

CITY OF RICHMOND, CALIFORNIA

Honda Port of Entry

at the Point Potrero Marine Terminal

DRAFT ENVIRONMENTAL IMPACT REPORT
SCH #2008022063

VOLUME I

JULY 2008



HONDA PORT OF ENTRY

Draft Environmental Impact Report

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1. INTRODUCTION

1.1 THE INTENT OF CEQA

This document is a Draft Environmental Impact Report (DEIR) prepared in accordance with the California Environmental Quality Act (CEQA) on the proposed Honda Port of Entry project in the City of Richmond, California. CEQA requires that an Environmental Impact Report (EIR) be prepared for any project to be undertaken or approved by a local or State agency that may have a significant effect on the environment.¹

The basic purposes of CEQA are to:

- inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities;
- identify the ways that environmental damage can be avoided or significantly reduced;
- prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.²

This document evaluates the potential environmental effects of the proposed Honda Port of Entry project, consisting of an expansion of existing automobile import and distribution operations at the Port of Richmond's Point Potrero Marine Terminal (PPMT), including construction and operation of a rail yard terminal on the PPMT property. Honda is proposing to establish the Port of Richmond as its northern California port of entry for automobiles imported from Japan, as well as to distribute domestically-produced Honda vehicles throughout northern California. The Lead Agency responsible for preparing the EIR on this project is the City of Richmond Planning Department. This EIR is intended to provide sufficient environmental documentation to allow the Richmond Planning Commission to make an informed decision concerning the proposed project. This document will also be reviewed and used by Responsible Agencies that grant other permits or otherwise have jurisdiction over the project, including the U.S. Army Corps of Engineers, the San Francisco Bay Regional Water Quality Control Board (RWQCB), and the San Francisco Bay Conservation and Development Commission (BCDC). In addition,

¹ California Public Resources Code, Section 21000.

² CEQA Guidelines, Section 15002.

this EIR may be used by the City of Richmond as a reference document or to assist in the planning of other development projects within the City.

1.2 BACKGROUND AND SCOPE OF THIS EIR

A Notice of Preparation (NOP) for the proposed Honda Port of Entry project was published by the City of Richmond on February 11, 2008, in accordance with Section 15082 of the *CEQA Guidelines* (Guidelines). (The *CEQA Guidelines* serve as the official set of administrative CEQA rules, to which the courts generally defer in their rulings on CEQA litigation.) The NOP was accompanied by an Environmental Initial Study, prepared pursuant to Section 15063 of the *CEQA Guidelines*. The NOP, included with the Initial Study as Appendix A of this document, concluded that the project may have a significant effect on the environment, requiring preparation of an Environmental Impact Report. The publication and transmittal of the NOP to the State Clearinghouse in the Office of Planning and Research initiated a 30-day period for State and local agencies and concerned members of the public to provide input into the scope of the EIR. A variety of letters and emails were submitted by local organizations and business, public agencies with jurisdiction over the project (Responsible Agencies, pursuant to CEQA), and concerned residents. The letters received in response to the NOP are presented in Appendix B.

On March 5, 2007 the City conducted a scoping meeting in order to solicit verbal input regarding issues that should be addressed in the EIR from representatives of responsible, trustee, and other agencies, thereby expediting the consultation process. Although no agency representatives were present, about 15 members of the public attended this meeting, including neighboring residents, union members, and neighboring industry representatives.

The scope of the EIR was also determined by the Initial Study. In accordance with the provisions of CEQA, the Initial Study was used to focus the EIR on the effects determined to be potentially significant and to explain the reasons for determining that other potentially significant effects would not be significant.³ As a result of the scoping process, this EIR addresses potential impacts under the following general headings:

- Land Use and Planning
- Traffic and Transportation
- Air Quality
- Noise
- Biological Resources

³ *CEQA Guidelines*, Section 15063.

- Cultural Resources
- Geology and Soils
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Visual Quality
- Utilities

As discussed in the Initial Study, the project is not expected to have significant impacts on agricultural resources, mineral resources, population and housing, public services, or recreation. Therefore, those topics are not discussed in this EIR.

1.3 THE CEQA PROCESS

A Notice of Completion (NOC) will be filed with the State Clearinghouse upon completion and publication of this Draft EIR (DEIR). The DEIR will be circulated for review and comment by public agencies and members of the public for a period of 45 days. A public hearing will be held during the review period to solicit verbal comments.

All written comments on the DEIR should be addressed to:

Kieron Slaughter, Assistant Planner
Planning Department
City of Richmond
Planning Department
1401 Marina Way South
Richmond, CA 94804

Kieron.Slaughter@ci.richmond.ca.us

Comments should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments must be received during the review period to be included in the Final EIR.

Following the public review period, oral comments made at the public hearing on the DEIR and written comments submitted to the City of Richmond Planning Department that address environmental concerns will be addressed in a Comments and Responses document, which will be made available to the public. That document will incorporate the DEIR, revised as appropriate in response to comments received, and will constitute the Final EIR (FEIR). The FEIR will include copies of written comments received on the DEIR during the review period, transcripts of verbal comments received at the public hearing, a list of each person and/or agency that commented on the DEIR, and the City's responses to the comments. A Mitigation Monitoring and Reporting Program (MMRP)

also will be prepared to ensure the implementation of mitigation measures, if the project is approved and implemented.

After examining the FEIR, the Richmond Planning Commission will determine whether to certify that (1) the FEIR is adequate and has been completed in compliance with CEQA, and (2) the information presented in the FEIR has been reviewed and considered prior to approval of the project. Certification of the EIR does not constitute project approval; rather, it is a necessary step that precedes project approval. Typically, though not of necessity, the Lead Agency will make a decision on a project immediately after certifying the EIR. Also prior to project approval, the Lead Agency must prepare written findings for each significant environmental effect, mitigation measure, and alternative identified in the EIR, accompanied by a brief explanation of the rationale for each finding. The possible findings, which must be supported by substantial evidence in the administrative record, are:

- 1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR;
- 2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency; or
- 3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the FEIR.⁴

In cases where unavoidable significant impacts would occur, the Lead Agency must also prepare a Statement of Overriding Considerations, finding that specific economic, legal, social, technological, or other benefits outweigh the unavoidable adverse environmental effects of the project, and the unavoidable adverse environmental effects are therefore “acceptable.”

Within five working days after approval of the project, the Lead Agency must file a Notice of Determination (NOD) with the County Clerk (if the Lead Agency is a State agency, the NOD must be filed with the State Clearinghouse). The filing of this legal notice starts a 30-day statute of limitations on court challenges to the approval of the project under CEQA.

Mitigation measures adopted from the EIR must be fully enforceable through permit conditions or other mechanisms. A Mitigation Monitoring and Reporting Program must

⁴ CEQA Guidelines, Section 15091(a).

be adopted with the project to ensure their timely implementation. The City of Richmond, Responsible Agencies, and/or Trustee Agencies would be assigned responsibility for approving, implementing, and monitoring the actual mitigation strategy.

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2. SUMMARY

2.1 PROJECT PROPOSAL

This Draft Environmental Impact Report examines the potential environmental effects of the proposed Honda Port of Entry project, consisting of an expansion of existing automobile import and distribution operations at the Port of Richmond's Point Potrero Marine Terminal (PPMT), including construction and operation of a rail yard terminal on the PPMT property. The PPMT is located in the southwestern portion of the City of Richmond, in western Contra Costa County. The site is located at the shoreline of the Richmond Inner Harbor, located in central San Francisco Bay.

Auto Warehousing Company (AWC) has been operating an auto processing facility at the PPMT since 2004, processing Hyundai and Kia cars imported from Korea by ship. AWC is proposing to expand its existing operations at the Port of Richmond to develop a Northern California Port of Entry for Honda automobiles. The purpose of the project is to improve the efficiency of the North American distribution system for imported Honda autos, while at the same time improving the efficiency of the local and regional distribution system of Honda imports and domestically-manufactured cars and of imported autos from various other foreign car manufacturers.

The project would include construction of a new rail yard terminal at the PPMT, adjacent to the facilities two large ship berths on the Harbour Channel that flanks the site on the east. Currently, the Hyundai and Kia cars delivered by ship to the PPMT are driven one by one (after processing) to the Burlington Northern Santa Fe (BNSF) Rail Road automotive terminal located at the corner of Canal Boulevard and Cutting Boulevard, about 1 mile north of the PPMT. From there they are loaded onto rail cars and shipped to destination markets elsewhere in the U.S. They are also loaded directly onto car carrier trucks at the PPMT and distributed around northern California and the San Francisco Bay Area. With construction of the proposed rail yard, the auto shuttling operation would be eliminated, and all vehicles imported into the PPMT and bound for rail shipment out of State (Hondas as well as the current Hyundai/Kia operations) would be loaded onto trains at the PPMT instead of the BNSF terminal.

The project proposal also includes the construction of minor improvements to one of the existing ship berths at the PPMT, consisting of repairs to the concrete deck pavement,

installation of new bull rail at the edge of the berth, and replacement of the existing dock fender system on the side of the berth. Construction of these improvements would not intrude into the Bay water.

Following completion of the rail yard and ship berth improvements, Honda would begin delivering autos manufactured in Japan to the PPMT facility in car-carrying ships. After processing by AWC, similar to the Hyundai and Kia cars, they would be loaded onto trains for distribution around the rest of the U.S., and loaded onto car carrier trucks for distribution around the Bay Area and northern California. Honda expects to import 150,000 vehicles per year by ship, and would distribute approximately 35,000 of those vehicles via truck to dealerships throughout northern California. Honda also imports autos into the Port of San Diego, which is the distribution point for autos to the southern California region. Approximately 35,000 imported Hondas per year are currently brought into Northern California by auto carrier from the Port of San Diego; these highway trips would be eliminated by the proposed project.

2.2 PROJECT IMPACTS

All of the impacts analyzed in this EIR, including those considered to be less-than-significant, are summarized in Table 2-1 (presented at the end of this chapter). Except for one identified air quality impact and one impact related to a policy conflict, mitigation measures have been identified to reduce all impacts of the project to a less-than-significant level.

The air quality analysis presented in Chapter 6 identified a significant and unavoidable impact of the proposed project related to the project's emissions of nitrogen oxides (NO_x), which would exceed the Bay Area Air Quality Management District's (BAAQMD) threshold of significance of 80 pounds per day. Although mitigation measures have been identified to reduce the project's air emissions, they would still substantially exceed the BAAQMD threshold. Because of this, the project would also conflict with a *Richmond General Plan* policy that requires the City to only approve projects that will not exceed air quality standards. Because the impact from the project's air emissions would remain significant and unavoidable, this policy conflict would also be significant and unavoidable.

If the City of Richmond decides to approve the project despite the significant and unavoidable impacts identified above, a Statement of Overriding Considerations must be adopted by the Planning Commission for each impact, as required by the State *CEQA Guidelines*, Section 15093(b).

Notes on Impact Designations

The significance of impacts (before and after implementation of required mitigation) listed in the Summary Table (Table 2-1) is designated by the following abbreviations:

- S = Significant
- LTS = Less Than Significant
- SU = Significant and Unavoidable
- B = Beneficial

Within the substantive topical chapters (Chapters 4-14), impacts are identified by numbers keyed to the chapters in which they are identified (e.g., Impacts 6-1, 6-2, 6-3, etc.). A brief summary statement of the impact (which also appears in Summary Table 2-1) is followed by a significance designation in parentheses, followed by a more detailed explanation of the impact. The significance of impacts as designated in parentheses following brief summary statement utilizes the following abbreviations:

- LTS = Less Than Significant. Under CEQA, mitigation is not required for impacts that are determined to be less than significant.

- LTSWM = Less Than Significant With Mitigation. This designation indicates that the impact would be significant or potentially significant, and would require mitigation. With implementation of the identified mitigation measure, the impact would be reduced to a less-than-significant level.
- SU = Significant and Unavoidable. This designation is assigned to impacts for which no feasible mitigation was identified to reduce the impact to a less-than-significant level. As noted above, a significant and unavoidable impact would require a Statement of Overriding Considerations by the Planning Commission prior to project approval.

2.3 AREAS OF CONTROVERSY

Several letters were received by the City from members of the public and agencies in response to the Notice of Preparation (NOP) and Initial Study prepared on the proposed project. Copies of the letters are presented in Appendix B. The letters from public agencies identified issues within their purview that should be addressed in the EIR. To the extent that those issues pertain to potential environmental impacts, they have been addressed appropriately in this EIR and/or the Initial Study.

Most of the letters from members of the public were from industrial businesses located along Canal Boulevard between the PPMT or the BNSF Automotive Terminal. Their concerns covered a range of issues, with the most frequently raised being potential impacts on existing pipelines and blocked access to their properties by trains. Of particular concern

is the potential for emergency vehicles to be blocked by trains and unable to respond to emergencies that could arise at these properties.

Concerns were also expressed at the public scoping meeting conducted by the City on March 5, 2008 by residents living in the vicinity of the PPMT or the BNSF Automotive Terminal. Their comments focused primarily on traffic and noise issues. With respect to the former, concerns included blocking of traffic and emergency vehicles by at-grade road crossings by trains and traffic hazards at the intersection of Canal Boulevard and Seacliff Drive due to inadequate sight distance. Noise concerns included noise from truck and train loading operations, train switching, train horns, and back-up beepers on trucks. Several residents also expressed concerns about diesel emissions from ships, trains, and trucks.

All of the concerns raised during the public scoping process have been considered during preparation of this EIR and, where appropriate, they have been explicitly addressed and evaluated in this EIR.

2.4 ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires an EIR to describe a range of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project. Evaluation of a “No-Project” alternative must also be included in the analysis. The following alternatives were evaluated in this EIR:

- No-Project Alternative
- Modified Operations Alternative 1
- Modified Operations Alternative 2

Each of these alternatives is described and evaluated in Chapter 15, Alternatives to the Proposed Project. Following is a brief description of the alternatives:

No-Project Alternative. The No-Project Alternative evaluates a continuation of current operations. The PPMT would continue to process Hyundai and Kia cars imported from Korea by ship. Following processing and any necessary repairs, the imported cars would be shuttled approximately 1 mile north on Canal Boulevard by AWC employees to the Burlington Northern Santa Fe (BNSF) Rail Road automotive terminal located at the corner of Canal Boulevard and Cutting Boulevard, where they would be loaded onto rail cars and shipped to destination markets elsewhere in the U.S. They would also be distributed around northern California and the San Francisco Bay Area directly on car carrier trucks. Honda automobiles would continue to be imported via the Port of San Diego.

Modified Operations Alternative 1 (MOA-1). This alternative would modify operations to reduce the noise impact on the Seacliff at Point Richmond residences and to reduce air emissions from the increased number of ships unloading Honda vehicles at the PPMT. The proposed truck loading area would be relocated to be no closer to the Seacliff at Point Richmond residences than the existing truck loading area, with relocation to the car storage area north of Building 23 one possible location. To reduce air emissions from the project, the MOA-1 would provide reduced dockage fees for ship operators that use cleaner fuels and cleaner ship engines; develop a program to encourage cleaner trucks at the PPMT; and impose mandatory idling restrictions on tugboats and trucks at the PPMT.

Modified Operations Alternative 2 (MOA-2). This alternative would be identical to MOA-1 except it would also include a requirement for reducing the use of auxiliary diesel ship engines while the ships importing Honda vehicles are berthed at the PPMT. During the first year of operation of the MOA-2, a minimum of 20 percent of the car carrier ships importing Hondas into the PPMT would be required to limit the use of auxiliary diesel engines to less than 5 hours per visit. By 2014, at least 50 percent of the project's car carrier ships would be required to limit the use of auxiliary diesel engines to less than 5 hours per visit. Power could be provided either by grid-based shore power (essentially connecting to the PG&E grid) or by ultra-clean distributed generation from portable trailers.

The Modified Operations Alternative 2 would be the environmentally superior alternative.

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
LAND USE AND PLANNING			
<u>Impact 4-1</u> The proposed project would be inconsistent with Richmond General Plan policies requiring compliance with adopted air quality standards and protection of the public from the adverse health effects of air pollution.	SU	<u>Mitigation Measure 4-1</u> None feasible.	SU
<u>Impact 4-2</u> The proposed project would be inconsistent with Richmond Coastline Plan Public Access Policy 1, which call for permanently guaranteed access to the shoreline.	S	<u>Mitigation Measure 4-2</u> The Port of Richmond shall maintain permanent public access to the shoreline and historic sites on the PPMT to the greatest extent feasible while complying with federal security regulations. If relocation of the planned Bay Trail Segment is required in the future due to national security concerns or for other reasons, the Port shall provide alternative shoreline access and, if feasible, alternative access to the historic resources at the PPMT.	LTS
<u>Impact 4-3</u> The proposed project would conflict with San Francisco Bay Area Seaport Plan policies identifying the project site as a future container cargo port facility.	LTS	<u>Mitigation Measure 4-3</u> As part of the application for a development permit from the San Francisco Bay Conservation and Development Commission (BCDC), the project sponsor should provide data to the Seaport Planning Advisory Committee of BCDC that demonstrate that implementation of the proposed project would not prevent Bay Area ports from collectively achieving the 2020 cargo projections contained in the San Francisco Bay Area Seaport Plan.	LTS

S = Significant, LTS = Less Than Significant, SU = Significant Unavoidable, B = Beneficial

Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
TRAFFIC			
<u>Impact 5-1</u> Construction of the proposed project would generate additional traffic from construction workers traveling to and from the site, from truck deliveries of construction materials and ballast stone, and from trucks exporting excess fill.	LTS	<u>Mitigation Measure 5-1</u> None required.	LTS
<u>Impact 5-2</u> Staging of construction equipment and materials, construction parking, lane closures, and slow-moving construction trucks all have the potential to disrupt traffic on Canal Boulevard and create potential traffic hazards during construction.	S	<u>Mitigation Measure 5-2</u> Prior to construction, the project sponsor shall submit a construction management/traffic control plan for City review and approval. At a minimum, the plan shall include the following: • identification of construction truck routes, staging, and parking areas for workers, as well as areas of potential encroachment into the public right-of-way; • provision of appropriate traffic control personnel and signs; and • designation of an on-site construction manager as a contact for the City and the public.	LTS
<u>Impact 5-3</u> Under Background Plus Project Conditions, the addition of project-generated traffic to the local road network would incrementally increase average delay at project study intersections, but all of the intersections would continue operating acceptably at LOS C or better.	LTS	<u>Mitigation Measure 5-3</u> None required.	LTS
<u>Impact 5-4</u> The proposed project would increase the number of large trucks and other vehicles traveling at speed	S	<u>Mitigation Measure 5-4</u> The City of Richmond shall install a traffic signal at the intersection of Canal Boulevard and Seacliff Drive.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
through the unsignalized intersection of Canal Boulevard and Seacliff Drive, which provides inadequate stopping sight distance and inadequate intersection sight distance. Although this is an existing condition, the additional project traffic would substantially exacerbate the safety hazard at this intersection by increasing the number of motorists exposed to potential accidents between autos and large car-carrier trucks.		The project sponsor shall pay the fair-share cost of implementing this mitigation measure, as determined by the City of Richmond.	
<u>Impact 5-5</u> The proposed project would increase the number of large multi-axel trucks traveling on Canal Boulevard, contributing wear to a roadway that is already in substandard condition south of Seacliff Drive.	LTS	<u>Mitigation Measure 5-5</u> None required.	LTS
<u>Impact 5-6</u> The anticipated parking demand by PPMT employees, longshoremen, visitors, and the public would exceed the parking supply proposed by the project.	S	<u>Mitigation Measure 5-6</u> The City of Richmond, in consultation with the Port of Richmond and the Project Sponsor, shall make a determination as to the appropriate amount of parking to be provided at the PPMT, and this requirement shall become a condition of the Conditional Use Permit required for the project. This determination may allow for the Project Sponsor to designate a portion of the new auto storage areas as reserve parking (60 spaces) for the extra longshoremen needed at the site on the periodic occasions when two ships are at berth at the PPMT, thereby reducing the permanent parking requirement by 60 spaces. Prior to issuance of a grading permit, the Project Sponsor shall demonstrate on the final site plan the provision of the number of spaces required by the City.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 5-7</u> Under Cumulative Year 2030 Plus Project Conditions, the addition of project-generated traffic to the local road network would incrementally increase average delay at project study intersections, but all of the intersections would continue operating acceptably at LOS C or better.	LTS	<u>Mitigation Measure 5-7</u> None required.	LTS
<u>Impact 5-8</u> The proposed establishment of a rail yard at the PPMT would result in periodic delays to vehicles attempting to enter or exit Wharf Street during train crossings.	LTS	<u>Mitigation Measure 5-8</u> None required.	LTS
<u>Impact 5-9</u> Switching and other train operations between the proposed PPMT rail yard and the BNSF Automotive Terminal would temporarily block access to industrial properties east of Canal Boulevard. Project trains traveling between the PPMT and the Richmond Rail Yard and utilizing the at-grade crossings at Canal, West Cutting, and South Garrard boulevards would similarly temporarily block access to residential and other properties located south of these crossings. This could result in the inability of emergency vehicles to access these properties during fires, medical emergencies, or other types of emergencies.	S	<u>Mitigation Measure 5-9</u> The project sponsor shall prepare and implement an Emergency Response Plan, subject to review and approval by the Richmond Fire Department and Richmond Police Department, that addresses continuous emergency access to all properties potentially blocked by train crossings or switching operations. Possible approaches to improve or guarantee emergency access could include some or all of the following strategies: • Install mobile communications devices on trains so that they can communicate their location and time at crossings with fire and police personnel. • Install GPS tracking devices on trains so that fire and police dispatchers can track train locations. • Install web cams at rail crossings so that motorists and emergency vehicle personnel can remotely monitor the rail crossings for blockage via computer, PDA, or smart phones. • Install a railroad preemption/warning system to alert motorists of crossing trains so that they can	LTS

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		use alternate routes. - Investigate the potential to locate a police and fire substation south of Cutting as a long-term solution. - Investigate the potential to create a grade-separated crossing in the area. - Schedule train traffic/switching after 6 p.m. since vehicle traffic on Wharf Street drops significantly after that time. - Investigate the potential for an emergency access through PPMT facility to the east side of the rail yard. A locked gate to the proposed new BP/Arco entrance road could be established, with access codes or keys provided to emergency personnel (fire and police).	
<u>Impact 5-10</u> The increase in ship traffic resulting from implementation of the proposed project could potentially cause congestion or disruption to the normal flow of traffic in San Francisco Bay.	LTS	<u>Mitigation Measure 5-10</u> None required.	LTS
<u>Impact 5-11</u> The increase in ship traffic at the project site caused by the proposed project could potentially cause congestion or disruption to the normal flow of traffic at the Port of Richmond.	LTS	<u>Mitigation Measure 5-11</u> None required.	LTS
<u>Impact 5-12</u> The increase in ship traffic resulting from implementation of the proposed project could potentially increase risk of collision or accident in San Francisco Bay and at the project site.	LTS	<u>Mitigation Measure 5-12</u> None required.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
AIR QUALITY			
<u>Impact 6-1</u> Activities associated with proposed project construction would generate short-term emissions of criteria pollutants, including construction-related dust emissions and equipment exhaust emissions, during the term of construction.	S	<u>Mitigation Measure 6-1</u> The applicant shall implement dust abatement measures identified by BAAQMD as feasible dust control, during all construction activities, including the following: • water all active construction areas at least twice daily; • cover all trucks hauling soil, sand, and other loose materials, or require such trucks to maintain at least two feet of freeboard; • pave, apply water at a minimum three times daily in dry weather, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas; • sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; • sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets areas; • hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more); • enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.); • limit traffic speeds on unpaved roads to 15 miles per hour; • install sandbags or other erosion control measures to prevent silt runoff to public roadways; and • replant vegetation in disturbed areas as quickly as	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		possible.	
<u>Impact 6-2</u> Operation of the proposed project would generate emissions of criteria pollutants from the auto carrier marine vessels, tugs, rail activities, auto carrier trucks, and employee vehicles. The impacts of carbon monoxide, volatile organic compounds, and particulate matter (PM ₁₀ and PM _{2.5}) would be less than significant. However, the impact from emissions of nitrogen oxides would be significant and unavoidable.	SU	<u>Mitigation Measure 6-2</u> The Port of Richmond, shall develop a Clean Air Action Plan (Plan) that targets all emissions, focusing primarily on reducing NO _x and TACs (especially diesel particulate matter). The Plan shall implement measures largely through the CEQA/NEPA process, tariffs, and new leases. One goal of the plan shall be to stay consistent with California Air Resources Board (CARB) regulations. The Plan shall focus on reducing NO _x and diesel particulate emissions, thereby having a primary benefit of improving local and regional health. The Plan shall contain provisions for implementing the following measures (but not limited to just these measures), as feasible, for the Honda Port of Entry project. • Cleaner Ship Fuels. Provide reduced dockage fees for ship operators that use cleaner fuels and cleaner ship engines. • Cleaner Engine Technologies. Instead of meeting the cold ironing shore power requirements, ship owners may elect to reduce their fleet emissions at a terminal by 50 percent by 2014 using engine optimization (e.g., Miller Cycle Value timing), engine process modifications (e.g., addition of water, urea, or ammonia to the combustion process), and/or after-treatment processes (e.g., Selective Catalytic Reduction system). • Idling Restrictions. Impose mandatory idling restrictions for tugboats and trucks at the PPMT. • Cleaner Auto Carrier Trucks. Develop a program to encourage cleaner trucks at the PPMT. A schedule shall be developed to achieve 2007	SU

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		emission standards for the auto carrier trucks ahead of regulations. • Grant Funding. Actively pursue State, Bay Area, and grant funds (i.e., the Carl Moyer Fund, Transportation Fund for Clean Air, etc.) for improved trucks and retrofits such as the diesel particulate filters. • General Mitigation Measure. For any of the above emission reduction measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could be used to replace the existing emission reduction measure pending approval by the Port. • Periodic Review of New Technology and Regulations. The Port shall require the tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification. If the technology is determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology. • Cold Ironing. Similar to proposed CARB regulations for container ships, by 2014 no less than 50 percent of the project's auto carrier ships shall limit the use of auxiliary diesel engines to less than 5 hours per visit. Power can be provided either by grid-based shore power (essentially connecting to the PG&E grid) or by ultra-clean distributed generation (proof of concept tests at the Port of	

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**Table 2-1
Summary of Environmental Effects**

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Oakland have shown the ability of mobile liquefied natural gas generators to fully power ocean-going vessels while docked at berth or under "hotelling").	
<u>Impact 6-3</u> Operation of the proposed project would generate emissions of greenhouse gases (GHG) from the auto carrier marine vessels, tugs, rail activities, auto carrier trucks, and employee vehicles.	LTS	<u>Mitigation Measure 6-3</u> None required.	LTS
<u>Impact 6-4</u> Although operation of the proposed project would create objectionable diesel odors in proximity to the sources, at the nearest sensitive receptors they would not be detectable, or at worst would be below offensive concentrations.	LTS	<u>Mitigation Measure 6-4</u> None required.	LTS
<u>Impact 6-5</u> Project emissions of diesel particulate matter could pose a risk to human health.	LTS	<u>Mitigation Measure 6-5</u> None required.	LTS
NOISE			
<u>Impact 7-1</u> Project construction would temporarily increase noise levels in the project vicinity.	LTS	<u>Mitigation Measure 7-1</u> None required.	LTS
<u>Impact 7-2</u> Project-generated vehicle traffic would generate noise, but would not substantially increase roadside noise levels in the project vicinity under existing or long-term conditions.	LTS	<u>Mitigation Measure 7-2</u> None required.	LTS
<u>Impact 7-3</u> Noise from ship unloading could substantially increase	S	<u>Mitigation Measure 7-3</u> The City shall enforce the nighttime noise limit of 50	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
noise levels at residential receptors.		dBA at the residential property boundaries. Only ship engines that meet this noise level limit at the residential property boundaries shall be permitted to run at night (i.e., 10:00 p.m. to 7:00 a.m.).	
<u>Impact 7-4</u> Noise from loading railcars at the new rail yard at PPMT would increase noise levels in the immediate vicinity, but would not substantially increase noise levels at residential receptors.	LTS	<u>Mitigation Measure 7-4</u> None required.	LTS
<u>Impact 7-5</u> Noise from loading auto carrier trucks at the new location at PPMT could substantially increase noise levels at residential receptors.	S	<u>Mitigation Measure 7-5</u> a) The site plan shall be reconfigured so that truck loading remains in the same location as current truck loading; or b) The site plan shall be reconfigured so that truck loading is moved to another location at the PPMT site no closer to the Seacliff residences than the current truck loading area; or c) The site plan shall be reconfigured so that all nighttime truck loading operations are at least 750 feet from the Seacliff residences and the line of sight from the residences to all truck loading operations is blocked by a sound barrier, or enclosed in a building.	LTS
BIOLOGICAL RESOURCES			
<u>Impact 8-1</u> Project implementation could result in the placement of fill into federal and /or State jurisdictional wetlands.	S	<u>Mitigation Measure 8-1</u> a) A formal wetland delineation has been performed; the delineation shall be submitted to the USACE for a jurisdictional determination. If it is determined by the U.S. Army Corps of Engineers (USACE) that wetlands on site are regulated under	LTS

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		the Clean Water Act, the project sponsor shall implement Mitigation Measure 8-1(b). Whether or not it is determined that wetlands on site are not regulated under the Clean Water Act, the project sponsor shall implement Mitigation Measure 8-1(c). b) Prior to the placement of fill into any wetlands, the project sponsor shall obtain permits under Sections 401 and 404 of the Clean Water Act. These permits, administered by the Regional Water Quality Control Board (RWQCB) and USACE, respectively, would identify specific mitigation measures that would be imposed on the project as permit conditions. At a minimum, the project sponsor shall implement Mitigation Measure 8-1(d) or 8-1(e). c) In order to determine the presence or absence of waters of the State subject to the jurisdiction of State regulatory agencies, a description of existing habitats on site shall be submitted to the California Department of Fish and Game (CDFG) and RWQCB for review. If waters of State are determined to fall under one or both of these agencies, the project sponsor shall obtain the appropriate permits. These permits would identify specific mitigation measures that would be imposed on the project as permit conditions. At a minimum, the project sponsor shall implement Mitigation Measure 8-1(d) or 8-1(e). d) Given the artificial nature of the wetlands affected by the proposed project, and their location in a highly industrialize location, their biological functions and values are considered impaired. While it is generally preferred by the regulatory	

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		agencies that wetland impacts are compensated by the creation of similar habitats on site, in certain instances, compensation at an off-site location may be deemed acceptable. As part of the permitting process, the project sponsor must comply with all permit conditions of the regulatory agencies, including the implementation of an appropriate compensatory mitigation plan for unavoidable impacts to wetlands. At the discretion of the regulatory agencies, the project sponsor may seek a public or private entity in control of lands at a suitable off-site location with planned habitat restoration measures, to which an in-lieu-of fee could be paid. The recipient may be either an approved mitigation bank or public or private entity undertaking habitat restoration measures. The type of restoration project and amount of the in-lieu-of fee would be determined in consultation with the regulatory agencies with the ultimate objective of satisfying agency concerns and permit conditions. If payment of in-lieu-of fees is not acceptable to one or more of the regulatory agencies or a suitable recipient cannot be found, the project sponsor shall implement on-site wetland mitigation, as outlined in Mitigation Measure 8-1(e). e) If required by the USACE, CDFG, or RWQCB, a Wetland Mitigation and Monitoring Plan shall be prepared and submitted for agency review. Detailed wetland protection, replacement, and restoration plans shall be prepared by a qualified wetland restorationist hired by the City of Richmond and paid for by the project sponsor. The plans shall accurately identify the total	

