enforcement responsibilities, the U.S. EPA requires each State with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

Title III of the federal Clean Air Act Amendments required the U.S. EPA to promulgate national emissions standards for certain Toxic Air Contaminants (TACs). At first, the U.S. EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable, generally referred to as Maximum Achievable Control Technology (MACT) standards. Then the U.S. EPA developed health risk-based emissions standards necessary to address risks remaining after implementation of MACT. Consequently, performance criteria were established to limit mobile source emissions of certain TACs, including benzene, formaldehyde, and 1,3-butadiene.

Notable changes in federal air quality regulations that would affect the build out of the 2012 Project include cleaner fuel standards (e.g., ultra low sulfur diesel), diesel engine emission limits, and more stringent ozone, SO₂ and PM_{2.5} standards.

3.3.3.2 State Air Quality Regulations

Like the U.S. EPA, the California Air Resources Board (ARB) is continually updating and revising regulations. The California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, California ARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The California ARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588). AB 1807 sets procedures for the designation of TACs and control measures for sources that emit particular TACs. If there is a safe emission threshold for a substance, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must require all feasible control measures to minimize emissions. To date, none of the TACs identified under AB 1807 has a safe threshold. AB 2588 requires all

facilities emitting TACs above specified levels to prepare emission inventories and risk assessments (the latter, if TAC emissions are found to be significant), and then to notify the public of the any significant risk and implement necessary reduction measures.

In 2000, the California ARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled engines and vehicles. The goal of the Plan is to reduce diesel PM emissions and the associated health risk by 75 percent in 2010 and 85 percent by 2020 relative to year 2000 levels. Since 2002, ARB adopted several TAC control measures and established more stringent emission standards for various on-road vehicles and off-road diesel equipment, especially equipment and fuel related to seaports, in an effort to meet its goals. Over time, the replacement of older vehicles is expected to result in a vehicle fleet that emits substantially less of the associated TACs (i.e., diesel particulate matter (DPM), benzene, and 1,3-butadiene). Adopted regulations are also expected to reduce formaldehyde emissions from cars and light-duty trucks.

In 2005, the California ARB released an Air Quality and Land Use Handbook⁴⁴ which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The California ARB handbook recommends that planning agencies strongly consider the proximity of new developments to the sources listed in the Handbook when locating “sensitive” land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 1,000 feet of a major service and maintenance rail yard.
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries.
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet).
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The Handbook specifically states that these recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

3.3.3.3 Regional Air Quality Regulations

The BAAQMD is the primary agency responsible for comprehensive air pollution control in the San Francisco Bay Area Air Basin, including Alameda County. To that end, BAAQMD, a regional agency, works directly with the Association of Bay Area Governments (ABAG), the Metropolitan

⁴⁴ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

Transportation Commission (MTC), and local governments and cooperates actively with all federal and State government agencies. BAAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

In 2003, the California Legislature passed Senate Bill 656 (SB 656) to reduce public exposure to PM₁₀ and PM_{2.5}. SB 656 required the California ARB, in consultation with local air districts, to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures to reduce PM₁₀ and PM_{2.5}. In November 2005, BAAQMD adopted a Particulate Matter Implementation Strategy focusing on those measures most applicable and cost effective for the Bay Area.

BAAQMD is directly responsible for reducing emissions from stationary sources and for assuring that State controls on mobile sources are effectively implemented. It has responded to this requirement by preparing a sequence of Ozone Attainment Plans and Clean Air Plans that comply with the federal Clean Air Act and the California Clean Air Act to accommodate growth, reduce the pollutant levels in the Bay Area, meet federal and State ambient air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. The Ozone Attainment Plans are prepared to address the federal ozone standard and the Clean Air Plans are prepared to address the State ozone standard.

Although BAAQMD is responsible for regional air quality planning efforts, it does not have direct authority over plans formulated by other local agencies or governments, or over new development projects within the Bay Area.

Bay Area Clean Air Plan. The BAAQMD prepares plans to attain ambient air quality standards in the San Francisco Bay Area Air Basin. The BAAQMD prepares the Clean Air Plan (CAP) in coordination with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG). With respect to applicable air quality plans, the BAAQMD has adopted the *2010 Clean Air Plan* to address multiple pollutants in a single integrated plan. The purpose of the *2010 Clean Air Plan* is to:

1. Update the *Bay Area 2005 Ozone Strategy* in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone.
2. Provide control strategies to reduce ozone, particulate matter (PM, air toxics, and greenhouse gases in a single plan;
3. Review progress in improving air quality in recent years; and
4. Establish emission control measures to be adopted or implemented in the 2010 to 2012 timeframe.

BAAQMD CEQA Air Quality Guidelines and Thresholds. The most substantive changes in the air quality regulatory setting that have occurred since the 2002 EIR was certified involve the BAAQMD’s update of the 1999 CEQA Air Quality Guidelines in 2011. In May of 2011, the BAAQMD adopted the latest version of its Thresholds of Significance for use in determining the significance of projects’ environmental effects under CEQA (Thresholds), and published their latest version of *CEQA Guidelines* for consideration by lead agencies. The Thresholds lowered the previous

(1999) threshold of significance for annual emissions of Reactive Organic Gases (ROG), Nitrogen Oxides (NO_x) and particulate matter exhaust (PM₁₀), and set a standard for smaller particulates (PM_{2.5}) and fugitive dust. The 2011 *CEQA Guidelines* also include methodologies for evaluating risks and hazards for the siting of stationary sources and of sensitive receptors.⁴⁵

A summary of the 1999 and 2011 thresholds of significance for the various pollutants is presented in Table 3-3.1, and the thresholds applied in this analysis are indicated in this table.

According to the 1999 BAAQMD thresholds of significance for criteria pollutants and precursors, the project would result in a significant impact if operational emissions were to exceed the following thresholds: more than 80 pounds per day of ROG, NO_x or PM₁₀ (exhaust emissions only). The 1999 thresholds do not apply to construction emissions, although the 1999 BAAQMD Guidelines indicate that construction emissions are considered to be less than significant if BAAQMD-recommended dust and exhaust control measures are implemented. Although not applicable to this project, under the 2011 BAAQMD thresholds of significance for criteria pollutants and precursors, the project would result in a significant impact if construction-related or operational emissions were to exceed the following thresholds: more than 54 pounds per day of ROG, NO_x or PM_{2.5} (exhaust emissions only). In addition, the 2011 BAAQMD Thresholds for criteria pollutant emissions associated with project operation include the following: more than 10 tons per year of ROG, NO_x, or PM_{2.5} (exhaust emissions only), or 15 tons per year of PM₁₀ (exhaust emissions only). The 1999 thresholds which apply to this project are 15 tons per year of ROG, NO_x or PM₁₀.

The BAAQMD 1999 and 2011 TAC thresholds are both an increased cancer risk of more than 10 in 1 million for a person with maximum exposure potential and increased non-cancer risk of 1.0 Hazard Index (chronic or acute). The 2011 BAAQMD Thresholds also include the following additional criterion: not to exceed the annual average ambient PM_{2.5} concentration of 0.3 µg/m³. The 2011 BAAQMD Thresholds apply to construction emissions. The 2011 Thresholds also require a cumulative evaluation when siting a new source or receptor, and BAAQMD cumulative TAC thresholds for both construction-related and operational emissions (considering all sources within a 1,000 foot radius) are an increased cancer risk of more than 100 in 1 million for a person with maximum exposure potential, increased non-cancer risk of 1.0 Hazard Index chronic or acute), and increase in annual average ambient PM_{2.5} of more than 0.8 µg/m³.

⁴⁵ As previously stated the City will be using the 1999 Thresholds to determine significant impacts but will utilize the 2011 Guidelines to provide information related to 2011 Thresholds which are not applicable here.

Table 3.3-1: Summary of BAAQMD CEQA Significance Thresholds Applied in This Analysis

	1999 Construction-Related Thresholds of Significance ¹	2011 Construction-Related Thresholds of Significance	1999 Operational Thresholds of Significance		2011 Operational Thresholds of Significance		Thresholds Applied in this Analysis
			Maximum Daily Emissions (pounds/day)	Annual Emissions (tons/year)	Maximum Daily Emissions (pounds/day)	Annual Emissions (tons/year)	
Criteria Pollutants and Precursors (Regional)							
ROG	None	54	80	15	54	10	Construction: 1999 Thresholds Operational: 1999 Thresholds
NO _x	None	54	80	15	54	10	
PM ₁₀ (Particulate Matter Exhaust)	None	82	80	15	82	15	
PM _{2.5} (Particulate Matter Exhaust)	None	54	None	None	54	10	
PM ₁₀ /PM _{2.5} (Fugitive Dust)	None	Best Management Practices	None	None	None	None	Operational: 1999 Thresholds
Criteria Air Pollutants and Precursors (Local)							
CO	None	None	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)		9.0 ppm (8-hour average) 20.0 ppm (1-hour average)		Construction: None Operational: 1999/2011 Thresholds (Same)
Risks and Hazards							
Siting a New Source or Receptor (Individual Project)	None	Cancer Risk: >10 in a million Non-Cancer Hazard Index: >1.0 PM _{2.5} Level: >0.3 µg/m ³ annual average	Cancer Risk: >10 in a million Non-Cancer Hazard Index: >1.0		Cancer Risk: >10 in a million Non-Cancer Hazard Index: >1.0 PM _{2.5} Level: >0.3 µg/m ³ annual average		Construction: 1999 Thresholds Operational: 1999 Cancer Thresholds

Notes: While this Addendum evaluates the project's impact when compared to both the 1999 and 2011 BAAQMD CEQA significance thresholds, the thresholds applied in this analysis to determine impact significance are indicated in **bold** (1999 Thresholds).

¹ The 1999 BAAQMD CEQA Thresholds do not specify quantitative significance thresholds for construction-related emissions, but considers construction-related emissions to be a significant impact unless BAAQMD-recommended dust control measures are implemented during construction. While the impact analysis compares project impacts to both the 1999 non-quantitative threshold and 2011 threshold, the significance of project-related construction emissions is determined using the 1999 non-quantitative threshold.

Source: BAAQMD, 1999 and BAAQM, 2011.

3.3.3.4 Port of Oakland Maritime Air Quality Policy, Maritime Air Quality Improvement Plan, and Comprehensive Truck Management Program

On March 18, 2008, the Port's Board of Port Commissioners approved a Maritime Air Quality Policy Statement. The air quality policy sets a goal of an 85 percent reduction from 2005 to 2020 in neighboring-community cancer health risks related to exposure to diesel particulate matter emissions from the Port's maritime operations through all practicable and feasible means. In April of 2009, the Port adopted its Maritime Air Quality Improvement Plan (MAQIP) which includes air quality goals and policies that cover all seaport-related development and operations at the Port. It specifically includes initiatives, programs and projects for achieving a reduction in DPM and criteria pollutants through targeted emission reductions and enforcement of regulations.

Subsequently on June 16, 2009, the Board adopted the Maritime Comprehensive Truck Management Program (CTMP), a MAQIP program. The CTMP was developed to comprehensively address security, air quality, business and operations, and community issues related to trucking operations at the Port's maritime facilities. CTMP measures to reduce diesel particulate matter emissions include enacting a ban on older, more-polluting trucks (2009), providing grants for diesel exhaust retrofits (2009-2010), and supporting initiatives to reduce idling (on-going).

3.3.3.5 City of Oakland General Plan and Municipal Code

Local jurisdictions, such as the City of Oakland, have the authority and responsibility to reduce air pollution through their decision-making authority and policy enforcement. Specially, the City is responsible for assessing the potential for and mitigating air quality issues that result from its land use decisions.

City of Oakland General Plan. The Open Space Conservation and Recreation (OSCAR) element of the City of Oakland's General Plan includes the following policies related to air quality:

- Policy CO-12.1: Promote land use patterns and densities which help improve regional air quality conditions. The City supports efforts of the responsible public agencies to reduce air pollution.
- Policy CO-12.4: Require that development projects be designed in a manner which reduces potential adverse air quality impacts.
- Policy CO-12.5: Use of best available control technology. Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.
- Policy CO-12.6: Control of Dust Emissions. Require construction, demolition, and grading practices which minimize dust emissions.

City of Oakland Municipal Code. Pursuant to the City of Oakland Municipal Code, Title 15 Buildings and Construction, Chapter 15.36 Demolition Permits, 15.36.100 Dust Control Measures: 'Best Management Practices' shall be used throughout all phases of work, including suspension of work, to alleviate or prevent fugitive dust nuisance and the discharge of smoke or any other air contaminants into the atmosphere in such quantity as will violate any city or regional air pollution control rules, regulations, ordinances, or statutes. Water or dust palliatives or combinations of both shall be applied continuously and in sufficient quantity during the performance of work and at other times as required. Dust nuisance shall also be abated by cleaning and sweeping or other means as necessary. A dust control plan may be required as condition of permit issuance or at other times as may be deemed necessary to assure compliance with this section. Failure to control effectively or

abate fugitive dust nuisance or the discharge of smoke or any other air contaminants into the atmosphere may result in suspension or revocation of the permit, in addition to any other applicable enforcement actions or remedies.⁴⁶

3.3.4 EXISTING CONDITIONS

The 2012 Project is located in the City of Oakland within the San Francisco Bay Area, a large shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. The air basin also comprises all of San Francisco, Contra Costa, Marin, Napa, San Mateo, and Santa Clara Counties, the southern half of Sonoma County, and the southwestern portion of Solano County.

Ambient air quality is influenced by climatological conditions, topography, and the quantity and type of pollutants released in an area. The major determinants of transport and dilution of a given pollutant are wind, atmospheric stability (presence or absence of inversions) and terrain. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955.

3.3.4.1 Existing Air Quality Conditions

Air pollutant emissions within the Bay Area are generated by stationary, area-wide and mobile sources. Stationary sources are usually associated with specific large manufacturing and industrial facilities. Examples include fossil-fuel power plants or large industrial boilers. Area sources emit small amounts of pollutants individually, but there are often many of them, and the sum of their emissions amounts to a large total quantity. Examples of area sources include residential and commercial water heaters, painting/coating operations, power lawn mower use, farming, and consumer products such as barbeque lighter fluid and hair spray. Mobile sources include on-road motor vehicles, aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by natural sources such as wild fires.

3.3.4.2 Criteria Pollutants

A description of the criteria air pollutants, their sources and their health effects is provided in this section.

Ozone. Ozone (smog) is a pungent, colorless gas that is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. Ozone levels peak during the late spring, summer and early fall months.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where

⁴⁶ Oakland, City of, 2008. Ord. 12152 § 1, 1999.

it interferes with the transfer of oxygen to body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Nitrogen Oxides. Nitrogen dioxide (NO₂), a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_x. NO_x is a primary component of the photochemical smog reaction. Nitrogen oxides also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ is an air quality pollutant of concern because it acts as a respiratory irritant, decreases lung function and may reduce resistance to infection.

Reactive Organic Gases. Reactive organic gases (ROG) are formed from combustion of fuels and evaporation of organic solvents. Consequently, ROG accumulates in the atmosphere much quicker during the winter when sunlight is limited and photochemical reactions are slower. ROG is an ozone precursor and a prime component of the photochemical reaction that forms ozone; however, ROG is not considered a criteria pollutant on its own.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns, or PM₁₀. PM_{2.5} refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM₁₀ and PM_{2.5}. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces, and can enter the human body through the lungs.

Sulfur Dioxide. Sulfur dioxide (SO₂) is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead. Lead is a metal found in the natural environment, as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. In the past, mobile sources were the main contributor to ambient lead concentrations in the air. With the phase-out of lead in gasoline, other stationary sources, such as metal processing, are currently the primary source of lead emissions. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

3.3.4.3 Ambient Air Quality Standards

The federal and State governments have established ambient air quality standards. These standards are intended to protect the health of individuals most sensitive to a given pollutant's effects. The latest of these pollutant standards are listed in Table 3.3-2 below. The Bay Area's Attainment Status is shown in Table 3.3-3, while the known health effects are listed in Table 3.3-4.

Table 3.3-2: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e,i}	Secondary ^{c,f}	Method ^g
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	No Federal Standard	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM ₁₀)	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5})	24-Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.03 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³) (see footnote h)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 µg/m ³)		0.100 ppm (see footnote h)	None	
Lead ^j	Rolling 3-Month Average	—	Atomic Absorption	0.15 µg/m ³	Same as Primary Standard	High-Volume Sampler and Atomic Absorption
	30-day average	1.5 µg/m ³		—		
	Calendar Quarter	—		1.5 µg/m ³		
Sulfur Dioxide (SO ₂)	24-Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	—	—	Spectrophotometry (Pararosaniline Method)
	3-Hour	—		—	0.5 ppm (1300 µg/m ³) (see footnote i)	
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) (see footnote i)	—	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ^j	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Table notes on next page.

- ^a California standards for ozone, carbon monoxide (except in the Lake Tahoe air basin), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter – PM₁₀, PM_{2.5}, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ^b National standards (other than for ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current federal policies.
- ^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ^d Any equivalent procedure which can be shown to the satisfaction of the California ARB to give equivalent results at or near the level of the air quality standard may be used.
- ^e National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ^f National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ^g Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.
- ^h To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010). Note that the U.S. EPA standards are in units of parts per billion (ppb). California standards are in units of ppm. To directly compare the national standards to the California standards, the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
- ⁱ On June 2, 2010, the U.S. EPA established a new 1-hour SO₂ standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. U.S. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older parasaniline methods until the new FRM has adequately permeated State monitoring networks. The U.S. EPA also revoked both the existing 24-hour SO₂ standard of 0.14 ppm and the annual primary SO₂ standard of 0.30 ppm, effective August 23, 2010. The secondary SO₂ standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of ppb. California standards are in units of ppm. To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
- ^j The California ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California ARB, 2011.

Table 3.3-3: Bay Area Attainment Status

Pollutant	Averaging Time	California Standards ^a		National Standards ^b	
		Concentration	Attainment Status	Concentration ^c	Attainment Status
Ozone (O ₃)	8-Hour	0.07 ppm (137 µg/m ³)	Nonattainment ^h	0.075 ppm	Nonattainment ^d
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	Not Applicable ^e
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Attainment	9.0 ppm (10 mg/m ³)	Attainment ^f
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Mean	0.030 ppm (56 µg/m ³)	Attainment	0.053 ppm (100 µg/m ³)	Attainment
	1-Hour	0.18 ppm (338 µg/m ³)	Attainment	0.100 ppm	Unclassified
Suspended Particulate Matter (PM ₁₀)	Annual Mean	20 µg/m ³	Nonattainment ^g		
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
Suspended Particulate Matter (PM _{2.5})	Annual Mean	12 µg/m ³	Nonattainment ^g	15 µg/m ³	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³ ¹	Nonattainment
Sulfur Dioxide (SO ₂)	Annual Mean	Not Applicable	Not Applicable	0.03 ppm (80 µg/m ³)	Attainment
	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	Attainment
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	Not Applicable	Not Applicable

Notes:

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

^a California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM₁₀, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM₁₀ annual standard), then some measurements may be excluded. In particular, measurements are excluded that California ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

^b National standards other than for ozone, particulates and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 ppb) or less. The 24-hour PM₁₀ standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 g/m³. The 24-hour PM_{2.5} standard is attained when the 3-year average of 98th percentiles is less than 35 g/m³. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM₁₀ is met if the 3-year average falls below the standard at every site. The annual PM_{2.5} standard is met if the 3-year average of annual averages spatially-averaged across officially designed clusters of sites falls below the standard.

^c National air quality standards are set by EPA at levels determined to be protective of public health with an adequate margin of safety.

^d In June 2004, the Bay Area was designated as a marginal nonattainment area of the national 8- hour ozone standard. EPA lowered the national 8-hour ozone standard from 0.80 to 0.75 PPM (i.e. 75 ppb) effective May 27, 2008. EPA will issue final designations based upon the new 0.75 ppm ozone standard by March 2010.

^e The national 1-hour ozone standard was revoked by U.S. EPA on June 15, 2005.

^f In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.

Table notes continued on next page.

- ^g In June 2002, California ARB established new annual standards for PM_{2.5} and PM₁₀.
- ^h The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005 and became effective on May 17, 2006.
- ⁱ EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ in 2006. EPA issued attainment status designations for the 35 µg/m³ standard on December 22, 2008. EPA has designated the Bay Area as nonattainment for the 35 µg/m³ PM_{2.5} standard. The EPA designation will be effective 90 days after publication of the regulation in the Federal Register. President Obama has ordered a freeze on all pending federal rules; therefore, the effective date of the designation is unknown at this time.

Source: Bay Area Air Quality Management District, 2011. Bay Area Attainment Status.

Table 3.3-4: Health Effects of Air Pollutants

Pollutant	Health Effects	Examples of Sources
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none">• Reduced lung function• Aggravation of the effects of gaseous pollutants• Aggravation of respiratory and cardio respiratory diseases• Increased cough and chest discomfort• Soiling• Reduced visibility	<ul style="list-style-type: none">• Stationary combustion of solid fuels• Construction activities• Industrial processes• Atmospheric chemical reactions
Ozone (O ₃)	<ul style="list-style-type: none">• Breathing difficulties• Lung damage	<ul style="list-style-type: none">• Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
Carbon Monoxide (CO)	<ul style="list-style-type: none">• Chest pain in heart patients• Headaches, nausea• Reduced mental alertness• Death at very high levels	<ul style="list-style-type: none">• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Lead (Pb)	<ul style="list-style-type: none">• Organ damage• Neurological and reproductive disorders• High blood pressure	<ul style="list-style-type: none">• Metals processing• Fuel combustion• Waste disposal
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none">• Lung damage	<ul style="list-style-type: none">• See carbon monoxide sources
Toxic Air Contaminants	<ul style="list-style-type: none">• Cancer• Chronic eye, lung, or skin irritation• Neurological and reproductive disorders	<ul style="list-style-type: none">• Cars and trucks, especially diesels• Industrial sources such as chrome platers• Neighborhood businesses such as dry cleaners and service stations• Building materials and products

Source: California ARB and EPA, 2012.

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and California ARB to assess and classify the air quality of each regional air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and State standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration exceeds the standard, the area is classified as a “nonattainment” area. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

BAAQMD monitors criteria air pollutant concentrations at a number of monitoring stations throughout the Bay Area. The air quality in the Bay Area, including Oakland, has generally improved over the past

20 years, as motor vehicles have become cleaner, agricultural and residential burning has been curtailed, and consumer products containing ROG have been reformulated or replaced.

The U.S. EPA and the California ARB use different standards for determining whether the Bay Area is an attainment area. Under national standards, the Bay Area was designated as a marginal nonattainment area for ozone in 2004. The region is expected to also be considered as nonattainment when the U.S. EPA issues a final attainment designation based on the new 0.75 ppm 8-hour ozone standard, which is expected mid-2012. The Bay Area is designated nonattainment for PM_{2.5}. The Bay Area is in attainment or designated as unclassified for all other pollutants under national standards.

Under State standards, the Bay Area is designated as a nonattainment area for all standards for ozone, PM₁₀, and PM_{2.5} and an attainment area for all other pollutants. Review of ozone and particulate matter data for the monitoring stations in West Oakland and Oakland – 9925 International Blvd. shows that only one standard was exceeded from 2008 through 2010 which was the State annual standard for PM₁₀ in 2008. Air Quality monitoring data is reported in Table 3.3-5.

3.3.4.5 Toxic Air Contaminants

TACs are a regulatory designation that includes a diverse group of air pollutants which adversely affect human health. They are not fundamentally different from the criteria pollutants, but they have not had ambient air quality standards established for them for a variety of reasons (e.g., insufficient dose-response data, association with particular workplace exposures rather than general environmental exposure). The health effects of TACs can result from either acute or chronic exposure. Many types of cancer are associated with chronic TAC exposures, but TAC exposures can also cause other adverse health effects. Consequently, the BAAQMD has established both a cancer and a non-cancer health risk threshold to evaluate TAC emissions.

Significant sources of TACs in the environment include industrial processes, such as petroleum refining, chemical manufacturing, electric utilities, metal mining/refining and chrome plating; and commercial operations, gasoline stations, dry cleaners and buildings with boilers and/or emergency generators. Mobile sources are gasoline and diesel-powered vehicles of all types. The California ARB listed 10 compounds that pose the greatest known health risk in California. Based primarily on ambient air quality data, these are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and DPM.⁴⁷ Of these pollutants, only DPM could potentially be emitted from the Project in quantities greater than de minimis levels. Information on DPM is included below.

⁴⁷ California ARB, 2009. *The 2009 California Almanac of Emissions and Air Quality*. Sacramento, CA.