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		wetlands and other jurisdictional areas that could be affected by the proposed project. The plans shall provide for re-establishment, enhancement, and/or replacement of wetland habitat and vegetation, and be approved by the regulatory agencies; in certain instances, cash contributions earmarked specifically for wetland creation, enhancement, or restoration offsite may be deemed appropriate and acceptable to the regulatory agencies. Mitigation plantings shall be monitored for no less than five years following completion of plant installation or as otherwise specified in the permit conditions. Annual reports shall be submitted to the City of Richmond and each permitting agency, e.g., USACE, RWQCB, and/or CDFG. Additionally, the City of Richmond shall ensure that all mitigation areas, along with an appropriate upland buffer, be placed in a permanent conservation easement, or similar deed restriction, and preserved in perpetuity, as specified in the permit conditions. Prior to the issuance of grading permits by the City of Richmond, the project sponsor shall provide evidence of the required approvals from all regulatory agencies.	
<u>Impact 8-2</u> Project construction could result in direct or indirect impacts to nesting, roosting, or foraging special-status birds and other migratory birds.	S	<u>Mitigation Measure 8-2</u> a) A qualified biologist shall conduct preconstruction nesting bird surveys of shrubs, willows, and other trees and non-native annual grassland habitats within 300 feet of the limits of work area, as well as the rooftop of Building 24, no more than 14 days prior to the start of construction for work occurring during the breeding season from February 1st to August 31st.	LTS

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		b) If active nests of special-status birds and migratory birds (i.e., occupied nests) are identified within 300 feet of the limits of work, non-disturbance buffers shall be established by the project biologist at a distance sufficient to minimize construction-related disturbance based on the nest location, topography, cover, and species' tolerance to disturbance. Non-disturbance buffers shall be fenced off to exclude all construction activities, including staging, storage, and laydown, and shall be maintained until the young have fledged. Buffer size shall be determined by the project biologist and shall be consistent with agency recommendations as per the regulatory status and life history requirements of the species involved. c) If active nests are found within 300 feet of the limits of work and non-disturbance buffers are impracticable as determined by the project biologist, a qualified biologist shall be on site to monitor active nest(s) for signs of disturbance. If it is determined that construction activity is resulting in nest disturbance, work shall cease immediately until such time as it is determined by the project biologist that work may safely resume. If construction activities have caused nest abandonment, then the appropriate agency shall be contacted for further guidance, which shall be binding. If a federally listed species is involved, consultation with the U.S. Fish and Wildlife Service (USFWS) will be initiated; if a State-listed species is involved, consultation with the California Department of Fish and Game (CDFG) will be initiated.	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 8-3</u> Project construction could result in indirect effects on special-status and other natural habitats located outside of the PPMT study area. Construction might also require the trimming of native willows and other trees and shrubs rooted, just outside of the work area.	S	<u>Mitigation Measure 8-3</u> a) The project sponsor shall be responsible for ensuring that all contractors have in place appropriate Best Management Practices (BMPs) throughout construction to prevent the migration off site of any potential pollutants. The effects of erosion can be decreased by collecting surface water runoff in desilting ponds before releasing the water into natural drainages or the Bay. Erosion and sedimentation impacts can be further minimized by employing standard erosion control procedures such the use of sandbags, silt fences, hay bales, diversion ditches, desilting ponds, and undertaking stream bank stabilization procedures. BMPs shall be in place throughout construction. b) The project sponsor shall be responsible for ensuring that all contractors have in place appropriate measures to restrict the off-site migration of dust during construction activities. Fugitive dust emissions caused by prolonged grading activities shall be mitigated by employing standard air quality control procedures as noted in Chapter 6, Air Quality, of this EIR. c) To prevent harming breeding birds, the measures outlined in Mitigation Measure 8-2 shall be followed. If any unanticipated work will occur within areas containing shrubs, willows, or other trees or non-native annual grassland habitats more than 14 days following performance of the preconstruction survey required by Mitigation Measure 8-2(a) and during the bird breeding season (February 1st to August 31st), a follow-up survey shall be performed by the project biologist. If active nests of special-status birds and migratory	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		birds (i.e., occupied nests) are identified, an appropriate non-disturbance buffer shall be established at a distance sufficient to minimize construction-related disturbance to breeding birds. If establishment of a non-disturbance buffer is impracticable as determined by the project biologist, a qualified biologist shall be on site to monitor active nest(s) for signs of disturbance during construction in this area. If it is determined that construction activity is resulting in nest disturbance, work shall cease immediately and shall only resume when is determined by the project biologist that work may safely resume. If construction activities have caused nest abandonment, then the appropriate agency shall be contacted for further guidance, which shall be binding. If a federally listed species is involved, consultation with the U.S. Fish and Wildlife Service (USFWS) shall be initiated; if a State-listed species is involved, consultation with the California Department of Fish and Game (CDFG) shall be initiated.	
<u>Impact 8-4</u> Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to erosion and disturbance of sensitive habitats at Brooks Island.	LTS	<u>Mitigation Measure 8-4</u> None required.	LTS
<u>Impact 8-5</u> Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to impacts to eelgrass habitat.	LTS	<u>Mitigation Measure 8-5</u> None required.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 8-6</u> The increase in ship traffic to the project site could increase the frequency of disturbance to harbor seals, hauled out on Brooks Island, and the degradation or functional loss of seal habitat within San Francisco Bay.	LTS	<u>Mitigation Measure 8-6</u> None required.	LTS
<u>Impact 8-7</u> Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to impacts to marine and anadromous fish habitat.	LTS	<u>Mitigation Measure 8-7</u> None required.	LTS
CULTURAL RESOURCES			
<u>Impact 9-1</u> Development of the proposed project could potentially cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5.	S	<u>Mitigation Measure 9-1</u> a) Resource Avoidance: The project sponsor shall plan construction of the proposed project so as to avoid adversely affecting the historic buildings on the site. The plan shall include precautionary measures (e.g., sufficient buffer distance) to avoid potential vibration impacts on the buildings. Prior to the initiation of construction, the project sponsor shall submit to the City of Richmond for review and approval a Construction Staging Plan that identifies the planned locations of access points, staging areas, and the delineated areas of all construction-related activities. The Plan shall identify specific measures to protect historic structures in the vicinity of each activity, which may include fencing and monitoring to ensure that sites are protected. Following approval of the Construction Staging Plan by the City of Richmond, the project sponsor shall implement the Plan throughout construction of the proposed project.	LTS

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		b) Construction Personnel Training: Prior to the initiation of construction, all construction personnel who work on the project shall undergo a training session to inform them of the presence and nature of National Register-eligible cultural resources within the project area; of the laws protecting these resources and associated penalties; and of the procedures to follow if they discover cultural resources during project-related work.	
<u>Impact 9-2</u> Development of the proposed project could potentially hinder the ability of the City Manager to carry out Richmond City Council Resolution 100-07, by limiting access to or altering the historic setting of the four vacant historic structures within the Rosie the Riveter World War II Home Front National Historical Park.	S	<u>Mitigation Measure 9-2</u> The City of Richmond shall review plans of new structures proposed in the immediate vicinity of the historic cafeteria and first aid buildings to ensure design compatibility with these historic buildings and maintain these buildings' historic setting. The City shall recommend appropriate setbacks and the amount of parking to be dedicated for use by tenants of the historic buildings, in order to ensure compatibility with City Council Resolution 100-07.	LTS
<u>Impact 9-3</u> Development of the proposed project could potentially cause a substantial adverse change in the significance of archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines.	S	<u>Mitigation Measure 9-3</u> a) <u>Cultural Resources Monitoring Plan</u> . Prior to issuance of a grading permit, a qualified archaeologist retained at the applicant's expense shall prepare and submit a cultural resources monitoring plan to the City of Richmond Planning Department for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within 200 feet of registered archaeological site CA-CCO-294. Selection of the qualified professional	LTS

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		archaeologist and the cultural resources monitors identified below in Mitigation Measure 9-3(b) (if different persons) shall be subject to approval by the Richmond Planning Department. The cultural resources monitoring plan shall address (but not be limited to) the following issues: • Training program for all construction personnel involved in site disturbance and field workers; • Person(s) responsible for conducting monitoring activities, including Native American monitors; • How the monitoring shall be conducted and the required format and content of monitoring reports, including any necessary archaeological re-survey of the final track alignments (including the need to conduct shovel-test units or auger samples to identify deposits in advance of construction); assessment, designation and mapping of the sensitive cultural resource areas on final project maps; and assessment and survey of any previously unsurveyed areas; • Person(s) responsible for overseeing and directing the monitors; • Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports; • Procedures and construction methods to avoid sensitive cultural resource; • Clear delineation and fencing of sensitive cultural resource areas requiring monitoring; • Physical monitoring boundaries (e.g., 200 feet	

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		each side of the site); • Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation); • Methods to ensure security of cultural resources sites; • Protocol for notifying local authorities (i.e., Port of Richmond and Richmond Police Department) should site looting or other illegal activities occur during construction. b) <u>Archaeological and Native American Monitors.</u> The project applicant shall retain the services of a qualified archeological consultant that has expertise in California prehistory and a Native American monitor from a culturally-affiliated tribe/organization to monitor ground disturbance within 200 feet of site CA-CCO-294. If an intact archeological deposit is encountered, all soil disturbing activities in the vicinity of the deposit shall cease until the deposit is evaluated. The archeological monitor shall immediately notify the project applicant and the City of Richmond Planning Department of the encountered archeological deposit. The archeological monitor shall, after making a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, present the findings of this assessment to the project applicant and the Planning Department. During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		profession judgment regarding the potential to adversely affect cultural resources. If the City of Richmond, in consultation with the archeological and Native American monitors, determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, the proposed applicant shall: • Re-design the proposed project to avoid any adverse effect on the significant archeological resource; OR, • Implement an archeological data recovery program (ADRP), unless the archaeologist determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. If the circumstances warrant preparation of an ADRP, the project archaeologist, project applicant, and Richmond Planning Department shall meet and consult to determine the scope of the ADRP. The archaeologist shall prepare a draft ADRP that shall be submitted to the project applicant and the Planning Department for review and approval. The ADRP shall identify how the proposed data recovery program would preserve the significant information the archeological resource is expected to contain. The ADRP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general,	

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Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		shall be limited to the portions of the historic property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. c) <u>Accidental Discovery</u>: If historic or prehistoric archaeological resources, such as chipped or ground stone, large quantities of shell, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, all construction activities within 100 feet of the find shall be halted until the City of Richmond is notified, and a qualified archaeologist can assess the significance of the find and prepare an avoidance, evaluation, or mitigation plan to prevent any significant adverse effects on the resource(s). The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)–(f) of the CEQA guidelines and Public Resources Code Section 21083.	
<u>Impact 9-4</u> Construction of the proposed project could potentially disturb buried human remains, including those interred outside of formal cemeteries.	S	<u>Mitigation Measure 9-4</u> In the event that any human remains are encountered during site disturbance, all ground-disturbing work in the vicinity of the remains shall cease immediately until the coroner of Contra Costa County has been contacted, per Section 7050.5 of the California Health and Safety Code. If the coroner determines that the human remains are of Native American origin, the Native American Heritage Commission must be contacted within 24 hours, and the project sponsor shall comply with State laws relating to the disposition of Native American burials, regulated by the Native American Heritage Commission (Pub. Res.	LTS

S = Significant, LTS = Less Than Significant, SU = Significant Unavoidable, B = Beneficial

Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Code Sec. 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: - the coroner of the County has been informed and has determined that no investigation of the cause of death is required; and - if the remains are of Native American origin, - the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or - the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.	
<u>Impact 9-5</u> Vibrations from new train traffic during project operations could potentially cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the <i>CEQA Guidelines</i>.	S	<u>Mitigation Measure 9-5</u> A pre-construction survey of the two historic structures nearest proposed project operations—Building 23, the Cafeteria Building, and Building 9, the First Aid Building—shall be undertaken prior to issuance of a grading permit to determine their current state of structural and cosmetic integrity. This information shall be used as a baseline reference for future maintenance needs stemming from the construction and operations of the proposed rail road	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		yard and rail road tracks. In the event that cosmetic or structural damages resulting from the implementation of the project occurs, the project applicant shall be responsible for performing any necessary repairs or maintenance.	
<u>Impact 9-6</u> Implementation of the proposed project would potentially cause a substantial adverse impact on public access to the Rosie the Riveter/World War II Home Front National Historical Park.	S	<u>Mitigation Measure 9-6</u> Same as Mitigation Measure 4-2.	LTS
GEOLOGY AND SOILS			
<u>Impact 10-1</u> Although the site is relatively flat and the project area is substantially covered with pavement, there is still potential for uncontrolled construction activities to result in accelerated soil erosion, which could degrade water quality in San Francisco Bay.	S	<u>Mitigation Measure 10-1</u> Same as Mitigation Measure 11-1.	LTS
<u>Impact 10-2</u> In the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the proposed project site due to structural damage of facility structures. Ground shaking could potentially expose persons and property to seismic-related hazards, including localized liquefaction and seismically-induced settlement.	S	<u>Mitigation Measure 10-2</u> All structures (including rail transportation facilities) for the proposed project shall be designed in accordance with the UBC, which requires structural design that incorporates ground accelerations expected from known active faults. Expected ground motions determined by a registered geotechnical engineer shall be incorporated into the final structural design as part of the project. The design level geotechnical investigation shall evaluate subsurface conditions with respect to potential geologic hazards such as liquefaction, subsidence, settlement, and expansive soils, and shall provide recommendations	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		to mitigate these hazards as necessary. All geotechnical design recommendations shall be incorporated into the final project design and construction.	
<u>Impact 10-3</u> Operation of the proposed PPMT rail terminal, which would involve multiple closely-spaced rail spurs, could result in significant transient weight and vibratory loading due to multiple lines of railcars. These loads could result in subsurface settlements that could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products, which could, in turn, create a significant hazard to the public or the environment.	S	<u>Mitigation Measure 10-3</u> Prior to construction of the PPMT rail terminal, an engineering evaluation shall be performed pursuant to City of Richmond permit requirements. This evaluation shall characterize subsurface conditions along the planned alignment and shall specifically consider the static loads associated with project structures and the transient loads associated with planned operations. During this engineering phase, loading as related to the underground pipeline and all other buried utilities shall be evaluated and any measures recommended to ensure pipeline integrity and safety shall be implemented by the project sponsor prior to construction of the new lead track and rail yard.	LTS
HYDROLOGY AND WATER QUALITY			
<u>Impact 11-1</u> Site preparation and construction could contribute to accelerated soil erosion, downstream sedimentation, and reduced surface water quality.	S	<u>Mitigation Measure 11-1</u> A Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and Stormwater Control Plan (SCP) shall be prepared by the applicant and submitted along with grading permit applications. The SWPPP provides for temporary measures to control sediment and other pollutants during construction at sites that disturb 1 acre or more and the SCP specifies permanent controls that should last for the life of the project. The requisite plans shall be prepared in accordance with the standards provided in the Association of Bay Area Government's Manual	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		of Erosion and Sedimentation Control Measures (ABAG, 1995). Implementation of the plan will help stabilize graded and stockpile areas and reduce erosion and sedimentation. The plans will designate Best Management Practices (BMPs) that shall be adhered to during construction activities. Erosion minimizing efforts such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), and/or retention/settlement areas shall be implemented as necessary before the onset of inclement weather. Mulching, seeding, or other suitable stabilization measures shall be used to protect exposed areas during construction activities. The plans shall incorporate requirements of the Contra Costa County Clean Water Program and the Port of Richmond Stormwater Management Plan.	
<u>Impact 11-2</u> Site preparation, construction, and operations could create or contribute runoff water that could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	S	<u>Mitigation Measure 11-2</u> Prior to issuance of a grading permit, the project applicant shall prepare a Stormwater Control Plan (SCP) and submit it to the Richmond Planning Department for review and approval. The SCP shall be prepared in accordance with the Contra Costa Clean Water Program (CCCWP) and the requirements set forth in the CCCWP's Stormwater C.3 Guidebook (Third Edition, 2006, plus updates and errata). The SCP shall provide for natural onsite treatment of 80 percent of the average annual stormwater runoff from the new and replacement impervious surfaces (i.e., pavements) created by the proposed project, and shall identify flow controls to ensure that the rate and duration of stormwater runoff does not exceed the calculated pre-project rates and durations. Implementation of Integrated Management Practices	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		(IMPs), such as grassy swales, bioretention areas, and planter boxes, is recommended by the CCCWP as the most cost-effective way to comply with the Stormwater C.3 requirements. The SCP shall be prepared by a qualified civil engineer, architect, or landscape architect. The applicant shall demonstrate to the Richmond Planning Department via drawings and engineering calculations that the proposed project includes site design features sufficient to capture and treat on site all stormwater runoff from the project site, in compliance with Provision C.3 of the CCCWP. Landscape features shall be used in lieu of structural features to the degree feasible. The design approach must ensure that the proposed treatment features would not decrease stability of the slopes on the site or create significant erosion. As part of compliance with the CCCWP Stormwater C.3 requirements, the property owner (Port of Richmond) shall execute and implement a maintenance agreement with the City of Richmond to provide for the maintenance of all onsite stormwater treatment features and devices in perpetuity, including specification of how the maintenance will be financed. Prior to issuance of the building permit, the property owner or applicant shall provide proof of recording this agreement from the County Assessor's Office. The property owner or applicant shall submit to the City of Richmond Planning Department annual certificates of compliance with the operations and maintenance requirements stipulated in the maintenance agreement.	
<u>Impact 11-3</u> Implementation of the project could expose people or structures to inundation by seiche, tsunami, or	LTS	<u>Mitigation Measure 11-3</u> None Required.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
mudflow.			
<u>Impact 11-4</u> The proposed project would increase ship traffic at the project site, which could potentially increase the introduction of pollutants into Bay waters due to accidental spills during routine maintenance.	LTS	<u>Mitigation Measure 11-4</u> None Required.	LTS
<u>Impact 11-5</u> The proposed project would increase ship traffic at the project site, which could result in an accidental release of fuel oil along shipping routes either in San Francisco Bay or outer coastal waters.	LTS	<u>Mitigation Measure 11-5</u> None Required.	LTS
<u>Impact 11-6</u> The proposed project would increase ship traffic at the project site, which increase the introduction of toxic marine anti-fouling paint into San Francisco Bay.	LTS	<u>Mitigation Measure 11-6</u> None Required.	LTS
<u>Impact 11-7</u> The proposed project would increase ship traffic at the project site, which result in a local increase in turbidity from vessel maneuvers in Harbor Channel and at the PPMT berths.	LTS	<u>Mitigation Measure 11-7</u> None Required.	LTS
<u>Impact 11-8</u> The increased ship traffic that would occur as a result of project implementation could potentially increase the cumulative impact of contaminants on San Francisco Bay water quality.	LTS	<u>Mitigation Measure 11-8</u> None Required.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
HAZARDS AND HAZARDOUS MATERIAL			
<u>Impact 12-1</u> Development of the proposed project could potentially expose construction workers and future site workers to hazardous concentrations of contaminants from soils and groundwater at the site.	S	<u>Mitigation Measure 12-1</u> Prior to issuance of a grading permit, the project sponsor shall conduct soil and groundwater sampling to the depth of maximum anticipated excavation in areas where grading and trench excavation are planned. Soil and groundwater samples shall be analyzed for fuel hydrocarbons and metals (including arsenic). The purpose of these sampling activities would be to: (1) characterize soil to determine appropriate disposition of excavated soil (onsite reuse versus offsite disposal); and (2) assess potential contaminant risk to workers, the public, and other receptors both during and after project construction. Based on sampling results, a site-specific Soil Management Plan (SMP) and Health and Safety Plan (HASP) shall be prepared prior to conducting all invasive activities, such as excavation, dewatering, grading, and utility installation. At a minimum, the HASP shall include health and safety provisions for monitoring exposure to construction workers and the general public; provide procedures to be undertaken in the event that previously unreported contamination or subsurface hazards are discovered; incorporate construction safety measures for excavation activities; establish procedures for the safe storage and use of hazardous materials at the project site, if necessary; provide emergency response procedures; and designate personnel responsible for implementation of the HASP.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 12-2</u> Improper use or transport of hazardous materials during construction activities during development could result in releases adversely affecting construction workers and the general public.	S	<u>Mitigation Measure 12-2</u> The HASP and SMP required by Mitigation Measure 12-1 and the Storm Water Pollution Prevention Plan (SWPPP) required by Mitigation Measure 11-1 for project construction shall include provisions to minimize potential construction-related contamination, particularly from wind-borne dust and stormwater runoff, and shall include emergency procedures for accidental hazardous material releases. Use, storage, disposal, and transport of hazardous materials during construction activities shall be performed in accordance with existing local, State, and federal hazardous materials regulations.	LTS
<u>Impact 12-3</u> Construction-related activities adjacent to utilities and buried high-pressure petroleum pipelines could result in hazardous working conditions and hazardous substance releases.	S	<u>Mitigation Measure 12-3</u> The project applicant shall submit accurate mapping of all known existing underground utilities and high-pressure pipelines with its application for a grading permit. Permit conditions for the grading permit to be issued by the City of Richmond Prior to construction shall require that standard procedures for safeguarding utilities be implemented. These procedures shall include, at a minimum: (1) marking all excavation areas with white paint; and (2) notifying Underground Services Alert (USA), which, in turn, will notify area municipal and private utility companies. In addition, any potentially affected petroleum product pipelines shall be located visually by potholing. This potholing shall be performed by hand excavation and shall only be conducted with the appropriate pipeline representative present. In addition, prior to the initiation of construction activities, pipeline and utility operators shall be provided an opportunity to review final construction plans and drawings and identify any additional	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		necessary provisions that may be appropriate for the protection of affected pipelines and utilities, and these provisions shall be implemented by the project sponsor and/or the construction contractor(s).	
<u>Impact 12-4</u> Development of the proposed project could result in handling of hazardous materials, substances, or wastes within one-quarter mile of an existing school.	S	<u>Mitigation Measure 12-4</u> Same as Mitigation Measure 12-2.	LTS
<u>Impact 12-5</u> Operation of the Honda Port of Entry could result in accidental spills or releases of hazardous materials to the environment, which could, in turn, create a significant hazard to the public or the environment.	LTS	<u>Mitigation Measure 12-5</u> None Required.	LTS
<u>Impact 12-6</u> Operation of the proposed Honda Port of Entry project would result in increased activity and vehicle movement, which could, in turn, result in increased accidents and safety hazards for MTC and AWC workers.	LTS	<u>Mitigation Measure 12-6</u> None Required.	LTS
<u>Impact 12-7</u> Operation of the proposed PPMT rail terminal, which would involve multiple closely-spaced rail spurs and could result in significant weight loading due to multiple lines of railcars, could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products, which could, in turn, create a significant hazard to the public or the environment.	S	<u>Mitigation Measure 12-7</u> Prior to construction of the PPMT rail terminal, an engineering evaluation shall be performed, with the results to be confirmed and approved by the City of Richmond Engineering Division. During this engineering phase, weight loading as related to the underground pipeline and all other buried utilities shall be evaluated and any measures recommended to ensure pipeline integrity and safety shall be implemented by the project sponsor prior to construction of the new lead track and rail yard.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 12-8</u> The presence of State-listed hazardous materials sites on and adjacent to the PPMT could result in the exposure of construction workers, facility workers, and workers at adjacent industrial sites to hazardous materials, creating a safety hazard to such workers.	LTS	<u>Mitigation Measure 12-8</u> None Required.	LTS
VISUAL QUALITY			
<u>Impact 13-1</u> Construction of rail lines, installation of high-mast lighting, and repair of berth 6C would introduce heavy construction equipment into public and private views.	LTS	<u>Mitigation Measure 13-1</u> None Required.	LTS
<u>Impact 13-2</u> Implementation of the project would increase the amount of auto-carrying ships that would dock at the project site, sometimes resulting in two ships docking simultaneously, which would create a visual interruption along the southern Harbor Channel waterfront.	LTS	<u>Mitigation Measure 13-2</u> None Required.	LTS
<u>Impact 13-3</u> The proposed extension of multiple rail lines into the PPMT and additional rail lines at the BNSF Yard would be visible from surrounding public and private areas.	LTS	<u>Mitigation Measure 13-3</u> None Required.	LTS
<u>Impact 13-4</u> The proposed addition of 15 100-foot-high light towers would increase light glare in the surrounding areas.	LTS	<u>Mitigation Measure 13-4</u> None Required.	LTS
<u>Impact 13-5</u> The proposed addition of 15 100-foot-high light towers could contribute to sky glow in the region.	LTS	<u>Mitigation Measure 13-5</u> None Required.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 13-6</u> The proposed addition of 15 100-foot-high light towers would contribute to local glow, which would provide a distraction to nighttime views from public and private areas in the Seacliff and Brickyard Cove neighborhoods.	LTS	<u>Mitigation Measure 13-6</u> None Required.	LTS
UTILITIES			
<u>Impact 14-1</u> The project could generate additional wastewater during construction, adding to the volume conveyed to the City's wastewater treatment plant by the existing sewer main in Canal Boulevard and increasing treatment demand at the City's wastewater treatment plant.	LTS	<u>Mitigation Measure 14-1</u> None Required.	LTS
<u>Impact 14-2</u> Operation of the proposed project would generate additional wastewater, adding to the volume conveyed to the City's wastewater treatment plant by the existing sewer main in Canal Boulevard.	S	<u>Mitigation Measure 14-2</u> Prior to issuance of a building permit, the project sponsor shall prepare an engineering study evaluating and documenting that there is sufficient capacity in the local network of sewer lines to accommodate the increased effluent flow from the project and that they are in good condition. The engineering study shall be submitted to the City of Richmond Engineering Division for review and approval. If inadequacies in the onsite collection system are identified, the project applicant shall be responsible for any necessary repairs or upgrades prior to the commencement of proposed project operations.	LTS
<u>Impact 14-3</u> Operation of the proposed project would generate additional wastewater, adding to the volume requiring	LTS	<u>Mitigation Measure 14-3</u> None Required.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
treatment at the City's wastewater treatment plant.			
<u>Impact 14-4</u> During construction, the proposed project would result in an increased demand for water for drinking, restroom and/or construction purposes.	LTS	<u>Mitigation Measure 14-4</u> None Required.	LTS
<u>Impact 14-5</u> During operation, the proposed project would result in an increased demand for water for employee drinking water and restroom use, and landscape irrigation.	S	<u>Mitigation Measure 14-5</u> a) Prior to construction, the applicant shall consult with the Water Conservation Division of the East Bay Municipal Utility District (EBMUD), to determine appropriate water conservation devices and procedures for the project. The applicant shall implement all feasible water conservation measures called for by EBMUD. b) All project landscaping shall consist of drought-tolerant plants. c) Irrigation for all project landscaping shall incorporate water-efficient landscaping measures, in accordance with City and EBMUD guidelines, such as onsite capture and reuse of rainwater and/or irrigation systems that monitor and respond to soil moisture, operate during hours when evaporation is low, and employ drip and mist irrigation. d) Water-conserving plumbing fixtures shall be installed in restroom facilities serving the proposed project.	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
<u>Impact 14-6</u> The project would increase the area of impervious surfaces at the site, with a corresponding increase in stormwater runoff.	S	<u>Mitigation Measure 14-6</u> Same as Mitigation Measure 11-2.	LTS
<u>Impact 14-7</u> Construction debris generated by the proposed project could result in a substantial amount of recyclable materials being unnecessarily disposed of at the landfill serving the site, incrementally reducing the remaining life of the landfill. When combined with the construction debris generated by other future development projects in the City and County, this would be a significant project-specific and cumulative impact.	S	<u>Mitigation Measure 14-7</u> a) The project sponsor shall divert at least 50 percent by weight of all demolition and construction waste other than asphalt waste from landfill disposal, and shall provide a summary report of the diversion to the City. Prior to the initiation of project construction, the project sponsor shall prepare a recycling plan to cover all phases of project construction, including demolition. The recycling plan shall identify a strategy for handling all waste materials that will be generated during construction in order to achieve diversion of at least 50 percent by weight of all demolition and construction waste other than asphalt waste from landfill disposal. b) The project sponsor shall divert 100 percent of asphalt waste from landfill disposal.	LTS
<u>Impact 14-8</u> Operation of the project could result in a substantial amount of recyclable materials being unnecessarily disposed of at the landfill serving the site, incrementally reducing the remaining life of the landfill. When combined with the operational waste generated by other future development projects in the City and County, this would be a significant project-specific and cumulative impact.	S	<u>Mitigation Measure 14-8</u> The project sponsor shall divert at least 50 percent by weight of all operational waste from landfill disposal, and shall provide a summary report of the diversion to the City. Prior to the initiation of project operation, the project sponsor shall prepare a recycling plan, which shall identify a strategy for handling all waste materials that will be generated during operation in	LTS

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Table 2-1
Summary of Environmental Effects

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		order to achieve diversion of at least 50 percent by weight of all operational waste from landfill disposal.	

S = Significant, LTS = Less Than Significant, SU = Significant Unavoidable, B = Beneficial

3. PROJECT DESCRIPTION

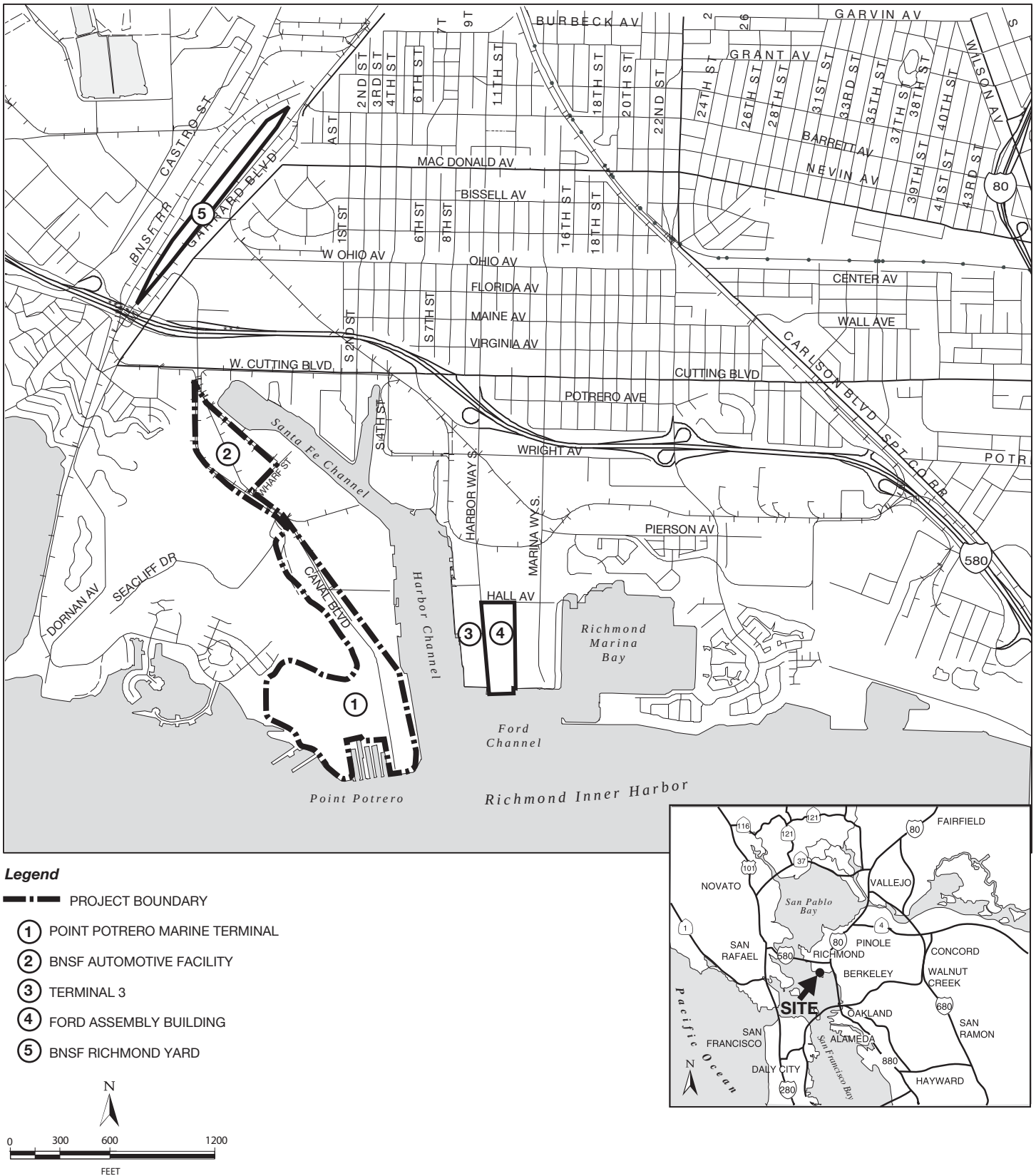
3.1 INTRODUCTION

This chapter provides a complete description of the proposed project, and forms the basis for the environmental analysis presented in the rest of this EIR. The chapter is organized as follows: Section 3.2 provides a brief overview of the project to orient the reader conceptually. In Section 3.3, a brief history and background of the project is presented, followed by a description of the project site's location and basic characteristics (Section 3.4). Next, the existing facilities and current operations of the PPMT are described in Section 3.5. This is followed by discussions in Section 3.6 of the proposed new construction and in Section 3.7 of the proposed project operations, with comparisons made to existing operations. The objectives and benefits of the project are discussed next in Section 3.8, and the chapter winds up with identification of the required approvals for the project (Section 3.9) along with a list of responsible agencies (Section 3.10). Due to the number of fold-out figures, all of the figures for this chapter are consolidated at the end of the chapter.