Table 3.3-5: Ambient Air Quality Data from the West Oakland Monitoring Station

Pollutant	Standard	2008	2009	2010
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)		3.0	5.0	3.0
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.63 ^a	1.96	1.69
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O₃)				
Maximum 1-hour concentration (ppm)		0.086 ^a	0.092 ^a	0.040
Number of days exceeded:	State: > 0.09 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.064 ^a	0.063 ^a	0.035
Number of days exceeded:	State: > 0.07 ppm	0	0	0
	Federal: > 0.08 ppm	0	0	0
Coarse Particulates (PM₁₀)				
Maximum 24-hour concentration (µg/m ³)		43.5 ^b	33.5 ^b	42.8 ^b
Number of days exceeded:	State: > 50 µg/m ³	0	0	0
	Federal: > 150 µg/m ³	0	0	0
Annual arithmetic average concentration (µg/m ³)		22.4 ^b	18.3 ^b	ND
Exceeded for the year:	State: > 20 µg/m ³	Yes	No	ND
	Federal: > 50 µg/m ³	No	No	ND
Fine Particulates (PM_{2.5})				
Maximum 24-hour concentration (µg/m ³)		30.1 ^a	27.9	35.2
Number of days exceeded:	Federal: > 35 µg/m ³	0	ND	ND
Annual arithmetic average concentration (µg/m ³)		9.5	ND	ND
Exceeded for the year:	State: > 12 µg/m ³	No	ND	ND
	Federal: > 15 µg/m ³	No	ND	ND
Nitrogen Dioxide (NO₂)				
Maximum 1-hour concentration (ppm)		0.070 ^a	0.057	0.069
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.015	0.016	0.016
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO₂)				
Maximum 24-hour concentration (ppm)		0.005 ^b	0.005	0.004
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0	ND	0
Exceeded for the year:	Federal: >0.030 ppm	No	ND	No

^a Monitoring results reported from the 9925 International Blvd in Oakland^b Monitoring results reported from 6th Street in Berkeley

ppm = parts per million

µg/m³ = micrograms per cubic meter

ND = No data. There was insufficient (or no) data to determine the value.

Source: California ARB, 2012.

Diesel Particulate Matter. DPM is found in engine exhaust and consists of a mixture of gases and fine particles (smoke or soot) that can penetrate deeply into the lungs where it can contribute to a range of health problems. In 1998, the California ARB identified particulate matter from diesel-

powered engines as a TAC based on its potential to cause cancer and other adverse health effects.⁴⁸ Diesel exhaust is a complex mixture that includes hundreds of individual constituents and is identified by the State of California as a known carcinogen.⁴⁹ However, under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole.⁵⁰

Based on receptor modeling techniques, the California ARB estimated the background DPM health risk in the Bay Area in 2000 to be approximately 500 cancer cases per million people. This reflects a drop of approximately 36 percent from estimates for 1990.⁵¹ In 2000, the California ARB approved a new regulation for existing heavy duty diesel vehicles that requires retrofitting and replacement of vehicles or their engines over time such that by 2023 all vehicles must have a 2010 model year engine or equivalent. This regulation is anticipated to result in an 85 percent decrease in statewide diesel health risk in 2020 from the 2000 risk levels.⁵²

California Air Resources Board West Oakland Health Risk Assessment. In March 2008, the California ARB working in cooperation with the Port of Oakland, Union Pacific (UP) Railroad, and the BAAQMD completed a study designed to help understand the potential health impacts from DPM emissions on residents of the West Oakland community. Key findings of the California ARB report were:

- DPM ambient concentrations in West Oakland are estimated to be nearly three times the background DPM concentrations averaged over the entire Bay Area.
- The estimated lifetime potential cancer risk for residents of West Oakland from exposure to all DPM emissions included in the study is estimated to be about 1,200 excess cancers per million. This estimate assumes residents are exposed to the estimated 2005 outdoor DPM levels continuously for 70 years. By way of comparison, the corresponding background risk from DPM emissions over the entire Bay Area is estimated to be 480 excess cancer cases per million, the corresponding background risk from emissions of all air toxics species in the Bay Area is 660 per million and the expected cancer rate from all causes, including smoking, is about 200,000 to 250,000 per million, according to the California ARB study.
- Of the total West Oakland DPM exposure risk noted above (1,186 per million from all sources), emissions from Port seaport operations contribute to 16 percent (192 per million), Union Pacific railyard sources contribute 4 percent (43 per million) and other sources in and around West Oakland contribute to the remaining 80 percent (951 per million).

At the time of the 2008 report, California ARB projections of future DPM emissions indicate that emissions and associated health risk would be reduced in West Oakland by about 80 percent by 2015, reflecting reductions achieved by State and federal regulations.

⁴⁸ California ARB, 1998. Initial Statement of Reasons for Rulemaking. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. June.

⁴⁹ California Environmental Protection Agency, 1998. *Findings of the Scientific Review Panel on The Report on Diesel Exhaust*, as adopted at the Panel's April 22, 1998 meeting. Office of Environmental Health Hazard Assessment.

⁵⁰ Ibid.

⁵¹ California ARB, 2009, op. cit.

⁵² California ARB, 2000. Stationary Source Division, Mobile Source Control Division. October.

BAAQMD CARE Program. Under the Community Air Risk Evaluation (CARE) program, BAAQMD began identifying areas with high TAC emissions and sensitive populations that could be affected by such emissions, and using this information to establish policies and programs to reduce TAC emissions and exposures. During Phase I of CARE, BAAQMD developed a preliminary Bay-Area-wide TAC emissions inventory (for the Year 2000) and compiled demographic and health-statistics data to identify sensitive populations. Five TACs (DPM, 1,3-butadiene, benzene, hexavalent chromium, and formaldehyde) were estimated to be responsible for about 97 percent of the Bay Area's cumulative cancer risk, and DPM alone accounts for about 80 percent of this cancer risk. Major sources of DPM include on-road and off-road heavy-duty diesel trucks and construction equipment. The highest DPM emissions occur in the urban core areas of eastern San Francisco, western Alameda, and northwestern Santa Clara Counties.

3.3.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

Based upon the 1999 BAAQMD Thresholds, the 2012 Project would have a significant impact on the environment if it would:

Project Impacts

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- c) Result in a cumulatively considerable net increase of any criteria air 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);
- d) Expose sensitive receptors to substantial pollutant concentrations;
- e) Frequently create substantial objectionable odors affecting a substantial number of people;
- f) Contribute to CO concentrations exceeding the State AAQS of 9 ppm averaged over 8 hours and 20 ppm for 1 hour;
- g) Result in total emissions of ROG, NO_x, or PM₁₀ of 15 tons per year or greater, or 80 pounds per day or greater;
- h) Result in potential to expose persons to substantial levels of Toxic Air Contaminants (TAC), such that the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million;
- i) Result in ground level concentrations of non-carcinogenic TACs such that the Hazard Index would be greater than for MEI; or
- j) Result in a substantial increase in diesel emissions

Cumulative Impacts

- k) Result in any individually significant impact; or
- l) Result in a fundamental conflict with the local general plan, when the general plan is consistent with the regional air quality plan. When the general plan fundamentally conflicts with the

regional air quality plan, then if the contribution of the proposed project is cumulatively considerable when analyzed the impact to air quality should be considered significant.

- m) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- n) Result in a cumulatively considerable net increase of any criteria air 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);

These criteria are discussed below.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The applicable air quality plan in 2002 was the BAAQMD's 2000 Clean Air Plan. Chapter 4, Consistency with Plans and Policies, of the 2002 EIR, briefly describes the Clean Air Plan, but does not directly state consistency with the CAP. This section does note that the 2002 Redevelopment Plan would not only be consistent with, but directly and positively achieve, the intent of several plans and policies, including the Oakland General Plan Land Use and Transportation Element and the Open Space, Conservation and Recreation Element.

The current air quality plan is the BAAQMD's 2010 Clean Air Plan, which was adopted on September 15, 2010, and is an update to the 2000 Clean Air Plan. The Clean Air Plan is a comprehensive plan to improve Bay Area air quality and protect public health. The Clean Air Plan defines a control strategy to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce greenhouse gas emissions to protect the climate. Consistency with the Clean Air Plan can be determined if the project does the following: 1) supports the goals of the Clean Air Plan; 2) includes applicable control measures from the Clean Air Plan; and 3) would not disrupt or hinder implementation of any control measures from the Clean Air Plan.

1) Does the project support the goals of the Clean Air Plan?

The primary goals of the 2010 Bay Area Clean Air Plan are to: attain air quality standards; reduce population exposure to air pollutants and protect public health in the Bay Area; and reduce greenhouse gas emissions and protect the climate.

The 1999 and 2011 BAAQMD Thresholds for project level operational impacts are set at a level at which the cumulative impact of exceeding these thresholds would have an adverse impact on the region's attainment of air quality standards. The health and hazards thresholds were established to help protect public health.

As discussed in the remainder of this section, consistent with impacts identified in 2002, the Project would result in significant construction and operational emission impacts and would increase the exposure of toxic air contaminants to nearby residences which would not support the goals of the

Clean Air Plan. However, overall the 2012 Project impacts would be less than those identified in the 2002 EIR.

2) Does the project include applicable control measures from the Clean Air Plan?

The control strategies of the 2010 Clean Air Plan include measures in the traditional categories of stationary source measures, mobile source measures, and transportation control measures. This latest Clean Air Plan identifies two new subcategories of control measures, including land use and local impact measures and energy and climate measures. Stationary source measures are not specifically applicable to the proposed project. The project's consistency with other measures in the 2010 Clean Air Plan is discussed below.

Transportation and Mobile Source Control Measures. The transportation control measures in the 2010 Clean Air Plan are designed to reduce emissions from motor vehicles by reducing vehicle trips and vehicle miles traveled (VMT) in addition to vehicle idling and traffic congestion. The 2012 Project would implement SCA AIR-2 which would require a transportation demand program that would reduce VMT associated with the project. The 2012 Project would not conflict with any of the Land Use and Local Impact Measures of the Bay Area 2010 Clean Air Plan

Land Use and Local Impact Measures. The BAAQMD's 2010 Clean Air Plan includes Land Use and Local Impacts Measures (LUMs) to achieve the following: promote mixed-use, compact development to reduce motor vehicle travel and emissions; and ensure that planned growth is focused in a way that protects people from exposure to air pollution from stationary and mobile sources of emissions. The Land Use and Local Impact Measures identified by the BAAQMD are not specifically applicable to the proposed project as they relate to actions the BAAQMD will take to reduce impacts from goods movement and health risks in affected communities. However, the project will comply with BAAQMD actions as future regulatory actions are taken by the District. Therefore, the project would not conflict with any of the Land Use and Local Impact Measures of the Bay Area 2010 Clean Air Plan.

Energy Measures. The BAAQMD's 2010 Clean Air Plan also includes Energy and Climate Control Measures (ECM), which are designed to reduce ambient concentrations of criteria pollutants and reduce emissions of CO₂. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production, reduce the "urban heat island" effect by increasing reflectivity of roofs and parking lots, and promote the planting of (low-VOC-emitting) trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants.

ECM-2, Renewable Energy, is intended to promote the incorporation of renewable energy sources into new development and foster innovative renewable energy projects through the provision of incentives to reduce energy consumption. This measure is not specifically applicable to the proposed project; however, the project would incorporate the use of photovoltaic panels for solar energy for approximately 20 percent of its energy use. Therefore, the project would not conflict with ECM-2.

3) Would the project disrupt or hinder implementation of any control measures from the Clean Air Plan?

As described above, the 2012 Project would implement applicable control measures and would therefore not disrupt or hinder implementation of any control measure from the Clean Air Plan.

- 2002 Impact:** Significant and Unavoidable
- 2012 Impact:** Potentially Significant
- 2002 Mitigation:** 2002 EIR Mitigation Measures 4.4-3, 4.4-4, and 4.4-5
- 2012 Mitigation:** 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-2
- Significance After Implementation:** Significant and Unavoidable (No New Impact and no substantial increase in severity of a previously identified significant impact)

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As shown in Table 3.3-3 above, the project is in a nonattainment area for ozone and particulate matter. Construction and operation of the project would result in the release of emissions that could contribute to these existing air quality violations. According to the BAAQMD 1999 Thresholds, a project that would result in emissions of ROG, NO_x, or PM₁₀ of 15 tons per year or greater, or 80 pounds per day or greater have the potential to contribute the substantially to existing or projected air quality violations.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Site preparation and project construction would involve demolition of the existing structures on the project site, clearing, Deep Dynamic Compaction (DDC) activities, import and surcharge of soil, grading, and building activities. Construction-related effects on air quality from the 2012 Project would be greatest during the site preparation phase because most engine emissions are associated with the DDC and the handling, and transport of soils on the site. If not properly controlled, these activities would temporarily generate PM₁₀, PM_{2.5}, and to a lesser extent, emissions of CO, SO₂, NO_x, and VOCs. Sources of fugitive dust would include disturbed soils at the construction sites and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction sites.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emis-

sions (PM₁₀). With the implementation of standard construction measures such as frequent watering (e.g., two times per day at a minimum), fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be limited to the construction period and the areas immediately surrounding the construction sites.

Construction emission estimates were not quantified as part of the 2002 EIR as it was not required at that time. For comparison purposes, construction emissions were estimated for the 2002 Project using emission rates roughly consistent with the development time frame that would have been assumed in 2002 and activity levels that would occur with the 2012 Project, the results of which are shown in Table 3.3-6.

Construction operations from the 2012 Project would be expected to be in general, similar to those which would have occurred under construction of the 2002 Project. Construction emissions for the 2012 Project are shown in Table 3.3-7. Construction equipment exhaust emissions have been drastically reduced since the California ARB approved a comprehensive Diesel Risk Reduction Plan in September 2000 which applies to all off-road construction vehicles resulting in substantially cleaner engines through more stringent emission standards.

Table 3.3-6: 2002 Project Construction Emissions (pounds/day)

Project Construction	ROG^a	CO	NO_x	Exhaust PM_{2.5}	Fugitive Dust PM_{2.5}	Total PM_{2.5}^b	Exhaust PM₁₀	Fugitive Dust PM₁₀	Total PM₁₀^b
Average Daily On-Site Emissions ^c	54.0	179.3	438.1	20.2	NA	20.5	22.0	NA	22.8
Average Daily Off-Site Emissions ^c	12.2	66.4	178.8	5.7	NA	6.1	6.1	NA	7.0
Total Emissions	66.2	245.7	616.9	25.9	NA	26.6	28.1	NA	29.8
2002 Thresholds	BMP	BMP	BMP	BMP	BMP	BMP	BMP	BMP	BMP
2011 Thresholds	54.0	NA	54.0	54.0	BMP	NA	82.0	BMP	NA

^a ROG emissions include exhaust ROG from all sources and evaporative running loss ROG from employee commute vehicles (modeled as light-duty cars)

^b Total PM₁₀ and PM_{2.5} include exhaust PM from all sources and tire wear and brake wear from on-road vehicles; road dust and fugitive dust are not evaluated and not included in the total

^c Average daily emissions are defined as total emissions over entire period of construction (2002-2010) divided by the number of days within this period

BMP = Best Management Practices

Source: ENVIRON, 2012.

Table 3.3-7: 2012 Project Construction Emissions (Pounds/Day)

Project Construction	ROG ^a	CO	NO_x	Exhaust PM_{2.5}	Fugitive Dust PM_{2.5}	Total PM_{2.5} ^b	Exhaust PM₁₀	Fugitive Dust PM₁₀	Total PM₁₀ ^b
Average Daily On-site Emissions ^c	15.1	75.3	198.6	5.3	NA	5.6	5.7	NA	6.6
Average Daily Off-site Emissions ^c	8.8	31.8	100.2	3.6	NA	3.9	3.7	NA	4.6
Total Emissions	23.9	107.1	298.8	8.9	NA	9.5	9.4	NA	11.2
2002 Thresholds	BMP	BMP	BMP	BMP	BMP	BMP	BMP	BMP	BMP
2011 Thresholds	54.0	NA	54.0	54.0	BMP	NA	82.0	BMP	NA

^a ROG emissions include exhaust ROG from all sources and evaporative running loss ROG from employee commute vehicles (modeled as light-duty cars)

^b Total PM₁₀ and PM_{2.5} include exhaust PM from all sources and tire wear and brake wear from on-road vehicles; road dust and fugitive dust are not evaluated and not included in the total

^c Average daily emissions are defined as total emissions over entire period of construction (July 2012 through December 2019) divided by the number of days within this period

BMP = Best Management Practices

Source: ENVIRON, 2012

The 1999 BAAQMD Guidelines do not contain quantitative construction thresholds. Under the 1999 Guidelines, BAAQMD considers construction-related dust emissions from all construction projects to be potentially significant, but mitigated to a less-than-significant level if BAAQMD-recommended dust controls are implemented. Implementation of the City's SCA AIR-2, which is consistent with BAAQMD currently recommended construction measures, are more stringent than those recommended in the 1999 Guidelines and would further reduce construction emissions by minimizing idling time of equipment. Additionally, all construction equipment, diesel trucks, and generators would be equipped with Best Available Control Technology for emission reductions of NO_x and PM.

Therefore, implementation of the project would not result in a significant impact related to construction criteria pollutant emissions.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.4-1 and 4.4-2

2012 Mitigation: SCA AIR-1 and SCA AIR-2, which supersede 2002 EIR Mitigation Measures 4.4-1 and 4.4-2

Significance After Implementation: Less Than Significant (No New Impact)

Operation Emissions

Operation of the 2012 Project would include a Trade and Logistics Center that combines a Port of Oakland development program and a City of Oakland development program for the construction of new buildings (such as warehouse and distribution facilities) primarily to support cargo logistics uses. The 2012 Project would also implement the infrastructure necessary to support the project including a

new rail yard, roadway and railroad improvements as well as water, sewer, storm drainage, telecommunications, security, gas, electrical and other utility improvements.

The 2012 Project would not result in any new or more significant operational air quality impacts. As discussed in the 2002 EIR, in addition to passenger and delivery trucks, the proposed project would generate operational emissions from maritime and rail operations, transport trucks, and space and water heating. The 2002 EIR quantified project emissions as shown in Table 3.3-8. The 2012 Project would generate less ROG, NO_x, PM₁₀ and PM_{2.5} emissions than identified in 2002 as shown in Table 3.3-8.

Table 3.3-8: 2002 EIR and 2012 Project Regional Emissions in Tons Per Year

	Reactive Organic Gases	Nitrogen Oxides	PM ₁₀	PM _{2.5}
2002 EIR Operational Emissions(tons/year)^a				
Port Development Area				
Trains	2	29	1	1
Railyard Equipment	6	55	3	3
Transport Trucks ^b	5	32	1	1
Cars/Delivery Trucks	17	10	1	1
Gateway Development Area				
Cars/Delivery Trucks	92	51	8	8
Transport Trucks	0	2	0	0
Less 1995 Alternative Baseline Emissions^c	21	12	2	2
Total 2002 Project Emissions	101	167	12	12
Proposed 2012 Project (Variant A – Working Waterfront) Operational Emissions (tons/year)				
Marine Cargo Handling Equipment	0.0	0.4	0.0	0.0
Ships				
Hotelling	0.0	1.0	0.0	0.0
Maneuvering	0.3	2.1	0.0	0.0
Cruising	1.6	33.9	0.5	0.5
Assist Tugs				
Assisting	0.1	2.2	0.0	0.0
Transiting	0.1	1.6	0.0	0.0
Trains (Linehaul and Switchers)	2.2	36.0	0.7	0.6
Transport Trucks	8.9	72.1	1.0	0.6
Passenger Vehicles	4.7	8.7	0.5	0.4
Recyclers	0.0	0.5	0.1	0.1
Operational Emissions Subtotal^d	18.1	161.1	2.8	2.7
Less 1995 Alternative Baseline Emissions	21	12	2	2
Total Operational Emissions^c	-3.1	146.5	0.8	0.7
1999 BAAQMD Significance Threshold	10	10	10	NA
2011 BAAQMD Significance Threshold	10	10	15	10
Proposed 2012 Project (Variant B – Research and Development) Operational Emissions (tons/year)				
Trains (Linehaul and Switchers)	2.2	36.0	0.7	0.6
Transport Trucks	8.9	72.1	1.0	1.5
Passenger Vehicles	5.2	9.4	0.5	0.4
Recyclers	0.0	0.5	0.1	0.1
Operational Emissions Subtotal	16.3	118	2.3	2.6
Less 1995 Alternative Baseline Emissions^c	21	12	2	2
Total Operational Emissions^c	-4.7	106	0.3	0.6
1999 BAAQMD Significance Threshold	10	10	10	NA
2011 BAAQMD Significance Threshold	10	10	15	10

Table notes on next page.

- ^a Emissions are based on the calculations prepared for the 2002 EIR prepared by URS for the geographic area representing the proposed project.
- ^b Transport truck emissions include only the distance traveled on-site
- ^c 1995 Alternative Baseline Emissions are for the disposal and reuse of the OARB calculated by Corps in 2001.
- ^d Operational emissions do not include refrigerated generator sets.
- ^e Alternative Baseline Emissions were calculated in 2001 using emission factors from mobile sources current at the time. 2012 Project emissions were calculated for opening year of the Project (2020) using current emission factors which account for emission reductions due to increased regulatory requirements for mobile sources. Therefore, as shown in this table, total Project operational emissions result in no net increase in reactive organic gas emissions.

Source: ENVIRON, 2012 and LSA Associates, Inc.

Implementation of SCA AIR-2 would contribute to a reduction in operational emissions through the development of a TDM plan containing strategies to reduce on-site parking demand and single occupant vehicle travel.

However, even with implementation of the 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, consistent with the findings of the 2002 EIR, daily and annual emissions of NO_x would be significant and unavoidable which would contribute substantially to the existing and any future ozone air quality violations. Impacts related to ROG (when the 1995 alternative baseline adjustment is accounted for) and PM₁₀ would be reduced to a less than significant level with implementation of the 2012 Project. However, all criteria pollutants are lower with any variant of the 2012 Project as compared to the 2002 Project.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, and 4.4-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-2

Significance After Implementation: Significant and Unavoidable (No New Impact and no substantial increase in severity of a previously identified significant impact)

- c) Would the project result in a cumulatively considerable net increase of any criteria air 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)?**

According to the 1999 and 2011 guidance from the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Therefore, if daily average or annual emissions of operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the 2012 Project would result in a cumulatively significant impact.

As identified in the 2002 EIR, the proposed project would exceed the significance thresholds at the individual level and therefore, the proposed project would also contribute to any cumulatively significant air pollution impact. Implementation of the mitigation measures outlined in the 2002 EIR and implementation of the City's Standard Conditions of Approval would reduce these impacts; however, as identified in the 2002 EIR, cumulative impacts would remain significant and unavoidable.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, and 4.4-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5, 4.4-6 and 5.4-1, supplemented with SCA AIR-2

Significance After Implementation: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

d) Would the project expose sensitive receptors to substantial pollutant concentrations?

As identified in the 2002 EIR, construction of the 2002 Project would result in a substantial increase in diesel emissions which would expose sensitive receptors to substantial levels of TACs. The 2012 Project would not result in any new or more significant health risk impacts than were identified in the 2002 EIR. The 2012 Project would be subject to today's more stringent on-road and off-road diesel equipment emission regulations which reduce health risk impacts substantially over those that would have occurred in 2002. Nevertheless, this impact would remain significant and unavoidable.

The 2002 EIR concluded that, even after mitigation, the operational health risk impact of the 2002 Project due to exposure of sensitive receptors to substantial concentrations of TACs would be significant and unavoidable. The operational health risk assessment prepared in the 2002 Final EIR estimated excess lifetime cancer risks of 80 in one million at the project boundary and 10 in one million in West Oakland.

Results of the 2012 Project operational health risk assessment are discussed under criterion h) below. Results indicate that the maximum excess lifetime cancer risk estimated for the proposed project would be less than the maximum risk levels for the 2002 Project under both 2002 analysis standards and 2012 analysis standards at most receptor locations. The 2012 Project would result in lower pollutant concentrations when compared with the impacts of the 2002 Project. However, even with implementation of mitigation measures and the City's Standard Conditions of Approval, implementation of the 2012 Project would have a significant and unavoidable impact related to the exposure of sensitive receptors to substantial toxic air contaminants.

- 2002 Impact:** Significant and Unavoidable
- 2012 Impact:** Potentially Significant
- 2002 Mitigation:** EIR Mitigation Measures 4.4-2, 4.4-3, 4.4-4, 4.4-5 and 4.4-6
- 2012 Mitigation:** 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-1, SCA AIR-2, and SCA AIR-3, which supersede 2002 EIR Mitigation Measures 4.4-1 and 4.4-2.
- Significance After Implementation:** Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

e) Would the project frequently create substantial objectionable odors affecting a substantial number of people?

The 2002 EIR identified the proximity of the East Bay Municipal Utility District's Main Waste Water Treatment Plan (MWWTP) to the OARB sub-district as a potentially significant odor impact for future employees of the project site. However, the EIR concluded that this impact would be less than significant. Consistent with the 2002 EIR, exposure to odors associated with the project are not expected to be significant. Additionally, current City guidelines do not consider employees as odor sensitive receptors.

Diesel exhaust odors associated with the project would be expected to dissipate quickly and therefore, consistent with the 2002 EIR, odors associated with the 2012 Project would not be significant.

- 2002 Impact:** Less Than Significant
- 2012 Impact:** Less Than Significant
- 2002 Mitigation:** No Mitigation Warranted
- 2012 Mitigation:** No Mitigation Warranted
- Significance After Implementation:** Less Than Significant (No New Impact)

f) Would the project contribute to CO concentrations exceeding the State AAQS of 9 ppm averaged over 8 hours and 20 ppm for 1 hour?

Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the CAAQS or NAAQS for CO have been recorded at nearby monitoring stations since 1991. As a result of the lower monitored ambient CO air pollution levels, the BAAQMD revised their conservative CO screening methodology which provides an indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's 2011 *CEQA Guidelines*, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- 1) The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- 2) Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- 3) The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

As this methodology was developed based on the latest monitoring data and latest emission technology, this screening methodology would apply to a project evaluated under either the 1999 Thresholds or 2011 Thresholds.

The project site is not located in an area where vertical or horizontal mixing is substantially limited. Traffic volumes on roadways in the vicinity of the project site are less than 44,000 vehicles per hour and the 2012 Project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour and would not result in localized CO concentrations that exceed State or federal standards. The 2012 Project would however cause the level of service to significantly deteriorate even with mitigation at one intersection and therefore would conservatively conflict with the local congestion management plan even though the overall CMP network operations improve with the 2002 Project as compared to 2002.

The project would result in an unavoidable deterioration of LOS standards at one intersection in the project vicinity, therefore additional analysis beyond the screening methodology is required. A CO hot-spot analysis using CALINE4 was conducted for this intersection to determine if air quality standards would be exceeded, the results of which are shown in Table 3.3-9.

Table 3.3-9: CO Concentrations at Study Area Intersections with the Project

Intersection	1-Hour CO Concentration	8-Hour CO Concentration	Exceeds State Standards?	
			1-Hour (20 ppm)	8-Hour (9 ppm)
Year 2020: Frontage and W. Grand	4.3	3.0	No	No
Year 2035: Frontage and W. Grand	4.6	3.3	No	No

Source: LSA Associates, Inc., 2012

As shown in Table 3.3-9 above, the study intersection that significantly deteriorates with implementation of the project would not exceed State or federal CO standards. Therefore, the project would not contribute to CO concentrations exceeding the State AAQS of 9 ppm averaged over 8 hours and 20 ppm for 1 hour.

2002 Impact: Significant and Unavoidable

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.4-4

2012 Mitigation: None Required

Significance After Implementation: Less Than Significant (No New Impact)

- g) Would the project result in total emissions of ROG, NO_x, or PM₁₀ of 15 tons per year or greater, or 80 pounds per day or greater?** *[For informational purposes, the 2011 update to this threshold is: Would project operation result in average daily emissions of 54 pounds per day of ROG, NO_x, or PM_{2.5} or 82 pounds per day of PM₁₀; or result in maximum annual emissions of 10 tons per year of ROG, NO_x, or PM_{2.5} or 15 pounds per day of PM₁₀.]*

As described in Section b) above, results of operational air emissions modeling indicate as shown in Table 3.3-8, that the 2012 Project would result in total emissions of NO_x greater than 10 tons per year. Therefore, consistent with the findings of the 2002 EIR, even with implementation of the 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, daily and annual emissions of NO_x would be significant and unavoidable. Impacts related to ROG (when the 1995 alternative baseline adjustment is accounted for) and PM₁₀ would be reduced to a less than significant level with implementation of the 2012 Project.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, and 4.4-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-2

Significance After Implementation: Significant and Unavoidable (No New Impact and no substantial increase in severity of a previously identified significant impact)

- h) Would the project result in potential to expose persons to substantial levels of Toxic Air Contaminants (TAC), such that the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million?** *[For informational purposes, the 2011 update to this threshold is: Additionally, would the project cumulatively result in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average PM_{2.5} or greater than 0.8 micrograms per cubic meter?]*

An evaluation of the 2012 Project was conducted by ENVIRON to determine the potential health risks (cancer and non-cancer) associated with TACs produced from the construction and operation of the 2012 Project. Additional details related to this analysis are provided in Appendix A.

At the time of the 2002 EIR, the BAAQMD had not identified a numeric TAC risk threshold for construction emissions; however, the 2002 EIR did identify construction diesel emissions as significant and unavoidable.

Using emission rates from the 2002 Project and 2012 Project construction operations, air dispersion modeling was conducted to determine the health risk associated with construction of both the 2002 and 2012 Projects. Results indicating the maximum health effects from all sources associated with construction are shown in Table 3.3-10.

Table 3.3-10: Project Construction Health Risk Assessment Results

	Population	Excess Lifetime Cancer Risk in a million	Chronic Health Index	Acute Health Index	Annual PM _{2.5} Concentration $\mu\text{g}/\text{m}^3$
2002 Project	Resident Child	107	0.077	12	0.35
	Resident Adult	12			
2012 Project	Resident Child	42	0.030	4	0.14
	Resident Adult	4			
1999 BAAQMD Threshold		None	None	None	None
2011 BAAQMD Threshold		10	1	1	0.3

Source: ENVIRON, 2012.

As identified in the 2002 EIR and as confirmed in this recreation of the 2002 analysis, construction of the 2002 Project would result in a substantial increase in diesel emissions which would expose persons to substantial levels of TACs. The 2012 Project would not result in any new or more significant health risk impacts than were identified in the 2002 EIR. As shown in Table 3.3-10, construction of the 2012 Project would result in substantially lower risk than would have been anticipated under the 2002 Project. The 2012 Project would be subject to today's more stringent on-road and off-road diesel equipment emission regulations which reduce health risk impacts substantially over those that would have occurred in 2002. Nevertheless, this impact would remain significant and unavoidable.

Project Operation Results. The 2002 EIR concluded that, even after mitigation, the operational health risk impact of the 2002 Project would be significant and unavoidable. The operational health risk assessment prepared in the 2002 Final EIR estimated excess lifetime cancer risks of 80 in one million at the project boundary and 10 in one million in West Oakland.

Results of the 2012 Project operational health risk assessment are shown in Table 3.3-11. As explained in the methodology section below, the assessment was conducted for two scenarios using both the methodology standard to the 2002 project analysis and the 2011 BAAQMD guidance documents. Results indicate that the maximum excess lifetime cancer risk estimated for the proposed project would be less than the maximum risk levels for the 2002 project under both 2002 analysis standards and 2012 analysis standards. At most receptor locations, incremental model results of the 2012 Project are equal to or less than the results of the 2002 Project. However, this is not the case at all modeled locations.

Table 3.3-11: Operational Health Risk Assessment Results (Cancer Cases in 1 Million)

	2002 Project	2012 Project	Increment
Maximum Cancer Risk 2002 Approach	84	31	-53
Maximum Cancer Risk 2012 Approach	278	96	-182
1999 BAAQMD Thresholds	10	10	
2011 BAAQMD Thresholds	10	10	

Source: ENVIRON, 2012.

As shown in Table 3.3-11 above, the 2012 Project at the MEI would have a lower estimated excess lifetime cancer risk when compared with the impacts of the 2002 Project. However, even with implementation of mitigation measures and the City's Standard Conditions of Approval,

implementation of the 2012 Project would have a significant and unavoidable impact related to the exposure of sensitive receptors to substantial toxic air contaminants.

Estimated excess lifetime cancer risks for the 2002 and 2012 Projects were compared by rank ordering the off-site sensitive receptor locations according to the calculated 2002 Project cancer risk and comparing them to the 2012 Project cancer risk at the same location as shown in Figure 3.3-1. For purposes of this comparison, cancer risks from the 2012 Project were calculated exclusive of refrigerated cargo containers generator sets (reefer gensets) emissions since reefers were not included in 2002 Project cancer risk calculations. Reefers contribute between 10 percent (at locations further from the Project in West Oakland and Emeryville) and 30 percent (at locations close to the Project in West Oakland) to total 2012 Project cancer risk and reefer genset activity is expected to be in approximately the same location for the 2012 Project as the 2002 Project. Estimated excess lifetime cancer risks from the 2012 Project are substantially less than estimated risks from the 2002 Project at locations with the highest calculated risks. This means that the 2012 Project reduces risks where the 2002 Project had its greatest impacts. Where the 2012 Project estimated excess lifetime cancer risk does exceed the 2002 Project risk, all increases are less than 10 in a million, which corresponds to the BAAQMD's cancer risk significance threshold. Furthermore, as can be seen in Figure 3.3-1, those instances where risks from the 2012 Project exceed cancer risks from the 2002 Project occur at locations where risks from both projects are close to 10 in a million.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: EIR Mitigation Measures 4.4-2, 4.4-3, 4.4-4, 4.4-5 and 4.4-6

2012 Mitigation: 2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-1, SCA AIR-2, and SCA AIR-3

Significance After Implementation: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

Methodology

The methodology used to determine the conclusions presented above are described below.

Emission Estimates. To determine the increased cancer risk associated with construction and operation of the project, ENVIRON calculated total emissions for the 2012 Project. For the construction analysis, activities for Variant B – R&D Buildings and the 7th Street Overpass option were used as the basis of the construction emissions calculations as this combination of variants was determined to result in the greatest amount of construction activity. On- and off-site construction emissions were calculated separately. On-site emissions sources include construction equipment, vehicle movement, and barge tugs while at idle at the berth; off-site emissions include trips generated by delivery trucks, worker commute vehicles, and barge tugs while transiting to and from the site. Operation-related emissions were estimated for Variant A – Working Waterfront as this variant was determined to result in a greater level of NO_x and DPM emissions than Variant B – West Gateway R&D. On-site emissions were calculated for trucks, cargo handling equipment, reefer gensets, line haul locomotives, switcher engines, ocean-going vessels while at berth (Berth 7) and during maneuvering between the berth and Bay Bridge and assist tugs during maneuvering. Off-site

emissions were calculated for ocean-going vessels while in their cruise mode (i.e., transiting between the Bay Bridge and the outer buoys outside the Golden Gate) and for assist tugs while transiting to and from the vessel. In addition, emissions from the portion of project truck trips transiting I-880 adjacent to the OAB were included in the dispersion modeling analysis. The displacement of trucks traveling between the nearest freeway and the existing recycling facilities that are to be re-located to the project area was also analyzed as an emissions reduction. All of these off-site operation phase emissions are reported as a separate line item in the emission summary tables. Emissions from employee commute vehicles were included in the regional operational emissions assessment as presented in Table 3.3-8. Due to the low toxicity and the low onsite activity for commute vehicle emissions, this source would not be expected to contribute significantly in the assessment of project health risks, and, therefore, was not included in this analysis. ENVIRON utilized the most recent emissions estimation methodologies from the California ARB. Emissions factors for construction and industrial equipment were modeled using OFFROAD 2011, and for the reefer generator set using the TRU Calculator. Because these two models provide only NO_x, PM and HC emissions, ENVIRON supplemented the emissions estimates for all other pollutants using OFFROAD 2007 as per current ARB guidance. On-road vehicle emission factors were obtained from EMFAC 2011. Marine and rail source emissions were estimated using fleet mix characterization gathered for the Port of Oakland's maritime emissions inventory and emissions factors from respective ARB and U.S. EPA published studies.

Air Dispersion Modeling. The modeling of the dispersion of the emissions through the atmosphere was performed using U.S. EPA's recommended dispersion model, AERMOD version 12060.⁵³ Air dispersion models such as AERMOD require a variety of inputs such as source parameters, meteorological parameters, topography information, and receptor parameters. When site-specific information is unknown, ENVIRON used default parameter sets that are designed to produce conservative (i.e., overestimate) air concentrations.

⁵³ On November 9, 2005, the U.S. EPA promulgated final revisions to the federal *Guideline on Air Quality Models*, in which they recommended that AERMOD be used for dispersion modeling evaluations of criteria air pollutant and toxic air pollutant emissions from typical industrial facilities. The model can be downloaded online here: www.epa.gov/scram001/dispersion_prefrec.htm.

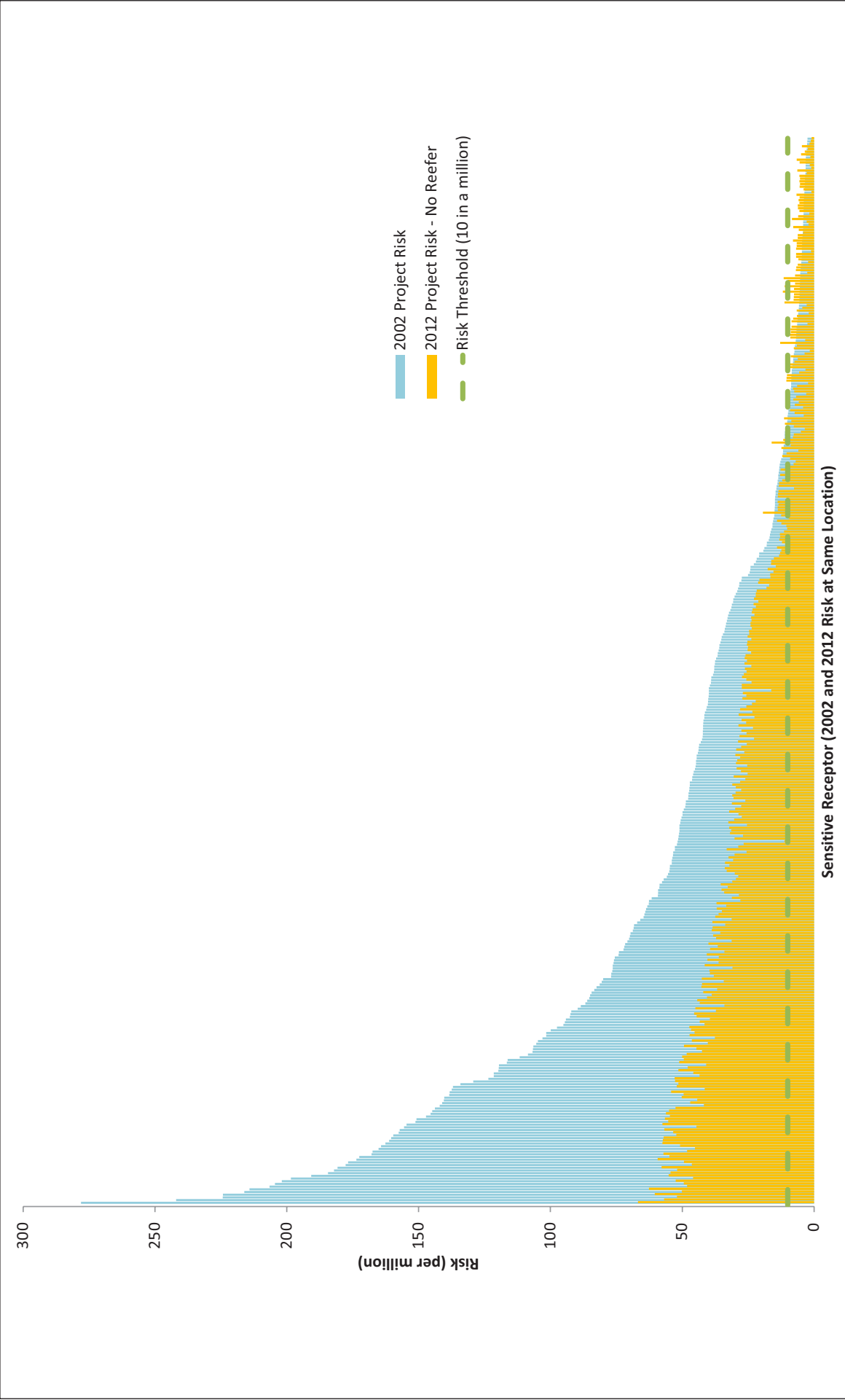


FIGURE 3.3-1

LSA

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Meteorological Data. To characterize the transport and dispersion of pollutants in the atmosphere, AERMOD requires hourly meteorological data from surface stations and once daily upper air data. An AERMOD-ready meteorological data set was created using AERMET⁵⁴ and U.S. EPA methods, consistent with approaches approved by BAAQMD. Meteorological data from the Oakland Sewage Treatment Plant, just north of the site (obtained from BAAQMD), and Oakland Airport were used. Default seasons were adjusted to take into account the Bay Area's climate.

Terrain Considerations. AERMOD uses a terrain preprocessor, AERMAP,⁵⁵ to determine elevations of the surrounding landscape. Data from the National Elevation Data (NED) set, available from the United States Geological Survey (USGS),⁵⁶ was utilized to import the elevation information for sources and receptors.

Emission Rates. Emission rates used in modeling are consistent with emissions described in previous sections. Emissions were assumed to occur over 24 hours for operations. Because construction will not occur during all hours of the day, construction emissions were conservatively estimated to occur between the hours of 7:00 a.m. to 11:00 p.m. for all sources with the exception of rail and tugs. These sources were assumed to operate for 24 hours.

Source Parameters. Sources were modeled as volume, area, and point sources. The list below describes how each Project source was modeled.

Volume sources:

- Truck travel on- and off-site (off-site only includes I-880)
- Rail line haul movement
- Rail switcher operations
- Vessel and tug cruise and maneuvering
- Construction sources
- Truck Idling at railroad crossings in the North Gateway Area

Area sources

- Reefer generator sets
- Off-road equipment associated with the rail yard operations

Point sources

- Vessel hotelling

Source parameters were identified using aerial photographs, ISC guidance, and/or reasonable approximations.

⁵⁴ More information on the model and the executable can be found online at: www.epa.gov/scram001/metobsdata_procaccprogs.htm.

⁵⁵ More information on the model and the executable can be found online at: www.epa.gov/ttn/scram/dispersion_related.htm.

⁵⁶ NED data available online at: seamless.usgs.gov/website/seamless/viewer.htm.

Receptors. In order to evaluate health impacts on off-site receptors, the same receptor locations as used in the 2002 EIR were used including a grid which covers nearby residential properties. Additional sensitive populations, as defined by BAAQMD,⁵⁷ within 1 mile of the project, were added. Consistent with modeling conducted in the 2002 EIR, receptors were placed at ground level.

Buildings. Buildings cause downwash⁵⁸ effects from point sources. Because the one point source, vessel hotelling, used in the model has a high release height and is located away from sensitive populations, buildings were not considered in this analysis.

Baseline Definition. For purposes of this analysis, the TAC concentration associated with the proposed project were analyzed for comparison with the impacts previously identified in the 2002 EIR. However, the 2002 EIR encompassed a larger area than the 2012 Oakland Army Base Project. Therefore, only the concentrations of TACs associated with differences from the 2012 Project were extracted from the 2002 EIR analysis to avoid overestimating the impact of the baseline.

Risk Characterization Methods. The health effects on potentially exposed sensitive populations were calculated based on the difference between TAC concentrations associated with the 2012 Project and the portion of concentration calculated for the 2002 EIR that is associated with differences from the 2012 Project.

The potentially exposed sensitive populations near the project are:

- Residents (child and adult);
- School child;
- Day care child;
- Recreational child and adult.

Toxicity Assessment. The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. For purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories – cancer and non-cancer endpoints.

The chemicals of potential concern were identified in accordance with the indicator chemical approach that is consistent with the California Environmental Protection Agency (Cal/EPA) OEHHA guidance. Diesel particulate matter (DPM) was used as a surrogate measure of carcinogen exposure and chronic noncarcinogenic impacts for the mixture of chemicals that make up diesel exhaust as a whole for chronic health effects, consistent with California regulatory guidelines.⁵⁹ Because all sources analyzed in this health risk assessment were diesel-fueled, DPM was the only TAC used to estimate long-term human health. There is currently no acute non-cancer toxicity value available for DPM. Thus, speci-

⁵⁷ BAAQMD, 2011. *California Environmental Quality Act Air Quality Guidelines*. May.

⁵⁸ Turbulent eddies can be formed in the downwind side of buildings. Those eddies may cause a plume from a stack source located near the building to be drawn towards the ground much more than it would if a building or structure were not present. The effect can increase the resulting ground-level pollutant concentrations downstream of a building. The dispersion model used to evaluate the impacts of emergency generators incorporate algorithms to evaluate the effect.

⁵⁹ California Environmental Protection Agency, 2003. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August.

ated components of diesel TOGs with acute toxicity values were included in the acute non-cancer hazard analysis.

When comparing the Project with the May 2011 BAAQMD CEQA thresholds, the estimated excess lifetime cancer risks for a resident child were adjusted using the age sensitivity factors (ASFs) recommended in the Cal/EPA OEHHA Technical Support Document (TSD)⁶⁰ and the cancer risk adjustment factors (CRAFs) recommended by BAAQMD.⁶¹

Estimation of Cancer Risks. Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated using the chemical intake or dose at the human exchange boundaries (e.g., lungs), and the chemical-specific cancer potency factor (CPF).

Exposure Assumptions. ENVIRON conservatively evaluated potential exposures at each receptor location using residential exposure parameters obtained from the risk assessment guidelines from Cal/EPA and BAAQMD, unless otherwise noted. For this assessment, the most conservative scenario was assumed to evaluate the life-time exposure of a resident living near the proposed project site at the commencement of construction or project since the third trimester in utero.

To compare the proposed project's operational effects to the 2002 EIR, two exposure scenarios were analyzed:

- For purposes of a comparison to the 2011 BAAQMD CEQA thresholds, excess lifetime cancer risks were calculated assuming a 70-year exposure duration using the methodology recommended by the risk assessment guidelines from Cal/EPA⁶² and BAAQMD⁶³; and
- For purposes of a comparison of the results of the 2002 EIR (conducted under the 1999 BAAQMD Guidelines), excess lifetime cancer risks were calculated using the same methodology as specified in the 2002 EIR assuming a 30-year resident. The exposures were not adjusted by ASFs or CRAFs.

Calculation of Intake. The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, used to estimate intake of a chemical, is based on breathing rate (L/kg-day), exposure time (hours/24 hours), exposure frequency (days/year), exposure duration (years), and averaging time (days). The chemical intake or dose is estimated by multiplying the inhalation intake factor, by the chemical concentration in air. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the Cal/EPA 2003 Hot Spots guidance.

⁶⁰ California Environmental Protection Agency, 2009. *Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures*. May.

⁶¹ Bay Area Air Quality Management District, 2010. *Air Toxics NSR Program Health Risk Screening Analysis (HRS) Guidelines*. January.

⁶² Cal/EPA. 2003. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August.

⁶³ Bay Area Air Quality Management District, 2010. *Air Toxics NSR Program Health Risk Screening Analysis (HRS) Guidelines*. January.

i) Would the project result in ground level concentrations of non-carcinogenic TACs such that the Hazard Index would be greater than 1 for the Maximally Exposed Individual (MEI)?

Using the emission calculation and air dispersion modeling methodology described above, an estimation of chronic non-cancer hazard indices was calculated as follows.

Estimation of Chronic Non-cancer Hazard Quotients. The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average DPM concentration (which is equivalent to the average daily air concentration) to the chronic reference exposure level (REL) for DPM to yield a ratio termed a hazard quotient or HQ.

Estimation of Acute Non-cancer Hazard Quotients/Indices. The potential exposure to emissions of pollutants resulting in acute non-cancer effects is evaluated by comparing the estimated one-hour maximum air concentration to the chemical-specific non-cancer acute RELs. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient or HQ. To evaluate the potential for adverse acute non-cancer health effects from simultaneous exposure to multiple chemicals, the HQs for all chemicals are summed, yielding a Hazard Index (HI).

Results for the 2002 Project and 2012 Project for construction health indices are shown in Table 3.3-12, while results for operational impacts for the MEI are shown in Table 3.3-13.

Table 3.3-12: Project Construction Hazard Index Results

	Chronic Hazard Index	Acute Hazard Index	Annual PM _{2.5} Concentration µg/m ³
2002 Project	0.077	12	0.35
2012 Project	0.030	3.7	0.14
1999 BAAQMD Threshold	None	None	None
2011 BAAQMD Threshold	1	1	0.3

Source: ENVIRON, 2012.

Table 3.3-13: Operational Health Risk Assessment Results

	Chronic Hazard Index	Acute Hazard Index	Annual PM _{2.5} Concentration µg/m ³
2002 Project	0.103	NA ^a	0.47
2012 Project	0.042	0.74	0.19
1999 BAAQMD Threshold	1.0	1.0	None
2011 BAAQMD Threshold	1.0	1.0	0.3

a Specific emission data required to calculate the 2002 Project Acute HI is not available. Based on overall emissions estimates in addition to the results of the Chronic HI and carcinogenic risk evaluations, the Acute HI for the 2002 Project would be expected to be the same or higher than estimated for the 2012 Project.

Source: ENVIRON, 2012.

2002 Impact:	Significant and Unavoidable
2012 Impact:	Potentially Significant
2002 Mitigation:	EIR Mitigation Measures 4.4-2, 4.4-3, 4.4-4, 4.4-5 and 4.4-6
2012 Mitigation:	2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-1, SCA AIR-2, and SCA AIR-3, which supersede 2002 EIR Mitigation Measure 4.4-2
Significance After Implementation:	Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

j) Would the project result in a substantial increase in diesel emissions?

As identified in the 2002 EIR, construction and operation of the 2002 Project would result in a substantial increase in diesel emissions. As described in the analysis above, the 2012 Project would not result in any new or more significant increases in diesel emissions than were identified in the 2002 EIR. The 2012 Project would be subject to today's more stringent on-road and off-road diesel equipment emission regulations which reduce health risk impacts substantially over those that would have occurred in 2002. Nevertheless, this impact would remain significant and unavoidable.

2002 Impact:	Significant and Unavoidable
2012 Impact:	Potentially Significant
2002 Mitigation:	EIR Mitigation Measures 4.4-2, 4.4-3, 4.4-4, 4.4-5 and 4.4-6
2012 Mitigation:	2002 EIR Mitigation Measures 4.4-3, 4.4-4, 4.4-5 and 4.4-6, supplemented with SCA AIR-1, SCA AIR-2, and SCA AIR-3, which supersede 2002 EIR Mitigation Measures 4.4-1 and 4.4-2
Significance After Implementation:	Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

3.3.6 CUMULATIVE IMPACTS

According to the 1999 and 2011 guidance from the BAAQMD, regional air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Therefore, if daily average or annual emissions of construction or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the 2012 Project would result in a cumulatively significant impact.

The 1999 CEQA Guidelines for which this analysis is based did not include a cumulative health risk threshold. Therefore a discussion of the cumulative health risk associated with the Project is provided for informational purposes in this section.