3.2 OVERVIEW

Auto Warehousing Company (AWC), an automobile processing company that prepares, receives, and processes automobiles for large-scale shipping via truck, train, and ship, is proposing to expand its existing operations at the Port of Richmond to develop a Northern California Port of Entry for Honda automobiles. The purpose of the project is to improve the efficiency of the North American distribution system for imported Honda autos, while at the same time improving the efficiency of the local and regional distribution system of Honda imports and domestically-manufactured cars and of imported autos from various other foreign car manufacturers. The net effect of the project would be to substantially reduce the number of vehicle miles being traveled in the State of California by auto carriers, the double-decker trucks used for regional transport of new automobiles.

AWC has been operating an auto processing facility since 2004 at the Point Potrero Marine Terminal (PPMT) (see Figure 3-1), part of the Port of Richmond, where it currently receives and processes Hyundai and Kia cars imported from Korea by ship. Following processing and any necessary repairs, the imported cars are shuttled approximately 1 mile north on Canal Boulevard by AWC employees to a Burlington Northern Santa Fe (BNSF) Rail Road automotive terminal located at the corner of Canal Boulevard and Cutting Boulevard, where



they are loaded onto rail cars and shipped to destination markets elsewhere in the U.S. They are also distributed around northern California and the San Francisco Bay Area directly on car carrier trucks.

AWC, in cooperation with the TransDevelopment Group, is proposing to construct improvements to the PPMT that would include creating a new rail yard adjacent to the ship berths at the PPMT so that imported autos could be loaded directly onto rail cars without the intermediary step of shuttling them to the BNSF rail yard. Minor improvements to one of the existing ship berths would also be made, consisting of repairs to the concrete deck pavement, installation of new bull rail at the edge of the berth, and replacement of the existing dock fender system on the side of the berth. Construction of these improvements would not intrude into the Bay water.

Following completion of the rail yard and ship berth improvements, Honda would begin delivering autos manufactured in Japan to the PPMT facility in car-carrying ships. After processing by AWC, similar to the Hyundai and Kia cars, they would be loaded onto trains for distribution around the rest of the U.S., and loaded onto car carrier trucks for distribution around the Bay Area and northern California. Honda expects to import 150,000 vehicles per year by ship, and would distribute approximately 35,000 of those vehicles via truck to dealerships throughout northern California. Honda also imports autos into the Port of San Diego, which is the distribution point for autos to the southern California region. Approximately 35,000 imported Hondas per year are currently brought into Northern California by auto carrier from the Port of San Diego; these highway trips would be eliminated by the proposed project.

3.3 HISTORY OF THE PROJECT

The PPMT site was part of the former Kaiser Shipyard No. 3 during World War II that is listed in the National Register of Historic Places. It is part of the Rosie the Riveter World War II Home Front National Historical Park and is a California Historical Landmark. Additional details on the history of the site are provided in Chapter 9, Cultural Resources.

The Port of Richmond has operated as an Automotive Port of Entry over the past three decades, serving as a base of operations for a variety of shippers and operators. The first facilities were established across the Harbor Channel from the PPMT, at Terminal 3, which is just west of the historic Ford Assembly Building, the wartime Rosie the Riveter factory (see Figure 3-1). During the 1970s, Terminal 3 was dedicated primarily to the importation of Honda vehicles. In the 1980s the Honda facilities were relocated to Point Potrero so that renovation and redevelopment work could be performed on the Terminal 3 facilities.

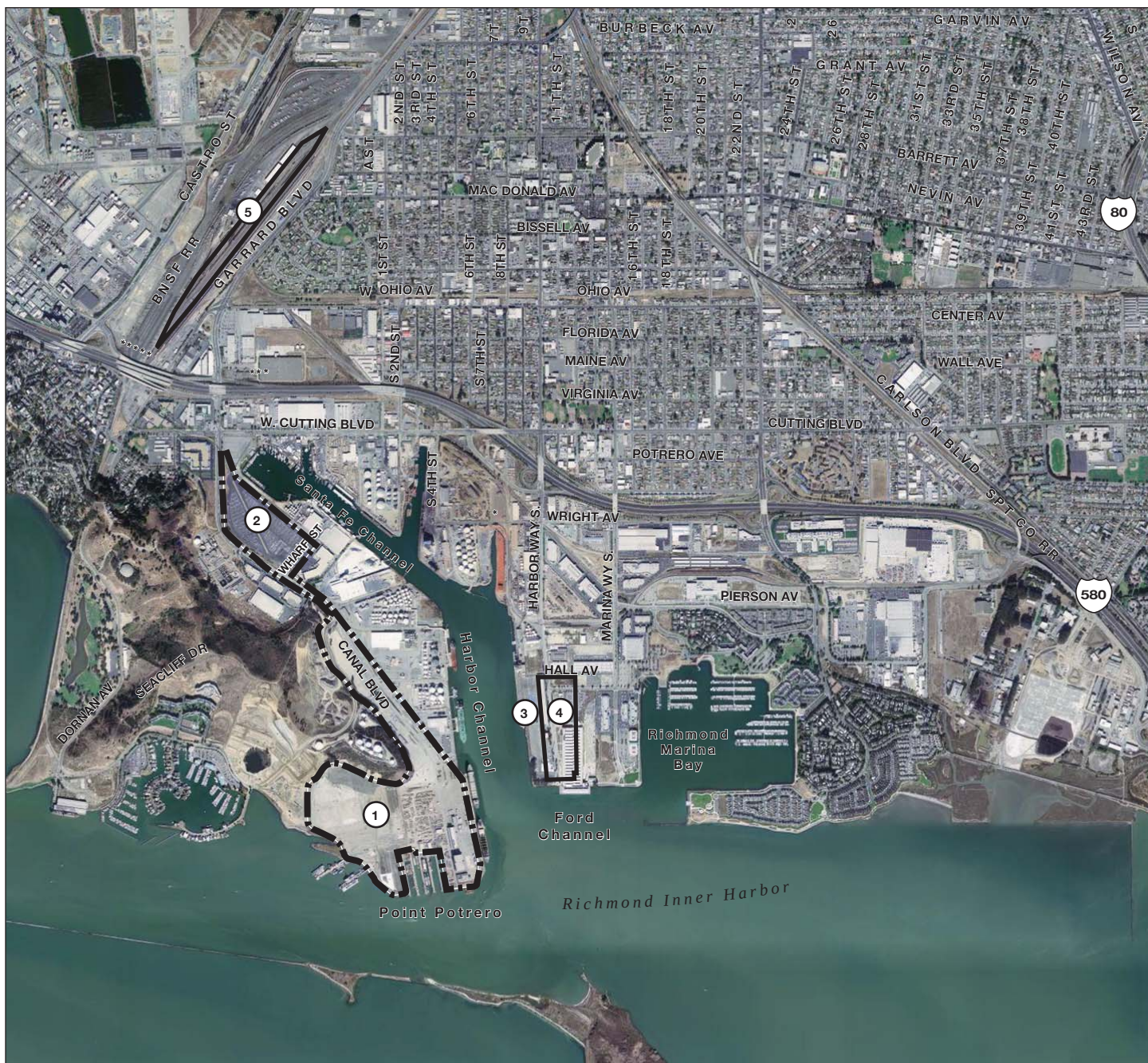
Honda operated at the PPMT until 1994, when it relocated to the Port of San Diego, where importation and processing of Hondas continues today. Following Honda's departure from the PPMT, other automotive shippers and industrial uses operated out of this facility. The Korean automakers Hyundai and Kia currently use the PPMT as the northern California port of entry, and would continue to do so following implementation of the proposed project.

In 2004 the Port of Richmond redeveloped over 100 acres of the PPMT, paving a large 52-acre auto storage parking lot on the west side of the facility. This parking storage area was located in an area of soil contamination from earlier salvage and storage operations on this site. The 2004 project included capping the area of contamination under the oversight of the California Department of Toxic Substances Control. This issue is discussed in greater detail in Chapter 12, Hazards and Hazardous Materials. Other improvements made in 2004 included repair of the ship berths on the main dock, installation of utility lines, construction of a dedicated fire protection line along Canal Boulevard and leading into the PPMT, and a variety of maintenance and general improvement activities. Following completion of this work, Glovis, an international transportation logistics subsidiary of the Hyundai/Kia Automotive Group, began importing Kia and Hyundai automobiles from Korea to the PPMT for distribution to the U.S. market. These operations continue today and would continue to operate in tandem with the proposed Honda Port of Entry at the PPMT.

3.4 PROJECT LOCATION AND SITE CHARACTERISTICS

The Point Potrero Marine Terminal is located in the southwestern portion of the City of Richmond, in western Contra Costa County. The site is located at the shoreline of the Richmond Inner Harbor, located in central San Francisco Bay. As shown on Figure 3-1, the PPMT is located at the southern terminus of Canal Boulevard, on Point Potrero, and immediately adjacent to the Harbor Channel, the primary water access to the Port of Richmond. An aerial overview of the project area is shown on Figure 3-2.

Including submerged land, the PPMT occupies an approximately 212.8-acre irregularly-shaped site that encompasses the end of Point Potrero and a panhandle extending north, adjacent to Canal Boulevard. Excluding the submerged areas, the site occupies approximately 110 acres. The site is comprised of Assessor's Parcel Numbers (APNs) 560-320-002, 560-320-016, and 560-320-017. The Port of Richmond via the City of Richmond Surplus Property Authority owns these parcels and leases them to AWC, and would continue to do so under the proposed project.



Legend

- PROJECT BOUNDARY
- ① POINT POTRERO MARINE TERMINAL
- ② BNSF AUTOMOTIVE FACILITY
- ③ TERMINAL 3
- ④ FORD ASSEMBLY BUILDING
- ⑤ BNSF RICHMOND YARD

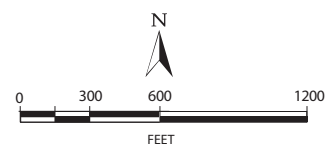


Figure 3-2

Aerial View of Project Area

Source: Douglas Herring & Associates, TerraServer- USA

The site is essentially level, and covered entirely with impervious pavement and buildings, most of which were constructed during World War II. Although elevations across most of the site historically ranged between 10 feet and 16 feet above mean sea level (msl), the western side of the site was capped in 2004, and the western and central portions of the site were resurfaced. The resulting elevations now range between 16 feet and 24 feet, with elevations on the eastern side of the site generally 13–14 feet.

Immediately northwest of the PPMT, a large hillside—Nichol’s Knob—rises to an elevation of 327 feet. Adjacent to the PPMT, the hillside is owned by BP/Arco and is partially developed with a petroleum product tank farm with a dozen storage tanks of varying sizes. Much of the remainder of the hillside comprises the Miller/Knox Regional Shoreline park owned by the East Bay Regional Park District (EBRPD).

The PPMT is bounded on the east, south, and west by Bay waters. Although this portion of the Bay is generally quite shallow, with depths ranging from around 2 to 10 feet, the Harbor Channel is regularly dredged to depths of approximately 38 feet to provide Port access to ocean-going ships. The western spit of Brooks Island is about 1,500 feet south of Point Potrero and defines the western approach of the Harbor Channel, also known as Potrero Reach. The 75-acre Brooks Island (373 acres including surrounding water property) is a bird sanctuary owned and managed by the EBRPD.

As part of the project, improvements would also be constructed at the BNSF Automotive Facility located at the southeast corner of the intersection of Cutting Boulevard and Canal Boulevard. This facility occupies APNs 560–310–019, –020, –021, and –022 and encompasses approximately 26.15 acres. With the exception of a drainage ditch running along Canal Boulevard, the property is entirely developed with pavement, rail tracks, and two buildings. The northern end of Santa Fe Channel defines the northeast boundary of the site, which is level with elevations between 12 and 15 feet.

Additional details on the existing conditions on the site are provided below in Section 3.5.

EXISTING ZONING AND LAND USE DESIGNATIONS

The majority of the PPMT site is zoned M–4 (Marine Industrial), as is all of the BNSF Automotive Facility. The northernmost parking lot, a 6-acre parcel located on the west side of Canal Boulevard, is zoned M–3 (Heavy Industrial). The General Plan land use designation for the entire project site, including the PPMT and BNSF terminal, is Industrial. More specifically, everything is Industrial—Port/Marine Terminal/Ship Repair with the exception of the two northerly parking lots west of Canal Boulevard, which are designated Industrial—Heavy Industry. The proposed operations are an extension of an existing use,

and are also listed as outright permitted uses under the zoning ordinance, including truck, railroad, marine, and auto storage and processing operations.

The site is also located in the Richmond Redevelopment Project 11-A and Richmond Enterprise Zone.

3.5 EXISTING TERMINAL FACILITIES AND OPERATIONS

The existing Point Potrero Marine Terminal has been in operation as an auto receiving and processing facility since the 1970s, with a period of dormancy during the mid-1980s. The facility occupies the historic Kaiser Shipyard No. 3, one of four Richmond shipyards dedicated to the production of battle and support ships during World War II. Shipyard No. 3 is the only one of the four war-era shipyards in the area still substantially intact and devoted to maritime industry, and since April 2000 it has been officially designated a National Register District by the U.S. Department of Interior. Several buildings on the property are designated as Contributory Structures to the District, and are considered historic resources under the *CEQA Guidelines*.

EXISTING FACILITIES

The PPMT currently consists of five primary types of development: a dock with two deep-water ship berths, automotive processing facilities, automobile storage parking, docks and buildings leased from the Port of Richmond by private tenants, and other miscellaneous buildings. These facilities are described in more detail below and illustrated on Figure 3-3. (Due to the number of fold-out figures in this chapter, Figure 3-3 and all remaining figures are presented at the end of this chapter.)

Shipping Dock

The shipping dock is located on the southwestern edge of Harbor Channel. The concrete loading dock spans the approximately 1,500-foot length of the pier and extends westward for a width of about 100 feet. The dock is enclosed by a security fence, with access control provided by locked gates and security personnel. The dock is lined with a variety of small storage buildings, storage containers, and miscellaneous equipment and materials.

Two end-to-end ship berths, similar to parallel car parking spaces, line the dock. Berth 7 is at the north end of the dock and is currently used by ships off-loading new automobiles imported from Korea, as discussed further below, under Existing Operations. This berth was improved in 2004, prior to the initiation of the existing Port of Entry operations for Kia and Hyundai that same year. The improvements included strengthening of the piers supporting the dock, installation of new bull rail (essentially a concrete curb at the edge of

the dock), and repair of the concrete dock deck surface and concrete bases of the steel bollards used to secure ships. The more southerly Berth 6C is not currently used for docking large ocean-going ships, but is periodically used to tie up smaller boats and barges, and occasionally for project cargo operations. The concrete pavement on this dock is in deteriorated condition; the bull rail is missing in some sections, and in degraded condition in others.

Dredging of the Harbor Channel adjacent to the dock is done annually by the U.S. Army Corps of Engineers. Dredging of the channel is only done to within about 100 feet of the PPMT berths; dredging of the berths themselves is the responsibility of the Port of Richmond. The wharf was last dredged in 1998 to a depth of 38 to 39 feet. Most of the ships making calls at the PPMT have a draft of about 32 feet or less.

Automotive Processing Facilities

The auto processing facilities described in this section are used for the processing of Kia and Hyundai vehicles, but would not be used, altered, or affected by the proposed project. Imported Honda vehicles would be processed differently, as described below. For ease of reference, the Kia and Hyundai cars are described collectively as Glovis vehicles.

Glovis vehicles damaged in transit are first repaired in the body shop, located in Building 5, the original designation of the building when it was constructed as part of the original World War II Kaiser Shipyard No. 3. Building 5 was constructed in 1942 and functioned as the forge shop where ship parts and tools were manufactured during wartime production. Today the body shop houses a paint booth and spaces for concurrent body work on four automobiles. The 5,400-square-foot single-story corrugated metal building is located about 320 feet west of Berth 7.

Building 4, located 55 feet south of Building 5, was constructed in 1942 and operated as a machine shop during wartime operation of the shipyard. The building is currently used for processing and accessorizing newly imported Glovis vehicles. The rectangular building measures 350 feet long and 100 feet wide and provides 49,750 square feet of floor area, including mezzanines. The central bay is four stories tall, with two-story elements extending along the east and west sides of the building. The metal-clad building has a largely open and unfinished interior that has been fitted with vehicle lifts to facilitate installation of accessories that are mounted on the undercarriage, such as running boards. Offices, bathrooms, storage rooms, a metal shop, and an employee lunch room were installed as part of the 2004 improvements at the PPMT.

Buildings 4 and 5 were both designated as contributing buildings to the Richmond Shipyard No. 3 National Register District established on April 28, 2000. Both buildings are shown on Figure 3-4.

A car wash building is located about 325 feet west of Building 5. A fueling facility is about 60 feet west of the car wash.

Approximately 100 feet south of Building 4 is Building 24, the original designation for another historic building that was part of the original Kaiser shipyard. This monolithic concrete building, shown on Figure 3-4, was the general warehouse for the wartime shipyard, and was used to furnish completed ships. The four-story building is 260 feet long and 140 feet wide and provides approximately 157,600 square feet of floor area. It is currently used for auto parts storage by AWC.

Automobile Storage and Parking

The majority of the land at the PPMT is covered with asphalt pavement and is dedicated to the parking and storage of imported Glovis vehicles. The west side of the facility, encompassing 52 acres, was capped and paved in 2004, and a circulation road was constructed around the perimeter of the facility, outside a security fence. A series of security lights were installed around the auto storage parking area at this time. Mounted on 100-foot-tall poles, a total of 16 light towers were erected, including 11 along or near the parking lot perimeter and 5 located on the interior of the lot. These lights are illuminated every night to provide additional security for the PPMT. Additional details on these lights are provided in Chapter 13, Visual Quality.

In addition to the capped western area, parking areas are located between the main dock and Building 4 and in the remainder of the property north of Building 5 and the car wash. Two additional vehicle storage areas are located north of the main facility, along the west side of Canal Boulevard and the private Port driveway extending south of Canal Boulevard. The PPMT provides a total capacity for approximately 11,157 automobiles. The new improvements and reconfiguration of the facilities would increase the total parking capacity to approximately 11,307 vehicles .

An employee parking lot was also developed in 2004 near the entrance to the PPMT, outside the fenced security area. Used by AWC employees and the longshoremen who unload ships, this lot provides 238 standard parking spaces and 6 handicap spaces. Landscaping was introduced along the west side of the employee parking lot created in 2004. A new main entrance gate and guard house are located next to the employee parking lot.

Approximately 400 feet southwest of the main entrance gate is the outbound truck staging area, where car carriers are loaded with vehicles destined for auto dealerships in northern California.

Leased Port Facilities

The southern end of Point Potrero is developed with five ship basins that were used as graving docks (enclosed dry docks) during the historic wartime operation of Richmond Shipyard No. 3. Each basin is flanked by a craneway on each side. These basins are used by a variety of tenants who lease the dock space from the Port, primarily for the storage and/or restoration of old barges and other vessels. Basin 3, the middle of the five basins, has been used for the past five years by the National Park Service to restore an old vessel in dry storage on top of a barge. Prior to this, the vessel was tied up in Sausalito for the previous 25 years or so. Another tenant is Maas Boat, a manufacturer of skulling boats and shells. The Sea Scouts utilize one of the basins rent-free. The easternmost basin, Basin 5, is leased by Foss Maritime for the storage of a number of barges. Basin 1 is shown on Figure 3–5.

Foss Maritime, a tugboat and barge operator, also leases Pier 2, a finger pier located outside but adjacent to the west side of the PPMT, and extending into Point Potrero Reach. Pier 1, the more southerly of two piers at this location, is leased by the Marine Spill Response Corporation (MSRC), which was involved in clean-up operations following the November 2007 oil spill in San Francisco Bay by the *Cosco Busan* South Korean container ship.

East of the five ship basins, at the southeastern edge of the PPMT, is another ship berth, Berth 6A. The USS Red Oak Victory ship, a World War II ammunition ship built at Kaiser Shipyard No. 3, is tied up at this berth. It is currently being restored and may be visited by tour groups.

Immediately north of the five leased ship basins is an equipment storage area also leased from the Port by various tenants. Two rectangular prefabricated metal buildings are located in this area, one of which is leased by Maas Boat. The other contains offices occupied by Port staff, and is also used as a maintenance and storage building by the Port.

Other Buildings

South of Building 24, the historic warehouse, is Building 6, another historic building that was part of Kaiser Shipyard No. 3, when it functioned as a paint shop, metal shop, and rigger's loft. The one-story wood-frame, metal-clad building is currently vacant and in deteriorated condition, with a collapsed roof.

Two other historic war-era buildings are located on the PPMT property that are not part of existing or proposed operations. A few hundred feet south of where the public right-of-way in Canal Boulevard ends and the private Port driveway begins is the historic entry gate to the shipyard. Just to the west of the gate is Building 23, the historic cafeteria building. This one-story 14,268-square-foot wood building, shown on Figure 3-5, is currently occupied by offices of Touchable Stories, a non-profit artists' collective, Marine Terminals Corporation (MTC), and by temporary field offices for TransDevelopment Group. The other historic building is Building 9, which functioned as a first aid building for shipyard workers. The one-story wood building, approximately 4,500 square feet in size, is not currently occupied and is located inside the new entrance gate and adjacent to the employee parking lot.

The Port of Richmond plans to rehabilitate Buildings 6, 9, 23, and 24 for adaptive reuse by other tenants. The rehabilitation would be performed in accordance with the *Secretary of the Interior's Guidelines for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*, the nationally-accepted standards for the restoration, rehabilitation, alteration, and addition to historic buildings. The proposed project is unrelated to these improvement plans, and it would not affect or be affected by the anticipated future use of these buildings. The rehabilitation and reuse of the buildings would be subject to separate environmental review pursuant to CEQA.

EXISTING OPERATIONS

PPMT Operations

Since 2004 the PPMT has been operated by Auto Warehousing Company (AWC), an automobile processing company that prepares, receives, and processes automobiles. Vehicles are delivered in ocean-going ships to the PPMT by Glovis, a vehicle logistics company that is a member company of the Hyundai Kia Automotive Group. Approximately 75 auto carrier ships arrive each year from South Korea loaded with Kia and Hyundai automobiles, bringing in a total of about 96,000 imported autos per year. Once a ship arrives in port, approximately 60 longshoremen from the International Longshore and Warehouse Union (ILWU) arrive at the PPMT to drive the cars one by one off the ships onto the first point of rest (FPR), the extensive parking and storage area extending west and north of the ship berth. A ship being unloaded is shown on Figure 3-6.

AWC employees inspect the vehicles in the FPR, and any damaged vehicles (less than 1 percent of total throughput) are taken to the body shop (Building 5) for repair. Each vehicle is fueled at the fueling station, then taken through the car wash. From here the vehicles are driven to the processing building (Building 4) where they are entered into a computerized

inventory control system. All of the operating systems of each vehicle are tested, and “throw-in” items such as floor mats, cargo nets, owner’s manuals, etc. are placed in each car. Building 4 is also where accessories are added to some vehicles. Typical accessories installed here include roof racks, running boards, spoilers, and tow hitches.

Once the vehicles have been processed and accessorized, they are driven to one of three destinations. If they have not yet been allocated to a dealer, they are returned to a storage parking area until they are sold. Such vehicles may remain in storage for up to 40 days. If they have been sold to a northern California dealer, they are immediately driven to the outbound truck staging area, where they are loaded onto car carrier trucks by the truck drivers and delivered directly to the destination dealerships. If they are being shipped to an out-of-state dealer, they are driven by an AWC employee to the BNSF auto terminal located at the southeast corner of the intersection of Cutting Boulevard and Canal Boulevard, approximately 1 mile north of the PPMT.

BNSF Automotive Facility Operations

At the BNSF auto terminal (see Figure 3–6), the imported Glovis vehicles shuttled up from the PPMT are driven onto multi-level auto carrier rail cars and shipped east via train by BNSF to their out-of-state destinations. This facility functions as the domestic automobile terminal for the San Francisco Bay Area, receiving domestically-produced foreign-brand autos from all over the U.S. Cars received on inbound trains are transferred to car carrier trucks and distributed to dealerships throughout northern California. Imported Glovis vehicles shuttled up from the PPMT are loaded onto empty trains for outbound shipment.

Loaded trains depart the auto terminal in a northwest direction, crossing Canal Boulevard and then West Cutting Boulevard on at-grade crossings; they then veer to the northeast, crossing under Interstate 580, and pass into the BNSF Richmond Yard. The loaded trains continue north out of the City of Richmond into the City of Pinole, then head eastward on the BNSF western rail corridor across the rest of Contra Costa County and on to the City of Stockton before heading out of state. There are no at-grade crossings on this rail corridor once the trains depart the Richmond Yard.

Currently, the configuration of two loading/flex tracks inside the BNSF terminal permits train lengths of 14 railcars. To compile longer trains and accommodate the loading and unloading of railcars, trains are switched at the BNSF Richmond Yard on the north side of Cutting Boulevard. Due to the at-grade crossings of Canal Boulevard and Cutting Boulevard, train switching operations block traffic on both of these roadways, with traffic being interrupted approximately 20 times per day, generally for about 3 to 5 minutes per

episode. As discussed in Section 3.7, a benefit of the proposed project would be the elimination of these switching operations across Canal and Cutting Boulevards.

Among the other domestically-produced foreign autos currently processed at the BNSF Automotive Facility, 80,000 Hondas manufactured in Midwestern states (Ohio and Indiana) are brought into the terminal each year. As with other inbound autos, these cars are transferred to car carrier trucks and delivered to car dealerships throughout northern California.

Other Related Operations

Imported Honda automobiles sold in northern California dealerships are currently shipped from Japan to the Port of San Diego, and are then trucked from there to the region. Approximately 35,000 vehicles are delivered in this way to northern California each year, requiring about 3,890 two-way truck trips. These long-distance truck operations would be eliminated following implementation of the proposed project.

3.6 PROPOSED CONSTRUCTION

The proposed project represents an expansion and modification of the existing auto import activities described above. The Honda Port of Entry would be operated differently from the Glovis Port of Entry, as described below in Section 3.7. To improve the transportation efficiency of both Honda and Glovis operations, the project proposes to construct a new rail yard at the PPMT to eliminate the existing street shuttle operations between the PPMT and the BNSF auto terminal. Implementation of this plan would require construction of the rail yard, a lead track into the PPMT, and modifications at the BNSF auto terminal. Ship Berth 6C would also be improved to accommodate ships delivering Hondas from Japan, and other miscellaneous modifications to the PPMT would be required. Each of these project components is described in more detail below. An overview of the improvements is shown on Figure 3-7.

POINT POTRERO RAIL YARD

The northern end of the proposed PPMT rail yard would begin where the historic Kaiser shipyard entrance gate and guard house are located, just east of Building 23. At this point a series of track switches would split the lead track into two lines, each of which would split two more times. As shown on Figure 3-8, The easternmost of these new tracks would veer east onto the adjacent BP/Arco property and the remaining tracks would extend south to the northern end of Ship Berth 7, forming seven loading tracks approximately 1,300 feet in length. The tracks would be spaced 19 to 22 feet apart and would accommodate loading

and unloading operations from either end or from the middle of six-railcar train segments that would be coupled into longer train lengths prior to departure from the PPMT.

The rail yard would be constructed in an area currently occupied by an auto storage area, part of the employee parking lot constructed in 2004, and the private PPMT driveway extending south from the terminus of Canal Boulevard. A new, relocated entrance road would be built, as discussed below. Prior to constructing the new tracks, the existing asphalt pavement in the rail yard area would be removed and the subgrade would be excavated to a depth of 24 to 30 inches. The asphalt would be ground up on site and used as road bed for the new track. Although the majority of the proposed rail yard area is currently paved with asphalt, an unpaved strip east of the PPMT driveway—about 25 feet wide and 600 feet long—would be paved over to accommodate the rail yard. The ballast sections of the proposed tracks would be paved with asphalt and the rails would be constructed flush with the pavement, permitting the movement of autos across the tracks. Paved “shag roads” would extend between each pair of tracks to allow vehicular access alongside the railcars.

An 8-foot-high cyclone security fence topped with barbed wire would extend along the east side of Track 7, the easternmost track in the rail yard. This fencing would enclose a proposed access road along the Port’s eastern property line. The roadway would provide vehicle access to the BP/Arco facility located adjacent to the PPMT. The two-lane paved access road would have a 30-foot right-of-way and a 24-foot-wide roadway.

LEAD TRACK

An existing light-gauge (90-pound) lead track currently extends from the BNSF auto terminal to the BP/Arco blending facility, as shown on Figure 3-8. This track would be realigned and replaced with heavier 136-pound rail. The realignment would start about 150 feet north of the historic entrance gate, and would be moved about 30 feet west of its current alignment. Similar to the proposed rail yard, construction of the new lead track would require excavation to a depth of 24 to 30 inches. The new track would also be constructed flush with the roadway at driveway crossings to BP/Arco and other existing industrial facilities located along the east side of Canal Boulevard.

BNSF AUTO TERMINAL IMPROVEMENTS

New loading/unloading tracks would also be constructed at the BNSF auto terminal north of the PPMT as part of the proposed project. Although these improvements would be implemented by BNSF, they would occur in conjunction with and as a result of the proposed Honda Port of Entry project. As shown on Figure 3-9, the facility currently has two loading/flex tracks (Tracks 1 and 2) that diagonally bisect the property. Six new

loading/unloading tracks would be constructed west of and parallel to Track 2, providing new storage capacity for 73 railcars. This area is currently used as a staging and auto storage area. Similar to the construction of the PPMT rail yard, the existing asphalt pavement would be excavated to a depth of 24 to 30 inches, with the asphalt ground up on site and reused as fill for the track support bed. The track rails would also be constructed flush with the new pavement.