Under the 2011 BAAQMD Guidelines, the cumulative evaluation for toxics includes all sources within a 1,000 foot radius from the property line of a project. The 2012 Project is located more than

1,000 feet from the closest sensitive receptor (residences in West Oakland). However, given the size of the project, the zone of influence of the project extends into the West Oakland Community. The 2008 California ARB report on Diesel Particulate Matter Health Risk Assessment for West Oakland evaluated the increased health risk from diesel PM exposure to the residences in West Oakland from existing operations at the Port of Oakland, the BNSF and UP Rail Yards, and traffic on I-580 and I-880. The report concluded that residents of West Oakland have an increased lifetime potential cancer risk from diesel PM exposure of about 1,200 excess cancers per million, with the majority of the increased risk resulting from diesel truck traffic. The 2012 Project would add to this increased risk by increasing the activity on the project site. As shown in Table 3.3-11, the 2012 Project would result in a maximum increase in health risk of 96 in one million using today's analysis standards, as compared to 278 in one million from the 2002 project. The project would not expose persons to a non-cancer risk hazard index of greater than 10 or an annual average PM_{2.5} concentration of greater than 0.8 micrograms per cubic meter.

Consistent with the 2002 EIR, even with the implementation of mitigation measures, the cumulative impact diesel emissions from the 2012 Project would be significant and unavoidable as they relate to cancer risk, but would be less than estimated for the 2002 Project.

As identified in the 2002 EIR, the proposed project would exceed the significance thresholds at the individual level and therefore, the proposed project would also contribute to any cumulatively significant air pollution impact. Implementation of the mitigation measures outlined in the 2002 EIR and implementation of the City's Standard Conditions of Approval would reduce these impacts; however, as identified in the 2002 EIR, cumulative impacts would remain significant and unavoidable.

3.3.7 CONCLUSIONS

The implementation of the 2012 Project would not result in significant new air quality impacts or a substantial increase in severity of previously identified air quality impacts compared to the 2002 EIR. Emission standards have become increasingly stringent since 2002 resulting in lower emissions for construction equipment and the operation of vehicles and other equipment as part of the project. Thus, the impacts would be similar to or even less than those forecast in the previous document. However, due to the large size of the project and lack of available additional measures to reduce emissions, impacts associated with the 2012 Project would remain significant and unavoidable.

3.3.8 REFERENCES

- Bay Area Air Quality Management District, 1999. *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans*. October.
- Bay Area Air Quality Management District, 2010. *Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines*. January.
- Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May.
- California Air Resources Board, 1998. Initial Statement of Reasons for Rulemaking. Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. June.
- California Air Resources Board, 2000. Stationary Source Division, Mobile Source Control Division. October.

- California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.
- California Air Resources Board, 2008. *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community*. March.
- California Air Resources, 2009. *The 2009 California Almanac of Emissions and Air Quality*. Sacramento, CA.
- California Air Resources, 2012. *California Almanac of Emissions and Air Quality*. April.
- California Environmental Protection Agency, 1998. *Findings of the Scientific Review Panel on The Report on Diesel Exhaust*, as adopted at the Panel's April 22, 1998 meeting. Office of Environmental Health Hazard Assessment.
- California Environmental Protection Agency, 2003. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. August.
- California Environmental Protection Agency, 2009. *Technical Support Document for Cancer Potency Factors: Methodologies for Derivation, Listing of Available Values, and Adjustment to Allow for Early Life Stage Exposures*. May.
- Oakland, City of, 1996. *Open Space, Conservation, and Recreation Element, An Element of the Oakland General Plan*. June.
- Oakland, City of, 2008. Ord. 12152 § 1, 1999.
- Port of Oakland, 2009. *Maritime Air Quality Improvement Plan*. April.

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3.4 BIOLOGICAL RESOURCES

This section evaluates the potential biological resources impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant biological resources impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant biological resources impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

3.4.1 PRIOR ANALYSIS AND CONCLUSIONS

3.4.1.1 2002 EIR Impact Findings

The 2002 EIR evaluated potential impacts to plants, animals and their habitat. The 2002 EIR concluded that the 2002 Project would have a residual significant and unavoidable impact related to invasive species:

Impact 4.12-8: Redevelopment could result in a substantial increase in the risk of establishment of invasive species in the San Francisco Bay.

The 2002 EIR concluded potentially significant impacts related to species habitat, protected trees, nesting birds, and loss of wetlands, which could be reduced to less-than-significant levels:

Impact 4.12-1: Redevelopment could result in the loss of 15 acres of ruderal/beach habitat. *(Note: This impact is not applicable to the 2012 Project.)*

Impact 4.12-2: Redevelopment could result in increased raptor predation on least terns that may forage near the Gateway peninsula.

Impact 4.12-3: Redevelopment would result in net loss of approximately 27 acres of open and covered water at New Berth 21. *(Note: This impact is not applicable to the 2012 Project.)*

Impact 4.12-4: Redevelopment could result in both temporary impacts to herring spawning habitat during construction, and a permanent net loss of Pacific herring spawning habitat associated with the wharf pilings at existing Berths 9, 10, 20 and 21 due to construction of New Berth 21. *(Note: This impact is not applicable to the 2012 Project.)*

Impact 4.12-6: Redevelopment may result in loss of protected trees measuring 9 inches dbh (or larger) or trees with a dbh of greater than 9 inches.

Impact 4.12-7: Redevelopment may affect nesting migratory birds.

Impact 4.12-9: Loss of up to approximately 0.5 acre of isolated, urban wetlands.

The 2002 EIR concluded that the 2002 Project would have a less-than-significant impact on water quality:

Impact 4.12-5: Construction activities would result in a short-term reduction in water quality in the New Berth 21 fill area. *(Note: This impact is not applicable to the 2012 Project.)*

3.4.1.2 2002 EIR Mitigation Measures

Mitigation proposed for the impacts listed above reduced them to a level that was considered less than significant, with the exception of Impact 4.12-8, which was found to be significant and unavoidable. Specific mitigation measures included:

For the residual significant and avoidable impact related to invasive species, the 2002 EIR identified the following mitigation measures:

Mitigation Measure 4.12-10: The Port shall continue to enforce its tariff requirements regarding ballast water and if the State law sunsets, shall implement the remainder of its ballast water ordinance, as it may be amended from time to time.

Mitigation Measure 4.12-11: The Port shall continue to develop and implement a carrier ballast water education program.

Mitigation Measure 4.12-12: The Port shall support international and United States efforts to adopt uniform international or national standards to avoid introduction of exotic species through shipping activities.

For the potentially significant impacts related to species habitat, protected trees, nesting birds, and loss of wetlands, the 2002 EIR identified the following mitigation measures to reduce impacts to less-than-significant levels:

Mitigation Measure 4.12-4: Contractors, developers, the Port, and EBRPD shall comply with all permit conditions from the Corps, RWQCB, USFWS/NMFS and CDFG for fill. *(Note: This mitigation measure is replaced with SCA BIO-5, which requires compliance with all conditions issued by applicable agencies.)*

Mitigation Measure 4.12-5: A qualified observer shall be present on site during all in-water construction activities near potential herring spawning areas between December 1 and March 1.

Mitigation Measure 4.12-6: If spawning is observed, in-water construction activities shall be redirected for 200 meters around the spawning area for two weeks.

Mitigation Measure 4.12-7: Application for a tree preservation/tree removal permit from the City of Oakland for all protected trees shall comply with the Tree Ordinance, which includes replacement of native trees at a minimum of a 1:1 ratio. The Port will replace native trees on the OARB at a minimum ratio of 1:1. *(Note: This mitigation measure is*

replaced with SCA BIO-2, which addresses the City's Tree Protection Ordinance; see subsection 3.4.5, criterion f below.)

Mitigation Measure 4.12-8: Trees shall be removed between September 1 and January 31 to avoid the nesting season (February 1 to August 31). Alternatively, field surveys shall be conducted no earlier than 45 days and no later than 20 days prior to the removal of any trees during the nesting/breeding season of bird species potentially nesting on the site to determine whether birds are present. *(Note: This mitigation measure is replaced with SCA BIO-1, which addresses tree removal during the breeding season.)*

Mitigation Measure 4.12-9: Construction shall not occur within 150 feet of an active nest until the nest is vacated or the juveniles have fledged. *(Note: This mitigation measure is replaced with SCA BIO-1, which addresses tree removal during the breeding season.)*

Mitigation Measure 4.12-13: Contractors and developers shall comply with all conditions imposed by the RWQCB for fill of wetlands. *(Note: This mitigation measure is replaced with SCA BIO-5, which requires compliance with all conditions issued by applicable agencies.)*

3.4.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project's environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City's SCA serve to avoid or substantially reduce potentially significant impacts. The City's SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

SCA BIO-1: Tree Removal During Breeding Season

Prior to issuance of a tree removal permit

To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of raptors shall not occur during the breeding season of March 15 and August 15. If tree removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to start of work from March 15 through May 31, and within 30 days prior to the start of work from June 1 through August 15. The pre-removal surveys shall be submitted to the Planning and Zoning Division and the Tree Services Division of the Public Works Agency. If the survey indicates the potential presences of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFG, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban

environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

SCA BIO-2: Tree Removal Permit

Prior to issuance of a demolition, grading, or building permit

Prior to removal of any protected trees, per the Protected Tree Ordinance, located on the project site or in the public right-of-way adjacent to the project, the project applicant must secure a tree removal permit from the Tree Division of the Public Works Agency, and abide by the conditions of that permit.

SCA BIO-3: Tree Replacement Plantings

Prior to issuance of a final inspection of the building permit

Replacement plantings shall be required for erosion control, groundwater replenishment, visual screening and wildlife habitat, and in order to prevent excessive loss of shade, in accordance with the following criteria:

- a) No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.
- b) Replacement tree species shall consist of *Sequoia sempervirens* (Coast Redwood), *Quercus agrifolia* (Coast Live Oak), *Arbutus menziesii* (Madrone), *Aesculus californica* (California Buckeye) or *Umbellularia californica* (California Bay Laurel) or other tree species acceptable to the Tree Services Division.
- c) Replacement trees shall be at least of twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.
- d) Minimum planting areas must be available on site as follows:
 - i. For *Sequoia sempervirens*, three hundred fifteen square feet per tree;
 - ii. For all other species listed in #2 above, seven hundred (700) square feet per tree.
- e) 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.
- f) Plantings shall be installed prior to the issuance of a final inspection of the building permit, subject to seasonal constraints, and shall be maintained by the project applicant until established. The Tree Reviewer of the Tree Division of the Public Works Agency 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 project applicant's expense.

SCA BIO-4: Tree Protection During Construction

Prior to issuance of a demolition, grading, or building permit

Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

- a) Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the City Tree Reviewer. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.

- b) Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the City Tree Reviewer from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.
- c) No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Tree Reviewer from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.
- d) Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- e) If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Agency of such damage. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.
- f) All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

SCA BIO-5 Regulatory Permits and Authorizations

Prior to issuance of a demolition, grading, or building permit within vicinity of the shoreline

Prior to construction in or near the water, the project applicant shall obtain all necessary regulatory permits and authorizations, including without limitation, from the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), , San Francisco Bay Conservation and Development Commission (BCDC) and the City of Oakland, and shall comply with all conditions issued by applicable agencies. Required permit approvals and certifications may include, but not be limited to the following:

- a) U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps shall be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.
- b) Regional Water Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.
- c) San Francisco Bay Conservation and Development Commission (BCDC) approvals.

SCA AES-1: Lighting Plan

(Please refer to Section 3.1, Aesthetics.)

SCA AIR-2: Dust Control

(Please refer to Section 3.3, Air Quality.)

SCA GEO-1: Erosion and Sedimentation Control

(Please refer to Section 3.6, Geology and Soils.)

SCA HAZ-1: Best Management Practices for Soil and Groundwater Hazards

(Please refer to Section 3.8, Hazards and Hazardous Materials.)

SCA HAZ-2: Hazards Best Management Practices

(Please refer to Section 3.8, Hazards and Hazardous Materials.)

SCA NOI-2: Noise Control

(Please refer to Section 3.12, Noise.)

SCA NOI-6: Pile Driving and Other Extreme Noise Generators

(Please refer to Section 3.12, Noise.)

SCA HYD-1: Stormwater Pollution Prevention Plan (SWPPP)

(Please refer to Section 3.9, Hydrology and Water Quality.)

SCA HYD-2: Post-Construction Stormwater Management Plan

(Please refer to Section 3.9, Hydrology and Water Quality.)

SCA HYD-3: Maintenance Agreement for Stormwater Treatment Measures

(Please refer to Section 3.9, Hydrology and Water Quality.)

3.4.3 UPDATED REGULATORY SETTING

The most substantive changes in the biological resources regulatory setting that have occurred since the 2002 EIR was certified involve regulations governing the management and discharge of ballast water. Current regulations governing the discharge of ballast water include the Marine Invasive Species Act of 2003 and the Coastal Ecosystems Protection Act of 2006. The Marine Invasive Species Program strives to prevent the release of non-indigenous species from commercial vessels to California waters. The program was begun in 1999, with the enactment of the Ballast Water Management for Control of Non-indigenous Species Act, which addressed the threat of species introductions through ships' ballast water during a time when these federal regulations were not mandatory.⁶⁴ In 2003, the Marine Invasive Species Act was passed, reauthorizing and expanding the 1999 Act. The Marine Invasive Species Act applies to all vessels carrying or capable of carrying ballast water into the coastal waters of the state after operating outside of the coastal waters of the state and to all ballast water and associated sediments taken on a vessel. The act requires that the ship's operator maintain specified information and records related to the vessel and ballast water management, and to make available or provide the information to representatives of the California State Lands Commission (SLC).

The Coastal Ecosystems Protection Act gives the SLC authority to implement performance standards for the discharge of ballast water and to sponsor programs to evaluate experimental ballast water treatment systems.⁶⁵ The SLC has established interim performance standards and timelines to implement these standards (Title 2, Division 3, Chapter 1, Article 4.7 Performance Standards for the Discharge of Ballast Water for Vessels Operating in California Waters; California Public Resources Code Sections 71201.7 and 71205.3).

⁶⁴ In 1999, the Port adopted and implemented a Port-specific ballast water ordinance, which was suspended in 2004 after the State's Marine Invasive Species Act made it redundant.

⁶⁵ Muir, A.A., 2011. *Managing Coastal Aquatic Invasive Species in California: Existing Policies and Policy Gap*. California Research Bureau.

In addition to the changes in regulations related to ballast water management, there have been changes in the federal Endangered Species Act (ESA) and California Endangered Species Act (CESA) that affect species with the potential to occur in the vicinity of the project site. These changes include:

- Green Sturgeon (*Acipenser medirostris*): Southern distinct population segment (DPS) was listed as threatened under the ESA in 2009 (71 FR 17757), and Critical Habitat for the Southern DPS was designated in 2009 (74 FR 52300). The project area is within designated Critical Habitat.
- Chinook Salmon (*Oncorhynchus tshawytscha*): Critical Habitat for multiple ESUs was designated in 2006 (70 FR 52488). The project area is not within designated Critical Habitat.
- Steelhead (*Oncorhynchus mykiss*): Critical Habitat for multiple ESUs was designated in 2006 (70 FR 52488). The project area is not within designated Critical Habitat.
- Longfin Smelt (*Spirinchus thaleichthys*): Species was listed as threatened under CESA in 2010, and the Bay-Delta DPS was designated a Candidate species (77 FR 19756) .
- California Brown Pelican (*Pelecanus occidentalis californicus*): Species was delisted under ESA and CESA in 2009.
- American peregrine falcon (*Falco peregrinus anatum*): Species was delisted under ESA and CESA in 2009.

Since the 2002 EIR, the impacts of in-water pile driving sound pressure levels on fish have been extensively studied, especially regarding the possibility of take of special-status fish species. The Fisheries Hydroacoustic Working Group, consisting of key technical and policy staff from resource agencies and national experts on sound propagation activities that affect fish and wildlife species of concern, prepared an Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities.⁶⁶ The agreement establishes interim maximum and accumulated sound pressure levels for listed fish from in-water pile driving. The criteria are based on sound pressures resulting from pile driving measured at in-water construction projects throughout Northern California, including several projects at the Port of Oakland.⁶⁷

3.4.4 EXISTING CONDITIONS

Existing conditions in the project area are similar to those described in the 2002 EIR. The project site continues to be dominated by developed areas consisting primarily of railroad beds, roads, buildings, building foundations, and parking lots. Since the 2002 EIR was certified, several large buildings have been demolished. Much of the land formerly occupied by these buildings is currently vacant. These vacant parcels support a variety of native and nonnative ruderal or early seral vegetation species (see vacant areas shown on Project Description Figure 2-4).

3.4.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

The 2012 Project would have a significant impact on the environment if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species

⁶⁶ Fisheries Hydroacoustic Working Group, 2008. (Federal Highway Administration; NOAA Fisheries; U.S. Fish and Wildlife Service; the Departments of Transportation from California, Oregon, and Washington; California Department of Fish and Game), *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June 12.

⁶⁷ Illinworth & Rodkin, 2007. *Compendium of Pile Driving Sound Data*. September 27.

- identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service;
 - c) Have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means;
 - d) Substantially interfere 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;
 - e) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan;
 - f) Fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances [NOTE: Factors to be considered in determining significance include the number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) protected trees to remain, with special consideration given to native trees. Protected trees include *Quercus agrifolia* (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *Pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on City property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed are considered to be protected trees.]; or
 - g) Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and/or aquatic habitat through: (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat.

These criteria are discussed below.

- a) **Would the project 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 the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

The 2002 EIR found that impacts to candidate, sensitive, or special-status species may occur through a variety of impact mechanisms including: loss of occupied or suitable habitat (Impacts 4.12-1 and 4.12-3), development of habitat that may harbor predators (Impact 4.12-2), temporary construction-related disturbances such as turbidity or noise (Impact 4.12-5), and increased risk of establishment of invasive species in the San Francisco Bay (Impact 4.12-8). These impact mechanisms are applicable

to the 2012 Project. Except for Impact 4.12-8, all other impacts were reduced to a less-than-significant level with mitigation measures.

Ruderal (i.e., disturbed) habitat in the project area is predominately recent fill that is unlikely to provide suitable habitat for special-status plant species. The shoreline area in the vicinity of the proposed storm water outfall is highly disturbed and does not support vegetation. Thus, impacts to special-status plant species are considered to be less than significant.

Special-status fish species such as Central California Coast DPS steelhead and green sturgeon are known to occur in the vicinity of the project area; longfin smelt have been observed in the Outer Harbor.⁶⁸ Work associated with the 2012 Project would include activities in unvegetated shoreline areas and near-shore, open water areas. These areas may provide feeding and/or rearing habitat for special-status fish species. Temporary impacts associated with construction of the storm water outfall, such as installation of a sheet pile cofferdam and dewatering, have the potential to impact special-status fish species. Therefore, direct impacts to aquatic species and their habitat are considered to be potentially significant.

The spread of non-indigenous aquatic organisms (including viruses, toxic algae, and microorganisms) through the discharge of ballast water or other means (e.g., anchors, anchor chains, anchor lines, bilge pumps, drains, and through-hull connections) could also impact special-status aquatic species and their habitats. The 2012 Project would increase shipping traffic through the development of Wharf 7. The increase in shipping traffic is estimated to be one “panamax” vessel call per week. In addition, the other elements of the 2012 Project, such as the warehouse and distribution facilities and roadway and railroad improvements, would also incrementally increase vessel traffic over the no project condition. Conservatively, this increase could result in a greater risk of introduction of non-indigenous aquatic organisms. Therefore, this impact is considered potentially significant. As described in Section 3.4.3, since the 2002 EIR was certified, ballast water regulation has been implemented. While these regulations reduce the potential for introduction of new aquatic invasive species, they do not eliminate it.

Special-status wildlife species known to occasionally occur in the vicinity of the project area include several bird species such as Western Snowy Plover (*Charadrius alexandrinus nivosus*) and California Least Tern (*Sterna albifrons browni*). Temporary construction impacts such as compaction of fill, improvements to the wharf at Berth 7, and construction of the storm water outfall and of other improvements have the potential to generate noise that may adversely affect these species. This impact is considered potentially significant. In addition, establishment of tall ornamental trees, lighting fixtures or other tall elements could provide perches for raptors, which would increase the potential for predation on least terns that may forage near the Gateway peninsula. No special-status invertebrates, amphibians, reptiles or mammals are likely to be adversely affected by the 2012 Project.

Impacts to special-status species would not result in any new or more significant environmental impacts than were described in the 2002 EIR. Impacts to special-status species would likely be less than were described in the 2002 EIR because the 2012 Project does not involve loss of open water

⁶⁸ Oakland, City of, 2002. *Oakland Army Base Area Redevelopment Plan Draft Environmental Impact Report, Appendix 4-12F*.

habitat or water quality impacts associated with the New Berth 21 fill that was proposed in the 2002 EIR. Impacts to special-status fish species remain potentially significant due to construction-related disturbance associated with construction of a new storm water outfall. The impact related to potential increased predation on California Least Terns by raptors (Impact 4.12-2) remains potentially significant.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: Mitigation Measure 4.12-4, 4.12-5, 4.12-6, 4.12-8, 4.12-9, and 4.12-13 related to habitat and loss of wetlands; Mitigation Measures 4.12-10, 4.12-11 and 4.12-12 related to invasive species.

2012 Mitigation: Mitigation Measure 4.12-5, 4.12-6, related to habitat and loss of wetlands, supplemented with SCA BIO-1, SCA BIO-5. Mitigation Measures 4.12-10, and Mitigation Measures 4.12-11 and 4.12-12 as modified below:

Modified Mitigation Measure 4.12-11: The Port, and developer and sub-tenants at Berths 7 and 8 (Wharves 6½ and 7), shall continue to develop and implement a carrier ballast water education program.

Modified Mitigation Measure 4.12-12: The Port, and developer and sub-tenants at Berths 7 and 8 (Wharves 6½ and 7), shall support international and United States efforts to adopt uniform international or national standards to avoid introduction of exotic species through shipping activities.

To address potential increased predation on California Least Terns by raptors, the following two part Mitigation Measure shall be implemented:

Mitigation Measure 3.4-1a: Prior to issuance of a building permit, associated with the Planned Unit Development process, the developer shall submit a Landscape Plan for City review and approval. The plan shall not include tall ornamental trees that could provide perches for raptors in the northern project site, in the vicinity of Gateway Park.

Mitigation Measure 3.4-1b: Prior to issuance of a building permit, associated with the Planned Unit Development process, the developer shall submit a Lighting Plan for City review and approval. The plan shall note that raptor deterrents shall be placed on light standards in the northern project site, in the vicinity of Gateway Park, or lighting fixtures or posts in the area shall have limited horizontal elements which could be used as perches.

Significance After Implementation: Impacts related to species habitat and loss of wetlands: Less Than Significant (No New Impact); impacts related to the spread of non-indigenous aquatic organisms: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No riparian habitat or sensitive terrestrial natural communities would be impacted by the 2012 Project. The spread of non-indigenous aquatic organisms through the discharge of ballast water or other means (e.g., anchors, anchor chains, anchor lines, bilge pumps, drains, and through-hull connections) could impact estuarine habitat including Essential Fish Habitat as designated by the National Marine Fisheries Service. As mentioned previously, the 2012 Project would increase shipping traffic through the development of Wharf 7. This increase could result in a greater risk of introduction of non-indigenous aquatic organisms. Therefore, this impact is considered potentially significant.

Construction of one new storm water outfall would occur along the San Francisco Bay shoreline at Berth 10. The new storm outfall will be fed by two 54-inch storm drain pipes that discharge to the Bay at an invert elevation of -4.5 feet (NAVD 88). The construction of this storm drain outfall will require work in waters. The proposed work will include installation of a steel sheet pile cofferdam around the water-side of the storm water outfall. This sheet pile cofferdam will need to start approximately 20 feet into the surrounding fill and extend in a "U" shape configuration with the face at least 20 feet in front of the proposed outfall structure. The sheet piles will be driven to a depth of at least 10 feet into bay mud to insure cutoff of water to the work area. The proposed cofferdam will require steel whalers and struts. Once the cofferdam is installed, dewatering will occur. The outfall structure will be concrete and will extend down to a foundation grade (to be determined). Piling will most likely be used to support the concrete structure. This concrete outfall will extend at least 4 feet above the top of the twin 54-inch outfall pipes. A floodgate will be attached to the outfall at each pipe. Once dewatering is achieved, the contractor will be able to complete installation of the two twin 54-inch pipes and extend them out past the face of the concrete outfall structure. After pipe installation, the foundation construction can start by driving steel piles to the proposed tip elevation for the foundation of this outfall. Crane access will be from land and will not require barge access. After piles are driven, forming of the outfall begin. Rebar will be installed before the forming system is complete. Concrete will be poured monolithically to the top of the outfall structure. After removal of forms, backfill around the outfall structure can be completed. The 54-inch floodgates will be installed to the concrete outfall using preset inserts installed in the concrete. After installation of floodgates, the sheet pile cofferdam will be removed.

As discussed above, a small amount of fill material (concrete and steel rebar) would be discharged to shoreline and open water habitat for construction of the storm water outfall. The habitat in the vicinity of the proposed storm water outfall is highly disturbed. Thus, the discharge of fill in this area would not substantially adversely affect the existing habitat. Therefore, construction-related impacts to sensitive habitats are considered to be less than significant and would not result in any new or more significant environmental impacts than were described in the 2002 EIR.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.12-11 and 4.12-12

2012 Mitigation: 2002 EIR Mitigation Measures 4.12-11 and 4.12-12 (as modified above)

Significance After Implementation: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

c) Would the project have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means?

The 2002 EIR identified 0.5 acres of isolated, urban wetlands located in the Union Pacific Railroad (UPRR) Desert Rail Yard that were proposed to be filled. As part of the remediation program, and to construct rail from the Port Rail Terminal to UPRR's main line and to the City's development areas, the 2012 Project would seek to fill this area then grade to level ground to "cap" the site prior to the construction of the two lead tracks. These impacts would be considered potentially significant.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.12-4

2012 Mitigation: 2002 EIR Mitigation Measure 4.12-4

Significance After Implementation: Less Than Significant (No New Impact)

d) Would the project substantially interfere 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?

The spread of non-indigenous aquatic organisms through the discharge of ballast water or other means (e.g., anchors, anchor chains, anchor lines, bilge pumps, drains, and through-hull connections) could impact nursery sites of native aquatic species. As mentioned previously, the 2012 Project would incrementally increase shipping traffic through the development of Wharf 7 and other improvements. This increase could result in a greater risk of introduction of non-indigenous aquatic organisms. Therefore, this impact is considered potentially significant.

Since completion of the 2002 EIR, the U.S. Army Corps of Engineers and the Port have been constructing the approximately 181-acre Middle Harbor Enhancement Area (MHEA) adjacent to 7th and Maritime Streets. The MHEA is a shallow water habitat designed with enhancements including deep water channels, shallow water channels and flats, eelgrass beds (42 acres), hard substrate, sand beach, salt marsh, and high-tide refugia for birds via islands. The MHEA is designed to function as a fish nursery and foraging site. The 2012 Project would not impede the use of this native wildlife nursery site.

There is limited wildlife use on the project site, and development of the project site would not interfere with any wildlife terrestrial migratory corridors. As identified in the 2002 EIR, Pacific herring are present in the Bay in the winter and early spring and spawn in rocky areas and on pilings. Work in subtidal rock areas and maintenance of pilings has the potential to interfere with Pacific herring spawning activity. These impacts would be considered potentially significant.

2002 Impact: Impacts to Pacific herring nursery sites related to construction: Less Than Significant; Impacts related to nursery sites of native aquatic species through potential introduction of non-indigenous aquatic organisms as a result of increased shipping traffic: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.12-5, 4.12-6, 4.12-11, and 4.12-12

2012 Mitigation: 2002 EIR Mitigation Measures 4.12-5, 4.12-6, 4.12-11, and 4.12-12 (as modified above.)

Significance After Implementation: Impacts to Pacific herring nursery sites related to construction: Less Than Significant; Impacts related to nursery sites of native aquatic species through potential introduction of non-indigenous aquatic organisms as a result of increased shipping traffic: Significant and Unavoidable; (No New Impact, and no substantial increase in severity of a previously identified significant impact).

e) Would the project fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?

No habitat conservation plan or natural community conservation plan encompasses the project area.

2002 Impact: No Impact

2012 Impact: No Impact

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact (No New Impact)

f) Would the project fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?

The 2012 Project may result in loss of ornamental trees with a diameter at breast height (dbh) of greater than 9 inches and potentially Monterey pine trees on City property. Removal of these trees would conflict with the Tree Protection Ordinance. City of Oakland SCA BIO-2 would be adhered to for all tree removal activity. SCA BIO-4 would require protection of trees during project construction and SCA BIO-3 would require tree replacement plantings. As a result, this impact is considered less than significant.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.12-7

2012 Mitigation: 2002 EIR Mitigation Measure 4.12-7, superseded by SCA BIO-2 and supplemented by SCA BIO-3 and SCA BIO-4

Significance After Implementation: Less Than Significant

- g) **Would the project fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and/or aquatic habitat through: (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat.**

Water bodies at the project site are limited to the San Francisco Bay shoreline. No other water bodies or channels are located at the project site. The City of Oakland Creek Protection Ordinance (CPO)⁶⁹ defines a creek as:

“A watercourse that is a naturally occurring swale or depression, or engineered channel which carries fresh or estuarine water either seasonally or year round within the city boundaries, as identified on the “Watershed Map of Oakland and Berkeley Area” and the “Creek and Watershed Map of Hayward and San Leandro,” published by the Oakland Museum of California and as modified by the city and/or any area identified through field investigation by the Environmental Services Manager as meeting the above criteria.”

The “Creek and Watershed Map of Oakland and Berkeley Area”⁷⁰ designates the project site as “Original Bay and Lakes,” which is a separate designation from creeks. Further, certain physical features are required to classify a water body as a creek. The City of Oakland states a creek must include all of the following three physical features: 1) hydrologic connectivity; 2) presence of channel form; and 3) topographic position. A creek begins at the first point at which these features are met. Channel form is defined as “including a bed, bank, and features that indicate actual or potential sediment movement.”⁷¹ Waters in the project area do not have defined bed and bank features of a channel or creek. Hydrologic connectivity is defined as, “hydrologically connected to a waterway above and below the site or is connected to a spring,

⁶⁹ Oakland, City of. Municipal Code Section 13.16.030 B.

⁷⁰ Sowers, Janet M., 2000. Oakland Museum of California. *Creek and Watershed Map of Oakland and Berkeley*. Website: museumca.org/creeks/MapOak.html (accessed April 12, 2012).

⁷¹ Oakland, City of, 2012. *Facilities and Environment, Permitting Guide*. Website: www2.oaklandnet.com/Government/o/PWA/o/FE/s/ID/OAK024749#what (accessed April 12, 2012).

headwaters, lake, the Estuary, or the Bay.”⁷² This definition indicates that the San Francisco Bay itself is not a creek but can provide water to creeks.

In conclusion, waters in the project area are not defined as a creek by the Creek Protection Ordinance. This finding is consistent with the 2002 EIR findings that there are no creeks in or near the project area, and conditions do not exist that could cause a conflict with the City’s Creek Protection Ordinance.

2002 Impact: No Impact

2012 Impact: No Impact

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact (No New Impact)

3.4.6 CUMULATIVE IMPACTS

The 2002 EIR found that Redevelopment would have a potentially significant cumulative contribution to the introduction or spread of non-indigenous aquatic organisms. Since the 2002 EIR was certified, the U.S. Coast Guard and State has enacted new laws to mitigate the risk of spreading non-indigenous aquatic organisms. However, compliance with state provisions governing the discharges of ballast water would not fully mitigate these impacts. Although the 2012 Project would not result in a substantial increase in shipping traffic or ballast water discharges to the Bay, the incremental contribution to the potential introduction of non-indigenous aquatic organisms would remain cumulatively significant.

3.4.7 CONCLUSIONS

Redevelopment of the Army Base would not result in significant new biological resource impacts or a substantial increase in the severity of impacts previously identified in the 2002 EIR. Thus, impacts would be similar to those addressed in the 2002 EIR and would continue to be less than significant with appropriate mitigation, except for those related to non-indigenous aquatic organisms which are conservatively deemed significant and unavoidable. Even though new regulations have been established to prevent the spread of non-indigenous aquatic organisms through the discharge of ballast water, the project’s contribution to the spread of non-indigenous aquatic organisms remains cumulatively significant and unavoidable.

3.4.8 REFERENCES

Fisheries Hydroacoustic Working Group, 2008. (Federal Highway Administration; NOAA Fisheries; U.S. Fish and Wildlife Service; the Departments of Transportation from California, Oregon, and Washington; California Department of Fish and Game), *Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities*. June 12.

Illinworth & Rodkin, 2007. *Compendium of Pile Driving Sound Data*. September 27.

⁷² Ibid.

Muir, A.A., 2011. *Managing Coastal Aquatic Invasive Species in California: Existing Policies and Policy Gap*. California Research Bureau.

Oakland, City of, 2002. *Oakland Army Base Area Redevelopment Plan Draft Environmental Impact Report, Appendix 4-12F*.

Oakland, City of, 2012. *Facilities and Environment, Permitting Guide*. Website: www2.oaklandnet.com/Government/o/PWA/o/FE/s/ID/OAK024749#what (accessed April 12, 2012).

Oakland, City of. Municipal Code Section 13.16.030 B.

Sowers, Janet M., 2000. Oakland Museum of California. *Creek and Watershed Map of Oakland and Berkeley*. Website: museumca.org/creeks/MapOak.html (accessed April 12, 2012).

3.5 CULTURAL RESOURCES

Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Cultural resources include a broad range of resources, examples of which include archaeological sites, paleontological resources (fossils), historic roadways and railroad tracks, and buildings of architectural significance. Generally, for a cultural resource to be considered a historical resource for purposes of CEQA, it must be 50 years or older (California Office of Historic Preservation 2006), or be formally recognized by a lead agency as constituting an historical resource.

This section evaluates the potential cultural resources impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant cultural resources impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant cultural resources impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

3.5.1 PRIOR ANALYSIS AND CONCLUSIONS

3.5.1.1 2002 EIR Impact Findings

The 2002 EIR concluded that the 2002 Project would have a residual significant and unavoidable impact related to the OARB Historic District:

Impact 4.6-2: Redevelopment would remove all resources contributing to the OARB Historic District

Impact 4.6-3: Redevelopment would render the OARB Historic District no longer eligible to the National and/or California Registers of Historic Places or the Local Register

The 2002 EIR concluded the potentially significant impact related to unknown subsurface cultural resources, could be reduced to a less-than-significant level:

Impact 4.6-1: Redevelopment has the potential to encounter previously unknown subsurface cultural resources during ground-disturbing activities.

The 2002 EIR concluded the significant impact related to historic character, could be reduced to a less-than-significant level:

Impact 4.6-4: Redevelopment would result in renovation of the SPRR (Amtrak) Station and 16th Street Tower, which could alter the historic character of the buildings in a manner that could affect their eligibility. *[Note: This impact is not applicable to the 2012 Project.]*

3.5.1.2 2002 EIR Mitigation Measures

To avoid or substantially reduce the severity of potential impacts related to removal of contributing elements of the OARB Historic District and redevelopment of the former Oakland Army Base, the 2002 EIR identified the following mitigation measures.⁷³ These mitigations, however, would not reduce project impacts to less-than-significant. The status of those mitigation measures from the 2002 EIR that are relevant to the current redevelopment is summarized in Table 3.5-1.

For the potentially significant impact related to unknown subsurface cultural resources, the 2002 EIR identified the following mitigation measure to reduce the impact to a less-than-significant level:

Mitigation Measure 4.6-1: Should previously unidentified cultural resources be encountered during redevelopment, work in that vicinity shall stop immediately, until an assessment of the finds can be made by an archaeologist. If the resource is found to be significant under CEQA, an appropriate mitigation plan must be developed. *[Note: This mitigation measure is applicable to the 2012 Project; however, it is superseded by SCA CULT-1, SCA CULT-2, and SCA CULT-3. See subsection 3.5.5, criteria b through d below.]*

For the significant and unavoidable impact related to the OARB Historic District, the 2002 EIR identified the following mitigation measures:

Mitigation Measure 4.6-2: The City, Port, and OARB sub-district developers shall fund on a fair-share basis development of a commemoration site, including preparation of a Master Plan for such a site, to be located at a public place located within the Gateway development area. The City shall ensure that the scale and scope of the commemoration site reflects the actual loss of historic resources.

Mitigation Measure 4.6-3: The City shall ensure that the commemoration site is linked to the Gateway Park and Bay Trail via a public access trail.

Mitigation Measure 4.6-4: The City, Port, and OARB sub-district developers shall fund on a fair-share basis collection and preservation of oral histories from OARB military and civilian staff.⁷⁴

Table 3.5-1: Oakland Army Base 2002 EIR Cultural Resource Mitigation Status

Mitigation Measure	STATUS		
	Not Started	In Progress	Completed
4.6-1	✓		
4.6-2	✓		
4.6-3	✓		
4.6-4			✓
4.6-5		✓	
4.6-6			✓
4.6-7		✓	
4.6-8			✓
4.6-9		✓	
4.6-10	✓		
4.6-11			✓
4.6-14		✓	
4.6-15			✓
4.6-16			✓

Source: City of Oakland, October 2011.

⁷³ Mitigation Measure 4.6-12 was eliminated in the 2002 Final EIR and Mitigation Measure 4.6-13 is not applicable to the 2012 Project.

⁷⁴ This mitigation measure has been completed.

Mitigation Measure 4.6-5: The City, Port, and OARB sub-district developers shall fund on a fair-share basis collaboration with “military.com” or a similar military history web site.

Mitigation Measure 4.6-6: The City, Port, and OARB sub-district developers shall fund on a fair-share basis distribution of copies of the complete OARB HABS/HAER documentation prepared by the Army to: the Oakland History Room, Oakland Public Library; Bancroft Library, University of California; and the Port of Oakland Archives for the purpose of added public access to these records.⁷⁵

Mitigation Measure 4.6-7: If determined of significant historical educational value by the Oakland Landmarks Preservation Advisory Board and the Oakland Heritage Alliance, the City, Port, and OARB sub-district developers shall fund on a fair-share basis distribution of copies of “A Job Well Done” documentary video published by the Army.

Mitigation Measure 4.6-8: The City, Port, and OARB sub-district developers shall fund on a fair-share basis preservation and long-term curation of murals from OARB Building No. 1, and OBRA shall either donate the murals to the Oakland Museum of California, or provide a permanent location elsewhere.⁷⁶

Mitigation Measure 4.6-9: The City, Port, and OARB sub-district developers shall fund on a fair-share basis a program to salvage as whole timber posts, beams, trusses and siding of warehouses to be deconstructed. These materials shall be used on site if deconstruction is the only option. Reuse of a warehouse building or part of a warehouse building at its current location, or relocated to another Gateway location is preferable.

Mitigation Measure 4.6-10: The City, Port, and OARB sub-district developers shall fund on a fair-share basis production of a brochure describing history and architectural history of the OARB.

Mitigation Measure 4.6-11: The City, Port, and OARB sub-district developers shall fund on a fair-share basis acquisition of copies of construction documentation and photographs of historic buildings currently in the OARB files and transfer the copies to the Oakland History Room files and Port historic archives, including funding to cover costs of archiving and cataloging these materials, as well as curator costs at the Oakland History Room. While select photos and information may be exhibited at the commemoration site, the Oakland History Room is the most appropriate location for the archive.

Mitigation Measure 4.6-14: No demolition or deconstruction of contributing structures to the OARB Historic District shall occur until necessary. All efforts shall be made to retain as much of Building 1 as possible while still achieving remediation goals. (This Mitigation Measure has been revised; see Section 3.5.5a, Significance Criteria and Impact Assessment.)

⁷⁵ This mitigation has been completed.

⁷⁶ This mitigation has been completed.

Mitigation Measure 4.6-15: As part of the deconstruction and salvaging requirements for demolition of any contributing structure within the OARB Historic District (see Mitigation Measure 4.6-9), specific architectural elements, building components or fixtures should be salvaged. A professional historic preservationist shall determine which, if any such elements, components or fixtures should be retained.

Mitigation Measure 4.6-16: The City, Port, and OARB sub-district developers shall fund on a fair-share basis preparation of an Historical Resource Documentation Program. This program shall consist of a coordinated effort of primary research and documentation, with a substantial scholarly input and publicly available products. The first product of this program shall include a coordinated effort to conduct the research, writing, photo documentation, assembly and publication efforts needed to prepare a comprehensive book on the history of the Oakland Army Base. The book shall document the important contribution the Base has had to the U.S. military, to Oakland and to the nation at large.

For the significant impact related to historic character, the 2002 EIR identified the following mitigation measure to reduce impacts to a less-than-significant level:

Mitigation Measures 4.6-13: Prior to major renovation of a historically significant structure, the redeveloper of the SPRR Station and 16th Street Tower shall ensure that historically significant artifacts and features, if present, are retained and protected in place if feasible. If retention and protection is found infeasible, such artifacts and features shall be recorded and deposited with the appropriate museum. Renovation of the exterior of a historic structure shall be consistent with the Secretary's of Interior's Standards. *[Note: This mitigation measure is not applicable to the 2012 Project.]*

3.5.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project's environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City's SCA serve to avoid or substantially reduce potentially significant impacts. The City's SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

The project site consists of fill deposited along the bayshore from circa 1900 to 1945. As a result, there is a low potential for intact subsurface cultural resources. In the event that subsurface cultural resources are identified during project ground-disturbing activities (e.g., shell midden or human remains redeposited as fill; and intact historic-period deposits, such as a building foundation) the following SCA shall apply.

SCA CULT-1: Archaeological Resources

Ongoing throughout demolition, grading, and/or construction

- a) Pursuant to *CEQA Guidelines* Section 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.
- b) In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.
- c) Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the *CEQA* definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.
- d) Require storage (curation) of recovered materials, such as artifacts and soil samples, and records generated by an archaeological study in a facility that allows access to the materials.

SCA CULT-2: Human Remains

Ongoing throughout demolition, grading, and/or construction

In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the *CEQA Guidelines*. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

SCA CULT-3: Paleontological Resources

Ongoing throughout demolition, grading, and/or construction

In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards [SVP 1995,1996]). The qualified paleontologist shall

document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in Section 15064.5 of the *CEQA Guidelines*. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

SCA CULT-4: Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition)

Prior to issuance of a demolition permit

The project applicant shall make a good faith effort to relocate the buildings considered contributors to the Historic District to a site acceptable to the Planning and Zoning Division and the Oakland Cultural Heritage Survey. Good faith efforts include, at a minimum, the following:

- a) Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3'x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City; and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations;
- b) Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division;
- c) Maintaining the signs and advertising in place for a minimum of 90 days; and
- d) Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

3.5.3 UPDATED REGULATORY SETTING

The local and State regulatory settings for the project site are largely addressed in the 2002 EIR. The Historic Preservation Element of the City's General Plan and *CEQA Guidelines* Sections 15064.5 and 15126.4 provide the local and State regulatory settings for the project. Subsequent to the 2002 EIR, the City adopted required findings for demolition of historic properties (City of Oakland Municipal Code 17.136.075). There are four findings for demolition of a Category I building (i.e., those buildings that have been rated "A" or "B" by the Oakland Cultural Heritage Survey) that must be included with a regular Design Review Application, as listed below. A proposal to demolish a historic property must meet Finding 1 or 2 and must meet Findings 3 and 4.

Finding 1: The existing property has no reasonable use or cannot generate a reasonable economic return and the development replacing it will provide such use or generate such return.

Finding 2: The property constitutes a hazard and is economically infeasible to rehabilitate on its present site. For this finding, a hazard constitutes a threat to health and safety that is not imminent.

Finding 3: The design quality of the replacement facility is equal/superior to that of the existing facility. Analysis prepared by a historic architect or professional with equivalent experience.

Finding 4: It is economically, functionally architecturally, or structurally infeasible to incorporate the historic building into the proposed development.

3.5.4 EXISTING CONDITIONS

3.5.4.1 Archaeological Resources within the Project Site

No known prehistoric archaeological sites are located within the study area. As noted in the 2002 EIR, only one archaeological site has been recorded within a one-half-mile radius of the study area. Prehistoric site number CA-ALA-17 is reported to be located in the vicinity of 7th and Adeline streets, but its exact location is unpublished. Because the study area lies almost entirely upon fill, it is considered to have low archaeological sensitivity.

3.5.4.2 OARB Historic District

The OARB Historic District, an NRHP-eligible district, is located in the OARB sub-district, and portions are located in both the Gateway and Port development areas. The historic district is discontinuous, comprising three distinct areas, as shown in Figures 3.5-1 and 3.5-2. Two smaller areas are combined and designated the Northwest Component; the third larger area is designated the Northeast Component.

The OARB Historic District was determined eligible for listing in the NRHP as a result of a 1990 study conducted by Caltrans for the Cypress Structure Replacement Project. The District was also listed as an Area of Primary Importance in the City of Oakland's General Plan (1994).

As noted in the 2002 EIR, the OARB Historic District derives its significance from the following: The OARB played a significant role during World War II (1941–1945), and had been determined eligible for listing in the National Register of Historic Places under Criterion A, representing broad patterns of American History, at the local, state, and national levels of significance. According to the Army, it was the only complete Army port installation in the nation set up with rail marshalling yards, huge warehouses, waterside transit sheds, and piers capable of handling the largest transport cargo ships, supported by shops, a complete rail system linking the entire operation, administrative and service buildings, a dry dock for handling smaller boats and ships, and temporary quarters for housing troops. It also served as the Army's disposition center, through which moved all military personnel returning from overseas assignments.

The historic district has been identified, evaluated, and recorded to Historic American Buildings Survey (HABS) level II standards. When determined eligible for listing in the NRHP, the district incorporated OARB Buildings No. 1, 4, 60, 85, 88, 90, 99, 151 (Wharf 6), 152 (Wharf 6½), 153 (Wharf 7), 802–808, 812, 821, 822, 823, 991, and the Knight Railyard. The Knight Railyard was subsequently re-evaluated by the Army, and found to no longer possess sufficient integrity to be considered eligible for the NRHP. The Knight Railyard is also no longer considered eligible for the

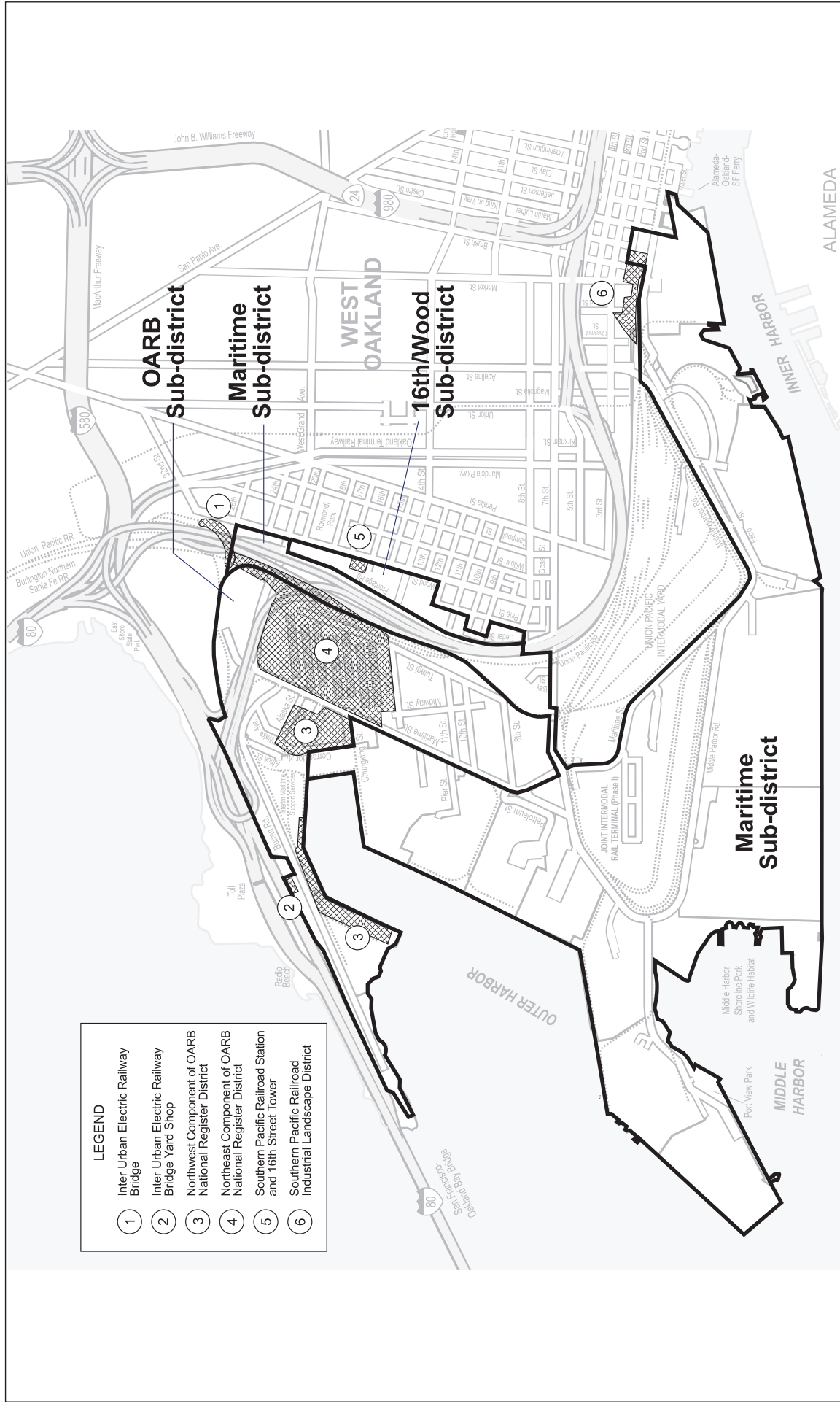
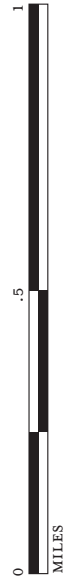


FIGURE 3.5-1

LSA



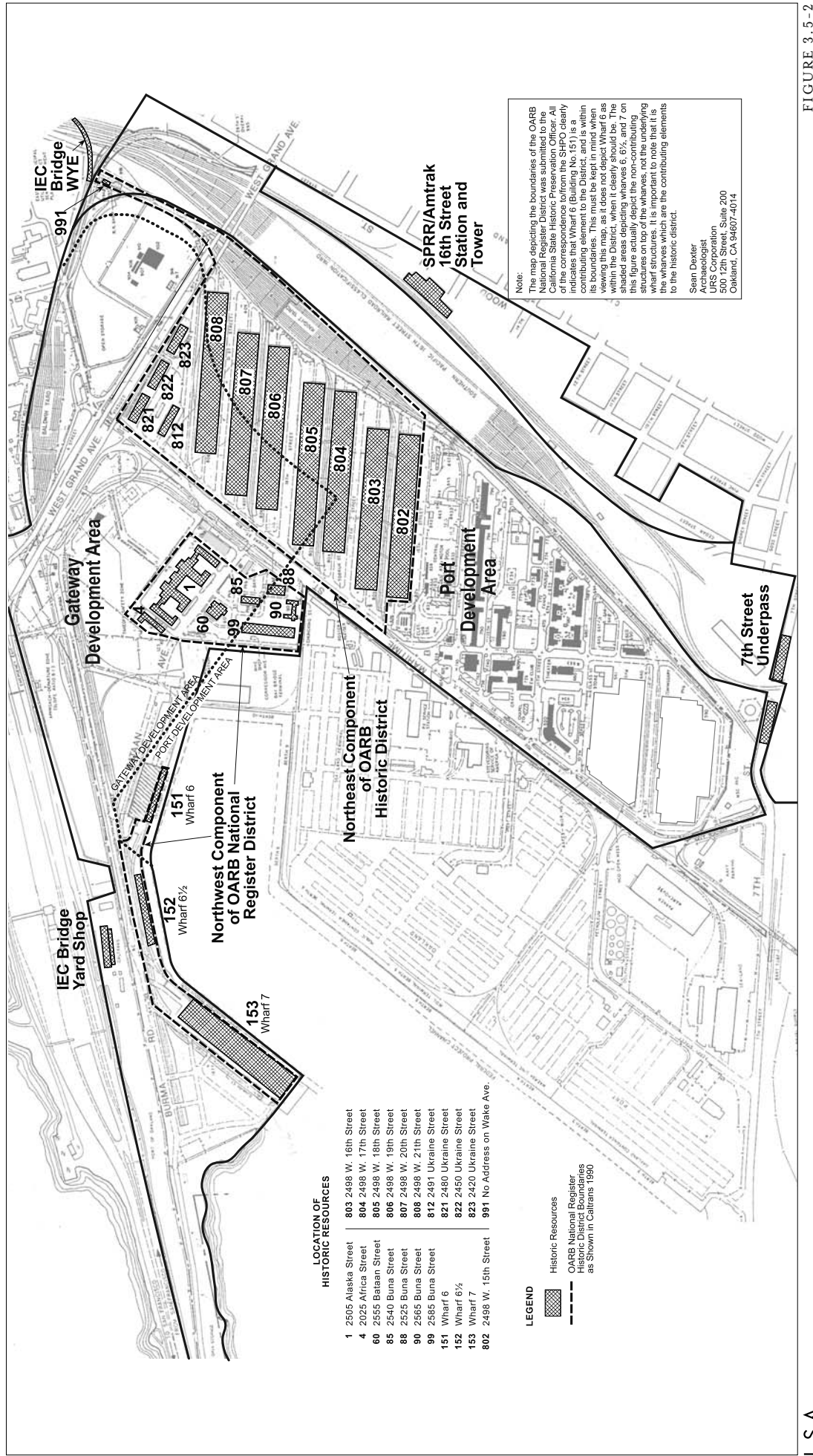


FIGURE 3.5-2

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California or Local Register, and is not considered a historic resource. Previous evaluations^{77,78} of other buildings proposed for demolition within the project site (Buildings 14, 762, 765, 780, 826, 827, 830, 832, 833, 834, 835, and 838 (see Figure 3.5-3) did not identify these as contributing elements to the OARB Historic District.