As discussed in more detail in Chapter 8, Biological Resources, construction of the new tracks would require filling of a portion of a wetland ditch that runs alongside Canal Boulevard and the edge of the BNSF terminal. At the southern end near Wharf Street, approximately 200 linear feet of the ditch would be filled. At the northern end, the rail improvements have been designed to eliminate any requirements for ditch in-fill.

Security fencing similar to that at the PPMT would be erected along both sides of the new support tracks. The area to the east of the tracks would continue to be used as storage and staging areas for loading and unloading of automobiles from trains and car carrier trucks. The area west of the new tracks would also remain in its existing condition, and would be used for vehicle staging or for related operations.

Earthwork and grading within the PPMT rail yard and BNSF auto terminal would be limited to the areas directly associated with the proposed rail improvements and private driveway access for the adjacent industrial company, BP/Arco. It is anticipated that the amount of excavated asphalt and earth would total approximately 30,000 cubic yards from the PPMT and 27,000 cubic yards from the BNSF site, with the asphalt portion comprising 25 percent of these quantities. The current plan is to stockpile the asphalt and recycle later in the construction process into the new pavements. Consequently, approximately 42,750 total cubic yards of soil and other material would be candidate for removal from the project site, and utilized for local projects requiring fill material, or disposal at an appropriate location. Imported material would be comprised of rail ballast stone and other aggregates, including new asphalt pavement over the full extent of the rail yard. Due to the larger gradation of the ballast stone, total imported quantities are anticipated to be less than 36,000 cubic yards.

SHIP BERTH IMPROVEMENTS

The project proposes to rehabilitate portions of Berth 6C similar to the improvements that were made to Berth 7 in 2004. On the deck surface, broken concrete with exposed rebar would be epoxied and then paved over with new concrete. Concrete around the steel bollards used for tying up ships would also be repaired. Sections of the bull rail, which is a raised concrete curb at the edge of the berth, would be replaced. Existing tire bumpers

would be replaced with rubber dock fenders along the sides of the wharf to protect moored ships. Although none of the proposed work would intrude into the channel water, construction best management practices (BMPs) would be required to ensure concrete, debris, sediment, or chemical pollutants do not drop or wash into the water.

MISCELLANEOUS IMPROVEMENTS

Access Road

The existing entrance road would be displaced by the proposed PPMT rail yard. To maintain controlled access into the PPMT while providing access to Port tenants, a new access road would be constructed along the western perimeter of the facility, outside the existing security fence enclosing the auto storage areas. An access road that was constructed around the majority of the perimeter in 2004 would be widened and improved to City of Richmond public roadway standards for small local roads.

A new road alignment would commence at the northern end of the proposed rail yard, approximately 250 feet north of the historic entrance gate, as shown on Figure 3–7. Past Building 23, the road would curve to the west and then follow the western edge of the existing auto storage area, running along the base of the adjacent hillside. As shown on Figure 3–7, west of the new rail yard the new access road would connect with the existing perimeter road providing Port tenants access to the finger piers and graving docks located at the south side of the PPMT. It would be extended from the west side of the graving docks to the east side of the docks. Following implementation of the project, this road would also be used by employees and Port staff to enter the PPMT.

Entrance Gates and Employee Parking

About 300 feet west of the rail yard, a new truck entrance would branch off from the Port access road. A gate and guard house would control access into the facility, and the entrance would be used primarily by the car carrier trucks shipping new autos to northern California dealerships. The truck loading area would be moved about 900 feet northwest of its current location, which would be converted to a staging area for outbound rail shipments.

A new parking lot for employees and longshoremen would be established east of the docks and west of Buildings 24 and 6, within a portion of the Port property reserved for public access to the historic whirly crane and *SS Red Oak Victory* ship currently tied up at Berth 6A. This parking lot would also be available to the public, thereby improving public access to these historic resources. Additional parking would be located on the south and east sides of Building 6. Combined, these new parking areas would provide parking for approximately 170 vehicles. A new pedestrian entrance for facility employees and longshoremen would be established near the southwest corner of Building 4. A small guard house would be

manned by security personnel restricting access into the facility. Although an additional pedestrian entrance would be installed next to the northwest corner of Building 6, this gate would generally be locked and unmanned.

New Lighting

In 2003, the Port installed 16 high-mast light towers in the western portion of the PPMT. The proposed redevelopment activities would include the installation of an additional 15 100-foot-tall light towers throughout the remainder of the PPMT facilities. The proposed new lighting areas, existing light tower locations, and approximate new tower locations are shown on Figure 3-10. (A revised and more detailed lighting plan showing the specific locations of the new towers is presented in Chapter 13, Visual Quality. Figure 3-10 has been included because of its simpler conceptual presentation.) The primary objectives of the proposed site lighting are to provide an average illumination level of approximately 3.5 foot-candles under night operating conditions, and an average of 1 foot-candle for security.¹ The design would incorporate settings to allow transition from operational to security lighting levels, along with the use of downward directed lamps, with cut-off type fixtures to reduce glare and control light along the property lines.

Bay Trail Segment

A planned segment of the San Francisco Bay Trail, an approximately 400-mile network of recreational trails encircling San Francisco and San Pablo Bays, is designated for Point Potrero. The intent to create the Bay Trail was established by the California Legislature in 1987 and the Association of Bay Area Governments (ABAG) adopted a plan for its implementation in 1989. To date, approximately 240 miles of the trail have been completed, including 24.5 miles within the City of Richmond. The planned segment extending to the tip of Point Potrero is designated on the maps developed by the San Francisco Bay Trail Project to implement the *Bay Trail Plan*. The Port of Richmond has received a Notice of Exemption under CEQA to construct this trail, and plans to request construction bids in May/June 2008. Construction of the trail is expected to be completed prior to completion of the proposed Honda Port of Entry project. Although the trail segment is not technically part of the proposed project, it is nonetheless addressed in this EIR because it would be developed on the PPMT property in close proximity to proposed project components, and there is some potential—evaluated in this EIR—for the proposed project to conflict with the planned trail. In addition, as discussed in depth in Chapter 4, Land Use and Planning, there are numerous policies promulgated in a variety of local and regional planning documents

¹ For comparison purposes, a typical residential living room is illuminated with approximately 5 foot-candles during nighttime use, and 1 foot-candle is equivalent to the light emitted by a candle at a distance of one foot. Additional information on lighting and an evaluation of the project's lighting impacts are provided in Chapter 13, Visual Quality.

calling for any new development on Point Potrero to incorporate public trail access. The discussion and evaluation of consistency with these policies is facilitated by considering the trail as part of the proposed project.

To facilitate the development of this Bay Trail segment, the Port of Richmond has allocated the 14-foot right-of-way width recommended by the Bay Trail Project for multi-use trails into the improvement plans for the PPMT, with the exception of a few limited areas where existing physical constraints preclude the provision of the full 14-foot width. The Port of Richmond applied for grants for the trail project from ABAG, the Environmental Enhancement and Mitigation Program administered by the California Resources Agency and Caltrans, and San Francisco Bay Conservation and Development Commission (BCDC) public access mitigation funds provided by Eagle Rock Aggregates. Upon receipt of the grants, the Port of Richmond plans to build the 2.4-mile Bay Trail segment from Canal Boulevard just north of Seacliff Drive to an overlook at the northeast corner of the ship graving basins between the historic whirly crane and the *SS Red Oak Victory*, which are part of the Rosie The Riveter WWII Home Front National Historical Park.

The paved trail would be constructed immediately adjacent to the PPMT perimeter access road to an overlook on the southwest side of the graving docks and then proceed around the ship basins to another overlook on the southeast side of the graving docks near the whirly crane, as shown on Figure 3-11. Although detailed construction plans are currently being developed, it is anticipated that in some segments, a physical barrier would separate the trail from the roadway, while on some segments separation would be created by pavement striping similar to that used on Class II bikeways. The funded Bay Trail project includes construction of a paved 2.4-mile San Francisco Bay Trail segment with related Bay Trail logo and wayfinding signage, a trailhead staging area parking lot, a pedestrian spur trail to a hillside overlook, and overlooks on both sides of the historic ship basins, as well as a welcoming 12-foot-high Rosie silhouette and an approximately 8.5-foot-high trailhead orientation exhibit at the Port entry. Although fully designed, lack of sufficient funds may make it necessary to defer to a second phase the fabrication and installation of sculptural features at the southwest graving dock overlook, as well as interpretive exhibits elsewhere along the trail route.

Current project development plans allocate the 14-foot width for the trail from Seacliff Drive to the southeastern corner of the PPMT graving docks. Due to the presence of an electrical transformer, the Bay Trail would narrow to 8 feet wide on the west side of Basin 1 and then return to the 14-foot width around the northern and eastern sides of the ship basins.

The project would also develop a 20-car trailhead parking lot that could also provide parking for an interpretive center for the Rosie the Riveter/World War II Home Front National Historical Park that might be developed by the National Park Service in the historic cafeteria (which is not part of the project evaluated in this EIR). The parking lot would be located immediately north of the historic cafeteria building, and would be enhanced with aesthetic landscaping, a welcoming 12-foot-high Rosie silhouette and an orientation exhibit.

The Bay Trail construction project also includes a short spur trail climbing the hillside northwest of the existing main entrance to the PPMT. The trail would ascend via switchbacks to an outlook of historic Kaiser Shipyard No. 3 with an interpretive exhibit while also providing scenic vistas of Brooks Island and the Bay beyond.

LOGISTICS OF CONSTRUCTION

Construction of the proposed project is anticipated to commence in Fall 2008 and take approximately seven months to complete, with construction occurring Monday through Saturday. During construction, an average of 40 construction workers (half at the PPMT and half at the BNSF facility) would travel to the sites each day. A combined construction parking and staging area for the PPMT would be located at the parking area north of Building 23 (the historic cafeteria building). A combined staging/parking area at the BNSF automotive terminal would be located between the property fence along Canal Boulevard and the proposed new loading tracks. In addition to the vehicle trips generated by construction workers (assumed to be two one-way trips per worker per day), there would be approximately ten deliveries of construction materials each day throughout the construction period. Construction hours are expected to extend between 7:00 a.m. and 4:00 p.m., though they could extend later in the day with authorized overtime. For purposes of the traffic analysis presented in this EIR, it has been assumed that all construction employee vehicle trips would occur during the AM and PM peak hours.

Earthwork and grading within the PPMT rail yard and BNSF auto terminal would be limited to the areas directly associated with the proposed rail improvements and private driveway access for the adjacent industrial company, BP/Arco. Assuming excavation to a depth of 30 inches, it is anticipated that the amount of excavated asphalt and earth would total approximately 30,000 cubic yards from the PPMT and 27,000 cubic yards from the BNSF site, with the asphalt portion comprising 25 percent of these quantities. The asphalt would be stockpiled on the site, and would be ground up later in the construction process for incorporation into the new pavements.

Approximately 42,750 cubic yards of soil and other material would be hauled away from the PPMT and BNSF sites, to be utilized for local projects requiring fill material, or to be disposed of at an appropriate landfill. (As discussed in Chapter 12, Hazards and Hazardous Materials, these materials would be subjected to laboratory testing for contaminants, and would require disposal at a licensed hazardous waste landfill if pollutants in excess of regulatory limits were detected.) This would represent approximately 1,710 truck trips, or an average of nine two-way trips per day over the course of construction. In practice, the off-haul is likely to be more concentrated in time, so for purposes of analysis in this EIR, it is assumed that 30 two-way trips would be generated for a period of several months for exporting excess fill.

Imported material would be comprised of rail ballast stone and other aggregates, including new asphalt pavement over the full extent of the rail yard. Due to the larger gradation of the ballast stone, total imported quantities are anticipated to be less than 36,000 cubic yards. This would require approximately 1,440 two-way truck trips, which would be an average of about eight trips per day over the seven-month construction period. To be conservative, it is assumed an additional 30 two-way daily truck trips would be generated for approximately two months. Although it is likely that fill import and export trips would be combined (i.e., rather than departing empty, a truck delivering fill would off-haul export material on the way out), these are assumed to be separate trips. Thus, up to 60 truck trips per day could be generated during the peak construction period.

3.7 PROPOSED PROJECT OPERATIONS

While the proposed project entails an expansion of the existing Glovis Port of Entry operations previously described in Section 3.5, there are some notable differences. The discussion below focuses on the proposed changes. Except where noted, the existing Glovis operations would continue and the proposed Honda operations would be the same as the Glovis operations.

IMPORTATION OF AUTOS

Under contract to Honda, car carrier ships operated by Mitsui O.S.K. Lines (MOL) and Kawasaki Kisen Kaisha Marine Freight Shipping (K Line) would arrive from Japan loaded with new Honda automobiles and moor at PPMT Berth 6C. The ships would have capacities ranging from 500 to 3,500 vehicles, with an average capacity of 2,000 vehicles. In total, Honda proposes to import 150,000 vehicles per year to the PPMT. Up to 75 ship calls per year would be made, though approximately 60 ship calls are expected in a typical year. Similar to current operations for Glovis vehicles, approximately 60 longshoremen would unload the ships, which would be berthed at the PPMT for about 8 hours per call. The

longshoremen would park the vehicles at the first point of rest, with all subsequent movement of the vehicles performed by AWC employees.

Physical and Operational Characteristics of Car-Carrier Ships

The ships used by MOL or K-Line to transport new Honda automobiles to the PPMT would be 600-foot-long pure car carriers, with an average deadweight tonnage (DWT)² of 19,000 tons and a power output of 17,500 PS³ at full speed. When operating under alternate engine power while in port, three engines burning diesel oil (instead of the heavier fuel oil used for the main engine) would have an output of 1,500 PS each, for a total of 4,500 PS.

The alternate generator engines would consume diesel oil at the rate of approximately 5 tons of per day while in port. The main engine would consume fuel oil at the rate of approximately 55 tons per day while under full cruise and at the rate of about 18 tons per day while under slow cruise. Both engine sets would be operated while maneuvering into port or waiting for embarkation. In the case of maneuvering, the approximate consumption rates would be 15 tons/day of fuel oil and 3 tons/day of diesel oil. While waiting, these consumption rates would be 5 tons/day and 3 tons/day, respectively.

Once arriving ships reach the Outer Richmond Harbor Channel, they would reduce speed to 1 to 2 knots and would then be assisted by tugboats through the Inner Richmond Harbor Channel and into the PPMT ship berth. Two tugs would assist the ship for about one hour, including the berthing time. During this time, the tugs would typically operate at full throttle 10 percent of the time, at half throttle 40 percent of the time, and at idle 50 percent of the time.

The ships would exchange bilge and ballast water offshore in international waters, in accordance with State regulations, pursuant to Sections 71203 through 71210 of the Public Resources Code. At berth, all bilge and ballast water would be held on-board the vessels. For sanitary wastewater and refuse, all newer vessels incorporate on-board recycling systems which process all waste into a compost-type by-product. The by-products are then sold in Japan as fertilizer. Older vessels will typically hold all wastewater and other refuse until their return to the home port, where they are transferred to licensed disposal companies. No wastewater or refuse would be off-loaded at the ports-of-call.

² Deadweight tonnage (DWT) is the displacement of a ship at any loaded condition minus the lightship weight, which is the actual weight of the ship with no fuel, passengers, cargo, water, etc. on board.. DWT includes the crew, passengers, cargo, fuel, water, and stores. It is often expressed in long tons (2,240 pounds) or in metric tons (1,000 kilograms, or 2,204.623 pounds).

³ PS stands for Pferdestärke (German for "horse strength"), and is comparable to horsepower (hp). It is equivalent to approximately 0.98 hp.

All ship-board maintenance procedures would be administered by the Chief Officer and Captain or Master of vessel and include inspection of lashings and lines at berth, engine operation checks at berth (primarily focused on generators for ventilation and lights), mechanical checks at berth (continuous checks of all mechanical systems with emphasis on ventilation systems), and ship structure inspections.

New Switching Locomotive

A new type of locomotive has been purchased for the Richmond yard and will be used for the proposed project. This 2,100 horsepower locomotive uses three diesel engines each meeting a more stringent (lower) emission standard than current locomotives are required. This locomotive uses three Cummins engines certified to off-road emission standards and is built by the National Railway Equipment Co. (NREC). Additional information on the operational characteristics of the locomotive are discussed in Chapter 6, Air Quality.

PROCESSING OF AUTOS

As is currently done with the Glovis vehicles, AWC employees would inspect each vehicle at the FPR. However, none of the processing operations described in Section 3.5 would be performed on the Honda vehicles. Instead, they would be entered into the facility inventory at the FPR using handheld computers. Following inspection, the vehicles would remain in on-site storage until they are ready for shipment to dealerships via truck or train. At this point, AWC employees would drive the outbound autos to a staging area adjacent to the rail yard or truck loading area.

Damaged vehicles identified during initial inspection would be driven to the outbound truck staging area, then transported in groups via car carrier truck to an offsite repair facility located in the City of Richmond. Less than 1 percent of the imported vehicles experience damage in transit. Once repaired, they would be returned to inventory until ready for outbound shipment.

A flow diagram illustrating the differences between existing and proposed processing operations is shown on Figure 3-12.

Loading operations of autos onto trucks or trains for outbound shipment would be similar to the existing Glovis operations, except all of the operations would occur at the PPMT. Autos going outbound by truck would be driven from the staging area onto the trucks by the truck drivers; each truck can carry nine vehicles. Autos going outbound by rail would be driven onto railcars by AWC employees via aluminum bridge plate ramps placed at the ends of six-railcar sections. The bridge plates placed between each railcar allow a car to be driven from the last of the railcars through to the first. The railcars are thus loaded one by

one until all six railcars in a section are loaded. With two or three levels per railcar, the upper levels are subsequently loaded in a similar fashion from front to rear, using a series of aluminum ramps and bridges. Each multi-level railcar has an average capacity of 12 vehicles. As shown on Figure 3–8, the layout of the PPMT rail yard would permit simultaneous loading operations at the north and south ends and in the middle of the rail yard.

Loaded sections of railcars would be moved by locomotive onto the lead track and shuttled to the BNSF's Richmond Yard where the segments would be connected into unit train lengths between of 6,000 to 7,000 feet in length (60 to 70 multi-level railcars). As currently occurs, all inbound and outbound trains would arrive and depart via the BNSF Richmond Yard, traveling along the BNSF Western Corridor mainline to and from Stockton.

Operational Assumptions

The PPMT would be operated six days a week, year round. AWC employees would work two shifts, the first extending from 7:00 a.m. to 3:30 p.m. and the second running from 4:00 p.m. to 12:30 a.m. Employees would typically begin arriving a half hour before the shift begins.

There are currently about 80 employees working on the Glovis operations; an additional 120 employees would be added to process Honda vehicles. There are also typically 10 visitors and vendors to the site on a daily basis. Although this is not expected to increase substantially because the processing of Hondas would not require the parts delivery that is necessary for the Glovis operations, it is conservatively assumed that the number of daily visitors and deliveries would double to 20 per day, generating 40 one-way vehicle trips.

When a ship is in port, approximately 60 longshoremen are brought in for the day to unload the ship. The times during which the approximately 8-hour unloading period occur vary, but for purposes of analysis in this EIR, the longshoremen are assumed to arrive at and depart from the PPMT during peak commute hours. With the proposed project, there would be times when two ships could be in port at the same time (one unloading Glovis vehicles and the other unloading Hondas). Thus, the number of longshoremen would be doubled to 120 workers during these periods.

Although auto processing operations occur six days a week (300 days per year) during two shifts, as described above, truck loading operations would take place seven days a week, or about 350 days per year, 24 hours a day. At any time, up to eight trucks (20 percent of the daily total) may be queuing or loading on the site.

DISTRIBUTION OF AUTOS

Following implementation of the proposed project, all Glovis and domestically-produced Hondas currently being processed at the BNSF Auto Terminal located at the intersection of Cutting Boulevard and Canal Boulevard would instead be processed at the new PPMT rail yard. As previously noted, this would eliminate a large portion of the existing train switching operations that block the Cutting Boulevard/Canal Boulevard intersection numerous times per day. Switching operations would instead occur between the BNSF terminal and the PPMT rail yard. This would temporarily block driveways of the industrial properties located east of Canal Boulevard and south between the BNSF terminal and the PPMT. The existing shuttling of about 350 Kia and Hyundai vehicles from the PPMT to the BNSF terminal would be eliminated.

Of an anticipated 150,000 Hondas that would be imported annually to the PPMT via ship, 35,000 of them would be distributed throughout northern California via truck, and the remainder (115,000) would be shipped on trains to out-of-state markets. All of the 80,000 domestic Hondas produced in the Midwest and arriving to the PPMT via rail would also be delivered on trucks to northern California dealerships. An annual total of 230,000 Honda vehicles would be distributed to and from the PPMT. Table 3-1 compares the existing and proposed throughput volumes of imported and domestically-produced autos and the number of associated carrier (i.e., ships, trains, and trucks) volumes.

As previously noted, establishing a northern California port of entry for Honda would allow the elimination of the current practice of trucking imported Hondas to northern California from San Diego, eliminating about 3,890 two-way long distance truck trips annually. The project would also end the current practice of transporting empty multi-level car carrier railcars from the BNSF Automotive Facility to the Port of San Diego. Approximately 3,300 empty rail cars per year, or 10 per day, are shuttled down to San Diego after unloading at the BNSF facility. They are shipped empty because they consist of excess outbound rail capacity at the BNSF terminal and they are needed in San Diego for the eastward shipment of Hondas presently being imported into the Port of San Diego. Under the project, these empty trains would instead be loaded with Hondas imported to the PPMT and subsequently shipped out of state.

Table 3–1
Existing and Projected Annual Vehicle and Carrier Volumes

Travel Direction and Mode	Existing Glovis Vehicles	Proposed Honda Project	Total Volume
Inbound Imported Vehicles	96,000	150,000	246,000
(Ship Calls)	75	75	150
Inbound Domestically–Produced Vehicles	0	80,000 ¹	80,000
(Inbound Railcars)	0	3,300	3,300
Total Inbound Vehicles	96,000	230,000	326,000
Outbound Vehicles Via Rail	78,000	115,000	193,000
(Outbound Railcars)	6,500	9,584	16,084
Outbound Vehicles Via Truck	18,000	115,000	133,000
(Outbound Trucks)	2,000	12,778	14,778
Total Outbound Vehicles	96,000	230,000	326,000

Source: TransDevelopment Group, 2007.

¹ These vehicles are currently processed at the BNSF Auto Terminal, and therefore do not represent a net increase in associated rail and truck traffic.

3.8 PROJECT OBJECTIVES

In pursuing the proposed Honda Port of Entry project, the Applicant has the following objectives:

- To provide competitive, operationally efficient and environmentally responsible vehicle Port of Entry operations for Honda at the Port Of Richmond's Point Potrero facilities.
- To establish a modern and operationally effective rail loading capability within the Port, and eliminate the current requirement for shuttling vehicles along Canal Boulevard to the current rail loading facility located at Canal and Cutting Boulevards.

In supporting the application for the proposed Honda Port of Entry project, the City and the Port of Richmond have the following objectives:

- To improve rail operations between the BNSF Richmond Yard and all rail served industries within the Canal Boulevard industrial corridor, through reductions in peak-hour blockages at grade crossings, and the effective management of diesel particulate emissions through the use of environmentally efficient locomotives and improved rail operational practices.

- To promote long-term industrial distribution opportunities within the Port of Richmond, which enhance the Port's financial condition and support community goals of environmentally responsible economic development.
- To pursue the goals of City Council resolution 100-07, approved on September 11, 2007, making it public policy to maximize economic benefit from underutilized real estate assets in the Port of Richmond.

3.9 REQUIRED APPROVALS

Development of this project would require the following approvals and/or permits:

- **EIR Certification.** The Final EIR (FEIR) must be certified by the City of Richmond as accurate and complete, and representing its independent judgment. The FEIR must include the Draft EIR, comments on the Draft EIR, and responses to those comments. The EIR certification does not guarantee project approval. Rather, it states that environmental review necessary for the City of Richmond and responsible agency decision makers is complete.
- **Findings of Fact and Overriding Consideration,** if necessary, must be approved by the City. These findings must discuss how each significant environmental impact and alternative would be addressed. These findings must be approved prior to or as part of the first discretionary action on the proposed project, which would be approval of the development application. When an impact cannot be mitigated to a less-than-significant level, the project may not be approved unless a statement is made that there are overriding considerations that justify the impact, along with a list of those considerations.
- **Mitigation Monitoring Plan** must be adopted prior to project approval. The plan must state who will be responsible for which mitigation measures, within what time period, and how compliance will be monitored.
- **Design Review Approval** from the City of Richmond Design Review Board for the exterior design of all planned improvements (gate houses, landscaping, parking, etc.). Review by the Design Review Board would also include initial advisory review by the Historic Preservation Advisory Committee (HPAC).
- **Construction Storm Water Permit** (including Storm Water Pollution Prevention Plan), granted by San Francisco Bay Regional Water Quality Control Board (RWQCB).
- **Section 401 Water Quality Certification** from the RWQCB, pursuant to the federal Clean Water Act (1972), as a prerequisite to a permit from the U.S. Army Corps of Engineers (see below) for partial filling of a wetland ditch adjacent to Canal Boulevard.
- **Section 404 Fill Permit** from the Corps of Engineers, in compliance with the Clean Water Act. The applicant is applying to the Corps for coverage under Nationwide Permit 14 (Linear Transportation Projects).
- **BCDC Development Permit** from the San Francisco Bay Conservation and Development Commission (BCDC) for new construction along the San Francisco Bay shoreline.
- **Encroachment Permit** for new lead track construction across Wharf Road, issued by the City of Richmond.

- Other ministerial development permits from the City of Richmond for rail yard construction and site improvements will also be required.

3.10 RESPONSIBLE AGENCIES

A responsible agency is a public agency, other than the lead agency (the City of Richmond for this project), that has discretionary approval of the project. Prior to acting on or approving a project, a responsible agency must consider the lead agency's EIR. The Notice of Preparation and the Draft and Final EIRs are reviewed by all responsible agencies. The Honda Port of Entry project will be subject to review and approval by the following responsible agencies:

LOCAL AGENCIES, SPECIAL DISTRICTS, AND COMMISSIONS

City of Richmond

FEDERAL, STATE, AND REGIONAL AGENCIES

U.S. Army Corps of Engineers

San Francisco Bay Regional Water Quality Control Board

San Francisco Bay Conservation and Development Commission

In addition, it is anticipated that the EIR will be reviewed by other State agencies, such as the California Department of Fish and Game and Caltrans.

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Figure 3-3

Overview of Existing PPMT Facilities

Source: TransDevelopment Group



a) Buildings 4 (historic machine shop, foreground) and 5 (historic forge shop.)



b) Buildings 24 (historic warehouse, foreground) and 4.

Figure 3-4

Existing PPMT Buildings

Source: Douglas Herring & Associates



a) Graving Basin 1, at southern end of the PPMT.



b) Building 23, the historic cafeteria adjacent to the historic entrance to Kaiser Shipyard No. 3.