The Army and the State Office of Historic Preservation (OHP) dropped all OARB structures designated “temporary WWII” (Buildings No. 4, 85, 88, 90, 802–808, 821, 822, 823, and 991) from federal consideration pursuant to a national Programmatic Agreement concerning World War II-era military facilities. For the purpose of 2002 EIR CEQA analysis, these temporary World War II structures were considered to be historic resources (as Historic District contributors). All of the contributing structures within the OARB Historic District are categorized as “2D” by the OHP (2001: PRC Reference Numbers 4623-0441-0001 through 00024). This category means that the buildings contribute to a historic district that has been determined eligible for the National Register of Historic Places.

The 2002 EIR proposed demolition of structures within the OARB Historic District, and the 2002 EIR identified significant and unavoidable impacts related to removal of all resources contributing to the OARB Historic District and activities that would render the OARB Historic District no longer eligible to the National and/or California Registers of Historic Places or the Local Register. In 2002, the Oakland City Council certified the 2002 EIR, and adopted a Statement of Overriding Considerations relative to the significant and unavoidable cultural resources impacts.

Since certification of the 2002 EIR, several of the OARB Historic District structures and contributing features have been demolished or removed from the project site. Table 3.5-2 shows the OARB Historic Resource Number, description of the resource, and whether the resources have been demolished.

Since the OARB was last evaluated for the National Register of Historic Places, some buildings within the project site which, at the time, were not of sufficient age to qualify for listing in the National Register of Historic Places, are now 50 years old or older.⁷⁹ Buildings that are now 50 years old or older and that would be demolished by the project are 780 (1955), 801 (1961), 832 (1957), 834 (1961), and 835 (1957). These buildings were assigned a National Register status code of “6Y” in 1990 (buildings 801, 832, 834, and 835) and 2007 (building 780) by the California Office of Historic Preservation, indicating that these buildings have been determined ineligible for the National Register, but have not been evaluated for the California Register or local register of historical resources.

Previous research does not indicate that buildings 780, 801, 832, 834, and 835 qualify for either the National Register of Historic Places or California Register of Historical Resources, or otherwise qualify as a historical resource for purposes of CEQA. These buildings are not associated with the

⁷⁷ King, Gregory, 1990. California Department of Transportation. *Historic Architecture Survey Report: Part VII.D, Subarea D: Oakland Army Base*. Sacramento.

⁷⁸ California Office of Historic Preservation, 2010. *Directory of Properties in the Historic Property Data File*, May, 8, 2010. California Office of Historic Preservation, Sacramento.

⁷⁹ Fifty years is generally considered the minimum amount of time that must pass for a resource to have achieved historical significance.

OARB Historic District's historical context (Second World War) and the District's period of significance (1941-1945).

3.5.4.3 7th Street Underpass

As noted in the 2002 EIR, the 7th Street Underpass was built in 1931 and has an Oakland Heritage Survey preliminary rating of C as secondary importance based on the evaluation by Caltrans in 1990. This structure was revisited by an architectural historian in 2001, and was not found to meet the criteria of eligibility to the National, State, or Local registers and is not considered to be a significant historic resource for the purposes of CEQA.

Table 3.5-2: Status of Structures Within OARB Historic District

Resource Number ^a	Description	Currently Demolished
1	2505 Alaska Street	Yes
4	2025 Africa Street	Yes
60	2555 Baatan Street	No
85	2540 Buna Street	No
88	2525 Buna Street	No
90	2565 Buna Street	No
99	2585 Buna Street	No
151	Wharf 6	No
152	Wharf 6½	No
153	Wharf 7	No
802	2498 W. 15th Street	Yes
803	2498 W. 16th Street	No
804	2498 W. 17th Street	No
805	2498 W. 18th Street	No
806	2498 W. 19th Street	No
807	2498 W. 20th Street	No
808	2498 W. 21st Street	No
812	2491 Ukraine Street	No
821	2480 Ukraine Street	No
822	2480 Ukraine Street	No
823	2420 Ukraine Street	No

^a Figures 3.5-2 and 3.5-3 show the location of structures.

Source: 2002 Oakland Army Base EIR; Architectural Dimensions, 2011.

3.5.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

The 2012 Project would have a significant impact on the environment if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5. Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be "materially impaired." The significance of an historical resource is "materially impaired" when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5);

2012 Oakland Army Base Project
Reconstruction/Demolition Area Plan

SOURCE: ARCHITECTURAL DIMENSIONS, 2011.

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- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5;
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
or
- d) Disturb any human remains, including those interred outside of formal cemeteries.

These criteria are discussed below.

- a) **Would the project cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5?⁸⁰ Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be “materially impaired?”**

The significance of an historical resource is “materially impaired” when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5).

The 2012 Project site contains the OARB Historic District, which was determined eligible for listing in the National Register of Historic Places by the California Office of Historic Preservation and is listed in the California Register.

The 2012 Project includes redevelopment of the Army Base at a similar scale as the 2002 Project, and would continue to propose removing the following contributing elements to the OARB Historic District (see Figure 3.5-3):

- *Buildings 803, 804, 805, 806, 807, and 808.* These six prominent warehouses were constructed by the Army circa 1941-1942 and are south of West Grand Avenue, north of 14th Street, east of Maritime Street, and west of Interstate 880.
- *Buildings 812, 821, 822, and 823.* These four buildings are north and adjacent to warehouses 803-808. These historical buildings consist of a 1944 maintenance shop (Building 812), two 1943 warehouses (Buildings 821 and 822), and a 1942 box factory and crate shop (Building 823).
- *Building 991.* This building is north of Grand Avenue at the far northeastern end of the former OARB. Building 991 was constructed in 1942 and served as the OARB repair and maintenance facility for locomotives.

⁸⁰ Ibid.

Previous evaluations^{81,82} of other buildings proposed for demolition within the project site (Buildings 14, 762, 765, 780, 826, 827, 830, 832, 833, 834, 835, and 838 [see Figure 3.5-3]) did not identify these as contributing elements to the OARB Historic District. The 2012 Project would not result in any new or more significant impacts to California Register listed resources than were described in the 2002 EIR.

2002 Impact: Significant and Unavoidable

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.6-2, 4.6-3, 4.6-4, 4.6-5, 4.6-6, 4.6-7, 4.6-8, 4.6-9, 4.6-10, 4.6-11, 4.6-14, 4.6-15, and 4.6-16

2012 Mitigation: 2002 EIR Mitigation Measures 4.6-2, 4.6-3, 4.6-4, 4.6-5, 4.6-6, 4.6-7, 4.6-8, 4.6-9, 4.6-10, 4.6-11, 4.6-14 (as modified below), 4.6-15, and 4.6-16, supplemented by SCA CULT-4

Modified Mitigation Measure 4.6-14: No demolition or deconstruction of contributing structures to the OARB Historic District shall occur until a master plan and/or Lease Disposition and Development Agreement has been approved by the City or the Port, respectively, and demolition or deconstruction of a building is required to realize the master infrastructure development plan necessary for approved redevelopment activities, in conformity with applicable General Plan Historic Preservation Element and City of Oakland Planning requirements.⁸³

Significance After Implementation: Significant and Unavoidable (No New Impact, and no substantial increase in severity of a previously identified significant impact)

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5?

No archeological resources have identified in the project area. Implementation of the City's Archeological Resources Standard Condition of Approval (SCA CULT-1) and the Port's Emergency Plan of Action For Discoveries of Unknown Historic or Archaeological Resources for further review,

⁸¹ King, Gregory, 1990, op. cit.

⁸² California Office of Historic Preservation, 2010, op. cit.

⁸³ Remediation activities have been ongoing and will continue. Building 1 has been deconstructed. Reuse feasibility studies have been prepared, reviewed and approved determining that the reuse of all of the existing buildings have been deemed infeasible for the proposed warehouse and rail oriented logistics facilities contemplated for the 2012 Project. The 2002 EIR mitigation measure that no demolition or deconstruction may occur until a building permit is obtained is not feasible. Geological studies prepared during the master planning process for the project area have determined that the entire OARB site requires significant and time consuming grading work. As noted in Section 2, Project Description, every site needs to be dynamically compacted, surcharged with as much as 8 feet of soil, wicked of its water content, and then regraded to a new grade which will raise the sites from 2 to 3 feet above the current elevation. This is only feasible if done on a large scale, such as all of the Central Gateway or at least one third of the East Gateway. This activity cannot be performed around the existing buildings. All building must be taken down in advance of the required grading. Reuse feasibility studies prepared have concluded that the reuse of all of the existing buildings have been deemed infeasible for the port and rail oriented logistics facilities contemplated in the 2012 Project. All building must be relocated pursuant to SCA CULT-4 or deconstructed pursuant Mitigation Measure 4.6-9 in advance of the required grading. Thus, the mitigation requirement for demolishing buildings, subject to a specific building permit, is hereby deleted.

monitoring, and treatment of archeological deposits would reduce the project impacts to a less-than-significant level.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.6-1

2012 Mitigation: 2002 EIR Mitigation Measure 4.6-1 superseded by SCA CULT-1

Significance After Implementation: Less Than Significant (No New Impact)

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

While not anticipated, there is a possibility that ground disturbing construction could inadvertently damage such resources and result in a significant impact. The City's Standard Paleontological Resources Condition of Approval (SCA CULT-3) and the Port's Emergency Plan of Action For Discoveries of Unknown Historic or Archaeological Resources would ensure that no significant paleontological impacts would result from the 2012 Project.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.6-1

2012 Mitigation: 2002 EIR Mitigation Measure 4.6-1, superseded by SCA CULT-3

Significance After Implementation: Less Than Significant (No New Impact)

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Given the developed nature of the project site, it is unlikely that human remains would be discovered during construction or operation of the 2012 Project. Nonetheless, the possibility of encountering human remains during ground-disturbing activities cannot be ruled out. Implementation of the City's Human Remains Standard Condition of Approval (SCA CULT-2) and the Port's Emergency Plan of Action For Discoveries of Unknown Historic or Archaeological Resources for the treatment of human remains would reduce project impacts to a less-than-significant level.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.6-1

2012 Mitigation: 2002 EIR Mitigation Measure 4.6-1, superseded by SCA CULT-2

Significance After Implementation: Less Than Significant (No New Impact)

3.5.6 CUMULATIVE IMPACTS

Cumulative impacts to cultural resources from the 2012 Project are similar to those described in the 2002 EIR. Cumulative impacts described in the 2002 EIR include archaeological and paleontological resources, human remains, and built-environment historical resources.

The 2002 EIR determined that redevelopment of the project site would have less-than-significant cumulative impacts to subsurface cultural resources:

“There is no evidence that significant cumulative impacts currently exist relative to loss of archaeological or paleontological resources, or human remains to which the proposed redevelopment program could contribute....Therefore, except in rare cases where data recovery may destroy the integrity of a resource, action-specific effects are avoided through site-specific mitigation, and cumulative effects to archaeological and paleontological resources are not significant.

Because archaeological or paleontological or human remains are not known to occur in the redevelopment project area, in combination with past projects, other current projects, and probable future projects, redevelopment as proposed would not result in or contribute to impacts on such resources.”

With respect to built-environment historical resources that contribute to the OARB Historic District’s eligibility, the 2002 EIR identifies a significant and unavoidable impact from redevelopment of the project site:

“... redevelopment of Bay Area military bases for community use...has resulted in, and is expected to continue to result in loss of a portion or all World War II-era resources at specific bases. These resources document an important time in American history, but due to their design, condition, or location, are not suited for modern community reuse, and must be demolished to accommodate such reuse ... The contribution of proposed redevelopment to cumulative impacts on historic resources would be cumulatively considerable, and the incremental effect of the redevelopment program is considered significant. With application of all feasible mitigation, the impact is reduced, but not to a level that is less than significant, and the residual impact is considered unavoidable and adverse.”

The 2012 Project would not result in any new or more significant cumulative impacts to resources than were described in the 2002 EIR. No new mitigation measures for cumulative impacts to cultural resources, and the mitigation measures and SCA described in this section shall apply.

3.5.7 CONCLUSIONS

Redevelopment of the OARB would not result in significant new impacts to cultural resources or a substantial increase in the severity of previously identified impacts compared to the 2002 EIR. Thus, impacts would be similar to those addressed in the 2002 EIR, and would continue to be less than significant for subsurface cultural resources and significant and unavoidable for built-environment historical resources that contribute to the District after mitigation. Previously imposed mitigation measures from the 2002 EIR and FEIR have been identified in this section and would be implemented—if not previously implemented—as part of the 2012 Project, where appropriate. This section

also identifies the applicable provisions of the City's Standard Conditions of Approval and the Port's Emergency Plan of Action For Discoveries of Unknown Historic or Archaeological Resources. No new mitigation measures are required.

3.5.8 REFERENCES

California Department of Parks and Recreation, 2006. *California Register and National Register: A Comparison (for purposes of determining eligibility for the California Register)*. Technical Assistance Series No. 6. Sacramento.

California Office of Historic Preservation, 2004. *Technical Assistance Bulletin #8: Users Guide to the California Historical Resource Status Codes & Historic Resources Inventory Directory*. Sacramento.

California Office of Historic Preservation, 2010. *Directory of Properties in the Historic Property Data File*, May, 8, 2010. California Office of Historic Preservation, Sacramento.

King, Gregory, 1990. California Department of Transportation. *Historic Architecture Survey Report: Part VII.D, Subarea D: Oakland Army Base*. Sacramento.

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3.6 GEOLOGY AND SOILS

This section evaluates the potential geological and soil impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant geological and soil impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant geological and soil impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

3.6.1 PRIOR ANALYSIS AND CONCLUSIONS

3.6.1.1 2002 EIR Impact Findings

The 2002 EIR concluded that the 2002 Project would have potentially significant impacts, which could be reduced to less-than-significant levels due to (1) strong seismic ground shaking; (2) seismic-related ground failure, including liquefaction, lateral spreading, subsidence, or collapse; (3) localized landslides along shoreline areas; (4) erosion; (5) expansive soils; and (6) hazardous subsurface features, landfills, and unknown fill soils. Impacts included the following:

Impact 4.13-1: Redevelopment could expose increased numbers of people and structures to strong seismic ground shaking, resulting in a potentially significant impact.

Impact 4.13-2: Redevelopment could expose increased numbers of people or structures to seismic related ground failure, including liquefaction, lateral spreading, subsidence, or collapse; resulting in a potentially significant impact.

Impact 4.13-3: Localized landsliding may occur in sloped shoreline area, resulting in a potentially significant impact.

Impact 4.13-4: Under certain conditions, disturbance of soils during construction could result in erosion and a potentially significant impact.

Impact 4.13-5: Redevelopment could occur on expansive soils, resulting in a potentially significant impact.

Impact 4.13-6: Redevelopment elements may be located above a well, pit, sump, mound, tank vault, unmarked sewer line, landfill, or unknown fill soils, resulting in a potentially significant impact.

3.6.1.2 2002 EIR Mitigation Measures

For the potential impacts related to strong seismic ground shaking; seismic-related ground failure, including liquefaction, lateral spreading, subsidence, or collapse; localized landslides along shoreline areas; and expansive soils, the 2002 EIR identified the following mitigation measures to reduce impacts to a less-than-significant level:

Mitigation Measure 4.13-1: Redevelopment elements shall be designed in accordance with criteria established by the UBC, soil investigation and construction requirements established in the Oakland General Plan, the Bay Conservation and Development Commission Safety of Fill Policy, and wharf design criteria established by the Port or City of Oakland (depending on the location of the wharf).

(Note: This mitigation measure is applicable to the 2012 Project using the 2010 version of the California Building Code and the International Building code (IBC) to replace the UBC.)

Mitigation Measure 4.13-2: Redevelopment elements shall be designed and constructed in accordance with requirements of a site-specific geotechnical evaluation.

For the potential erosion impact, the 2002 EIR identified the following mitigation measure to reduce the impact to a less-than-significant level:

Mitigation Measure 4.13-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Regional Water Quality Control Board (RWQCB)-acceptable Stormwater Pollution Prevention Plan (SWPPP) that includes erosion control measures.

(Note: This mitigation measure is superseded by SCA GEO-1, and SCA HYD-1 through SCA HYD-4, which more completely address drainage, erosion control and water quality; see subsection 3.6.5, criterion b below.)

For the potential impact associated with hazardous subsurface features, landfills, and unknown fill soils, the 2002 EIR identified the following mitigation measures to reduce the impact to a less-than-significant level:

Mitigation Measure 4.13-2: Described above.

Mitigation Measure 4.13-4: The project applicant shall thoroughly review available building and environmental records.

Mitigation Measure 4.13-5: The developer shall perform due diligence, including without limitation, retaining the services of subsurface utility locators and other technical experts prior to any ground-disturbing activities.

3.6.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project's environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City's SCA serve to avoid or substantially reduce potentially significant impacts. The City's SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather

will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

SCA GEO-1: Erosion and Sedimentation Control Plan

Prior to any grading activities

- A. The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.660 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

Ongoing throughout grading and construction activities

- B. The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

SCA GEO-2: Soils Report

A preliminary soils report for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. The soils reports shall be based, at least in part, on information obtained from on-site testing. Specifically the minimum contents of the report should include:

- A. Logs of borings and/or profiles of test pits and trenches:
- a) The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to establish a soils profile suitable for the design of all the footings, foundations, and retaining structures.
 - b) The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.
 - c) All boring logs shall be included in the soils report.
- B. Test pits and trenches
- a) Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures.
 - b) Soils profiles of all test pits and trenches shall be included in the soils report.

- C. A plat shall be included which shows the relationship of all the borings, test pits, and trenches to the exterior boundary of the site. The plat shall also show the location of all proposed site improvements. All proposed improvements shall be labeled.
- D. Copies of all data generated by the field and/or laboratory testing to determine allowable soil bearing pressures, sheer strength, active and passive pressures, maximum allowable slopes where applicable and any other information which may be required for the proper design of foundations, retaining walls, and other structures to be erected subsequent to or concurrent with work done under the grading permit.
- E. Soils Report. A written report shall be submitted which shall include, but is not limited to, the following:
 - a) Site description;
 - b) Local and site geology;
 - c) Review of previous field and laboratory investigations for the site;
 - d) Review of information on or in the vicinity of the site on file at the Information Counter, City of Oakland, Office of Planning and Building;
 - e) Site stability shall be addressed with particular attention to existing conditions and proposed corrective attention to existing conditions and proposed corrective actions at locations where land stability problems exist;
 - f) Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required;
 - g) Conclusions and recommendations for temporary and permanent erosion control and drainage. If not provided in a separate report they shall be appended to the required soils report;
 - h) All other items which a Soils Engineer deems necessary;
 - i) The signature and registration number of the Civil Engineer preparing the report.
- F. The Director of Planning and Building may reject a report that she/he believes is not sufficient. The Director of Planning and Building may refuse to accept a soils report if the certification date of the responsible soils engineer on said document is more than three years old. In this instance, the Director may be require that the old soils report be recertified, that an addendum to the soils report be submitted, or that a new soils report be provided.

SCA GEO-3: Geotechnical Report

- a) A site-specific, design level, landslide or liquefaction geotechnical investigation for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. Specifically:
 - i. Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be accordance with applicable City ordinances and polices, and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults.
 - ii. The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots, and sidewalks).
 - iii. The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Oakland.
 - iv. The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the "No Build" zone. The map shall include a statement that the locations and

- limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge.
- v. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the projects design phase, shall be incorporated in the project.
 - vi. Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.
 - vii. A peer review is required for the Geotechnical Report. Personnel reviewing the geologic report shall approve the report, reject it, or withhold approval pending the submission by the applicant or subdivider of further geologic and engineering studies to more adequately define active fault traces.
- b) Tentative Tract or Parcel Map approvals shall require, but not be limited to, approval of the Geotechnical Report.

SCA HYD-1: Stormwater Pollution Prevention Plan (SWPPP)

(Please refer to Section 3.9, Hydrology and Water Quality)

SCA HYD-2: Post-Construction Stormwater Management Plan

(Please refer to Section 3.9, Hydrology and Water Quality)

SCA HYD-3: Maintenance Agreement for Stormwater Treatment Measures

(Please refer to Section 3.9, Hydrology and Water Quality)

SCA HYD-4: Stormwater and Sewer

(Please refer to Section 3.9, Hydrology and Water Quality)

3.6.3 UPDATED REGULATORY SETTING

State and local governments administer programs for reducing geologic hazards and requirements for identifying and avoiding active faults, ground failure, and the effects of seismic ground shaking. Since adoption of the 2002 EIR, the California Building Code and City of Oakland Municipal Code and General Plan have been updated. The redevelopment of the Army Base must comply with current regulations. Presented below is a summary of updated regulations.

3.6.3.1 Federal

As identified in the 2002 EIR, information obtained from two federal agencies contributes to the geologic definition of the area. The U.S. Geological Survey (USGS) performs regional-scale geologic studies and mapping used by numerous agencies and others as background information about soils, geology, surface water, and groundwater. The U.S. Department of Agriculture (USDA) compiles, updates, and maintains information about soils, and presents this information in soil surveys. Soil surveys that contain soil type classifications, leaching characteristics, and other information are used by agencies and others as regulatory input or baseline data.

3.6.3.2 State

3.6.3.2.1 Alquist-Priolo Earthquake Fault Zoning Map and California Seismic Hazards Map

The 2002 EIR acknowledged that the California Department of Conservation, Division of Mines and Geology (CDMG) compiles, updates, and maintains information regarding regional and local geo-

logic conditions. This includes mapping potentially active and known active faults and seismic evaluations under the Alquist-Priolo Earthquake Fault Zone Act.

In addition, the State Geologist of the California Geological Survey is required by the California Seismic Hazards Mapping Act to identify and map areas prone to the earthquake hazards of liquefaction, seismically induced landslides, and amplified ground shaking.

3.6.3.2.2 California Building Code

Title 24 of the California Building Code or Regulations, also known as the California Building Code, sets minimum requirements for building design and construction. The 2010 version of the California Building Code was adopted by the State of California and the City of Oakland on January 1, 2011. The California Building Code is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet State conditions; and
- Building standards, authorized by the State legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular State concerns.