Figure 3-5

Existing Port Property at the PPMT

Source: Douglas Herring & Associates



a) A car carrier ship being unloaded at PPMT Berth 7.



b) View of northern end of BNSF Automotive Terminal, with multi-level car carrier train cars at right and loading ramp left of the train cars

Figure 3-6

Existing Ship and Train Facilities

Source: Douglas Herring & Associates

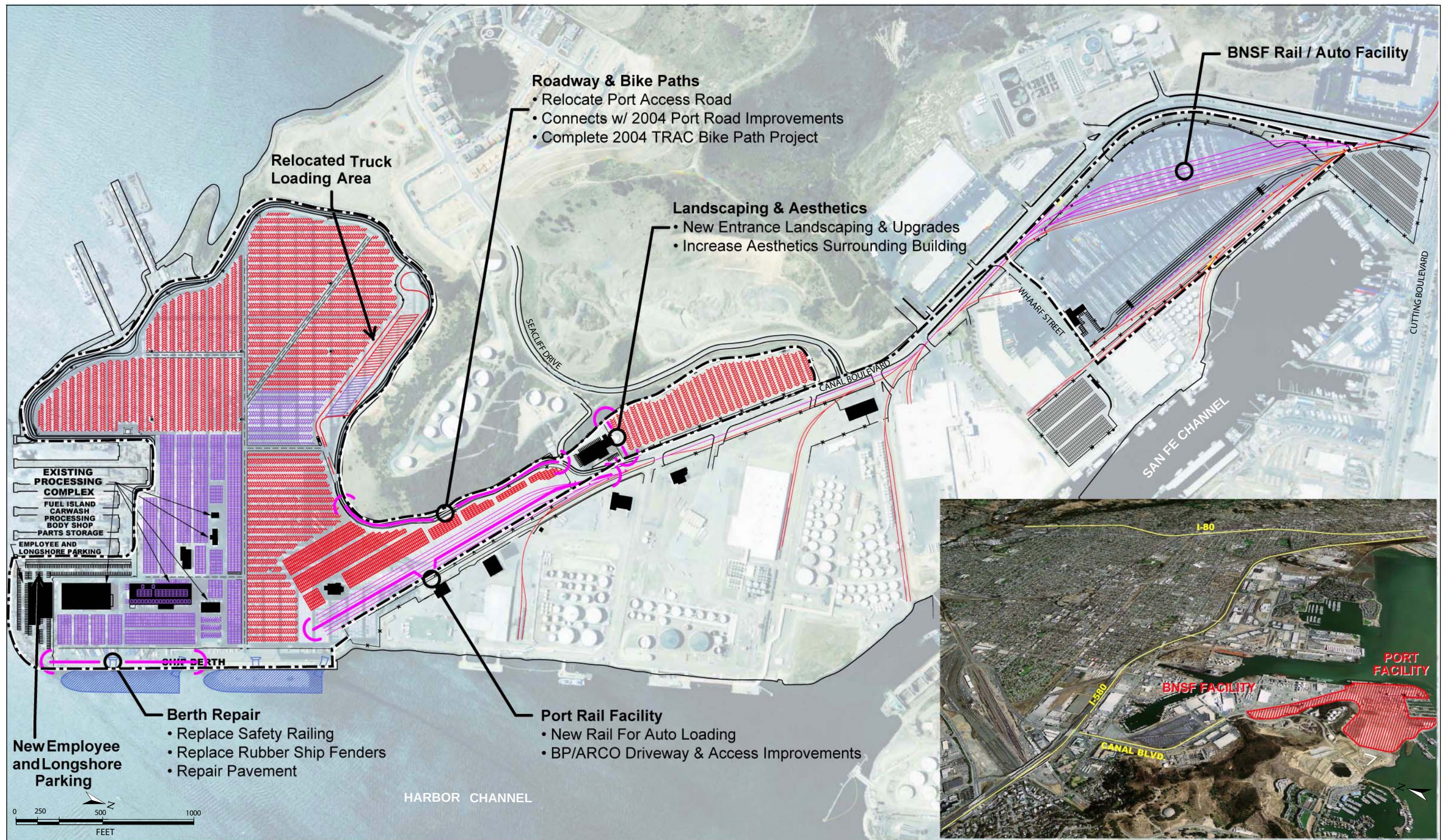


Figure 3-7

Proposed Improvement Areas

Source: TransDevelopment Group

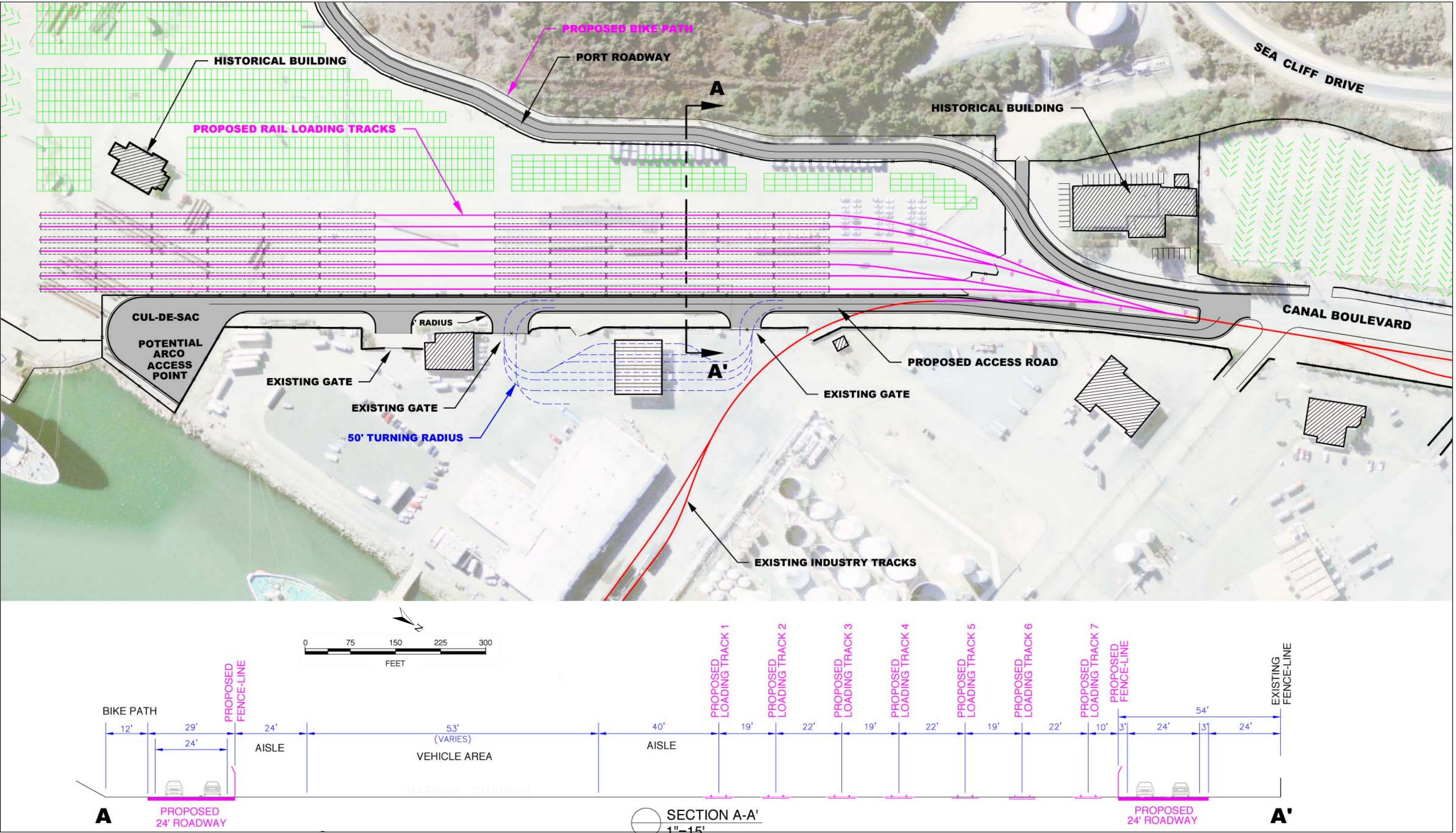


Figure 3-8
Proposed PPMT Rail Yard Layout

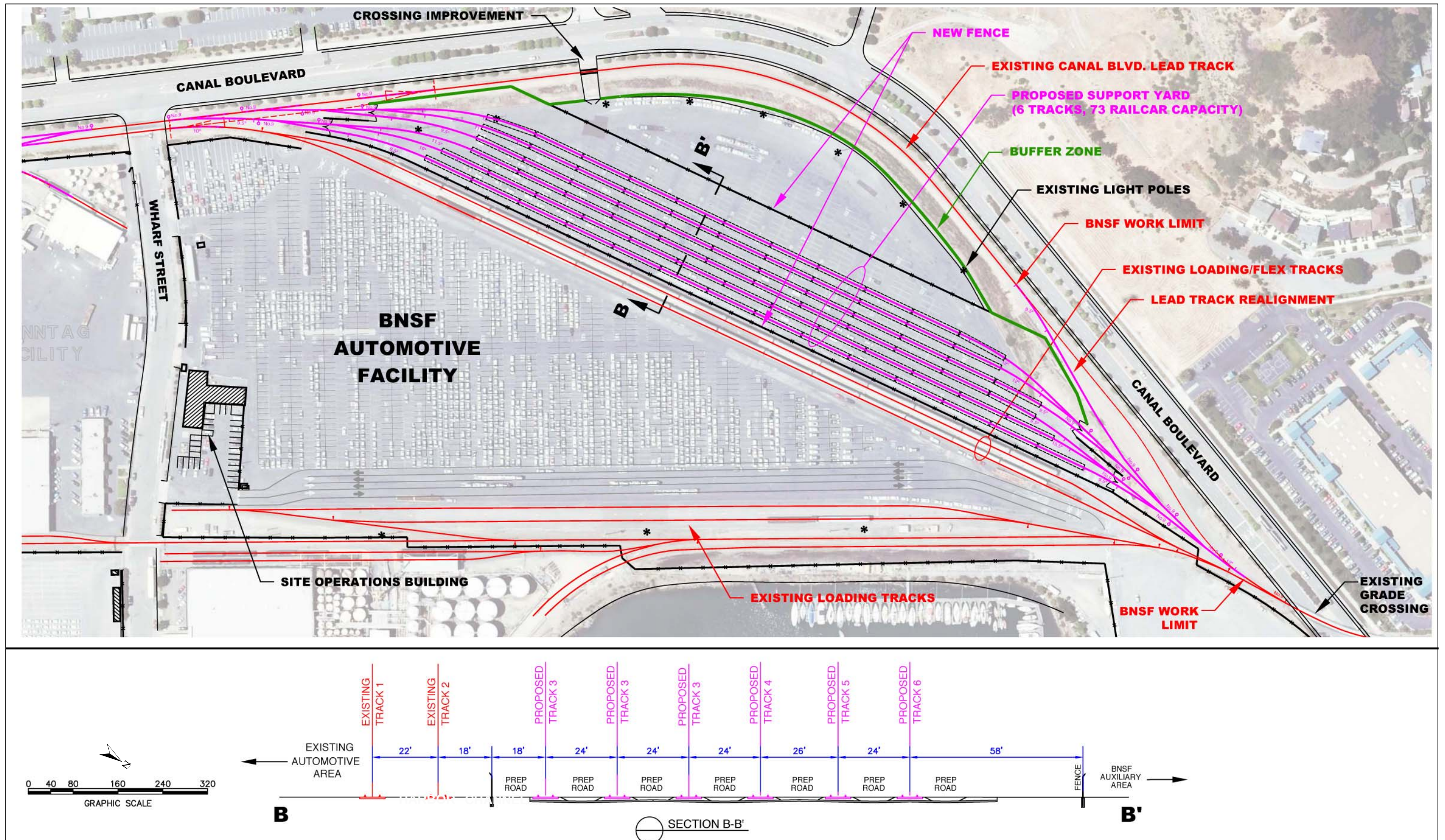


Figure 3-9

Proposed BNSF Automotive Facility Improvements

Source: TransDevelopment Group

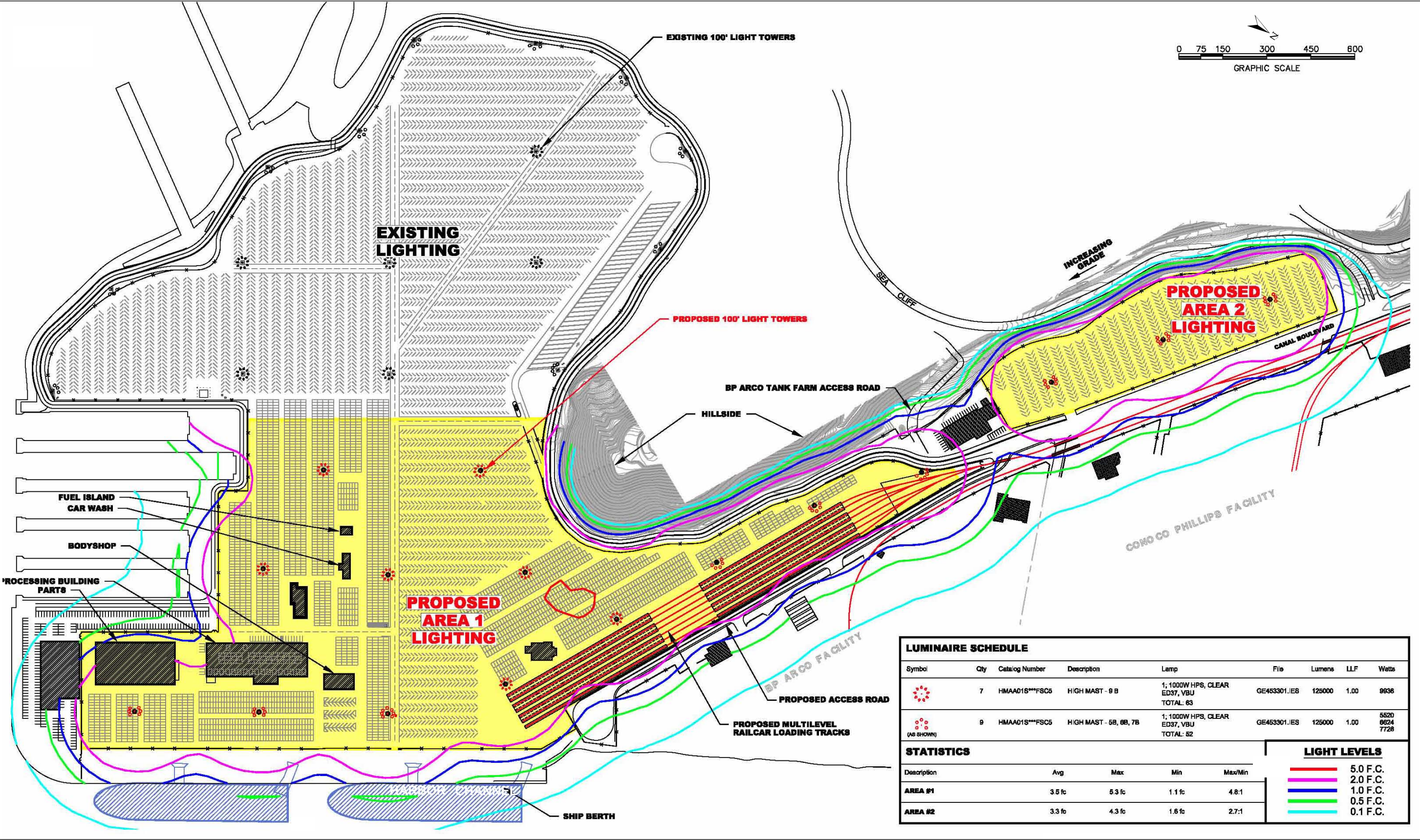


Figure 3-10
Existing and Proposed PPMT Lighting Plan

Source: Trails for Richmond Action Committee (TRAC)

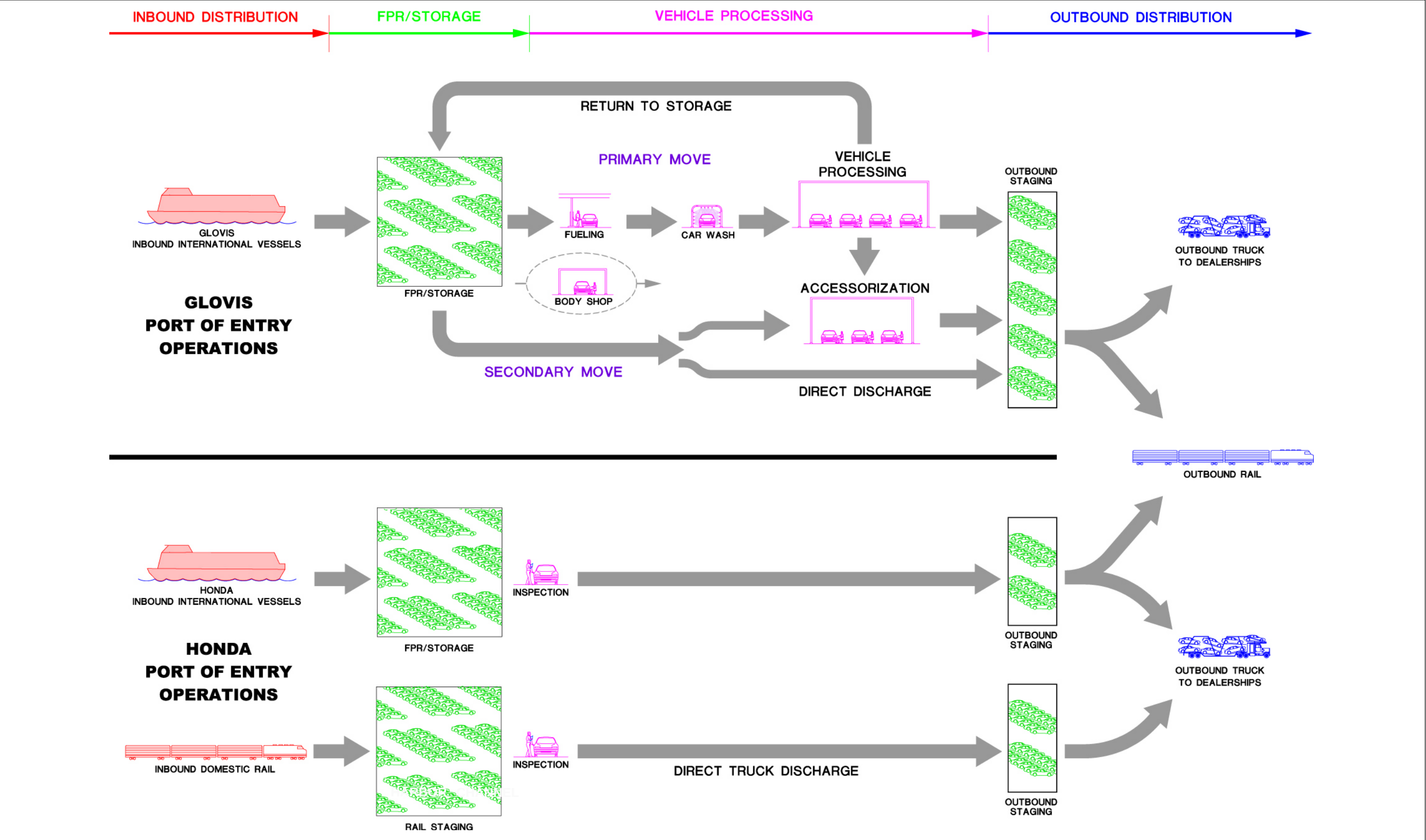


Figure 3-12
Process Flow Diagrams of Existing and Proposed Operations

4. LAND USE AND PLANNING

4.1. INTRODUCTION

The project site is located within and falls under the jurisdiction of the City of Richmond, the westernmost of 19 incorporated cities in Contra Costa County. Construction and operation of the project would have the potential to conflict with the applicable plans and policies of the City, as well as those of regional planning agencies with jurisdiction over the project. This chapter analyzes the project's consistency with the current *Richmond General Plan*, adopted in August 1994 and amended in May 1998, the *Amended and Restated Redevelopment Plan for Project 11-A (Harbour)*, the *Richmond Coastline Plan*, and the City's Zoning Ordinance.

Although the City is in the process of updating its General Plan, adoption of an updated plan is not anticipated before late-2008. Under State planning law, the 1994 General Plan governs new development within the City until an updated document is formally adopted. Pursuant to Section 15125 of the *CEQA Guidelines*, the analysis presented in an EIR is to be based the environmental setting as it exists at the time the Notice of Preparation is published by the Lead Agency or, if no NOP is published, at the time the environmental analysis is commenced. Accordingly, there is no attempt to evaluate the project with respect to the general plan currently being developed. However, the new general plan is not expected to alter the land use designation of the project site or adopt land use policies that would deviate from current practices at the PPMT or with which the proposed project could potentially conflict.

The project also has the potential to conflict with other adopted planning documents that pertain to the project area, including the San Francisco Bay Conservation and Development Commission's (BCDC) *San Francisco Bay Plan*, BCDC's *San Francisco Bay Area Seaport Plan*, and the *South Richmond Shoreline Area Plan*, an area plan prepared jointly by BCDC and the City of Richmond that promulgates policies specifically focused on the PPMT and the rest of the southern shoreline of Richmond. This chapter also evaluates project consistency with the *Bay Trail Plan*, adopted by the Association of Bay Area Governments, and the East Bay Regional Park District's *Master Plan 1997*.

Although a large number of policies are listed in this chapter that are considered closely or directly applicable to the proposed project, it does not include policies whose

implementation is the responsibility of the agency that promulgated the policy. For example, a hypothetical City policy that reads “ensure applicants of new development pay all applicable development fees” would be the responsibility of the City to implement, not the applicant (even though a responsibility would be thereby imposed on the applicant), and therefore such a policy would not be listed for discussion in this chapter.

This chapter also describes existing land uses on and in the vicinity of the site and identifies any potential conflicts with those uses that would or could arise from approval of the proposed project. Where potential impacts on existing or planned land uses or conflicts with existing planning documents are identified, measures to mitigate these effects are recommended.

4.2 SETTING

The project area is situated on the southeastern tip (Point Potrero) of the Richmond Peninsula, a small peninsula at the north end of San Francisco Bay, about 8.7 miles northwest of the Golden Gate entrance to the Bay and about 5.5 miles west of the East Bay Hills, in southwestern Contra Costa County. The project site is served by Interstate 580 (I-580), located about 1.5 miles to the north. This regional freeway links eastern Marin County with Richmond, via the Richmond-San Rafael Bridge, and provides connection to cities located in central and eastern Alameda County.

A substantial area of maritime and industrial development extends to the north and east of the project site. East of the project, the southern end of the peninsula on which the site is located is developed with recently-constructed medium- and high-density residential subdivisions and a small marina. The central and western portions of the peninsula are occupied by the Miller-Knox Regional Shoreline Park. A second, larger marina is located about three-quarters of a mile northwest of the project site, with residential condominiums and single-family homes extending to the north and east of this marina.

The existing conditions on and in the vicinity of the project site are described below. The aerial photo shown on Figure 3-2 (see Chapter 3, Project Description) provides a visual overview of the land uses described in this section, and Figures 3-4 through 3-6 depict views of existing conditions on the site.

EXISTING LAND USES

On-Site Land Uses

The majority of the project site is paved with asphalt and devoted to storage parking of automobiles in transit from their point of manufacture to their ultimate destination at sales dealerships. The remainder of the site is developed with marine ship berths, large warehouse-style buildings, smaller support buildings, storage containers, and miscellaneous equipment. As noted in the project description, most of the buildings on the site date to the World War II use of the site as Kaiser Shipyard No. 3 and either have been or are expected to be designated as historic resources pursuant to Section 15064.5 of the *CEQA Guidelines*.

Aside from a limited amount of planter box landscaping surrounding the employee parking lot, some trees growing around the historic cafeteria building, and an unpaved dirt strip adjacent to the site entrance road at the north end of the site, the entire 213-acre PPMT is covered with impervious surfaces. Information on the elevations on the site is provided in Section 3.4 of the Project Description. Existing views of the site are shown on Figures 3-4 through 3-6.

Surrounding Land Uses

An overview of neighboring land uses to the project site is provided on Figure 4-1. As shown on Figure 4-2, immediately adjacent to the west of the PPMT is the Seacliff Estates, a recently constructed residential neighborhood with approximately 150 single-family detached homes.¹ West of Seacliff Estates is Brickyard Landing, a residential development with 245 attached condominiums, shown on Figure 4-2(b). The shoreline to the south of these two developments is occupied by the Marina Bay Yacht Harbor on Brickyard Cove (see Figure 4-3), with 850 boat slips, and the adjacent Brickyard Cove Marina, home of the Richmond Yacht Club. This private marina provides protected slips for approximately 350 sailing yachts. Approximately 85 single-family homes are built on the breakwaters enclosing these marinas, most with private docks.

West of the Richmond Yacht Club is former Port of Richmond Terminal 1, which was operated as a marine terminal for over 70 years, primarily for the unloading, shipment, and storage of liquid products such as petroleum and vegetable oil. Two tanks farms with nearly 70 liquid storage tanks were removed in the early 1990s. The site is currently vacant with the exception of a large warehouse constructed partially over the water that

¹ This development is not shown on Figure 4-1 because it had not yet been built at the time the aerial photo was taken. However, preliminary grading of the street network is visible.

was part of the former Terminal 1 operations. The site is planned for development with 330 residential condominiums, which is expected to occur in the next few years.

To the north of the marinas and nearby residential development, and about 2,000 feet northwest of the PPMT, is the Miller–Knox Regional Shoreline Park, owned and operated by the East Bay Regional Park District. Northwest of the park is Point Richmond, another residential neighborhood of single–family homes.

The hillside south of Building 23, the historic cafeteria building at the north end of the PPMT, is developed with petroleum storage tanks owned by BP/Arco, which also operates a bulk marine terminal on the opposite side of the PPMT entrance road. Northwest of the BP/Arco tank farm, on the other side of Seacliff Drive, is a former rock quarry.

As shown on Figure 4–1, the east side of the Richmond Peninsula north of the PPMT is developed entirely with industrial uses, with most of the businesses on the east side of Canal Boulevard also utilizing port facilities on the Harbor Channel/Santa Fe Channel for marine transport of products and materials. North of the BP/Arco property, in order, are Conoco/Phillips (petroleum), Kinder Morgan (natural gas), National Gypsum (drywall, cement board), BP Castrol (petroleum), and the BNSF Automotive Terminal. A representative photo of these facilities is shown on Figure 4–4. The San Pablo Yacht Club is located at the north end of Santa Fe Channel, just to the east of the BNSF terminal.

On the west side of Canal Boulevard, opposite National Gypsum, is the Canal Industrial Park, with four buildings containing office and light industrial uses; tenants include Argosy University, Performance Abatement Services, Paris Printing, StanCor Group, and half a dozen other companies. Just to the north of the office park is the City of Richmond wastewater treatment plant. North of the plant, at the southwest corner of the intersection of Canal Boulevard and Cutting Boulevard, is the Point Richmond Tech Center II (Figure 4–4), with tenants such as Vertigo Software, HealthNet, Sangamo Biosciences, West Marine, and Nichols Consulting Engineers.

Additional industrial and maritime uses line the east side of the shipping channels forming the east side of the Richmond Peninsula. Port of Richmond Terminal 3, a bulk cargo and container terminal, is opposite the BP/Arco facility, about 1,200 feet northeast of the PPMT. Other industrial uses on this side of the channel include Eagle Rock Aggregates, Amtecol, Cemex, Pacific Atlantic Terminals LLC, and SIMS Metal (Figure 4–5).

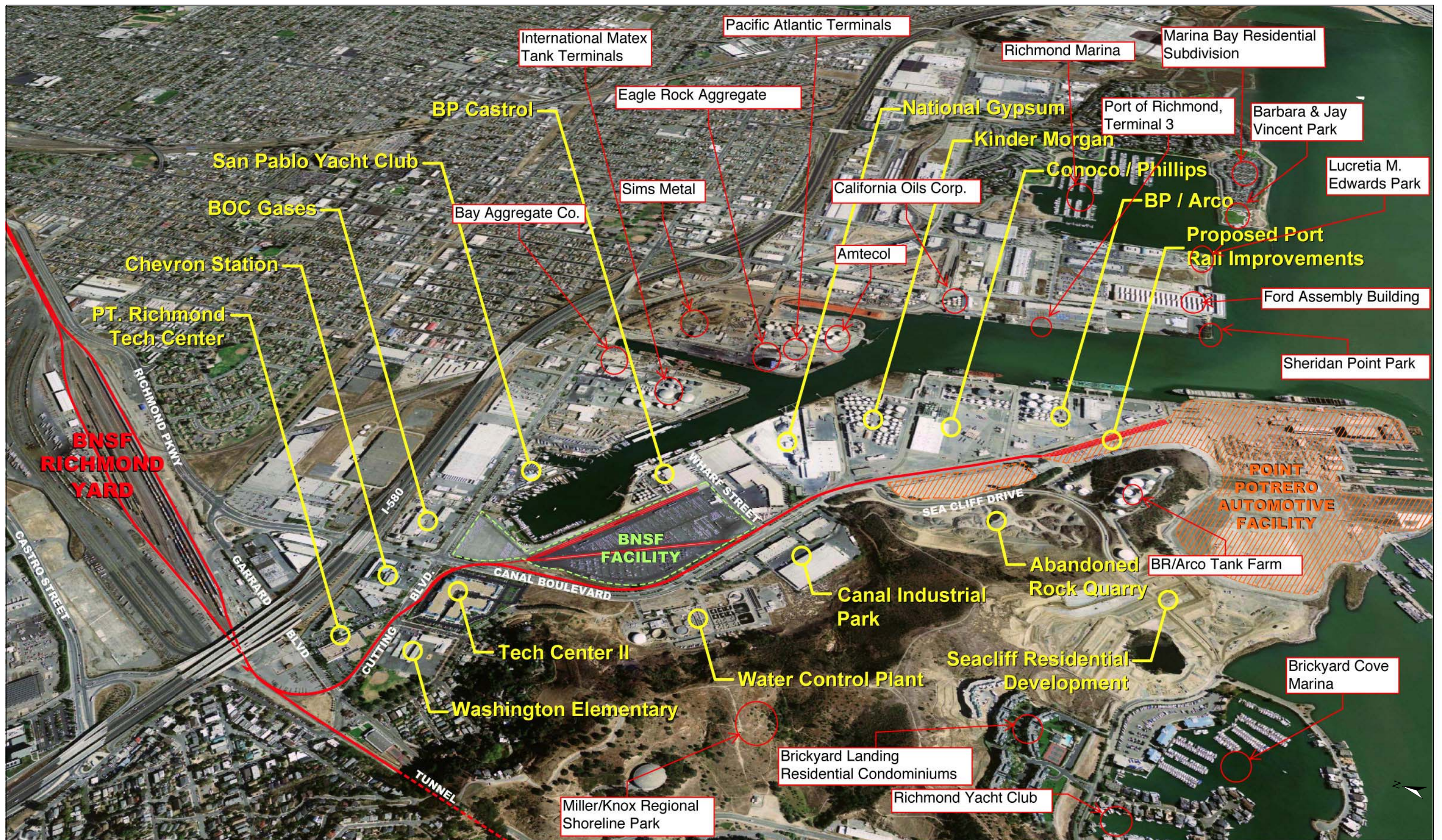


Figure 4-1

Neighboring Land Uses

Source: TransDevelopment Group



a) Homes in Seacliff Subdivision overlooking the western end of the PPMT.



b) The Brickyard Landing Condominiums, located about one-half mile west of the PPMT.

Figure 4-2

Neighboring Residential Uses West of PPMT

Source: Douglas Herring & Associates



a) Brickyard Cove Marina, with Seacliff Subdivision and the BP/Arco tank farm in the background.



b) Bayside residences in Brickyard Cove.

Figure 4-3

Private Marina Uses West of PPMT

Source: Douglas Herring & Associates



a) A partial view of the Conoco/Phillips and Kinder Morgan industrial properties located on the east side of Canal Boulevard.



b) Point Richmond Tech Center II, located at the southwest corner of Canal Boulevard and Cutting Boulevard.

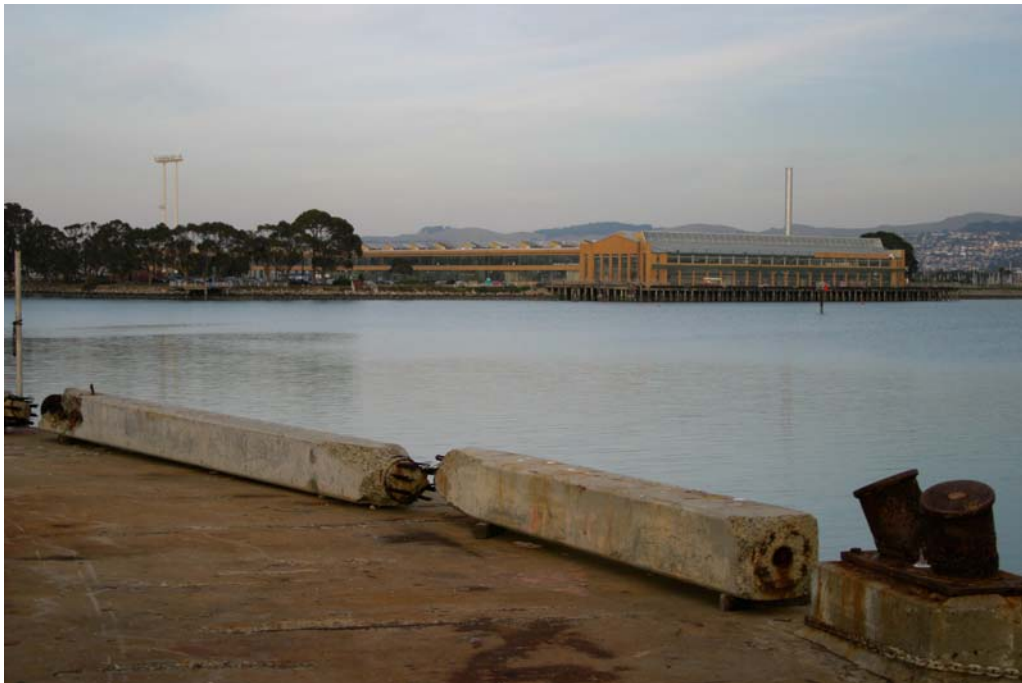
Figure 4-4

Neighboring Land Uses North of PPMT

Source: Douglas Herring & Associates



a) SIMS Metal, one of the industrial uses located on the east side of Harbor Channel.



b) The historic Ford Assembly Building, as viewed from the PPMT. The deterioration of Ship Berth 6C is visible in the foreground.

Figure 4-5

Neighboring Land Uses East of PPMT

Source: Douglas Herring & Associates

Sheridan Point Park is located immediately south of Terminal 3 and the California Oils Corporation is located immediately to the north. The historic Ford Assembly Building, the Rosie the Riveter factory during World War II, is located immediately east of Sheridan Point Park; the park and the Ford building are shown on Figure 4-5. The building is currently being redeveloped with a mixture of commercial, light industrial, live/work, museum, and other uses, and will serve as the home of the Rosie the Riveter Home Front National Historical Park.

Richmond City Hall and several office buildings are located east of the Ford Assembly Building. The Richmond Marina and three surrounding residential condominium developments are located east of these buildings.

Sensitive Receptors

Sensitive receptors are generally defined as land uses with population concentrations which would be particularly susceptible to disturbance from dust, noise, vibration, air pollutant concentrations, or other disruptions associated with project construction and/or operation. They typically include schools, day care centers, libraries, hospitals, residential care centers, convalescent homes, parks, and churches. For purposes of the analysis in this EIR, residences are also treated as sensitive receptors because they may house persons that are particularly sensitive to air pollutants, such as the elderly, infirm, or very young.