Relevant provisions of the California Building Code require the preparation of foundation and soils reports and other geotechnical reports that address site-specific conditions, potential hazards and required methods and design parameters for remediating and protecting against potential seismic hazards.

3.6.3.3 Local

3.6.3.3.1 San Francisco Bay Plan

The 2002 EIR identified relevant policies from Part IV of the Bay Conservation and Development Commission (BCDC) San Francisco Bay Plan related to safety of fills. This section of the San Francisco Bay Plan was last amended in July 2001. There have been no updates since adoption of the 2002 EIR. Relevant policies identified in the 2002 EIR were:

Policy 1. The BCDC has appointed the Engineering Criteria Review Board consisting of geologists, civil engineers specializing in geotechnical and coastal engineering, structural engineers and architects competent to and adequately empowered to: (a) establish and revise safety criteria for bay fills and structures thereon; (b) review all except minor projects for the adequacy of their specific safety provisions and make recommendations concerning these provisions; (c) prescribe an inspection system to assure placement of fill according to approved designs and (d) gather, and make available performance data developed from specific projects. These activities would complement the functions of local building departments and local planning departments, none of which are presently staffed to provide soil inspections.

Policy 2. Even if the Bay Plan indicates that a fill may be permissible, no fill or building should be constructed if hazards cannot be overcome adequately for the intended use in accordance with the criteria prescribed by the Engineering Criteria Review Board (BCDC 1989).

3.6.3.3.2 City of Oakland General Plan Policies

Since adoption of the 2002 EIR, the City General Plan has been updated. The following policies and action items from the Safety and the Open Space, Conservation and Recreation (OSCAR) Elements of the City of Oakland General Plan⁸⁴ specifically address soils, geology and/or seismic hazards and are applicable to the 2012 Project.

Policy Statements Related to Geologic Hazards

- Policy GE-1: Develop and continue to enforce and carry out regulations and programs to reduce seismic hazards and hazards from seismically triggered phenomena.
 - Action GE-1.2: Enact regulations requiring the preparation of site-specific geologic or geotechnical reports for development proposals in areas subject to earthquake-induced liquefaction, settlement or severe ground shaking, and conditioning project approval on the incorporation of necessary mitigation measures.
- Policy GE-2: Continue to enforce ordinances and implement programs that seek specifically to reduce the landslide and erosion hazards.
 - Action GE-2.1: Continue to enforce provisions under the subdivision ordinance requiring that, under certain conditions, geotechnical reports be filed and soil hazards investigations be made to prevent grading from creating unstable slopes, and that any necessary corrective actions are taken.
 - Action GE-2.2: Continue to enforce the grading, erosion and sedimentation ordinance by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation.
- Policy GE-3: Continue, enhance or develop regulations and programs designed to minimize seismically related structural hazards from new and existing buildings.
 - Action GE-3.1: Adopt and amend as needed updated versions of the California building code so that optimal earthquake-protection standards are used in construction and renovation projects.
- Policy GE-4: Work to reduce potential damage from earthquakes to “lifeline” utility and transportation systems.
 - Action GE-4.4: Continue to designate underground utility districts for the purpose of replacing aboveground electric and phone wires and other structures with underground facilities, and use the planning-approval process to ensure that all new utility lines will be installed underground from the start.

Policy Statements Related to Soils

- 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.

⁸⁴ Oakland, City of, 2004. *General Plan Safety Element Chapter 3*. Website: www.oaklandnet.com/government/SE/Chapter3.pdf, accessed May 15, 2008.

- 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-1.1.3: Consideration of soil constraints in development—Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary.
- 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 contaminates sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.
- Policy CO-2.2: Unstable geologic features. Retain geologic features known to be unstable, including serpentine rock, areas of known landsliding, and fault lines, as open space. Where feasible, allow such lands to be used for low-intensity recreational activities.
 - Action CO-2.2.1: Geo-technical study requirements—Maintain Standard Operating Procedures in the Office of Planning and Building which require geo-technical studies for major developments in areas with moderate to high ground shaking or liquefaction potential, or other geologically unstable features.

Policy CO-2.3: Development on filled soils. Require development on filled soils to make special provisions to safeguard against subsidence and seismic hazards.

3.6.3.3.3 City of Oakland Municipal Code

The City of Oakland Municipal Code includes the construction codes and amendments adopted by the City. These include the California Building Code, among other codes used in construction within the City. The California Building Code Volumes 1 and 2, 2007 Edition, including the California Building Standards, 2007 Edition, published by the International Conference of Building Officials, and as modified by the amendments, additions, and deletions set forth in Title 15, was adopted by reference as the building code for the City on January 1, 2008.

3.6.4 EXISTING CONDITIONS

The project area is located within a seismically active region. The geology underlying the area consists mostly of recent, man-made fill placed on tidal marshlands and shallow estuarine muds. Sedimentary basin deposits underlie the recent fill, sand and mud. These overlie sedimentary and metamorphic rocks at greater depths. Existing conditions relating to geology and soils have not changed substantially from the regional and local setting identified in the 2002 EIR.

3.6.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

The 2012 Project would have a significant impact on the environment if it would:

- a) Expose people or structures to substantial risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to California Geological Survey 42 and 117 and Public Resources Code section 2690 et. seq.;
 - ii) Strong seismic ground shaking;

- iii) Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse;
or
- iv) Landslides;
- b) Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways;
- c) Be located on expansive soil, as defined in section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property;
- d) Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- e) Be located above landfills for which there is no approved closure or post-closure plan, or unknown fill soils, creating substantial risks to life or property; or
- f) 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.

These criteria are discussed below.

- a) **Would the project expose people or structures to substantial risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to California Geological Survey 42 and 117 and Public Resources Code section 2690 et. seq.; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse; iv) Landslides?**

The Project is located within an active seismic area; it is located less than 12 miles from the San Andreas Fault and approximately 5 miles from the Hayward Fault, but not within an Alquist-Priolo Special Study zone. While the site will likely be subject to future strong ground shaking because of its proximity to the Hayward and San Andreas faults, the likelihood of a fault rupture is very low.

The geology of the project site includes artificial fill, beginning at ground surface and extending from 4 to 8 feet below ground surface (bgs), underlain by a sand layer then Bay mud. In addition, groundwater below the Project site is generally within approximately 5 to 9 feet of the ground surface.

Expansive soils could be present. Therefore, conditions exist at the Project site that could result in seismic-related ground failure such as liquefaction, lateral spreading (lurching), and differential settlement that could expose people or structures to substantial risk of loss, injury, or death. The Project area is flat to gently sloping and not subject to landslides.

The 2012 Project includes redevelopment of the Army Base at a similar scale as the 2002 Project. The 2012 Project would not result in any new or more significant seismic hazard impacts than were described in the 2002 EIR.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.13-1 and 4.13-2

2012 Mitigation: 2002 EIR Mitigation Measures 4.13-1 and 4.13-2, supplemented with SCA GEO-2 and SCA GEO-3

Significance After Implementation: Less Than Significant (No New Impact)

b) Would the project result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways?

The 2012 Project would not result in any new or more significant erosion hazard impacts than were described in the 2002 EIR. As discussed in the 2002 EIR, soils at the project site do not constitute topsoil and therefore, redevelopment would not have the potential to impact topsoil.

2002 Impact: Less Than Significant

2012 Impact: Less Than Significant

2002 Mitigation: 2002 EIR Mitigation Measure 4.13-3

2012 Mitigation: 2002 EIR Mitigation Measure 4.13-3, superseded by SCA GEO-1 and SCA HYD-1 through SCA HYD-4

Significance After Implementation: Less Than Significant

c) Would the project be located on expansive soil, as defined in section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property?

The 2012 Project would not result in any new or more significant expansive soil hazard impacts than were described in the 2002 EIR. As discussed in the 2002 EIR, portions of the project area could contain expansive soils.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.13-1 and 4.13-2

2012 Mitigation: 2002 EIR Mitigation Measures 4.13-1 and 4.13-2, supplemented with SCA GEO-2 and SCA GEO-3

Significance After Implementation: Less Than Significant (No New Impact)

d) Would the project be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property?

The 2012 Project would not result in any new or more significant risks from potential on-site wells, pits, sumps, mounds, tank vaults, or unmarked sewer lines. As discussed in the 2002 EIR, there is potential for these hazardous subsurface features to exist in the project area.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.13-2, 4.13-4 and 4.13-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.13-2, 4.13-4 and 4.13-5, supplemented with SCA GEO-2 and SCA GEO-3

Significance After Implementation: Less Than Significant (No New Impact)

e) Would the project be located above landfills for which there is no approved closure or post-closure plan, or unknown fill soils, creating substantial risks to life or property?

The 2012 Project would not be located above a former landfill. Implementation of SCA GEO-2 would ensure that the risks associated with unknown fill soils would be less than significant.

2002 Impact: Less Than Significant

2012 Impact: Potentially Significant

2002 Mitigation: 2002 EIR Mitigation Measures 4.13-2, 4.13-4 and 4.13-5

2012 Mitigation: 2002 EIR Mitigation Measures 4.13-2, 4.13-4 and 4.13-5, supplemented with SCA GEO-2

Significance After Implementation: Less Than Significant (No New Impact)

f) 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?

As discussed in the 2002 EIR, redevelopment as part of the 2012 Project would be served by municipal sewerage systems, and the use of septic systems is not anticipated.

2002 Impact: No Impact

2012 Impact: No Impact

2002 Mitigation: No Mitigation Warranted

2012 Mitigation: No Mitigation Warranted

Significance After Implementation: No Impact (No New Impact)

3.6.6 CUMULATIVE IMPACTS

Potential cumulative geology and seismic impacts do not extend far beyond a project's boundaries, since such impacts are typically confined to specific locations and do not combine to create a cumulative impact. The exception to this would occur where a large geologic feature (e.g., fault zone, massive landslide) might affect an extensive area, or where the development effects from the project could affect the geologic stability of an off-site location. These circumstances are not present on the project site, and do not apply to the 2012 Project.

During the early part of the 1900s, nonprofit organizations developed model building codes used throughout the United States. Although these regional code developments were effective and responsive to regulatory needs, the time came for a single set of codes. The International Code Council (ICC) was established as a nonprofit organization dedicated to developing a single set of comprehensive and coordinated national model construction codes, now known as the International Building Code (IBC). Within California, additional state requirements were added to the IBC to form the California Model Building Codes (CBC). Localities, such as the City of Oakland, may adopt additional amendments to the CBC through local ordinance. The trend in building codes has been increased rigor in the design and implementation requirements for geotechnical and seismic safety. These requirements, as specified by state and local regulation with the adoption of the CBC and amendments, have reduced risk to life, health, and safety, and minimized seismic risk. Present and future projects within the project's geographic area are subject to these enhanced requirements and result in reducing geologic and seismic hazards. As present and future projects replacing aging infrastructure and prior development resulting from past projects with new, more rigorously regulated designs, cumulative seismic risks are incrementally reduced for future projects.

The City of Oakland Standard Conditions of Approval, discussed above, including appropriate grading requirements, and compliance with the CBC would reduce cumulative geologic effects of the 2012 Project site and surrounding area. Therefore, implementation of the project together with the impact of past, present and reasonably foreseeable future development would not make a considerable contribution to a significant cumulative geologic impact. As a result, no considerable contribution to substantial risk would result from present, current, and future projects.

3.6.7 CONCLUSIONS

Redevelopment of the Army Base would not result in significant new geological and soils impacts or a substantial increase in the severity of previously identified significant geological and soils impacts compared to the 2002 EIR. Thus, impacts would be similar to those addressed in the 2002 EIR, and would continue to be less than significant. Previously imposed mitigation measures from the 2002 EIR have been identified and, where appropriate, have been clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval. No new mitigation measures are required.

3.6.8 REFERENCES

Oakland, City of, 2004. *General Plan Safety Element Chapter 3*. Website: www.oaklandnet.com/government/SE/Chapter3.pdf, accessed May 15, 2008.

3.7 GREENHOUSE GAS EMISSIONS

This section evaluates the potential greenhouse gas emissions impacts of the 2012 Project. This analysis specifically considers whether the 2012 Project would result in new significant greenhouse gas emissions impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. This section also discusses any pertinent new information or changes in circumstances that could result in new significant greenhouse gas emissions impacts not identified in the 2002 EIR or a substantial increase in the severity of the previously identified significant impacts. Previously imposed mitigation measures from the 2002 EIR are identified and, where appropriate, are clarified, refined, revised, or deleted. This section also identifies the applicable provisions of the City's Standard Conditions of Approval and whether or not new mitigation measures are required.

3.7.1 PRIOR ANALYSIS AND CONCLUSIONS

Climate change and greenhouse gas emissions were not expressly addressed in the 2002 EIR. However, since information on climate change and greenhouse gas emissions was known, or could have been known in 2002, it is not legally "new information" as specifically defined under CEQA and thus is not legally required to be analyzed as part of this Addendum. However, an analysis of the proposed 2012 Project, using the previously recommended May 2011 BAAQMD CEQA Guidelines and Thresholds, has been conducted in order to provide more information to the public and decision-makers, and in the interest of being conservative. Thus, although the analysis in this Addendum evaluates climate change and greenhouse gas emissions, there is no resulting significant CEQA impact. Nevertheless, the City will impose its Standard Conditions of Approval and any Recommended Measures (that are not legally required mitigation measures).⁸⁵

3.7.2 STANDARD CONDITIONS OF APPROVAL

Since publication of the 2002 EIR, the City of Oakland has adopted Standard Conditions of Approval (SCA) that are applicable to all development projects within the City regardless of a project's environmental determination, pursuant in part to *CEQA Guidelines* Section 15183. The City's SCA serve to avoid or substantially reduce potentially significant impacts. The City's SCA that would apply to the 2012 Project are listed below. If the City approves the 2012 Project, the SCA would be adopted as requirements of the 2012 Project to help ensure less-than-significant impacts. Generally, the SCA are more current, more detailed, and provide greater clarity regarding process and procedures than previously imposed mitigation measures; the SCA will not increase significant adverse effects, but rather will further reduce adverse impacts. The SCA would be incorporated and required as part of the 2012 Project and, therefore, are not listed as mitigation measures but will be included in the Standard Conditions of Approval and Mitigation Monitoring and Reporting Program (SCA/MMRP) for the 2012 Project. In cases of conflict or overlap between mitigation measures from the 2002 Redevelopment EIR and current City SCA, the more stringent requirements would apply.

⁸⁵ On March 5, 2012, the Alameda County Superior Court issued a Judgment invalidating the May 2011 BAAQMD Thresholds and BAAQMD recommends the Thresholds not be used. Nevertheless, in the absence of further technical guidance, the City is generally continuing to use the May 2011 BAAQMD Guidelines in its CEQA review.

SCA GCC-1: Greenhouse Gas (GHG) Reduction Plan

Prior to issuance of a construction-related permit and ongoing as specified

The project applicant shall retain a qualified air quality consultant to develop a Greenhouse Gas (GHG) Reduction Plan for City review and approval. The applicant shall implement the approved GHG Reduction Plan.

The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions by at least 20 percent, with a goal of 36 percent below the project's "adjusted" baseline GHG emissions (as explained below) to help achieve the City's goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of project design features, or other energy efficiencies, (b) an "adjusted" baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City's Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Specifically, the applicant/sponsor shall adhere to the following:

- a) ***GHG Reduction Measures Program.*** Prepare and submit to the City Planning Director or his/her designee for review and approval a GHG Reduction Plan that specifies and quantifies GHG reduction measures that the project will implement by phase.

Potential GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD's latest CEQA Air Quality Guidelines, the California Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures Document (August 2010, as may be revised), the California Attorney General's website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council.

The proposed GHG reduction measures must be reviewed and approved by the City Planning Director or his/her designee. The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of "offset carbon credits," pursuant to item "b" below).

The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; (4) off-site within the State of California; then (5) elsewhere in the United States.

- b) ***Offset Carbon Credits Guidelines.*** For GHG reduction measures involving the purchase of offset carbon credits, evidence of the payment/purchase shall be submitted to the City Planning Director or his/her designee for review and approval prior to completion of the project (or prior to completion of the project phase, if the project includes more one phase).

As with preferred locations for the implementation of all GHG reductions measures, the preference for offset carbon credit purchases include those that can be achieved as follows (listed in order of City preference): (1) within the City of Oakland; (2) within the San Francisco Bay Area Air Basin; (3) within the State of California; then (4) elsewhere in the United States. The cost of offset carbon credit purchases shall be based on current market value at the time purchased and shall be based on the Project's operational

emissions estimated in the GHG Reduction Plan or subsequent approved emissions inventory, which may result in emissions that are higher or lower than those estimated in the GHG Reduction Plan.

- c) **Plan Implementation and Documentation.** For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. For operational GHG reduction measures to be incorporated into the project, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of project completion (or at the completion of the project phase for phased projects).

For physical GHG reduction measures to be incorporated into off-site projects, the measures shall be included on drawings and submitted to the City Planning Director or his/her designee for review and approval and then installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into off-site projects, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of completion of the subject project (or at the completion of the project phase for phased projects).

- d) **Compliance, Monitoring and Reporting.** Upon City review and approval of the GHG Reduction Plan program by phase, the applicant/sponsor shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the Project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Implementation of the GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with Conditions of Approval adopted for the project. Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant/sponsor shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (Annual Report), subject to the City Planning Director or his/her designee for review and approval. The Annual Report shall be submitted to an independent reviewer of the City Planning Director's or his/her designee's choosing, to be paid for by the project applicant/sponsor (see *Funding*, below), within two months of the anniversary of the Certificate of Occupancy.

The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan.

The GHG Reduction Plan shall be considered fully attained when project emissions are 36 percent below the project's "adjusted" baseline GHG emissions, as confirmed by the City Planning Director or his/her designee through an established monitoring program unless the applicant demonstrates it is infeasible to achieve the 36 percent goal. Monitoring and reporting activities will continue at the City's discretion, as discussed below.

- e) **Funding.** Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account or endowment fund to be used exclusively for preparation of Annual Reports and review and evaluation by the City Planning Director or his/her designee, or its selected peer reviewers. The escrow-type account shall be initially funded by the project applicant/sponsor in an amount determined by the City Planning Director or his/her designee and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City Planning Director or his/her designee. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City Planning Director or his/her designee, including the ability of the City to access the funds if the project

applicant/sponsor is not complying with the GHG Reduction Plan requirements, and/or to reimburse the City for its monitoring and enforcement costs.

- f) ***Corrective Procedure.*** If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant/sponsor shall prepare a report for City review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures (Corrective GHG Action Plan). The project applicant/sponsor shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant/owner fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City Planning Director or his/her designee may, in addition to its other remedies, (a) assess the project applicant/sponsor a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the "adjusted" baseline.

In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant/sponsor has made a good faith effort to comply with the GHG Reduction Plan.

The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan.

- g) ***Timeline Discretion and Summary.*** The City Planning Director or his/her designee shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.
- *Fund Escrow-type Account for City Review:* Certificate of Occupancy plus 2 months
 - *Submit Baseline Inventory of "Actual Adjusted Emissions":* Certificate of Occupancy plus 1 year
 - *Submit Annual Report #1:* Certificate of Occupancy plus 2 years
 - *Submit Corrective GHG Action Plan (if needed):* Certificate of Occupancy plus 4 years (based on findings of Annual Report #3)
 - *Post Attainment Annual Reports:* Minimum every 3 years and at the City Planning Director's or his/her designee's reasonable discretion

3.7.3 UPDATED REGULATORY SETTING

The regulatory environment related to greenhouse gas emissions has evolved since the 2002 EIR was approved. A summary of regulations and policies related to greenhouse gas emissions and global climate change is presented below.

3.7.3.1 Federal Regulations

United States Climate Policy and Actions. The Kyoto Protocol originated in the late 1990s and, by the time of the 2002 EIR, approximately 50 nations worldwide had ratified its climate change-related policies. However, the United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework.

The United States continued to follow a voluntary approach to reducing greenhouse gas emissions until April 2, 2007, when the United States Supreme Court ruled that the United States Environmental Protection Agency (U.S. EPA) has the authority to regulate CO₂ emissions under the Clean Air Act (CAA). While there currently are no adopted federal regulations for the control or reduction of greenhouse gas emissions, the U.S. EPA commenced several actions in 2009 that are required to implement a regulatory approach to global climate change.

On September 30, 2009, the U.S. EPA announced a proposal that focuses on large facilities emitting over 25,000 tons of greenhouse gas emissions per year. These facilities would be required to obtain permits that would demonstrate they are using the best practices and technologies to minimize greenhouse gas emissions.

On December 7, 2009, the U.S. EPA Administrator signed a final action under the CAA, finding that six greenhouse gasses (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆) constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to global climate change. This U.S. EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the greenhouse gas emission standards for light-duty vehicles mentioned below.

On April 1, 2010, the U.S. EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce greenhouse gas emissions and improve fuel economy. U.S. EPA is finalizing the first-ever national greenhouse gas emissions standards under the CAA, and NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. The U.S. EPA greenhouse gas standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile in model year 2016, equivalent to 35.5 miles per gallon (mpg).

3.7.3.2 State Regulations

Assembly Bill 1493 Vehicular Emissions of Greenhouse Gases. In a response to the transportation sector's significant contribution to California's CO₂ emissions, AB 1493 (Pavley) was enacted on July 22, 2002. AB 1493, the New Passenger Motor Vehicle Greenhouse Gas Emission Standards legislation, amended Section 42823 and added Section 43018.5 to the California Health and Safety Code (Division 26, Part 5, Chapter 1) (added by Statutes in 2002, Chapter 200, Section 3). Section 43018.5 requires ARB to set greenhouse gas emission standards for passenger vehicles and light-duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. In setting these standards, the California Air Resources Board (ARB) considered cost effectiveness, technological feasibility, and economic impacts. ARB adopted the standards in September 2004. When fully phased in, the near-term (through 2012) standards would result in a reduction in greenhouse gas emissions of approximately 22 percent

compared to the emissions from the 2002 fleet, while the midterm (2013 to 2016) standards would result in a reduction of approximately 30 percent. To set its own greenhouse gas emissions limits on motor vehicles, California must receive a waiver from the U.S. EPA. However, on May 18, 2009, the President announced the enactment of a 35.5 miles-per-gallon (mpg) fuel economy standard for automobiles and light-duty trucks which took effect in 2012. This standard is approximately the same standard that was proposed by California; therefore, the California waiver request was not necessary.

Executive Order S-03-05. In June 2005, Governor Schwarzenegger established California's greenhouse gas emissions reduction targets in Executive Order (EO) S-3-05. The EO established the following goals: greenhouse gas emissions should be reduced to 2000 levels by 2010; to 1990 levels by 2020; and to 80 percent below 1990 levels by 2050. Furthermore, EO S-03-05 requires the Secretary of the California Environmental Protection Agency (Cal EPA) to evaluate the impacts of climate change and establish mitigation measures that would reduce potential impacts. EO S-03-05 is also known as the Greenhouse Gas Emission Reduction Targets for California Executive Order.

Assembly Bill 32 – California Global Warming Solutions Act of 2006. California's major initiatives for reducing greenhouse gas emissions are outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006, and codified in Section 38500 et seq. of the California Health and Safety Code (HSC) (Division 25.5, Part 1 through Part 7) (added by Statutes in 2006, Chapter 488); the 2005 EO discussed above; and a 2004 ARB regulation to reduce passenger car greenhouse gas emissions. The statute begins with several legislative findings and declarations of intent, including the following:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snow pack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems." (Health and Safety Code, Section 38501)

The State goal is to reduce greenhouse gas emissions to 1990 levels by 2020, a reduction of approximately 25 percent, followed by an 80 percent reduction below 1990 levels by 2050. The main strategies for making these reductions are outlined in the Scoping Plan, which, when completed, will include a range of greenhouse gas reduction actions that can include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Pursuant to the requirements of HSC Section 38500 et seq., the State's reduction in global warming emissions will be accomplished through an enforceable statewide cap on global warming emissions that will be phased in starting in 2012. Additional early action items include a comprehensive framework of regulatory and nonregulatory elements that will result in significant and effective greenhouse gas emission reductions. Subsequent to approval of the early action measures, ARB developed a Climate Change Scoping Plan to lower the State's greenhouse gas emissions to meet the HSC Section 38500 et seq. 2020 limit that was approved in December 2008. In addition, AB 32 created the Climate Action Team (CAT), a consortium of representatives from State agencies who have been charged

with coordinating and implementing greenhouse gas emission reduction programs that fall outside of ARB's jurisdiction.

ARB, pursuant to the requirements of HSC Section 38500 et seq., has directed its staff to pursue and adopt so-called early action measures that would help the State in achieving its 2020 greenhouse gas reduction goals. The Early Action Measures to Reduce Greenhouse Gas Emissions in California report, published in 2007, adopted the first 37 measures. Based on additional meetings with stakeholders that included BAAQMD, ARB, and the California Air Pollution Control Officers Association (CAPCOA), existing measures were revised and new action measures were proposed. To report the findings, an Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions report was published later the same year. In the report, ARB recommends expansion of the adopted 37 strategies to a total of 44 measures. The broad spectrum of strategies includes a Low Carbon Fuel Standard (LCFS), regulations for refrigerants with high global warming potential, guidance and protocols for local governments to facilitate greenhouse gas reductions, and green ports. Measures related to Ports include a regulation to reduce emissions from diesel auxiliary engines on container ships, passenger ships, and refrigerated-cargo ships while berthing at a California Port, including the Port of Oakland. The regulation provides vessel fleet operators visiting these ports two options to reduce at-berth emissions from auxiliary engines: 1) turn off auxiliary engines for most of a vessel's stay in port and connect the vessel to some other source of power, most likely grid-based shore power; or 2) use alternative control technique(s) that achieve equivalent emission reductions.