Sensitive receptors identified in the vicinity of the project site include the residences in proximity to the west end of the project site, described in the preceding discussion. The nearest residences are located as close as 110 feet from the access road encircling the western parking area, or about 170 feet from the fence enclosing the parking storage lot. Approximately 40 single-family homes within the Seacliff Estates neighborhood are within 600 feet of this western parking area. These same homes would be between 2,200 feet and 2,700 feet west of the proposed rail loading operations, and between 325 feet and 900 feet west of the proposed truck loading area.

The nearest school to the project site is Washington Elementary School, located at 565 Wine Street at Cutting Boulevard, more than a mile north of the PPMT, and well outside the range of impact of the project. However, this school is located about 1,000 feet (0.19 miles) northwest of the BNSF Automotive Facility, and potentially subject to fugitive air emissions from existing and proposed locomotive operations at this location. All other schools are a mile or more from the BNSF and PPMT properties. Although none are located close to the PPMT, a daycare facility—Washington Y-Kids Care—is located about one-quarter mile west of the BNSF Automotive Facility on East Richmond Avenue.

Washington Park is just to the west of Washington Elementary School, or about 1,500 feet (0.28 miles) west of the BNSF facility. As previously noted, the Miller–Knox Regional Shoreline Park is also in close proximity, occupying much of the ridge of hills that overlook both the PPMT and the BNSF facility. The park is within about 900 feet of the west side of the BNSF facility and within about 1,000 feet of the south end of the facility. At these closest points, park elevations are about 30 feet above mean sea level (msl) and 50 feet msl, respectively, but they quickly rise to over 300 feet toward the west and southwest. The park therefore looks down on the BNSF property, which has an elevation of about 12 feet msl. The Miller–Knox park also comes to within about 950 feet of the northernmost PPMT parking lot, but is otherwise 1,500 feet and more from the PPMT property.

One more park is located in proximity to the project site. The Sheridan Point Park is located approximately 1,050 feet east of the PPMT, on the other side of Harbor Channel. This park consists of a narrow strip of land at the water’s edge, measuring approximately 60 feet by 400 feet, and developed with a line of eucalyptus trees, several concrete benches, and a small fishing dock. This park could be considered a significant sensitive receptor for purposes of this environmental review. Several other shoreline parks are located to the east of Sheridan Point Park, including Lucretia M. Edwards Shoreline Park, Vincent Park, Shimada Friendship Park, and Marina Park, but they are all at least one-half mile from the PPMT, and would not be expected to be adversely affected by the proposed project.

Approximately two dozen single-family homes are also located within 1,000 feet of the BNSF facility, along East Richmond Avenue and Nevada Avenue. These homes are also located at somewhat higher elevations than the BNSF Automotive Facility, being situated generally between about 30 feet and 50 feet msl.

Because potential adverse effects of the proposed project on these sensitive land uses would be limited to noise and air emissions, these impacts are addressed in the topical chapters devoted to these issues. Accordingly, see Chapter 6, Air Quality, and Chapter 7, Noise, for discussions of these potential impacts.

APPLICABLE LOCAL PLANNING DOCUMENTS

City of Richmond General Plan

The project site is located in the City of Richmond, and as such, the project is subject to the land use regulations and planning policies promulgated in the *Richmond General Plan* (General Plan), adopted by the City Council in August 1994, with revisions through May 1998. The General Plan covers a planning area of 56 square miles that supports a

population of over 99,000 residents, based on the 2000 U.S. Census. Located at the northern end of the densely developed eastern shore of San Francisco Bay, the westernmost city in Contra Costa County is bordered by the City of El Cerrito to the east and south and by the unincorporated community of El Sobrante and the cities of San Pablo and Pinole to the north and northeast.

Although the General Plan directly governs land use and development within the incorporated City boundaries, the General Plan also addresses issues in neighboring areas that may bear some relation to the City's planning activities, including areas within its Sphere of Influence (adjacent areas that may ultimately be formally annexed to the City) and the City's Planning Area, which includes the incorporated City, Sphere of Influence, and additional areas exerting and/or subject to Richmond planning influence. The Planning Area covers about 65 square miles.

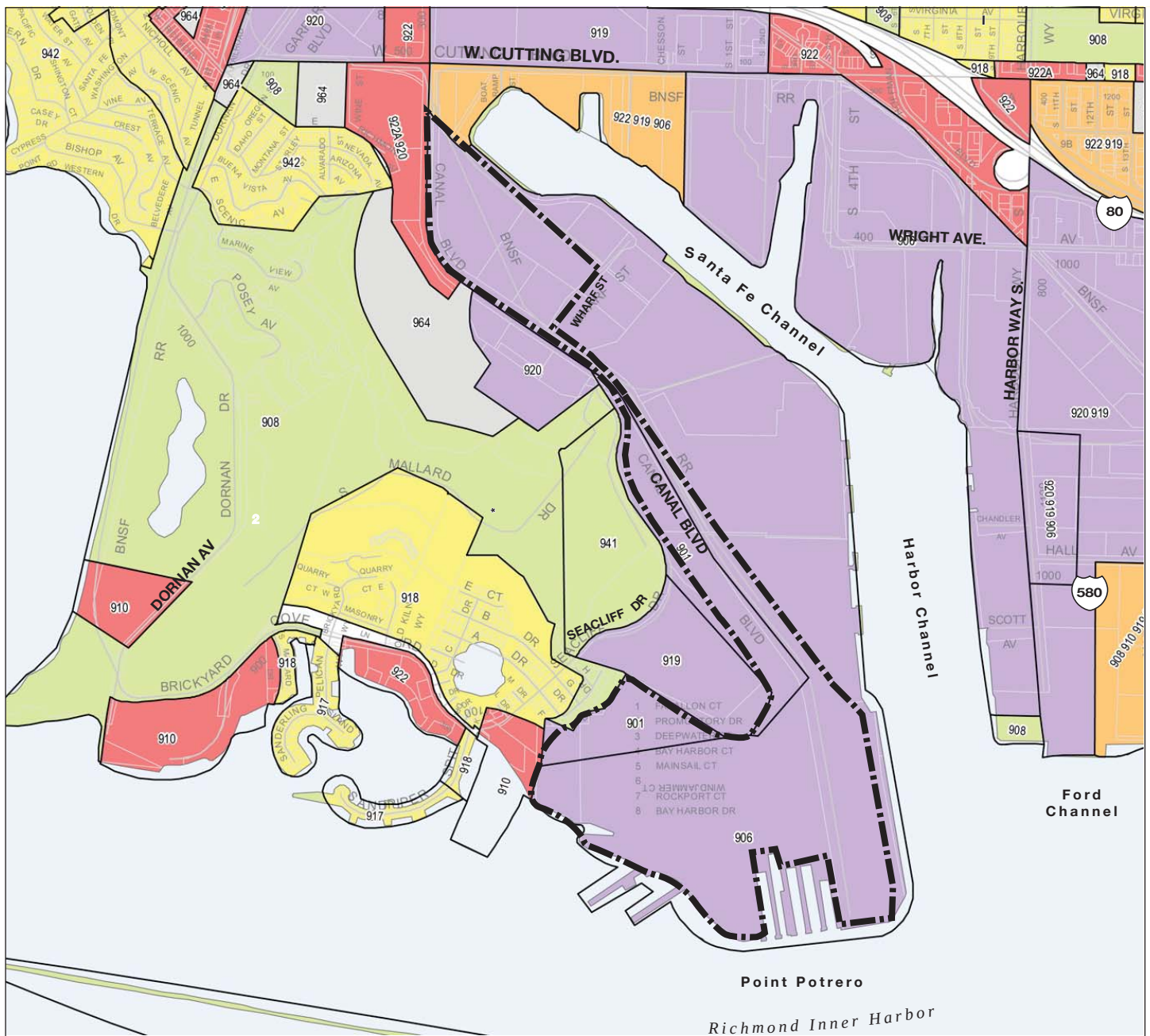
In addition to the citywide land use and other policies promulgated in the General Plan, the Plan establishes area-specific policies for shoreline areas, the City Center, and seven other neighborhoods; Specific Plans have been adopted by the City to provide a more detailed planning framework for some of these areas. The project site is located in the Santa Fe Channel Area, one of four different shoreline areas addressed by area-specific policies in the General Plan. Both the general and area-specific General Plan policies applicable to the proposed project are addressed later in this chapter.

Land Use Designations

The entire project site, including the BNSF Automotive Terminal, is designated on the General Plan land use map as Industrial, as shown on Figure 4-6. The general Industrial designation is broken down into four more specific industrial categories. The BNSF facility and the majority of the PPMT are designated Port/Marine Terminal/Ship Repair/906.

The Port/Marine Terminal/Ship Repair/906 ("Industrial 906") designation is assigned to certain Port of Richmond properties that form an important component of the City's economic base whose long-term viability needs to be sustained. Use of lands within the Industrial 906 category should therefore be reserved for a wide range of municipal or private maritime marine terminals, cargo handling, ancillary manufacturing, or related establishments that are dependent on direct port access for the import or export of raw materials or finished products.

The General Plan notes that there is a large concentration of these uses along the Santa Fe Channel, and that many of them are designated for Port-Priority Use in the *San Francisco*



Legend

--- PROJECT BOUNDARY

- Residential
- Commercial
- Industrial
- Multiple Uses
- Open Space
- Public and Institutional

RESIDENTIAL

- 942 Very Low Density Residential
- 917 Low Density Residential
- 918 Medium Density Residential
- 944 High Density Residential

COMMERCIAL

- 910 Water Related Commerce and Commercial Recreation
- 922A Neighborhood Retail
- 922 General Commercial
- 930 Regional Office and/or Shopping
- 931 City Center

INDUSTRIAL

- 901 Heavy Industry
- 906 Port / Marine Terminal / Ship Repair
- 919 Light Industry
- 920 Industrial / Office Flex

OPEN SPACE

- 908 Recreation Lands
- 941 Preservation / Resource Areas
- 936 Other Types of Open Space

PUBLIC AND INSTITUTIONAL

- 964 Public and Institutional

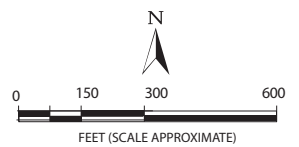


Figure 4-6

Current General Plan Land Use Designations

Source: City of Richmond GIS

Bay Area Seaport Plan adopted by the San Francisco Bay Conservation and Development Commission and the Metropolitan Transportation Commission. (This plan is discussed in detail later in this chapter.) Among the appropriate uses identified in the General Plan for Port Priority Use areas are temporary storage and support transportation uses including trucking and railroad yards. Other uses, especially public access and public commercial recreational development, are permissible uses provided they do not significantly impair the efficient utilization of the port area. Thus, it is apparent that the proposed importation of new automobiles to the marine terminal, their temporary storage on the site, and their distribution via truck and rail (from the proposed railroad yard) are all permitted uses within the Industrial 906 land use designation, as is the planned Bay Trail segment.

The northwest corner of the PPMT site and the two northerly parking storage areas located west of Canal Boulevard are both designated Heavy Industry/901, as shown on Figure 4-6. This category accommodates a wide variety of industrial uses including, but not limited to, oil refining, contractors' storage yards, warehouses, machine shops, co-generation plants, and other "heavy" industrial type uses. The industrial activities in this category are traditionally larger scale and include very little to no office space. As described in the General Plan definition of the Heavy Industry/901 land use designation, most "patently obnoxious" uses are in this category, and require conditional use permits. Aside from the existing historic cafeteria building at the north end of the site, the project areas designated Heavy Industry/901 are devoted entirely to large-scale temporary auto storage. This use has no inherently "obnoxious" (i.e., dusty, noisy, or odiferous) or otherwise disturbing characteristics that would require a conditional use permit. The existing and proposed auto storage appear fully consistent with the permitted uses in the Heavy Industry/901 category.

A small area of the PPMT property is designated Light Industry/919. This area is on the undeveloped hillside to the northwest of the entrance gate and employee parking lot. Although TRAC proposes to develop a short spur trail from the proposed Bay Trail segment to an overlook within this area (see Section 3.6 of the Project Description), the spur trail is not part of the proposed project, and no other project facilities or activities are proposed to occur within the area designated Light Industry/919.

The General Plan identifies floor area ratio (FAR) limits of 0.5 for the Industrial 906 category and 0.65 for the Heavy Industry/901 category. The existing FAR at the PPMT is far below these limits, and no new building construction is proposed aside from some small guard houses at site entrances.

General Plan Policies

The purpose of the General Plan is to guide the City's long-term development via goals and policies intended to represent the City's overall philosophy on public and private development and provide a foundation for public and private decision making on such development. Twelve general goals were adopted by the City to provide a foundation for all of the specific policies promulgated in each element of the General Plan. Of the twelve general goals, the following bear some relevance to the proposed project:

- II. Provide community facilities, commercial services and amenities easily accessible to and from residential neighborhoods.
- III. Provide for a range of commercial and industrial uses to stimulate a strong growing local economy and job opportunities for residents.
- VI. Ensure a proper balance between economic and physical development in Richmond, and protection and enhancement of the natural environment.
- VII. Promote a coherent sense of "place" and create a community of pleasant contrasts, by skillful land use planning, urban design, and use of visual elements such as scenic routes and beautification of gateways and visual corridors.
- XI. Provide an acceptable noise environment for existing and future residents.
- XII. Protect the community from risks to human life and property caused by natural and technological disasters.

The General Plan must accurately reflect local concerns and goals, and must represent the current intent and concerns of the City regarding the objectives and processes of physical development. The plan provides a vision of the future, a guide to private development, direction on decision making by the City's elected officials, and specific implementation programs to enable the City to achieve its goals.

The General Plan sets forth hundreds of comprehensive goals, policies, implementation programs, and area-specific guidelines to address issues within the Planning Area related to social, economic, and environmental concerns. The policies are organized into the following nine elements: Land Use, Circulation, Community Facilities, Economic Development, Growth Management, Housing, Noise, Open Space and Conservation, and Safety. Each element and each policy was reviewed during preparation of this EIR. The General Plan policies most relevant to the proposed project are listed below. The following list does not include every General Plan implementation program that may be relevant to the proposed project but that is the sole responsibility of the City, and not that of the project applicant. With implementation of all mitigation measures identified in this EIR, the proposed project could be found consistent with all but three (Land Use Element Policy LU-O.5 and Open Space and Conservation Element Goal OSC-P and supporting Policy OSC-P.1). (The conflicts with these policies are addressed in the consistency

discussions under the policies, below.) As noted above, many of the policies require implementation by the City of Richmond, and are not the responsibility of the applicant. However, to the extent that environmental controls or other features can be imposed on the project to maintain consistency with these City policies, those controls are either part of the project, compulsory as conditions of approval for the project, or identified as mitigation measures in this EIR. Additional comments on consistency with individual policies are provided below.

Land Use Goals, Policies, and Guidelines

Form and Appearance

Goal LU-A	Improve the aesthetic and economic value of individual sites, the adjacent properties, the neighborhoods and the entire City.
Policy LU-A.1	Evaluate project proposals for their contribution to improving Richmond's aesthetic and economic values.
Policy LU-A.2	Encourage a general awareness among developers and the community that attractive urban design improves the aesthetic and economic values of the entire City.
Policy LU-A.3	Integrate urban design elements into new and existing developments (e.g., landscaping, street furniture, works of art, underground utilities, and control of commercial signing).
Policy LU-A.4	Require new development adjacent to historical sites to incorporate design elements so as to complement the character of the surrounding historical structures. (Same as Open Space and Conservation Element Policy OSC-E.4.)
Policy LU-A.5	Preserve and enhance existing cultural and artistic artifacts and resources in the City. (Same as Community Facilities Element Policy CF-K.2.)
Policy LU-A.6	Integrate an arts and cultural component in public places and facilities. (Same as Community Facilities Element Policy CF-L.1.)

Consistency: Improvements are proposed at the site's edges that would improve the aesthetics at the site's interface with publicly accessible areas. The project would dedicate a portion of the site to a planned Class I multi-use trail that would be part of the San Francisco Bay Trail network, which would start adjacent to Canal Boulevard north of Seacliff Drive and wrap around the west side of the PPMT site (see the Project Description for additional details). New landscaping would be developed adjacent to the trail in the vicinity of the historic cafeteria building. Decorative orientation signs and interpretive panels would be mounted at the cafeteria building and at various points along the trail. The trail would integrate with and provide access to the Rosie the Riveter/World War II Home Front National Historical Park, including the historic victory ship moored at the PPMT and a whirly crane used to build ships on the site during World War II. The project would thereby integrate with and contribute to the preservation and enhancement of important existing cultural artifacts. The project would therefore be consistent with Goal LU-A and Policies LU-A.1 through LU-A.6.

Goal LU-B	Achieve a pleasant transition between residential, industrial, and commercial areas.
Policy LU-B.1	Encourage commercial and industrial facilities to enhance and complement the surrounding areas.
Policy LU-B.2	Accommodate heavy industrial uses in large areas buffered from major arterials and adjacent uses.
Policy LU-B.4	Establish performance standards to govern the development and operation of industrial facilities to safeguard adjacent industrial uses, residential areas, and other land uses in the community which might otherwise be affected.
Policy LU-B.5	Require sufficient visual open space and/or landscaped screening between industrial operations and adjacent residential or recreational activities in order to create adequate buffers.

Consistency: The project sites (PPMT and BNSF) are both already fully developed and being used for activities similar to those proposed. The primary components of new construction would be the new rail yard and Bay Trail segment at the PPMT and the additional support tracks at the BNSF facility. The PPMT is buffered from conflicting uses by existing industrial operations at and adjacent to the site. The Bay Trail and associated landscaping and signage would improve the existing transition from fenced auto storage to the residential uses west of the site. The landscaping near the entrance to the site, adjacent to the existing cafeteria building, would enhance the transition from public space to private industrial use and provide a limited amount of screening. The existing vegetation buffer between Canal Boulevard and the BNSF facility would remain intact. The project is consistent with all applicable provisions of Goal LU-B and Policies LU-B.1 through LU-B.5.

Goal LU-C	Achieve variety in the character of development and create a community of pleasant contrasts.
Policy LU-C.3	Ensure that new industrial developments do not detract from the aesthetics of an area.

Consistency: As noted above, the project sites are both already fully developed and being used for activities similar to those proposed. The proposed changes would do little to alter the aesthetics of the area, although the proposed landscaping would provide some enhancements. The project would have the potential to detract from the aesthetics of the area at night through the introduction of additional nighttime lighting in the eastern portion of the PPMT. This potential impact is evaluated in detail in Chapter 13, Visual Quality. As explained in Chapter 13, the project's nighttime lighting impacts would be less than significant. The project would therefore be consistent with Goal LU-C and Policy LU-C.3.

Goal LU-E	Preserve visual access to the Bay and other features of the regional landscape.
Policy LU-E.1	Give high priority to preserving and enhancing the potential amenities of the shoreline's variety of edges and the landmark character of the regional landscape.

- Policy LU-E.2 Require new development to preserve the unique view opportunities of the shoreline and ridgelines in order to maximize their availability to the public.

Consistency: As discussed in detail in Chapter 13, Visual Quality, the project would not alter the existing visual access to the Bay or the hillsides that rise to the northwest of the PPMT. The development of the planned Bay Trail segment would provide new public access to the shoreline along Point Potrero and would create new opportunities for viewing the visual resources of San Francisco Bay. The project would therefore be consistent with Goal LU-E and Policies LU-E.1 and LU-E.2.

Industrial Areas

- Goal LU-O Provide areas for light and heavy industrial and industrial/office flex uses that are attractive, well maintained and have convenient access.
- Policy LU-O.2 Encourage local industries to develop their own plans for improving the appearance of their facilities, where possible, and for integrating their properties into the City as a whole.
- Policy LU-O.3 Provide convenient access for the shipment of goods and the daily commute trips of employees for all industrial firms.
- Policy LU-O.5 Use established standards to limit industrial activities which may be objectionable due to odors, noise, fumes or other emissions.
- Policy LU-O.6 Use established standards to limit industrial activities that may endanger human health and may cause damage to the environment. (Same as Safety Element Policy SF-A. 16.)
- Policy LU-O.7 Avoid land uses that place residential dwellings with "heavy" industrial and maritime uses. (Same as Noise Element NE-A.4.)
- Policy LU-O.8 Continue to explore ways of modernizing and renovating the port and marine terminal facilities. (Same as Economic Development Element Policy ED-B.5.)
- Policy LU-O.9 Actively encourage shipping firms to utilize local marine terminals as a starting point or destination for overland shipment of goods. (Same as Economic Development Element Policy ED-B.6.)
- Policy LU-O.10 Reserve certain segments of the shoreline having access to navigable water for marine terminals and closely associated uses. (Same as Economic Development Policy ED-B.7.)
- Policy LU-O.11 Require the creation of a port and water-related industry zoning district, which encompasses the area surrounding the Santa Fe/Harbor Channels which should protect, preserve and enhance the District for marine terminals and water-related industry. (Same as Economic Development Policy ED-B.10.)

Consistency: The proposed project would continue and expand the use of the area adjacent to Harbor Channel with a marine terminal use, and would construct a new rail yard that would allow the PPMT to be the starting point for overland shipment of new automobiles via train. The project would continue to provide convenient access and parking for the daily commute trips of employees and the periodic commute trips of longshoremen. The established standards of the Bay Area Air Quality Management District (BAAQMD) and the California Air

Resources Board (CARB) were used as the basis for evaluating potential impacts from air emissions from the project's ships, trains, and trucks. With implementation of mitigation measures identified in Chapter 12, Hazards and Hazardous Materials, the project would not entail activities that would unduly endanger human health or cause damage to the environment. The proposed new construction would contribute to the modernization and renovation of the marine terminal facilities. Based on these considerations, the project would be consistent with Goal LU-O and Policies LU-O.2, LU-O.3, and LU-O.6 through LU-O.11.

As discussed in Chapter 6, Air Quality, while measures have been identified to reduce the effects of the project's air emissions, the impact associated with the emissions would remain significant and unavoidable. Therefore, the project would be **inconsistent** with Policy LU-O.5. This is addressed as a significant and unavoidable impact in Section 4.4. If the Planning Commission makes a statement of overriding considerations pursuant to CEQA, determining that the economic, legal, social, technological, or other benefits of the proposed project outweigh the adverse air quality effects, it is anticipated that the Commission would make similar findings for purpose of approving the project despite the inconsistency with Policy LU-O.5.

Goal LU-P	Increase the number of new permanent private sector industrial jobs available to City residents. (Similar to Economic Development Goal ED-A.)
Policy LU-P.1	Promote industrial development which creates maximum job opportunities for area residents. (Similar to Economic Development Element Policy ED-A.1.)

Consistency: The proposed project would create approximately 120 permanent new full-time jobs that would be available to City residents. In addition, it would generate additional employment demand for longshoremen and truck drivers. The project would therefore be consistent with Goal LU-P and Policy LU-P.1.

In addition to the Citywide policies identified above, the Land Use Element also contains Area Specific Guidelines designed to provide detailed guidance on development at the neighborhood level. For these purposes, the General Plan identifies nine specific areas. The project site is located in the Santa Fe Channel sub-area of the Shoreline Specific Area. The following Land Use Guidelines for the Shoreline Area from the Land Use Element are relevant to the proposed project:

Guideline 1	Allow for an appropriate level of development in shoreline areas while establishing a pleasing setting and protecting natural resources that are irreplaceable.
Guideline 2	Preserve views of the Bay and the regional landscape from the trails and open spaces along the shoreline area's ridgelines by controls on siting and height of adjacent structures.
Guideline 3	Develop Richmond's shoreline potential for residential, commercial, and recreational uses as well as for port/maritime and industrial uses.

Consistency: The proposed project would not introduce new development to the City's southern shoreline. The proposed rail yard and improvements to Berth 6C

would not introduce new structural elements that would interfere in any way with existing views of the Bay. The planned Bay Trail segment would create new recreational opportunities for Richmond residents and would improve visual access to San Francisco Bay. The project would therefore be consistent with Shoreline Guidelines 1 through 3.

The following Land Use Guidelines for the Santa Fe Channel sub-area from the Land Use Element are relevant to the proposed project:

- Guideline 1 Develop and preserve waterfront land around the Santa Fe/Harbor Channels for marine terminal and water-related industrial uses and dredge or deepen any channel that limits marine terminal or water-related industry that is economically and environmentally acceptable. (Comment: This policy applies only to the Harbor Channel, the Ford Channel and Point Potrero Reach since the Marina Bay basin required significant dredging and filling.)

Consistency: The proposed project would consist of enhanced development and expanded use of an existing marine terminal. The Port of Richmond would continue to dredge the PPMT ship berths as needed and the Corps of Engineers would continue to dredge Harbor Channel annually. The project would therefore be consistent with Santa Fe Channel Guideline 1.

Circulation Goals, Policies, and Guidelines

- Goal CIR-A Serve the existing and future arrangement of land uses with efficient, safe, convenient, and economic transportation systems for the movement of all people and goods. (Same as Growth Management Element Goal GM-D.)
- Policy CIR-A.5 Promote access to the City's recreational areas, shoreline area and community facilities.
- Policy CIR-A.7 Work with affected businesses, public agencies, and organizations to consolidate rail lines, rail yards and other rail facilities in order to increase land use efficiencies.
- Policy CIR-A.8 Maintain Richmond's Port as an active, viable deep water port operation.

Consistency: The proposed project would improve the efficiency of the existing transportation systems serving the PPMT by introducing a new rail yard that would eliminate the need to shuttle automobiles from the PPMT to the BNSF automotive terminal on Canal Boulevard, as is currently done. It would further improve the efficiency of existing transportation systems and the associated movement of goods by allowing the elimination of approximately 3,890 annual two-way vehicle trips made by car carrier trucks transporting imported Hondas from the Port of San Diego to northern California, as well as the elimination of the transport of about 3,300 empty rail cars from the PPMT to the Port of San Diego each year. Furthermore, the increased shipping activity from the proposed project would help maintain the Port of Richmond as an active and viable deep-water port. The project would therefore be consistent with Goal CIR-A and Policies CIR-A.5, CIR-A.7, and CIR-A.8.

Goal CIR-B	Provide a balanced, safe, attractive, and efficient transportation system for automobile/truck users, transit passengers and bicyclists.
Policy CIR-B.3	Maintain a safe, effective and attractive bicycle and pedestrian circulation system, with particular emphasis on the San Francisco Bay and the Bay Area Ridge Trails and ensuring that new or existing developments are interconnected.
Policy CIR-B.12	Use the Scenic Routes Plan to guide development which affects designated routes or view corridors. (See related Open Space and Conservation Element Policy OSC-G.3 and Technical Appendix.)
Policy CIR-B.13	Continue to provide for and encourage development of the [sic] Richmond's deepwater port facilities as an integral part of the City's circulation system.
Policy CIR-B.15	Work to mitigate transportation noise impacts through location and design of transportation facilities and location and design of noise sensitive uses. (Same as Noise Element Policy NE-B.1.)

Consistency: The planned Bay Trail segment along the western perimeter of the PPMT site is consistent with the official Bay Trail Plan maps developed by the San Francisco Bay Trail Project (see Figure 4-7 later in this chapter). A future extension is planned that would connect the proposed trail with an existing Bay Trail segment that drops down Seacliff Drive and runs alongside Brickyard Cove. The trail is being designed to ensure proper separation from vehicles and provide for the safety of pedestrians and bicyclists using the trail. The project would continue and expand upon the use of the deepwater port facilities at the PPMT. The proposed PPMT rail yard has been located so as to minimize potential noise impacts on residential receptors located west of the site. The project would therefore be consistent with Goal CIR-B and Policies CIR-B.3, CIR-B.13, and CIR-B.15.

General Plan Appendix F, Survey of Transportation and Circulation, has this to say about scenic routes: "Scenic routes include most of the major (including the Richmond Parkway) and some of the secondary thoroughfare mileage within the Planning Area. Although many of these routes do not afford traditional "scenic" vistas, they are important visual elements that should be developed and enhanced. Some serve as 'gateways' to communities and jurisdictions within the Planning Area, making their appearance a significant contributor to the residents' and visitors' feelings about the quality of the urban environment." Appendix F also notes that a Scenic Corridors designation is applied to "largely undeveloped areas, or developed areas where open space and major ridgelines dominate the scenic quality adjacent to and visible from designated scenic thoroughfares."

Most of the unindustrialized portion of the Point Potrero peninsula is designated as Scenic Corridor on Circulation Plan Map 1. Addendum 3 of Appendix F of the General Plan identifies Seacliff Drive, Canal Boulevard to Brickyard Cove Road, and South Garrard Boulevard/Dornan Drive/Brickyard Cove Road as Scenic Routes. The I-580 freeway is classified as a Scenic and Landscaped Freeway.

As discussed in detail in Chapter 13, Visual Quality, the proposed project would not substantially alter the existing visual conditions of the project site or obstruct or alter existing scenic views available from the scenic corridors or scenic routes listed above. The project would therefore be consistent with Policy CIR-B.12.

- Policy CIR-D.2 Work with other agencies to provide creative alternative means of access to city and regional parks and other recreational facilities, including public transportation, hiking trails, and bicycle trails.

Consistency: The project applicant and the Port of Richmond have coordinated with the Trails for Richmond Action Committee (TRAC), which is working to complete the planned sections of the San Francisco Bay Trail located in the City of Richmond, a total of 41 miles, more than 24 miles of which are completed. As noted above and in the Project Description, this coordination has resulted in the incorporation of an extension of the Bay Trail into the proposed project, which will provide scenic access to the Point Potrero shoreline as well as the historic World War II USS Red Oak Victory ship anchored at the southern edge of the PPMT. The project would therefore be consistent with Policy CIR-D.2, as well as with identical Policy CF-C.3, which is not repeated in the discussion of relevant Community Facilities policies below.

The following Circulation Guidelines for the Shoreline Area from the Circulation Element are relevant to the proposed project:

- Guideline 5 Encourage development of a system of hike/bike trails throughout the shoreline area as shown on Circulation Plan Map 2.

Consistency: The proposed project would develop a segment of the San Francisco Bay Trail along the western perimeter of the PPMT site and along the southern side of the Point Potrero peninsula. The trail alignment would correspond to the conceptual alignment of a proposed trail delineated on Circulation Plan Map 2. The project would therefore be consistent with Shoreline Area Guideline 5.

The following Circulation Guidelines for the Santa Fe Channel sub-area from the Circulation Element are relevant to the proposed project:

- Guideline 1 Undertake necessary roadway improvements in the Santa Fe Channel Area that will facilitate or promote safe and effective movement of goods and people, especially as related to the port terminals.
- Guideline 2 Explore the possibility of combining rail lines and spurs into an efficient system of essential rail lines which will efficiently serve the industrial needs of this area and result in the least disruption of vehicular and pedestrian traffic.
- Guideline 3 Undertake an analysis, in cooperation with the Santa Fe and Southern Pacific Railroads, of rail needs for a port terminal complex, including the need for new trackage or the realignment or relocation of existing tracks.

Consistency: As noted above, the proposed project would improve the efficiency of the existing transportation systems serving the PPMT by introducing a new rail yard at the PPMT that would eliminate the need to shuttle automobiles from the PPMT to the BNSF automotive terminal on Canal Boulevard. This improvement would also include construction of a new lead track between the BNSF facility and the PPMT. These improvements would eliminate a large portion of the existing train switching operations that currently block the Cutting Boulevard/Canal Boulevard intersection approximately 20 times per day for a period of about 5

minutes per occurrence. The project would therefore be consistent with Santa Fe Channel Guidelines 1 through 3.

Community Facilities Goals, Policies, and Guidelines

Recreation and Park Facilities

Goal CF-A Meet the present and future recreation needs of the community.

Policy CF-A.8 Promote the development of regional and local urban trails and collaborate with regional, County, and other public agencies and with nonprofit and private groups to develop urban trail systems. (Same as Open Space and Conservation Element Policy OSC-S.6.)

Consistency: The proposed project has allocated right-of-way for the planned San Francisco Bay Trail to run along the western and southern edges of the PPMT, and would participate in the construction of the trail. The applicant and the Port have been cooperating with Trails for Richmond Action Committee (TRAC), a local organization dedicated to completing the Bay Trail in Richmond, in the planning and allocation of right-of-way for the trail on the PPMT. The project would therefore be consistent with Goal CF-A and Policy CF-A.8.

Goal CF-B Improve the quality of life for residents and workers in Richmond by providing facilities to meet their active and passive recreation needs.

Policy CF-B.7 Require projects adjacent to parks or recreational corridors to minimize impacts on the recreational values of those facilities.

Consistency: As noted above, the proposed project has allocated right-of-way for the planned San Francisco Bay Trail to run along the western and southern edges of the PPMT, and would participate in the construction of the trail. This would improve the quality of life for local residents by creating a new active recreation facility to serve the residents of Richmond and the greater Bay Area community. Fencing, other physical barriers, and some landscaping are planned that would minimize the impacts of PPMT operations on trail users and the recreational value of the trail. Toward this purpose, the trail alignment has also been located along the outer perimeter of the facility and away from the areas of concentrated activity on the site. The project would therefore be consistent with Goal CF-B and Policy CF-B.7.

Economic Development Goals, Policies, and Guidelines

Goal ED-A Maintain and increase the number of new permanent private sector jobs available to city residents; encourage new jobs with increased pay scales; alleviate unemployment and underemployment of residents. (Similar to Land Use Element Goals LU-N and LU-P)

Policy ED-A.1 Promote commercial and industrial development to create and maintain the maximum job opportunities for area residents. (See related policies in Land Use Element, Policies LU-N.1 and LU-P.1)

Policy ED-A.3 Expedite development of designated shoreline sites to generate additional jobs in construction and permanent employment.

Consistency: The proposed project would create approximately 120 permanent new full-time jobs generated by industrial development that would be available to City residents. In addition, it would generate additional employment demand for longshoremen and truck drivers. The project would be implemented on a site that

is designated for industrial development in the City's General Plan and numerous other City and regional planning documents. The project would therefore be consistent with Goal ED-A and Policies ED-A.1 and ED-A.3.

Goal ED-B	Increase the City's ability to provide needed services and facilities through an enlarged revenue base. In order to achieve this enlargement, increase and accelerate new development and private investment in Richmond; maintain existing investment values; and encourage intensified economic activity within the city.
Policy ED-B.1	Use City economic development resources equally to (a) retain existing enterprises and assist them to expand and (b) attract to the area new enterprises in the service, retail, finance/ insurance/ real estate, and high-tech industry sectors focusing on small to medium size establishments (15-50 employees).
Policy ED-B.4	Direct Port of Richmond activities so as to generate additional port revenues.
Policy ED-B.5	Continue to explore ways of modernizing and renovating the port and marine terminal facilities. (Same as Land Use Element Policy LU-O.8)
Policy ED-B.6	Actively encourage shipping firms to utilize local marine terminals as a starting point or destination for overland shipment of goods. (Same as Land Use Element Policy LU-O.9)
Policy ED-B.7	Reserve certain segments of the shoreline having access to navigable water for marine terminals and closely associated uses. (Same as Land Use Element Policy LU-O.10)
Policy ED-B.9	Capitalize on the locational advantages of Richmond, including its proximity to freeways and transit facilities; easy access to a large portion of the Bay Area including the University of California at Berkeley and other area universities; its shoreline and deep water port terminals; rail facilities; and scenic views.
Policy ED-B.10	Require the creation of a port and water-related industry zoning district, which encompasses the area surrounding the Santa Fe/Harbor Channels which should protect, preserve and enhance the District for marine terminals and water-related industry. (Same as Land Use Element Policy LU-O.11)

Consistency: The proposed project would continue and expand upon an industrial enterprise that would generate substantial additional revenues for the Port of Richmond and would utilize a marine terminal as a starting point for the overland shipment of new automobiles. The project would take advantage of the PPMT's proximity to a regional freeway and major rail facilities to facilitate the overland shipment of autos. The proposed new construction would contribute to the modernization and renovation of the marine terminal facilities. The project would therefore be consistent with Goal ED-B and Policies ED-B.1, ED-B.4 through ED-B.7, ED-B.9, and ED-B.10.

Goal ED-G	Retain and encourage upgrading and expansion of existing industrial development.
Policy ED-G.1	Use City economic development resources to retain existing industrial enterprises and to assist them to flourish and expand.

Consistency: The proposed project would upgrade and expand upon the existing marine industrial enterprise operated by AWC at the PPMT. The project would therefore be consistent with Goal ED-G and Policy ED-GB.1.

Growth Management Goals, Policies, and Guidelines

Goal GM-D Serve the existing and future arrangement of land uses with efficient, safe, convenient, and economic transportation systems for the movement of all people and goods. (Same as Circulation Element Goal CIR-A)

Policy GM-D.6 Require an analysis of traffic impacts on all regional routes and signalized intersections of basic routes, for all development anticipated to generate over 100 peak-hour vehicle trips.

Consistency: The proposed project would increase traffic safety by eliminating the on-street shuttle of vehicles between the PPMT and BNSF facility that currently occurs. It would also improve efficiency and convenience of the local road network by dramatically reducing the number of at-grade train crossings of Canal and Cutting Boulevards. A detailed traffic study evaluating the project's impacts at nine signalized and unsignalized intersections was performed for the project, described in Chapter 5 of this EIR. The project would therefore be consistent with Goal GM-D and Policy GM-D.6.

Noise Goals, Policies, and Guidelines

Goal NE-A Control the level of noise pollution in the community by preventing the development of incompatible land uses, rather than relying entirely on acoustical techniques after the fact, such as sound walls, buffers, etc.

Policy NE-A.1 Discourage development, where such development will significantly increase existing noise levels, unless mitigation measures are designed as part of the project to limit noise emissions to an acceptable level compared to the existing sound level.

Policy NE-A.6 Require new commercial and industrial developments with potential noise and vibration producing activities to provide noise study reports prepared by a qualified professional with demonstrated experience in noise control engineering.

Goal NE-B Reduce existing transportation related noises and minimize noise impacts of new transportation facilities.

Policy NE-B.1 Work to mitigate transportation noise impacts through location and design of transportation facilities and location and design of noise sensitive uses. (Same as Circulation Element Policy CIR-B.1 5)

Consistency: A noise study was prepared by a qualified acoustical consultant for the proposed project, which is described in detail in Chapter 7 of this EIR. The proposed rail yard at the PPMT has been located as far as possible from the residential receptors living to the northwest of the site. As discussed in Chapter 7, with a distance of more than one-third of a mile between the nearest residence and the proposed rail yard, operational noise levels are not expected to adversely affect these residential receptors. There are already existing rail facilities where the proposed loading tracks would be constructed at the BNSF site and along the alignment of the new lead track that would connect the BNSF and PPMT sites.

These facilities would not be located in a noise-sensitive area, but within an existing industrialized area where considerable train and heavy truck traffic already occurs. While rail loading operations are not expected to result in significant noise impacts on residential receptors, the proposed truck loading operations would result in noise levels in excess of the City of Richmond's threshold for acceptable nighttime noise, resulting in a potentially significant noise impact. Mitigation has been identified to reduce this impact to a less-than-significant level through a redesign of the site plan. The project would therefore be consistent with Goals NE-A and NE-B and Policies NE-A.1, NE-A.6, and NE-B.1.

Open Space and Conservation Goals, Policies, and Guidelines

Goal OSC-E	Provide a legacy of the history, archaeology and culture of the area for present and future residents.
Policy OSC-E.2	Protect notable historic, archaeological, and cultural sites from destruction.
Policy OSC-E.4	Require new development adjacent to historical sites to incorporate design elements so as to complement the character of the surrounding historical structures. (Same as Land Use Policy LU-A.4)

Consistency: The project would not use or affect the existing historic buildings present on the PPMT site. The proposed Bay Trail segment would integrate with and provide access to the Rosie the Riveter/World War II Home Front National Historical Park, including the historic victory ship moored at the PPMT and a whirly crane used to build ships on the site during World War II. The project would thereby integrate with and contribute to the preservation and enhancement of an important historic site. The project would therefore be consistent with Goal OSC-E and Policies OSC-E.2 and OSC-E.4.

Policy OSC-G.1	Protect the vista points shown on the Inventory of Visual Forms, <i>Technical Appendix for the Richmond General Plan</i> .
Goal OSC-O	Preserve, enhance and expand sites for public access to the Bay in accord with the Bikeways and Trails Circulation Plan.
Policy OSC-O.1	Provide access to shoreline parks, by public transportation, hiking trails, and biking trails, for those who do not own automobiles, to ensure that all residents are able to utilize the shoreline parks. (Refer to Circulation Map 2 of 2)
Policy OSC-O.4	Encourage free public access to the Bay, even in limited amounts, in areas of existing development.
Policy OSC-O.5	Provide for maximum feasible access to the Richmond Shoreline.
Policy OSC-O.7	Encourage and support the development of regional trails and scenic drives interconnecting the shoreline and hill areas.

Consistency: The Inventory of Visual Forms included in the Technical Appendix of the General Plan indicates that vistas of San Francisco Bay, the Bay Bridge, and the San Francisco skyline are visible from the southeast corner of Point Potrero. The proposed project would not alter or block these vistas, although views to the east of the East Bay hills would be temporarily blocked when ships were docked in Berth 6C, approximately once a week. The proposed Bay Trail segment would expand upon existing public access to the Bay by providing a new signed segment

of the Bay Trail that would provide access to the views available from the south end of Point Potrero. This trail segment would connect with another Bay Trail segment leading into the hill area northwest of the PPMT, which includes the Miller-Knox Regional Shoreline Park. The project would therefore be consistent with Goal OSC-O and Policies OSC-G.1, OSC-O.4, OSC-O.5, and OSC-O.7.

Goal OSC-P Preserve the air quality so that air pollution levels do not threaten public health and safety. This will apply not only to the local area, but to potential sources of pollution originating in though not impacting the City of Richmond.

Policy OSC-P.1 Only approve projects that will comply with applicable regulations and will not exceed air quality standards.

Consistency: As discussed in detail in Chapter 6, Air Quality, the air emissions from project operations would exceed the Bay Area Air Quality Management District's (BAAQMD) significance thresholds for nitrogen oxides. Although mitigation has been identified to reduce the impact on regional air quality, implementation of mitigation would not be sufficient to reduce the project's air emissions to within the BAAQMD thresholds. The impact has therefore been identified as significant and unavoidable. In order to approve the proposed project, the City would need to first make a Statement of Overriding Considerations that determines that the economic, social, and/or other benefits of the project would outweigh this unavoidable impact, and the impact may therefore be considered "acceptable." Because the project would exceed applicable air quality standards and could therefore potentially threaten public health and safety, the project would be *inconsistent* with Goal OSC-P and Policy OSC-P.1. This conflict is discussed as a project impact in Section 4.4, Impacts and Mitigation Measures.

Goal OSC-S Establish public routes that enhance non-motorized circulation and that complement the City's Circulation Plan.

Policy OSC-S.2 Establish right-of-way for the Bay Trail and the Bay Area Ridge Trail (as referenced in the EBRPD Master Plan as the Kennedy Grove to El Sobrante Trail) in cooperation with the EBRPD and the respective trail councils.

Policy OSC-S.4 Protect hiking and biking paths from conflicts with motorized vehicles to the greatest extent possible.

Policy OSC-S.5 Provide public access where a local or regional trail is planned or located.

Policy OSC-S.6 Promote the development of regional and local urban trails and collaborate with regional, County, and other local public agencies and with nonprofit and private groups to develop urban trail systems. (Same as Community Facilities Element Policy CF-A.8)

Consistency: The proposed project has allocated right-of-way for the planned San Francisco Bay Trail to run along the western and southern edges of the PPMT, and would participate in the construction of the trail. The trail is currently being designed to provide sufficient separation between vehicular traffic on the adjacent roadway and pedestrian/bicycle traffic on the trail. It is anticipated that on some sections of the trail, this would include physical barriers, such as curbs or low walls where warranted for safety, while landscaping or pavement striping may

provide separation along other sections. The applicant and the Port have been cooperating with Trails for Richmond Action Committee (TRAC), a local organization dedicated to completing the Bay Trail in Richmond, in the planning and allocation of right-of-way for the trail on the PPMT, and expect to cooperate with the EBRPD in this endeavor. The project would therefore be consistent with Goal OSC-S and Policies OSC-S.2 and OSC-S.4 through OSC-S.6.

The following Open Space and Conservation Guidelines for the Santa Fe Channel sub-area from the Open Space and Conservation Element are relevant to the proposed project:

Guideline 3 Require waterfront developments, as part of any project approval process, to provide the maximum feasible public access to the shoreline consistent with the project, with adequate links to inland areas.

Consistency: For the reasons stated above, the project would be consistent with this guideline.

Safety Goals, Policies, and Guidelines

Goal SF-A Minimize the risk of injury, loss of life, and property damage from seismically induced and other known geologic hazards.

Policy SF-A.5 Continue to investigate the potential of seismic and geologic hazards as a part of the environmental review process and maintain this information for public records.

Consistency: The potential seismic and geologic hazards present on the project site are evaluated in Chapter 10 of this EIR and mitigation measures have been identified to reduce potential impacts to a less-than-significant level. The project would therefore be consistent with Goal SF-A and Policy SF-A.5.

Harbour Redevelopment Plan

The *Redevelopment Plan for Project 11-A (Harbour)* was adopted by the Richmond City Council on June 9, 1975 to provide for urban renewal of a 964-acre portion of the southern Richmond waterfront, including the Richmond Harbor and surrounding area, as well as the properties flanking Harbor Channel. The *Amended and Restated Redevelopment Plan for Project 11-A (Harbour)*, adopted by the City on July 13, 1999, added the western portion of what is now the PPMT, along with the Point Richmond Shores project area (formerly Port Terminal One), to the Harbour Redevelopment Area. The amended Redevelopment Plan was intended to achieve the following general goals and specific objectives:

General Goals

1. The elimination of areas suffering from economic dislocation and disuse.
2. The replanning, redesign and/or redevelopment of areas which are stagnant or improperly utilized, and which could not be accomplished by private enterprise or government without redevelopment participation and assistance.

3. The protecting and promoting sound development and redevelopment of blighted areas and the general welfare of the citizens of the City by remedying such injurious conditions through the employment of appropriate means.
4. The installation of new or replacement of existing public improvements, facilities and utilities in areas which are currently inadequately served.

Objectives to Achieve Goals

1. Remove structurally substandard buildings to permit the return of land to economic use through new construction.
2. Rehabilitate those structures which are culturally, historically, physically and aesthetically worthy of rehabilitation, with emphasis on owner participation.
3. Eliminate environmental deficiencies including lots of inadequate size and shape, inadequate street and alley layout, mixed character of land uses, and hazardous material contamination.
4. Stimulate private investment thereby improving the City's economic health, tax base and employment opportunities.
5. Facilitate the assembly and disposition of land to achieve more productive and more appropriate land uses.
6. Implement applicable specific plans.
7. Expand the community's supply of housing, including opportunities for low- and moderate-income households.
8. Encourage maximum participation of residents, business persons, property owners, and community organizations in the redevelopment of the Project Area.
9. To provide whatever public improvements maybe needed to support other objectives of the Plan, including, but not limited to, sanitary and storm sewer facilities, traffic control devices, utility upgrading, streetscape improvements and recreational and community facilities. Such improvements may be in any part of the Project Area, or beyond Project Area boundaries where essential to the success of the Project.
10. To avoid any undesirable impact of Project activities upon areas adjacent to the Project Area.

The Redevelopment Plan is in conformity with the *Richmond General Plan* and is intended to assist the City in attaining several dozen goals and policies promulgated in the General Plan. The Land Use Map in the Redevelopment Plan designates the PPMT site as Port/Marine Terminal/Ship Repair, consistent with the General Plan designations. New development and rehabilitation of existing development within the Project Area is generally required to be in accordance with the development standards and requirements established in the General Plan, Zoning Ordinance, and, where applicable, the Specific Plan. (The project site is not within a Specific Plan area.)

A major function of the Redevelopment Plan is to establish mechanisms for financing implementation of the Plan, such as tax increments, bonds, grants, and loans. CEQA does

not require consideration of such financial factors, and those provisions of the Redevelopment Plan were not evaluated during preparation of this EIR.

Implementation of the proposed project would further the City's achievement of the objectives of the Redevelopment Plan by improving the City's tax base, providing increased employment opportunities, and improving the productivity of the PPMT property. Potential impacts associated with the project are thoroughly evaluated in this EIR and, to the extent feasible, mitigation measures are identified to reduce potentially significant impacts to acceptable levels.

Richmond Coastline Plan

Shortly after the adoption of the National Environmental Policy Act (NEPA) in 1969 and CEQA in 1970, in recognition of the environmental importance and sensitivity of the 32-mile-long Richmond shoreline, the City of Richmond adopted the *Richmond Coastline Plan* to provide for the protection and enhancement of sensitive habitat areas while providing increased public access and permitting appropriate job-generating development along the coastline.²

The Coastline Plan casts its policies in three different time frames, relative to the time of its 1973 adoption: *continuing*, which can be applied immediately and extend indefinitely into the future; *interim*, which will terminate at a definite time; and *future*, which will be applied at some unknown point in the future. The following Coastline Plan policies are relevant to the proposed project:

Port, Marine Terminals, and Industry Policies

Policy 2	Actively encourage shipping firms to utilize local marine terminals as a starting point or destination for overland shipment of goods. (Continuing Policy)
Policy 4	Continue to utilize the marine terminal at Shipyard 3 as a ship repair facility. Continue the present scrapping operation as an interim use which will be phased out when it is feasible to develop either additional port facilities or water-related recreation and commercial uses. Give major consideration to this site's nearness to deep water and the Harbor Entrance Channel in deciding its future use. (Interim Policy)
Policy 5	Reserve certain segments of the shoreline having access to navigable water for marine terminals and closely associated uses. Regulate a part of the land adjacent to the Richmond Inner Harbor, Harbor Channel and Santa Fe Channel and parts of the following navigation points to insure [sic] that they remain in use by water transportation

² City of Richmond, *Richmond Coastline Plan*, January 31, 1973.

industries, marinas and commercial water transportation. (Continuing Policy)

- Point Potrero
- Point Richmond Terminal No. 1
- Ferry Point (Santa Fe)
- Point Orient
- Point San Pablo

Consistency: The project would take advantage of the PPMT's proximity to deep water and expand the utilization of the site as a starting point and destination for overland shipment of good. It would continue the use of Point Potrero as a marine terminal. The project would therefore be consistent with Port, Marine Terminals, and Industry Policies 2, 4, and 5.

Transportation Policies

Policy 3 Explore the possibility of combining rail lines and spurs into an efficient system of essential rail lines which will: (Future Policy)

- minimize the number of grade separations required for safe crossings;
- reduce adverse effects on adjacent neighborhoods.

Consistency: The project would reduce the amount of at-grade train crossings and the resulting inconvenience on the local neighborhood. The project would therefore be consistent with Transportation Policy 3.

Public Access Policies

Policy 1 Require that all new major waterfront developments provide a reasonable degree of free permanently guaranteed access to the shoreline, with adequate links to inland areas. This is to be accomplished through City review and control of the siting and design of developments to ensure that shoreline land is accessible and available for public use. Such control may involve requiring the dedication of fee title or easements where appropriate at no public cost. (Continuing Policy)

Policy 2 Encourage free public access, even in limited amounts, in areas of existing development. This is to be achieved through cooperation of private property owners and may mean some financial commitment from the public sector. Accessways may be provide through developed areas, around them, or between them to reach points along the shoreline. Public paths may stretch along the shoreline where feasible, winding around developed areas or structures if necessary, as the sketch which follows shows. (Continuing Policy)

Policy 3 Encourage development of special facilities to provide public access where ordinary trails and paths are impractical or where free public access would create a safety hazard. (Continuing Policy)

- a) In marshland conservation areas, reserve sites for boardwalks and observation points;
- b) In heavily industrialized or hazardous areas, urge development of observation towers or other facilities

physically separated from other activities, but permitting physical or visual access to the shoreline and activities bordering it.

Policy 5 Encourage the use of several alternate ways for the public to reach the shoreline. (Continuing Policy)

...

c) Require adequate provisions for car and bicycle parking at shoreline access points. Vary the amount of parking space according to the size of the public access area;

d) Encourage the development and designation of bicycle, hiking and horse trails both leading to shoreline access points and extending along the shoreline where feasible.

Consistency: As discussed in the project description (Section 3.6, Proposed Construction, Miscellaneous Improvements), the project would include development of a 2.4-mile-long Bay Trail segment extending from Canal Boulevard at Seacliff Drive to the southeast corner of the PPMT graving basin, with a trailhead parking lot located just to the north of the existing historic cafeteria building. This would provide free public access to the shoreline that would be physically separated by a roadway and security fence from the PPMT facilities and operations. However, due to the potential conflict for providing public access with rules and regulations for a secured international port facility set by the U.S. Coast Guard, U.S. Customs, and Department of Homeland Security, the Port of Richmond is legally precluded from guaranteeing permanent access by dedicating an easement, granting fee title, or other binding mechanism. Federal regulations require that the Port maintain flexibility in the alignment of roads and trails in case new security measures require their re-alignment. Therefore, although the project would be consistent with Public Access Policies 2, 3, and 5 and largely consistent with Policy 1, absent a guarantee of permanent access, the project would be *inconsistent* with Public Access Policy 1. This is addressed as a significant impact in Section 4.4. However, it should be noted that the proposed project is inconsistent with a planning policy intended to increase cargo capacity, and thus increase adverse environmental impacts associated with cargo handling operations. Inconsistency with *San Francisco Bay Area Seaport Plan* Marine Terminal Policy 1 would therefore have a beneficial effect on the environment. Thus, for CEQA purposes, the impact of this policy conflict would be less than significant, as discussed further in Section 4.4.

Job Supply and Demand Policies

Policy 3 Develop local employment opportunities in each sector of the Coastline Area by taking the measures shown on Plate 19. (Continuing Policy)

Policy 6 In the Southwest Sector of the Coastline Area, encourage growth in the following employment categories by taking these actions (see Plate 19): (Continuing Policy)

...

c) Transportation: Create additional employment opportunities through expansion of current port operations at Shipyard 3 as well as rail and motor freight shipping and warehousing.

...

Consistency: Plate 19 referenced by Policies 3 and 6 indicates that the PPMT is located within the Southwest Sector, and indicates a policy of promoting moderate growth in transportation within this sector. The project would directly further the policy direction established by Policy 6(c). The project would therefore be consistent with Job Supply and Demand Policies 3 and 6.

Other Applicable Plans

Although the *South Richmond Shoreline Special Area Plan* functions as an Area Plan, a component of the *Richmond General Plan*, it is also a regional planning document that was adopted jointly by the City and the San Francisco Bay Conservation and Development Commission. Accordingly, this plan is addressed in the following section on regional plans.

APPLICABLE REGIONAL PLANS

San Francisco Bay Plan

Established temporarily by the State by the 1965 McAteer–Petris Act, and permanently by the 1969 McAteer–Petris Act, the San Francisco Bay Conservation and Development Commission (BCDC) was established to halt the unregulated filling of San Francisco Bay, which had occurred at the average rate of 4 square miles per year between 1850 and 1960, resulting in a loss of over 235 square miles of Bay area since the California Gold Rush. The enabling legislation charged BCDC with the responsibility of preparing a plan for the long-term protection and use of the Bay. The result was the *San Francisco Bay Plan* (Bay Plan), completed in 1969 and periodically amended over the past four decades.

The Bay Plan is the mechanism by which BCDC controls both Bay filling and dredging and shoreline development along the Bay. The Commission has jurisdiction over these activities within the Bay and within a shoreline band extending 100 feet landward from the mean high tide line of the Bay. The Commission’s jurisdiction also includes marshlands lying between mean high tide and 5 feet above mean sea level, diked salt ponds, managed wetlands, and the portions of certain creeks or rivers that discharge to the Bay that are subject to tidal action.

BCDC Permits

The BCDC requires a permit for dredging or filling of the Bay, the latter of which can include placement of piers or pilings or the extended mooring of floating structures. A permit is also required for any new development within the 100-foot shoreline band under the Commission’s jurisdiction. The improvements proposed by the project would be subject to this requirement. A public hearing is required prior to the issuance of a

permit, except for permits for emergency repairs or minor improvements, which may be granted by the Executive Director without a hearing.

The Bay Plan states that a permit for shoreline development should be approved if the Commission determines that the proposal is consistent with other provisions of the Bay Plan and is in accordance with one of the five shoreline priority uses established in the Plan for: (1) Ports, (2) Water-Related Industry, (3) Water-Oriented Recreation, (4) Airports, or (5) Wildlife Refuges. As part of the permit review process, the BCDC must also ensure that the new development increases public access to the Bay to the maximum extent feasible and that the design and appearance of the development is subject to review and recommendations of a BCDC Design Review Board comprised of design professionals.

As shown on Figure 4-7, Bay Plan Map 4, which encompasses the north central portion of San Francisco Bay, including the south Richmond shoreline, designates Point Potrero for Port Priority Use. Both the existing and proposed use of the PPMT are consistent with this designation. Additional discussion on Bay Plan Map 4 is included in the discussion of policies, below.

Bay Plan Policies

The following *San Francisco Bay Plan* policies are relevant to the proposed project:

Water-Related Industry Policies

Policy 1	Sites designated for both water-related industry and port uses in the Bay Plan should be reserved for those industries and port uses that require navigable, deep water for receiving materials or shipping products by water in order to gain a significant transportation cost advantage.
Policy 4	Water-related industry and port sites should be planned and managed so as to avoid wasteful use of the limited supply of waterfront land. The following principles should be followed to the maximum extent feasible in planning for water-related industry and port use: b. Where large acreages are available, site planning should strive to provide access to the shoreline for all future plants and port facilities that might locate in the same areas. (As a general rule, therefore, the longest dimension of plant sites should be at right angles to the shoreline.) Marine terminals should also be shared as much as possible among industries and port uses. d. Any new highways, railroads, or rapid transit lines in existing or future water-related industrial and port areas should be located sufficiently far away from the waterfront so as not to interfere with industrial use of the waterfront. New access roads to waterfront industrial and port areas should be

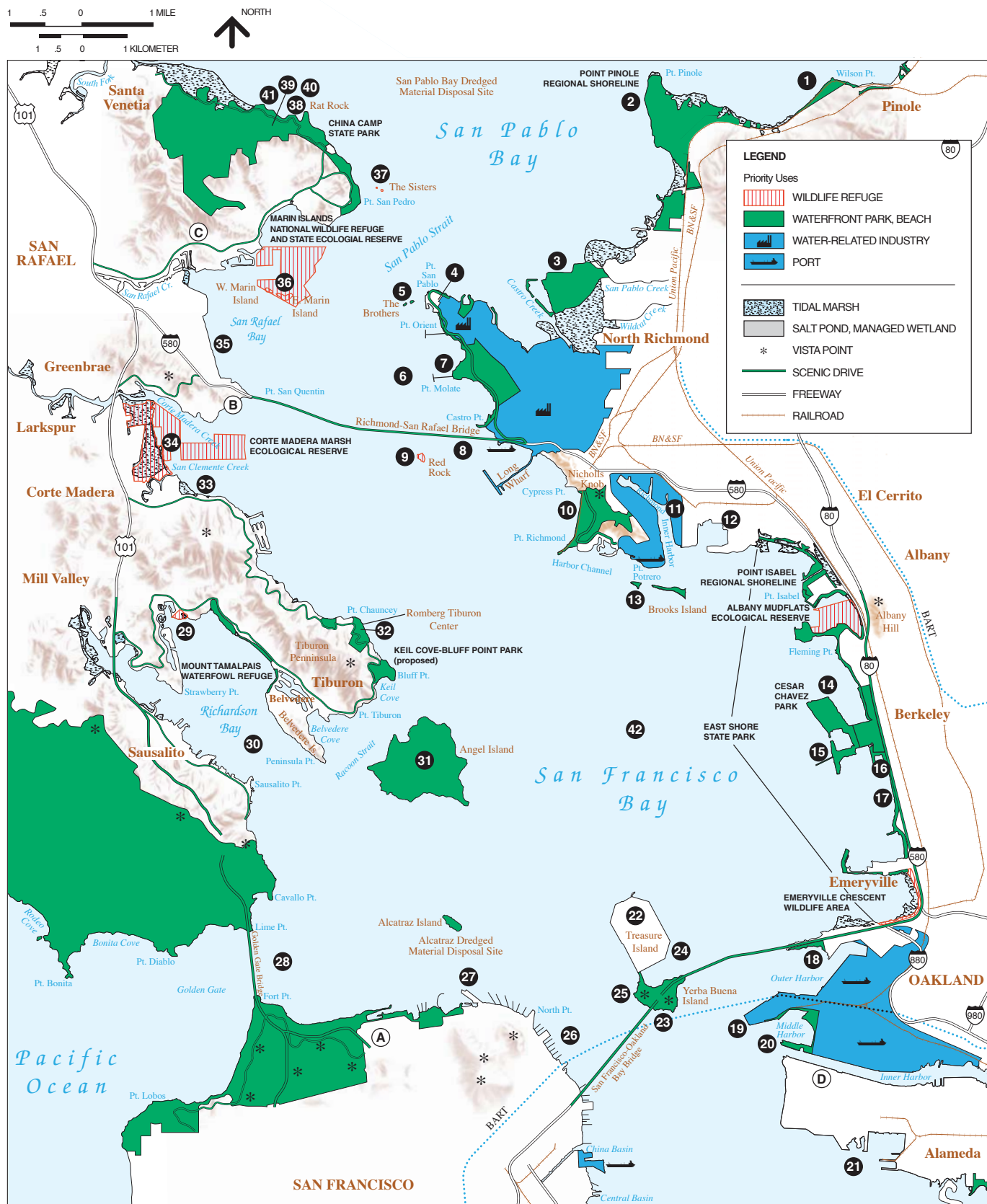


Figure 4-7

San Francisco Bay Plan Map of North Central Bay

Source: San Francisco Bay Conservation and Development Commission

approximately at right angles to the shoreline, topography permitting.

Policy 5

Water-related industry and port uses should be planned so as to make the sites attractive (as well as economically important) uses of the shoreline. The following criteria should be employed to the maximum extent possible:

- a. Air and water pollution should be minimized through strict compliance with all relevant laws, policies and standards. Mitigation, consistent with the Commission's policy concerning mitigation, should be provided for all unavoidable adverse environmental impacts.
- c. Important Bay overlook points, and historic areas and structures that may be located in water-related industrial and port areas, should be preserved and incorporated into the site design, if at all feasible. In addition, shoreline not actually used for shipping facilities should be used for some type of public access or recreation, to the maximum extent feasible. Public areas need not be directly accessible by private automobiles with attendant parking lots and driveways; access may be provided by hiking paths or by forms of public transit such as elephant trains or aerial tramways.