The report describes each measure and either recommends its approval or reclassification and reports on the input received from the stakeholders group. The report analyzes the potential emissions reductions achieved from each measure, estimates the cost of the implementation, and analyzes the measure's feasibility.

Executive Order S-01-07. EO S-01-07 was put forth by Governor Schwarzenegger on January 18, 2007. California further solidified its dedication to reducing greenhouse gases above what was intended in EO S-03-05 by setting a new LCFS for transportation fuels sold within the State. EO S-1-07 sets a declining standard for greenhouse gas emissions measured in carbon dioxide equivalent (CO₂e) grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. Essentially, the order mandates the following: (1) that the state establishes a goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that an LCFS for transportation fuels be established for California. The Executive Order is also known as the Low Carbon Standard for Transportation Fuels.

Senate Bill 97, Companion Bill to Global Warming Solutions Act. To address greenhouse gas emissions and global climate change in General Plans and CEQA documents, Senate Bill (SB) 97 (by Statutes in 2007, Chapter 185) added Section 21083.05 and added and repealed Section 21097 of the California Public Resources Code (Division 13, Chapter 2.6) (added by Statutes in 2007, Chapter 185). Section 21083.05 requires the Office of Planning and Research (OPR) to develop CEQA Guidelines on how to address global warming emissions and mitigate project-specific greenhouse gases. OPR adopted amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The amendments became effective on March 18, 2010. These CEQA Guideline amendments provide guidance to

public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents.

3.7.3.3 City of Oakland Regulations

The Draft City of Oakland Energy and Climate Action Plan outlines 150 specific actions (to be implemented over a 10-year period) that will enable the City to achieve a 36 percent reduction in greenhouse gas emissions. Based on the plan, much of the reduction would result from the implementation of renewable energy and energy efficiency measures, including measures to reduce electricity consumption by 32 percent and natural gas consumption by 15 percent. These measures include the adoption of a green building ordinance for private development, the use of property-based financing for alternative energy systems, and advancing the use of transit.

Specific measures, referred to as “Priority Actions” (abbreviated PA) and intended to be implemented over the period of 2010 to 2013, applicable to the project include the following:

PA 5. Call for Port of Oakland Greenhouse Gas Reduction Targets and Plans. Call upon the Port to establish greenhouse gas reduction goals associated with Port operations in alignment with the City’s greenhouse gas reduction target of 36 percent below 2005 emissions by 2020, and to create plans for achieving those goals.

PA 6. Call for Climate Action by Port Tenants. Call upon the Port to establish greenhouse gas inventories and reduction goals associated with tenant activities, and plans for achieving those goals with appropriate tenant commitments, potentially including requiring specific high-impact greenhouse gas reduction measures (e.g., electrification of land-based aviation equipment and maritime vessels).

In addition, the CAP includes objectives and actions to be pursued by 2020. The following items in the draft City of Oakland Energy and Climate Action Plan relate directly to the Port of Oakland, but have not yet been adopted by either the City or the Port.

Objective: Reduce Greenhouse Gas emissions associated with the Port of Oakland and its tenants

- **Action TLU-38:** Call upon the Port to establish greenhouse gas reduction goals associated with Port operations in alignment with the City’s greenhouse gas reduction target of 36 percent below 2005 emissions by 2020, and plans for achieving those goals. *3-Year Priority, Funded*
- **Action TLU-39:** Call upon the Port to establish greenhouse gas inventories and reduction goals associated with tenant activities, and plans for achieving those goals with appropriate tenant commitments, potentially including requiring specific high-impact greenhouse gas reduction measures (e.g., electrification of land-based, aviation and maritime vessels). *3-Year Priority, Funded*
- **Action TLU-40:** Offer to partner with the Port, where appropriate, in evaluating and developing greenhouse gas reduction strategies.
- **Action TLU-41:** Collaborate with the Port to advocate that Port tenants be required to implement actions at Oakland’s ports in demonstrating compliance with statewide fleet emissions reduction targets (e.g., through electrification of docked vessels).
- **Action TLU-42:** Conduct a study of potential options to implement truck re-routing in Oakland to reduce driving and parking of diesel trucks near residential neighborhoods, as well as increased enforcement of anti-idling restrictions.

- **Action TLU-43:** Make land use and planning decisions (e.g., plans for the former Army Base) in a manner that minimizes greenhouse gas emissions and other air pollutants associated with the port and related activities and travel without unduly compromising the economic value of the Port.
- **Action TLU-44:** Identify opportunities to incorporate greenhouse gas reduction actions and/or performance requirements applicable to the Port of Oakland within updates to the City's general Plan.

The City's General Plan also includes policies related to greenhouse gas emissions and climate change. The Land Use and Transportation Element (LUTE) includes policies encouraging transit-oriented development, new bikeways and pedestrian ways, increased public transit, and infill development. The Open Space, Conservation and Recreation (OSCAR) Element includes policies to conserve open space, which would protect vegetation to effect cooler climate, reduce excessive solar gain and absorb CO₂; policies that encourage stormwater management to accommodate increased storms and flooding; and policies that encourage energy efficiency and use of alternative energy sources, which would directly reduce greenhouse gas emissions. The Historic Preservation Element encourages the reuse of existing buildings, which would reduce landfill material, avoid the incineration of materials, and the need for new material production.

3.7.4 EXISTING CONDITIONS

3.7.4.1 Description of Global Climate Change and Its Sources

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. Global surface temperatures have risen by $0.74^{\circ}\text{C} \pm 0.18^{\circ}\text{C}$ ($1.1^{\circ}\text{F} \pm 0.4^{\circ}\text{F}$) between 1906 and 2005. The rate of warming over the last 50 years of this period is almost double that over the last 100 years.⁸⁶ The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide and other greenhouse gases are the primary causes of the human-induced component of warming. greenhouse gases are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.⁸⁷

Greenhouse gases are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF₆)

⁸⁶ Intergovernmental Panel on Climate Change, 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

⁸⁷ The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of GHG results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

Over the last 200 years, humans have caused substantial quantities of greenhouse gases to be released into the atmosphere. These extra emissions are increasing greenhouse gas concentrations in the atmosphere and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade greenhouse gases include naturally-occurring greenhouse gases such as CO₂, methane, and N₂O, some gases, like HFCs, PFCs, and SF₆ are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of greenhouse gases above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each greenhouse gas to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant greenhouse gas; the definition of GWP for a particular greenhouse gas is the ratio of heat trapped by one unit mass of the greenhouse gas to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. greenhouse gas emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e). Table 3.7-1 shows the GWPs for each type of greenhouse gas. For example, SF₆ is 22,800 times more potent at contributing to global warming than CO₂. The following discussion summarizes the characteristics of the six greenhouse gases.

Table 3.7-1: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF ₄)	50,000	7,390
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	12,200
Sulfur Hexafluoride (SF ₆)	3,200	22,800

Source: IPCC, 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.

Carbon Dioxide. In the atmosphere, carbon generally exists in its oxidized form, as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals and plants, volcanic outgassing, decomposition of organic matter, and evaporation from the oceans. Human-caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO₂ each year, far outweighing the 7 billion tons of man-made emissions of CO₂ each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO₂ and consequently the gas is building up in the atmosphere.

Methane. CH₄ is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH₄ emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH₄ in California. CH₄ accounted for approximately 6 percent of gross climate change emissions (CO₂e) in California in 2002.

Total annual emissions of CH₄ are approximately 500 million tons, with manmade emissions accounting for the majority. As with CO₂, the major removal process of atmospheric CH₄ – a chemical breakdown in the atmosphere – cannot keep pace with source emissions, and CH₄ concentrations in the atmosphere are increasing.

Nitrous Oxide. N₂O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N₂O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N₂O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in California. N₂O emissions accounted for nearly 7 percent of man-made greenhouse gas emissions (CO₂e) in California in 2002.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride. HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.⁸⁸ PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF₆ accounted for about 3.5 percent of man-made greenhouse gas emissions (CO₂e) in California in 2002.

Global Emissions. Worldwide emissions of greenhouse gases in 2004 were 27 billion metric tons of CO₂e per year.⁸⁹ Global estimates are based on country inventories developed as part of programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions. In 2010, the United States emitted approximately 7.0 billion metric tons of CO₂e, or approximately 25 tons per year per person. Of the six major sectors nationwide – electric power industry, transportation, industry, agriculture, commercial, residential – the electric power industry and transportation sectors combined account for approximately 74 percent of the greenhouse gas emissions. The majority of the electrical power industry and all of the transportation emissions

⁸⁸ The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was intended to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

⁸⁹ Combined total of Annex I and Non-Annex I Country CO₂e emissions. United Nations Framework Convention on Climate Change, 2007. *Greenhouse Gas Inventory Data*. Website: unfccc.int/ghg_data/ghg_data_unfccc/time_series_annex_i/items/3814.php and http://maindb.unfccc.int/library/view_pdf.pl?url=http://unfccc.int/resource/docs/2005/sbi/eng/18a02.pdf.

are generated from direct fossil fuel combustion. Between 1990 and 2010, total United States greenhouse gas emissions rose approximately 12.1 percent.⁹⁰

State of California Emissions. According to California Air Resources Board (ARB) emission inventory estimates, California emitted approximately 457 million metric tons of CO₂e (MMTCO₂e) emissions in 2009.⁹¹ This large number is due primarily to the sheer size of California compared to other states. By contrast, California has the 46th lowest per capita CO₂ emission rate from fossil fuel combustion in the country, due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the State's greenhouse gas emissions rate of growth by more than half of what it would have been otherwise.⁹²

The California Environmental Protection Agency (Cal/EPA) Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO₂e) was as follows:

- CO₂ accounted for 83.3 percent;
- CH₄ accounted for 6.4 percent;
- N₂O accounted for 6.8 percent; and
- HFCs, PFCs, and SF₆ accounted for 3.5 percent⁹³

The California ARB estimates that transportation is the source of approximately 38 percent of the State's greenhouse gas emissions in 2009, followed by electricity generation (both in-State and out-of-State) at 23 percent, and industrial sources at 19.5 percent. The remaining sources of greenhouse gas emissions are residential and commercial activities at 6 percent, agriculture at 6 percent, unspecified gases at 3 percent, and recycling and waste at 1 percent.⁹⁴

The California ARB is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of greenhouse gases emitted to and removed from the atmosphere by human activities within the State of California and supports the AB 32 Climate Change Program. The California ARB's current greenhouse gas emission inventory covers the years 1990–2004 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, agricultural lands). The emission inventory estimates are based on the actual amount of all fuels combusted in the State, which accounts for over 85 percent of the greenhouse gas emissions within California.

⁹⁰ U.S. Environmental Protection Agency, 2012. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010*. February.

⁹¹ California Air Resources Board, 2011. *California Greenhouse Gas Inventory 2000 to 2009*. December.

⁹² California Energy Commission, 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report*, publication # CEC-600-2006-013-SF, Sacramento, CA. December 22, 2006; and January 23, 2007, update to that report.

⁹³ California Environmental Protection Agency, 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

⁹⁴ California Air Resources Board, 2011, op. cit.

The California ARB staff has projected statewide unregulated greenhouse gas emissions for 2020, which represent the emissions that would be expected to occur in the absence of any greenhouse gas reduction actions, will be 596 MMT CO₂e. Greenhouse gas emissions from the transportation and electricity sectors as a whole are expected to increase, but remain at approximately 38 percent and 23 percent of total CO₂e emissions, respectively. The industrial sector consists of large stationary sources of greenhouse gas emissions, and the percentage of the total 2020 emissions is projected to be 17 percent of total CO₂e emissions. The remaining sources of greenhouse gas emissions in 2020 are high global warming potential gases at 8 percent, residential and commercial activities at 8 percent, agriculture at 5 percent, and recycling and waste at 1 percent.⁹⁵

3.7.5 SIGNIFICANCE CRITERIA AND IMPACT ASSESSMENT

As stated above in section 3.7.1, there were no Significance Criteria for greenhouse gas emissions in 2002. For informational purposes only, listed below are the BAAQMD's May 2011 quantitative significance criteria:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, specifically:
 - o For a project involving a stationary source, produce total emissions of more than 10,000 metric tons of CO₂ annually.
 - o For a project involving a land use development, produce total emissions of more than 1,100 metric tons of CO₂e annually AND more than 4.6 metric tons of CO₂e per service population annually.
 - b) Conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions.
- a) **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Construction Emissions. Construction of the project would required demolition of the existing structures and pavement, and removing or capping old utility systems (sewer, storm drain, water electrical, gas, etc.). In addition, deconstruction and removal of several warehouses would be required to accommodate the proposed new construction and/or infrastructure. Site preparation would include the process of deep dynamic compaction, import of soil, and surcharge and wicking as part of the 2012 Project. Approximately 2 million cubic yards of fill would be required to bring the project site up to a new elevation that allows for compliance with current engineering regulations for stormwater flow and anticipated sea level rise. Construction of the project would occur for approximately 8 years.

During this time, construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the project, greenhouse gases would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates greenhouse gases such as CO₂,

⁹⁵ Ibid.

CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Anticipated construction activities and resulting construction emissions were not estimated in the 2002 EIR although it is anticipated that construction operations in 2012 would be similar to those proposed in 2002.

Construction emissions for the 2002 Project and 2012 Project were calculated assuming the same level of construction activity. Construction emissions for the proposed 2012 Project were estimated using emission factors from the California ARB's latest OFFROAD 2011 and EMFAC 2011 models and the U.S. EPA's AP-42 Handbook. Emissions for the 2002 Project were calculated using average fleet data for the 2002 Project construction period (2002 through 2010). Results indicate the 2002 project would have generated approximately 70,221 total metric tons of CO₂e. Based on the anticipated construction schedule and equipment usage, greenhouse gas emissions associated with construction of the 2012 Project are estimate at a total of 69,938 metric tons of CO₂e. Following City of Oakland guidelines for the quantification of greenhouse gas emissions, the project's greenhouse gas emissions when annualized over a 40-year period would be 1,748 metric tons of CO₂e per year. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency. Construction emissions by source are shown in Table 3.7-2.

Table 3.7-2: Greenhouse Gas Emission Estimates from Construction Activities

Emissions Source	Total Construction Emissions in Metric Tons ^a			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2002 Project				
Barge Tugs	6,051	1	0	6,131
Construction Equipment	19,555	3	0	19,608
Construction Trucks	41,756	2	1	42,138
Employee Commute	2,296	0	0	2,344
Total 2002 Project Construction Emissions	69,658	6	1	70,221
2012 Project				
Barge Tugs	6,051	1	0	6,134
Construction Equipment	19,555	1	0	19,585
Construction Trucks	41,561	1	1	41,910
Employee Commute	2,297	0	0	2,310
Total 2012 Project Construction Emissions	69,464	3	1	69,938

^a Emissions include on-site and off-site sources over the entire period of construction (July 2012 through December 2019)

Source: ENVIRON, 2012.

Operational Emissions. Operation of the proposed project would include a Trade and Logistics Center that combines a Port of Oakland development program and a City of Oakland development program for the construction of new buildings (such as warehouse and distribution facilities) primarily to support cargo logistics uses. The proposed project would also implement the infrastructure necessary to support the project including a new rail yard, roadway and railroad improvements as well as water, sewer, storm drainage, telecommunications, security, gas, electrical and other utility improvements. Operation of the proposed project would generate greenhouse gas emissions in the form of exhaust from cargo equipment, ships, tugs, trains, transport trucks and other vehicles. The

project would also generate greenhouse gas emissions from electricity use, natural gas for space and water heating, waste and wastewater, and solid waste.

Prologis/CCIG intends to use sustainable design concepts for infrastructure systems such as: renewable and emerging technology energy systems; energy efficient building design; central plants for heating and cooling with interconnected hot and chilled water distribution systems; energy monitoring to verify and promote the success of energy efficiency designs; and recycled water (storm and sewage) for landscape irrigation and/or toilet flushing. These energy efficient features of the project would contribute to a reduction in greenhouse gas emissions over business-as-usual conditions due to the resulting reduced electricity demand over the business-as-usual conditions that were included in the project's emission estimates. The project would also include the installation of solar photovoltaic (PV) panels on roof areas of the proposed warehouse buildings, which could generate up to 20,633 annual megawatt hours (MWh), or approximately 20 percent of the project's projected electricity demand.⁹⁶ The installation of solar panels was included in the project's emission calculations.

Greenhouse gas emissions from mobile operation sources were calculated for the operation year of 2020 using emission factors from AP-42, OFFROAD 2011 and EMFAC 2011. Emissions from energy use, water, passenger vehicles, and solid waste were calculated using the Bay Area Greenhouse Gas Estimator Model (BGM). Results of the emission calculations are shown in Table 3.7-3. Additional calculation details are provided in Appendix A.

As shown in Table 3.7-3, the 2002 Project would result in total CO₂e emissions of 171,292 metric tons per year, which would exceed the BAAQMD's 2011 recommended greenhouse gas threshold of 1,100 metric tons per year. The 2012 Project would result in total CO₂e emissions of 17,869 metric tons per year which would also exceed the BAAQMD's 2011 recommended greenhouse gas emissions threshold. The project would employ 2,635 people, resulting in greenhouse gas emissions of 6.8 metric tons CO₂e per service population which also exceeds the BAAQMD's 2011 Threshold of 4.6 metric tons CO₂e per service population. As noted above, this analysis is provided for informational purposes only; the 1999 BAAQMD Thresholds that are the applicable thresholds for this project do not contain a greenhouse gas threshold, therefore this impact would not be considered significant. Moreover, the 2012 Project generates substantially less greenhouse gases than the 2002 project.

⁹⁶ AECOM, 2011. OGTIC Solor Power Capacity. December.

Table 3.7-3: Project Operation Greenhouse Gas Emissions in Metric Tons Per Year

Emissions Source	Operational Emissions			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2002 Project				
Cars/Delivery Trucks	156,457	4.0	73.0	178,316
Trucks	2,793	0.2	1.4	3,175
Trains (Linehaul)	180	0.07	0.08	165
Railyard Equipment (includes Switchers)	3,881	0.25	0.0	3,882
Electricity	10,856	0.09	0.05	10,873
Natural Gas	2,074	0.20	0.00	2,079
Water & Wastewater	239	0.0	0.0	239
Solid Waste	80	545	0.0	11,523
Less 1995 Alternative Baseline	35,727	0.73	17	40,715
Annualized Construction Emissions				1,755
Total 2002 Project Annual CO₂e Emissions				171,292
2012 Project				
Marine Cargo Handling Equipment	86	0	0	86
Ships				
Hotelling	99	0	0	100
Maneuvering	53	0	0	54
Cruising	1,108	0	0	1,124
Assist Tugs				
Assisting	220	0	0	222
Transiting	162	0	0	164
Trains (Linehaul and Switchers) ^a	1,652	0	0	1,658
Rail Cargo Handling Equipment	7,341	0	0	7,351
Transportation (Trucks)	13,597	0	0	13,689
Transportation (Passenger Cars)	21,958	1.31	0.0	21,986
Electricity ^c	3,400	0.06	0.06	3,106
Natural Gas	867	0.08	0.0	869
Water & Wastewater	118	0.0	0.0	119
Solid Waste	44	298	0.0	6,308
Less 1995 Alternative Baseline	35,727	0.73	17	40,715
Annualized Construction Emissions				1,748
Total 2012 Project Annual CO₂e Emissions^b				17,869

^a Emission factors based on Port of Los Angeles Carbon Footprinting for Ports Guidance Document for locomotive engines.

^b Total emissions do not include off-site ship cruising emissions or off-site assist tug transitioning.

^c Assumes the generation of 20,633 annual megawatt hours (MWh) from installation of solar photovoltaic (PV) panels on roof areas of the proposed warehouse buildings.

Source: ENVIRON and LSA, Associates, Inc., 2012.

The 2012 Project would be required to implement SCA GCC-1 which would require the project applicant to prepare a Greenhouse Gas Reduction Plan which will demonstrate how the project would reduce greenhouse gas emissions using design features and/or the purchase of carbon offset credits.

Impact: Less Than Significant

Mitigation: None Required

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The California Environmental Protection Agency Climate Action Team (CAT) and the ARB have developed several reports to achieve the Governor's greenhouse gas targets that rely on voluntary actions of California businesses, local government and community groups, and State incentive and regulatory programs. These include the CAT's 2006 Report to Governor Schwarzenegger and the Legislature, ARB's 2007 Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California, and ARB's Climate Change Scoping Plan: a Framework for Change. The reports identify strategies to reduce California's emissions to the levels proposed in Executive Order S-3-05 and AB 32. The adopted Scoping Plan includes proposed greenhouse gas reductions from direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as cap-and-trade systems.

The transportation sector regulations items such as truck efficiency, low carbon fuel standard, proper tire inflation, truck stop electrification and strengthening light duty vehicle standards are applicable to the proposed project and would result in a reduction of operational greenhouse gas emissions associated with the project. Additionally, the adopted Early Action Measure related to shore power regulations at container terminals, would contribute to a reduction in operational Port greenhouse gas emissions. The Port and tenants are now installing shore power facilities at the terminals. Additional State measures include emission reductions assumed as part of the Scoping Plan, including light-duty vehicle greenhouse gas standards ("Pavley standards"), low carbon fuel standard, and energy efficiency measures.

The City of Oakland Draft Energy and Climate Action Plan (ECAP) includes strategies to reduce greenhouse gas emissions from land use, transportation, and energy use to achieve the emission reduction target. Consistent with this plan, as described above, the project would use sustainable design concepts for infrastructure systems such as: renewable and emerging technology energy systems; energy efficient building design; central plants for heating and cooling with interconnected hot and chilled water distribution systems; energy monitoring to verify and promote the success of energy efficiency designs; and recycled water (storm and sewage) for landscape irrigation and/or toilet flushing. The project would also include the installation of solar photovoltaic (PV) panels on roof areas of the proposed warehouse buildings.

The 2012 Project would not conflict with the objectives and actions identified in the City's Draft ECAP. Under the 2012 Project, the Port will continue to reduce emissions associated with Port rail operations and on-site warehouse tenant activities, through implementation of the Port's Maritime Air Quality Improvement Plan.

The 2012 Project would be required to implement SCA GCC-1 which would require the preparation of a Greenhouse Gas Reduction Plan which will demonstrate how the project would reduce greenhouse gas emissions.

The 2012 Project would not conflict with the State goal of reducing greenhouse gas emissions and would not conflict with the AB 32 Scoping Plan or the early action measures. The project would be subject to all applicable permit and planning requirements in place or adopted by the City of Oakland and is would not conflict with the City's Draft Energy and Climate Action Plan. Therefore, the

proposed project would not conflict with any applicable plan, policy or regulation for the purpose of reducing greenhouse gas emissions. As noted above, this analysis is provided for informational purposes only; the 1999 BAAQMD CEQA Guidelines which are the applicable guidelines for this project do not contain a greenhouse gas plan consistency requirement. Moreover, the 2012 Project intends to implement green building design features and would generate substantially less greenhouse gas emissions than the 2002 Project.

Impact: Less Than Significant

Mitigation: None Required

3.7.6 CUMULATIVE IMPACTS

Greenhouse gas emissions are, by their nature, cumulative impacts. Consequently, the cumulative analysis is the same as the foregoing discussion concerning project impacts. As indicated in the analysis above, the project would generate greenhouse gas emissions, but as previously noted, this is not new information since information on climate change and greenhouse gas emissions was known or could have been known in 2002. Implementation of the City's Standard Conditions of Approval would reduce the project's greenhouse gas emissions. Moreover, the 2012 Project intends to implement green building features and would generate substantially less greenhouse gas emissions than the 2002 Project. Moreover, the 2012 Project intends to implement green building design features and would generate substantially less greenhouse gas emissions than the 2002 Project.

3.7.7 CONCLUSIONS

Implementation of the proposed project would result in the generation of greenhouse gas emissions from ships, trains, tugs, trucks and operation of buildings on-site, but as noted above, climate change and greenhouse gas emissions were not expressly addressed in the 2002 EIR. However, since information on climate change and greenhouse gas emissions was known, or could have been known in 2002, it is not legally a new significant impact as specifically defined under CEQA. Moreover, the 2012 Project intends to implement green building design features and would generate substantially less greenhouse gas emissions than the 2002 Project.

Thus, although the analysis evaluates climate change and greenhouse gas, there is no resulting significant CEQA impact. Nevertheless, the City will impose its Standard Conditions of Approval to reduce greenhouse gas emissions.

3.7.8 REFERENCES

AECOM, 2011. OGTIC Solar Power Capacity. December.

California Air Resources Board, 2011. *California Greenhouse Gas Inventory 2000 to 2009*. December.

California Energy Commission, 2007. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report*, publication # CEC-600-2006-013-SF, Sacramento, CA. December 22, 2006; and January 23, 2007, update to that report.

California Environmental Protection Agency, 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature*. March.

Intergovernmental Panel on Climate Change, 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC.*

U.S. Environmental Protection Agency, 2012. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010.* February.

United Nations Framework Convention on Climate Change, 2007. *Greenhouse Gas Inventory Data.* Website: unfccc.int/ghg_data/ghg_data_unfccc/time_series_annex_i/items/3814.php and http://maindb.unfccc.int/library/view_pdf.pl?url=http://unfccc.int/resource/docs/2005/sbi/eng/18a02.pdf.

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