Consistency: The proposed project requires deep navigable water to accommodate the large ocean-going ships that would be used to import new Honda automobiles into the PPMT. The project would increase the efficiency of the utilization of the waterfront land at the PPMT by more than doubling the volume of new automobiles imported to the facility on an annual basis. The proposed rail extension, rail yard, and relocated access road would not interfere with the industrial use of the waterfront, but rather would improve the efficiency of such use. As discussed in Chapter 6, Air Quality, and Chapter 11, Hydrology and Water Quality, air and water pollution from construction and operation of the proposed project would be minimized to the greatest extent feasible through compliance with applicable laws and regulations, and mitigation has been recommended to reduce a significant impact on air quality, which would nonetheless remain significant and unavoidable, as discussed in Chapter 6. All of the historic buildings on the PPMT site would be preserved and would not be adversely affected by implementation of the project. The project would also accommodate a trail that would provide public access to both the shoreline and historic resources on the site. For the foregoing reasons, the project would be consistent with Water-Related Industry Policies 1, 4, and 5.

Port Policies

Policy 1

Port planning and development should be governed by the policies of the Seaport Plan and other applicable policies of the Bay Plan. The Seaport Plan provides for:

- a. Expansion and/or redevelopment of port facilities at Benicia, Oakland, Redwood City, Richmond, and San Francisco, and development of new port facilities at Selby;

- d. Development of port facilities with the least potential adverse environmental impacts while still providing for reasonable terminal development.

Policy 3 Port priority use areas should be protected for marine terminals and directly-related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including trucking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, and marine services. Other uses, especially public access and public and commercial recreational development, should also be permissible uses provided they do not significantly impair the efficient utilization of the port area.

Consistency: An evaluation of the project's consistency with the Seaport Plan follows this discussion on the Bay Plan. For purposes of the present discussion, the project is considered consistent with Port Policy 1 because it would be developed largely in conformity with the Seaport Plan and the proposed use would allow for relatively intensive and job- and income-producing use of the marine terminal while causing substantially reduced environmental impacts relative to other types of port development, such as a container cargo terminal. The project would be consistent with Port Policy 3 because it would continue and expand the use of the property as a marine terminal and rail yard used for the distribution of new automobiles.

Recreation Policies

Policy 3 Recreational facilities, such as waterfront parks, trails, marinas, live-aboard boats, nonmotorized small boat access, fishing piers, launching lanes, and beaches, should be encouraged and allowed by the Commission, provided they are located, improved and managed consistent with the following standards:

- a. General Recreational facilities should:(1) Be well distributed around the shores of the Bay to the extent consistent with the more specific criteria below. Any concentrations of facilities should be as close to major population centers as is feasible; (2) Not pre-empt land or water area needed for other priority uses, but efforts should be made to integrate recreation into such facilities to the extent that they are compatible; (3) Be feasible from an engineering viewpoint; and (4) Be consistent with the public access policies that address wildlife compatibility and disturbance. In addition: (5) Different types of compatible public and commercial recreation facilities should be clustered to the extent feasible to permit joint use of ancillary facilities and provide a greater range of choices for users. (6) Sites, features or facilities within designated waterfront parks that provide optimal conditions for specific water-oriented recreational uses should be preserved and, where appropriate, enhanced for those uses, consistent with natural and cultural resource preservation. (7) Access to marinas, launch ramps, beaches, fishing piers, and other recreational facilities should be clearly posted with signs and easily available from parking reserved for the public or from public streets or trails. (8) To reduce the human health risk posed by consumption of contaminated fish,

projects that create or improve fishing access to the Bay at water-oriented recreational facilities, such as fishing piers, beaches, and marinas, should include signage that informs the public of consumption advisories for the species of Bay fish that have been identified as having potentially unsafe levels of contaminants. (9) Complete segments of the Bay and Ridge Trails where appropriate, consistent with policy 4–a–6.

Consistency: The planned trail that would provide shoreline access adjacent to the PPMT would complete a planned segment of the Bay Trail and would be consistent with all of the standards enumerated in Recreation Policy 3(a), above. The project would therefore be consistent with Recreation Policy 3.

Public Access Policies

Policy 2	In addition to the public access to the Bay provided by waterfront parks, beaches, marinas, and fishing piers, maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location preferably near the project should be provided.
Policy 8	Access to and along the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available. Diverse and interesting public access experiences should be provided which would encourage users to remain in the designated access areas to avoid or minimize potential adverse effects on wildlife and their habitat.
Policy 9	Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.
Policy 10	Federal, state, regional, and local jurisdictions, special districts, and the Commission should cooperate to provide appropriately sited, designed and managed public access, especially to link the entire series of shoreline parks, regional trail systems (such as the San Francisco Bay Trail) and existing public access areas to the extent feasible without additional Bay filling and without significant adverse effects on Bay natural resources. State, regional, and local agencies that approve projects should assure that provisions for public access to and along the shoreline are included as conditions of approval and that the access is consistent with the Commission's requirements and guidelines.

- Policy 11 The Public Access Design Guidelines should be used as a guide to siting and designing public access consistent with a proposed project. The Design Review Board should advise the Commission regarding the adequacy of the public access proposed.

Consistency: The proposed project would provide public shoreline access via the planned Bay Trail segment and would provide trailhead parking adjacent to the historic cafeteria building and next to the graving docks. Vehicle travel speed would be restricted on the perimeter access road and a combination of physical and demarcated separation would be provided between the trail and the access road. The project would expand the Bay Trail network without adding fill to the Bay or adversely affecting the Bay's natural resources. As discussed below in Section 4.4, the City will require public access as a condition of project approval, to the extent permissible by federal Homeland Security restrictions. The Public Access Design Guidelines³ referenced in Policy 11 were reviewed as part of this policy analysis and, based on all trail plans available at the time this EIR was prepared, the project would be consistent with those guidelines. The project would therefore be consistent with Public Access Policies 2, 8, and 9 through 11.

Appearance, Design, and Scenic Views Policies

- Policy 1 To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.
- Policy 2 All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.
- Policy 4 Structures and facilities that do not take advantage of or visually complement the Bay should be located and designed so as not to impact visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline. However, some small parking areas for fishing access and Bay viewing may be allowed in exposed locations.
- Policy 5 To enhance the maritime atmosphere of the Bay Area, ports should be designed, whenever feasible, to permit public access and viewing of port activities by means of (a)–view points (e.g., piers, platforms, or towers), restaurants, etc., that would not interfere with port operations, and (b)–openings between buildings and other site designs that permit views from nearby roads.
- Policy 12 In order to achieve a high level of design quality, the Commission's Design Review Board, composed of design and planning

³ San Francisco Bay Conservation and Development Commission, *Shoreline Spaces: Public Access Design Guidelines for the San Francisco Bay*, April 2005.

professionals, should review, evaluate, and advise the Commission on the proposed design of developments that affect the appearance of the Bay in accordance with the Bay Plan findings and policies on Public Access; on Appearance, Design, and Scenic Views; and the Public Access Design Guidelines. City, county, regional, state, and federal agencies should be guided in their evaluation of bayfront projects by the above guidelines.

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

Consistency: As noted in the preceding discussion, the planned Bay Trail segment adjacent to the PPMT would be developed in accordance with BCDC's Public Access Design Guidelines. The trail has been designed by design professionals and would provide new and enhanced publicly accessible views of San Francisco Bay, with trailhead parking located well away from the shoreline. The final design plans, being developed at the time of preparation of this EIR, will be submitted to the Commission's Design Review Board for that agency's independent evaluation for consistency with Bay Plan policies and the Public Access Design Guidelines.⁴ Although Bay Plan Map 4 does not designate a vista point at the PPMT, two vista points would be provided right at the shoreline (with another provided on the hillside to the north) with interpretive signs and access to historic resources associated with the Rosie the Riveter/World War II Home Front National Historical Park. The project would therefore be consistent with Appearance, Design, and Scenic Views Policies 1, 2, 4, 5, 12, and 15.

Navigational Safety and Oil Spill Prevention Policies

- Policy 2 The Commission should ensure that marine facility projects are in compliance with oil spill contingency plan requirements of the Office of Spill Prevention and Response, the U.S. Coast Guard and other appropriate organizations.
- Policy 3 To ensure navigational safety and help prevent accidents that could spill hazardous materials, such as oil, the Commission should encourage major marine facility owners and operators, the U. S. Army Corps of Engineers and the National Oceanic and Atmospheric Administration to conduct frequent, up-to-date surveys of major shipping channels, turning basins and berths used by deep draft vessels and oil barges. Additionally, the frequent, up-to-date surveys should be quickly provided to the U.S. Coast Guard Vessel Traffic Service-San Francisco, masters and pilots.

Consistency: The BCDC will review the proposed project prior to issuing a development permit, and will verify at that time that the project would comply with applicable oil spill contingency plan requirements. The U. S. Army Corps of

⁴ Bruce Beyaert, TRAC Chair, Trails for Richmond Action Committee, personal communication, March 23, 2008.

Engineers conducts surveys several times a year on Harbor Channel as well as the shipping channels on San Francisco Bay.⁵ The resulting data are available on the internet for both the U.S. Coast Guard Vessel Traffic Services and the public to review. The project would therefore be consistent with Navigational Safety and Oil Spill Prevention Policies 2 and 3.

Bay Plan Map 4 Policies

Additional enforceable policies are promulgated in the *San Francisco Bay Plan* that apply only to specific areas designated on a series of seven Bay Plan maps. These maps designate Priority Uses for the Bay, including such priority uses as Wildlife Refuge, Waterfront Park/Beach, Water-Related Industry, and Port. Plan Map 4, Central Bay North, encompasses central San Francisco Bay north of the Bay Bridge, including the entire Richmond shoreline. The PPMT and properties surrounding Harbor Channel and Santa Fe Channel are all designated as Port Priority Use. The Bay Plan policies specific to Plan Map 4 are generally not applicable to the PPMT, with the following exceptions:

Policy 11	Port of Richmond – See Seaport Plan. Some fill may be needed.
Policy 12	South Richmond Shoreline Special Area Plan – See special area plan for detailed planning guidelines for the shoreline between Shipyard Three and the southeastern border of the City of Richmond.

The two plans referenced in the preceding policies are discussed separately below.

BCDC Seaport Plan

The *San Francisco Bay Area Seaport Plan* was developed cooperatively between BCDC and the Metropolitan Transportation Commission (MTC) and serves as the primary port policy document for BCDC and as the maritime element of MTC's *Regional Transportation Plan*.⁶ The Seaport Plan is intended to promote the following goals:

1. Ensure the continuation of the San Francisco Bay port system as a major world port and contributor to the economic vitality of the San Francisco Bay region;
2. Maintain or improve the environmental quality of San Francisco Bay and its environs;
3. Provide for the efficient use of finite physical and fiscal resources consumed in developing and operating marine terminals through the year 2020;
4. Provide for integrated and improved surface transportation facilities between San Francisco Bay ports and terminals and other regional transportation systems; and

⁵ Norman Chan, Port Administrator, personal communication, March 24, 2008.

⁶ San Francisco Bay Conservation and Development Commission and Metropolitan Transportation Commission, *San Francisco Bay Area Seaport Plan*, April 18, 1996, as amended through February 2003.

5. Reserve sufficient shoreline areas to accommodate future growth in maritime cargo, thereby minimizing the need for new Bay fill for port development.

To achieve these goals, the Seaport Plan assigns land use designations to appropriate shoreline areas under BCDC jurisdiction and promulgates enforceable policies. Consistent with the *San Francisco Bay Plan*, Figure 6 of the Seaport Plan designates the PPMT and other Port properties surround the Santa Fe and Harbor channels as a Port Priority Use Area. Policies pertaining specifically to this area are included in the policies discussed below. Figure 6 also identifies the PPMT as a Marine Terminal, which is defined as a waterfront facility used for receipt and/or shipment of waterborne cargo. The following policies applicable to all Bay Area ports are relevant to the proposed Honda Port of Entry project:

General Policies

- Policy 2 Proposed marine terminal development should be closely linked to the projected regional need for new facilities based upon reasonable forecasts of waterborne cargo.

Consistency: The proposed project is born out of Honda's own existing and projected needs for automotive terminal facilities. Because it would be a continuation and expansion of an existing use of the Port property, the project would appear to be consistent with General Policy 2. It will be up to BCDC to make a final determination of consistency prior to issuing a development permit to the project.

Port Priority Use Areas Policies

- Policy 1 Local governments and the Bay Area ports should protect port priority use areas for marine terminals and other directly related port activities through their land use planning and regulatory authority.
- Policy 2 Within port priority use areas, non-port uses such as public access and commercial recreation development may be allowed provided that the use would not impair existing or future use of the area for port purposes.

Consistency: The project would continue the use of the PPMT as a marine terminal, consistent with the site's designation as a Port Priority use area. It would allow public access for recreation that would not impair the use of the PPMT for port purposes. The project would therefore be consistent with Port Priority Use Areas Policies 1 and 2.

Marine Terminal Policies

- Policy 2 Future marine terminals should be developed for the type of cargo specified in Part II of this plan at each port and port priority use area. If a port or terminal operator proposes to use a terminal for a cargo other than that designated in the Seaport Plan, the project proponent must demonstrate to the Seaport Planning Advisory Committee that the proposed project does not prevent Bay Area ports from achieving adequate cargo throughput capability to meet the 2020 projections. In

reviewing such requests, the Seaport Planning Advisory Committee should make use of the cargo monitoring data that will be collected as part of the implementation of this plan (see Responsibilities of Other Agencies in Part III of this plan).

Policy 6 To achieve the capacity needed to handle the cargo volume forecast for 2020, each port and port priority use area should have the number of berths shown in Table 6.

Consistency: Part II referenced in Policy 2 presents site-specific designations of port priority use areas and marine terminals at ports throughout San Francisco Bay. Figure 6 of the Seaport Plan designates the port priority use area for the Port of Richmond, which includes the PPMT. Table 15 of the Seaport Plan lists intended future cargo capabilities for each Port of Richmond terminal. Terminals 5, 6, and 7 are grouped together and encompass the finger piers, graving docks, and large ship berths at the PPMT, respectively. Table 15 designates these terminals, collectively, as a future 140-acre three-berth cargo container facility with a total expected optimum annual throughput of 2.28 million metric tons. Table 6 of the Plan, referenced in Policy 6, indicates that the Port of Richmond has a total of 12 berths, including 5.5 container berths, 2.5 neo-bulk berths,⁷ 3.0 dry bulk berths, and 1.0 liquid bulk berth. Fractions of berths indicate that a single berth is used for more than one cargo type. The fraction indicates the percentage of time for which the berth is used for that cargo type.

The proposed project would be *inconsistent* with Marine Terminal Policies 2 and 6 because it would retain the current use of the PPMT as an automotive marine terminal and preclude its use as a container cargo terminal. However, as discussed throughout this chapter, the project would be consistent with numerous other planning documents, including the *Richmond General Plan; Amended and Restated Redevelopment Plan for Project 11-A (Harbour); South Richmond Shoreline Special Area Plan*; the land use, port, transportation, and other policies of the *Richmond Coastline Plan*; and *San Francisco Bay Plan* (with the exception of one policy referencing the Seaport Plan, the subject of this discussion). Furthermore, in June 2007 the Richmond City Council adopted the *Port of Richmond Strategic Business Plan*, which asserts the City's intention to operate the PPMT as an international automotive distribution facility, capitalizing on almost 20 years of experience with this niche cargo operation, as well as the facility's strategic location with respect to a regional truck and rail distribution network, including its close proximity to two major rail lines (BNSF and Union Pacific) and Interstate 580, with direct connections to I-80 and Highway 101.⁸

The Strategic Business Plan projects annual growth in the import and domestic vehicle distribution business of 5 to 6 percent annually, on average. Due to the strong competitive advantage held by the Ports of Oakland, Los Angeles, and Long Beach in the container cargo industry, the Strategic Business Plan concluded that the Port of Richmond would be disadvantaged in attempting to develop a cargo container facility at the PPMT, but that it already enjoys an advantage in the specialty niche of automotive cargo, given its experience, knowledge, and

⁷ Neo-Bulk Cargo means cargo generally shipped in large quantities and having some characteristics of bulk commodities. Neo-bulk cargoes in the Bay Area are generally automobiles, steel products, and newsprint.

⁸ Port of Richmond and TransDevelopment Group, *Port of Richmond Strategic Business Plan*, June 2007.

economies of scale in this area, and that the experience should be leveraged for future growth. The Strategic Business Plan notes that continued automotive facilities at Point Potrero provide a light industrial use that is more compatible with adjoining residential development than substantially more industrial cargo container operations.

It should be noted that since adoption of the Seaport Plan, residential development on Point Potrero has expanded and is now adjacent to the western end of the PPMT, including cliffside development that looks directly down upon the facility. Further residential development of the vacant parcel immediately adjacent to the west end of the PPMT has also been proposed to the City, and that application is currently pending. The continued use of the PPMT for automotive facilities would maintain an existing light industrial use that has much fewer impacts on the adjoining residential uses than a more industrial container port operation, a use associated with much more significant impacts related to noise, air quality, stormwater, rail and truck traffic, aesthetics, and operations impacts. In adopting the *Port of Richmond Strategic Business Plan*, the City of Richmond asserted its intention to continue to operate the PPMT as an automotive distribution facility. This approach will help achieve the primary objective of the Seaport Plan to make improvements to the Bay Area port system that will accommodate the forecast growth in waterborne cargo and foster economic activity. In addition, in other respects the proposed project would be consistent with the Seaport Plan. Nonetheless, the proposed project would be *inconsistent* with the explicit policy direction provided by Marine Terminal Policies 2 and 6. This is addressed as a project impact in Section 4.4.

Ground Transportation Policies

Policy 2 The Bay Area ports, local governments and marine terminal operators should take steps to make the best possible use of existing ground transportation facilities, and should employ measures to mitigate any significant adverse environmental effects of increased traffic at existing and proposed marine terminal facilities.

Consistency: The proposed project would improve existing traffic conditions in the project vicinity by substantially reducing the at-grade crossings of Cutting and Canal boulevards during train switching operations. Chapter 5 of this EIR evaluates the potential traffic impacts of the proposed project in detail and identifies appropriate measures to mitigate the potentially significant adverse environmental traffic effects of the project. The project would therefore be consistent with Ground Transportation Policy 2.

Port of Richmond Policies

Policy 1 By the year 2020, the Port of Richmond should have the annual cargo throughput capabilities shown in Table 15.

Policy 6 Terminals 5–6–7 should be combined into a 3–berth container terminal with near–dock intermodal rail facilities. The 140–acre container terminal would require 15 acres of fill in the Graving Docks (Terminal 6), and 18 acres of fill at Terminal 5.

Consistency: The discussion provided above for Marine Terminal Policies 2 and 6 would also apply to these policies. The project would also be *inconsistent* with

Port of Richmond Policies 1 and 6. This is addressed as an impact of the project in Section 4.4.

South Richmond Shoreline Special Area Plan

The PPMT is located within the area governed by the *South Richmond Shoreline Special Area Plan* (SRSSAP), a joint planning document adopted in 1977 by both BCDC and the City of Richmond.⁹ The aim of the plan was to achieve consistency between BCDC's *San Francisco Bay Plan* and the *Richmond General Plan* and, accordingly, amended both of those plans by resolution of BCDC and the Richmond City Council, respectively. Previous incompatibility between the two planning documents pertained to future plans for Richmond's Inner Harbor Basin, which designated the basin area for future port use, while the City desired to develop the water-oriented complex that exists today and includes a major marina, park and public access uses, commercial areas, and residential development at varying densities. The adoption of the SRSSAP permitted this development to move forward with BCDC approval, including the removal of the Inner Harbor Basin as a Port Priority Use Area.

The SRSSAP divides the South Richmond shoreline into four subareas: Brooks Island, Point Isabel, Inner Harbor, and Santa Fe, with the PPMT being located within the latter subarea. Policies promulgated in the SRSSAP are specific to one of these subareas. The SRSSAP reasserts the applicability of policies established in the *San Francisco Bay Plan*, *Richmond General Plan*, and the *Urban Renewal Plan for Redevelopment Project Area 11-A* (Redevelopment Plan 11-A).

The SRSSAP designates Shipyard No. 3 (currently the PPMT) as an interim marine terminal, with future use as a container port facility and/or marina and commercial recreation complex "when its present uses are abandoned." It notes that Redevelopment Plan 11-A identifies the west side of Harbor Channel (Shipyard No. 3) as a reserve for two additional container berths to support the container terminal on the east side of the channel, which is proposed to remain in use as a container port facility.

The SRSSAP policies presented below are relevant to the proposed project. For all of the reasons cited previously in this chapter under other policy discussions, the proposed project would be consistent with all of these SRSSAP policies.

⁹ South Richmond Shoreline Special Area Plan Citizens' Advisory Committee, *South Richmond Shoreline Special Area Plan, An Amendment to the City of Richmond General Plan and the San Francisco Bay Conservation and Development Commission Bay Plan*, adopted by the Richmond City Council on April 25, 1977 and by the San Francisco Bay Conservation and Development Commission (BCDC) on May 5, 1977, amended by BCDC on August 20, 1987.

Land Use Policies

Policy 1	Continue to accommodate the existing water-related industrial uses at Shipyard No. 3 as long as they remain economically attractive.
Policy 2	Promote the development of port operations or other uses permitted in the BCDC port priority use designation in Shipyard No. 3 in the event that the existing uses are terminated.

Circulation Policies

Policy 1	Undertake necessary roadway improvements in the Santa Fe Sub-Area that will facilitate or promote safe and effective movement of goods and people, especially as related to the port terminal complex.
Policy 2	Explore the possibility of combining rail lines and spurs into an efficient system of essential rail lines which will efficiently serve the industrial needs of this area and result in the least disruption of vehicular and pedestrian traffic.

Public Recreation, Other Open Space, and Public Access Policies

Policy 1	Require waterfront developments, as part of any project approval process, to provide the maximum feasible public access with adequate links to inland areas.
Policy 2	Encourage development of special public recreation facilities in the industrial areas along the Santa Fe and Harbor Channels, including observation towers or other facilities physically separated from other activities, to provide public access where otherwise unrestricted public access would create a safety hazard.
Policy 3	Provide a corridor within the Hoffman Freeway right-of-way for a regional hike/bike trail which provides access to the area at the head of the Santa Fe Channel and connects with the Inner Harbor Basin Sub-Area and the Point Richmond southern peninsula.

San Francisco Bay Trail Plan

The *Bay Trail Plan* was prepared in 1989 in response to California Assembly Bill 100 (1987), which mandated the creation of regional hiking and bicycling trail around San Francisco Bay.¹⁰ The Plan proposes the alignment for an approximately 400-mile network of recreational trails encircling San Francisco and San Pablo Bays. To date, approximately 240 miles of the trail have been completed, including 24.5 miles within the City of Richmond. When completed, the Bay Trail system will provide connections between more than 90 parks and public open space areas, as well as to a burgeoning network of “water trails” on the Bay itself.

¹⁰ Association of Bay Area Governments (ABAG) and the San Francisco Bay Trail Project, *The Bay Trail: Planning for a Recreational Ring Around San Francisco Bay*, July 1989.

A planned segment of the Bay Trail is designated for Point Potrero on the maps developed by the San Francisco Bay Trail Project to implement the *Bay Trail Plan*. As shown on Figure 4–8, this approximately 2.4-mile segment would extend from Canal Boulevard at Seacliff Drive to the tip of Point Potrero. Although this segment is not shown on Figure III–3 (Plate 6) of the *Bay Trail Plan*, it was formally adopted by the Bay Trail Board on February 10, 2005 and is included in the maps made available online by the Bay Trail Project (www.baytrail.org).¹¹

An additional future Bay Trail segment approximately 1,100 feet in length is planned to continue westward along the Point Potrero peninsula and connect with a completed Bay Trail segment alongside Brickyard Cove. As discussed in the project description (see Section 3.6, Proposed Construction, Miscellaneous Improvements), the Bay Trail segment extending to the tip of Point Potrero would be developed roughly concurrently with the Honda Port of Entry project and is considered in this EIR as part of the proposed project; the future connector trail to the west is not part of the current project. As illustrated on Figure 3–11, the planned alignment would be consistent with the conceptual alignment illustrated on Figure 4–8. Rather than terminating west of the graving docks, as shown on the conceptual alignment, the planned alignment would extend further east, wrapping around the graving docks and terminating at Berth 6A, where the historic *SS Red Oak Victory* ship is currently berthed. The trail would provide access to the ship, as well as the historic whirly crane located on the east side of the graving docks, both part of the Rosie The Riveter WWII Home Front National Historical Park.

The *Bay Trail Plan* contains policies to guide implementation of the planned trail system that fall into one of the following five categories: trail alignment, trail design, environmental protection, transportation access, and implementation. The following policies would be relevant to the proposed project:

Trail Alignment Policies

Policy 3 Locate trail, where feasible, close to the shoreline.

Consistency: As shown on Figure 3–11, the planned trail segment would be adjacent to the southern shoreline of Point Potrero. It is not feasible for the trail to come down the eastern side of the peninsula, adjacent to Harbor Channel, due to both logistical constraints of ship berthing and unloading operations as well as Homeland Security restrictions. The planned trail would be consistent with Trail Alignment Policy 3.

¹¹ Laura Thompson, Bay Trail Project Manager, Association of Bay Area Governments (ABAG), personal communication, March 12, 2008.

Trail Design Policies

Policy 12	Provide access wherever feasible to the greatest range of trail users on each segment.
Policy 13	Wherever possible, new trails should be physically separated from streets and roadways to ensure the safety of trail users.
Policy 14	Create a trail that is as wide as necessary to accommodate safely the intended use, with separate alignments, where feasible, to provide alternative experiences.
Policy 15	Highlight the interpretive potential of certain trail segments, including opportunities for interpretation, education, rest and view enjoyment.
Policy 16	Incorporate necessary support facilities, using existing parks, parking lots, and other staging areas wherever possible.
Policy 17	Design new segments of trail to meet the highest practical standards and regulations, depending on the nature and intensity of anticipated use, terrain, existing regulations, and standards on existing portions of the trail.

Consistency: The planned trail would be a paved two-way multi-use trail that would be available to hikers and bikers, and would provide disabled access. Although detailed construction plans have not been completed, it is anticipated that in some segments, a physical barrier would separate the trail from the roadway, while on some segments separation would be created by pavement striping similar to that used on Class II bikeways; these variations will be dictated by safety concerns, with the overall design intended to maximize the safety of trail users. Through most of its alignment, except where constrained in some locations by physical obstacles, the trail would be 14 feet wide, which would safely accommodate two-way use by hikers, bikers, and wheelchair users. A variety of interpretive signs are planned to complement the Bay Trail logo signs that would be placed at strategic locations along the trail. Rest areas with benches would also be placed at several points along the trail, including both the east and west sides of the graving docks, where trail users would enjoy views of the Bay and nearby Brooks Island. The planned trail would therefore be consistent with Trail Design Policies 12 through 17.

East Bay Regional Park District Master Plan

The East Bay Regional Park District (EBRPD) provides and manages regional parks and trails in Alameda and Contra Costa counties that are intended to conserve open space and cultural resources and provide outdoor recreational opportunities. The District's *Master Plan 1997* identifies the existing and planned parks and trails within its service area and establishes policies and guidelines for maintaining District standards of service in resource conservation, management, interpretation, public access, and recreation.

As identified in the Master Plan, it is District policy to expand its comprehensive trail system by providing more hiking and equestrian narrow trails and more multiple-use paved and unpaved trails, and particularly to provide inter-connecting trails and linkages

to the regional parks through a District-wide system of trails. The Master Plan identifies nearly 50 potential EBRPD trails that could be added to the existing trail network. This includes numerous sections of the San Francisco Bay Trail, including the Pt. Isabel to Miller/Knox segment.

A portion of the Pt. Isabel to Miller/Knox segment has been completed which extends from Pt. Isabel to the east side of the Ford Assembly Building on the Ford Peninsula. The conceptual alignment illustrated on the Master Plan trail map passes north of the Richmond Inner Harbor and Santa Fe Channel, then turns south along Canal Boulevard and west along Seacliff Drive to Miller/Knox Regional Shoreline Park. (A more refined alignment has been planned, as illustrated in the preceding discussion on the Bay Trail.) This conceptual alignment does not include a spur trail into the PPMT as shown on the current Bay Trail Plan Map (see Figure 4-8). The proposed project would not conflict with the planned trails shown on the EBRPD trail map.

Two existing EBRPD facilities are located in close proximity to the project site: Miller-Knox Regional Shoreline, located about 500 feet west of the northern panhandle area of the PPMT, and Brooks Island Regional Preserve, located about 1,600 feet south of the PPMT. Miller-Knox is a 307-acre park with hiking trails and a shoreline park with picnic facilities and restrooms. The park includes a fishing pier and the historic ferry terminal at Ferry Point, located at the southwest tip of the Point Potrero peninsula. The 75-acre Brooks Island (373 acres including surrounding water property) is a bird sanctuary owned and managed by the EBRPD. The western spit of Brooks Island defines the western approach of the Harbor Channel, also known as Potrero Reach. The proposed project would not adversely affect either of these park facilities.

All of the EBRPD Master Plan policies were reviewed during preparation of this EIR; the majority of the policies are not applicable to the proposed project. The project would be consistent with the following relevant unnumbered policies:

- ◆ The District will expand its comprehensive trail system by providing more hiking and equestrian narrow trails and more multiple-use paved and unpaved trails. A primary objective will be to provide inter-connecting trails and to link the regional parks through a District-wide system of trails. [The policy references the Regional Parkland and Trail Map and a map of Potential Major Regional Trail Routes.]
- ◆ Regional Trails will connect to regional parks or trails to each other; to parks and trails of other agencies; or to areas of unusual scenic beauty, vista points, San Francisco Bay, Delta or lake shoreline, natural or historic resources, or similar areas of regional significance. Regional Trails may also connect regional parks and trails to important

destinations such as transit centers, schools, colleges, civic centers, large commercial complexes, or residential areas. A regional water trail may provide a water connection with launching and landing sites for small watercraft to points along the San Francisco Bay shoreline and/or the Sacramento/San Joaquin River and Delta.

- ◆ The District encourages the creation of local trail networks that provide additional access points to the regional parklands and trails, that help to provide loop trail experiences, and that connect the regional system to the community. The District will support other agencies in completing local trail networks that complement the Regional Trail system and will coordinate with local agencies to incorporate local trail connections into District brochures.
- ◆ Regional Trails may be part of a national, state, or Bay Area regional trail system. The District will cooperate with other agencies and organizations to implement these multi-jurisdictional efforts.

City of Richmond Zoning Ordinance

Site Zoning and Permitted Uses

As shown on Figure 4-9, the majority of the project site is zoned M-4 (Marine Industrial), consistent with the General Plan designation of the site. An area west of Canal Boulevard encompassing two parking lots and the historic cafeteria building (Building 23) is zoned M-3 (Heavy Industrial). The central portion of the PPMT site, encompassing all of the historic buildings, has an Historic Resource Overlay on the base zoning. The Zoning Ordinance does not establish development regulations for this overlay district and does not otherwise address or define the Historic Resource Overlay district. (The preservation of historic resources on the site is addressed in Chapter 9, Cultural Resources.)

The M-4 zoning district is intended to create, preserve, and enhance areas containing a wide range of municipal or private maritime uses, such as marine terminals, cargo handling, ancillary manufacturing, or related establishments in areas having extensive rail or transport facilities. Manufacturing uses that are dependent on direct port access for import and export of raw materials and finished products are also found in the M-4 district. As shown on the zoning map (Figure 4-9), the M-4 zone encompasses land area around the Santa Fe and Harbor Channels, and the M-4 zoning regulations are intended to strengthen the unique physical and environmental quality of these areas, as extensions of San Francisco Bay. They are also intended to ensure the aesthetic quality of new development and ensure the compatibility of such development with nearby residential areas.

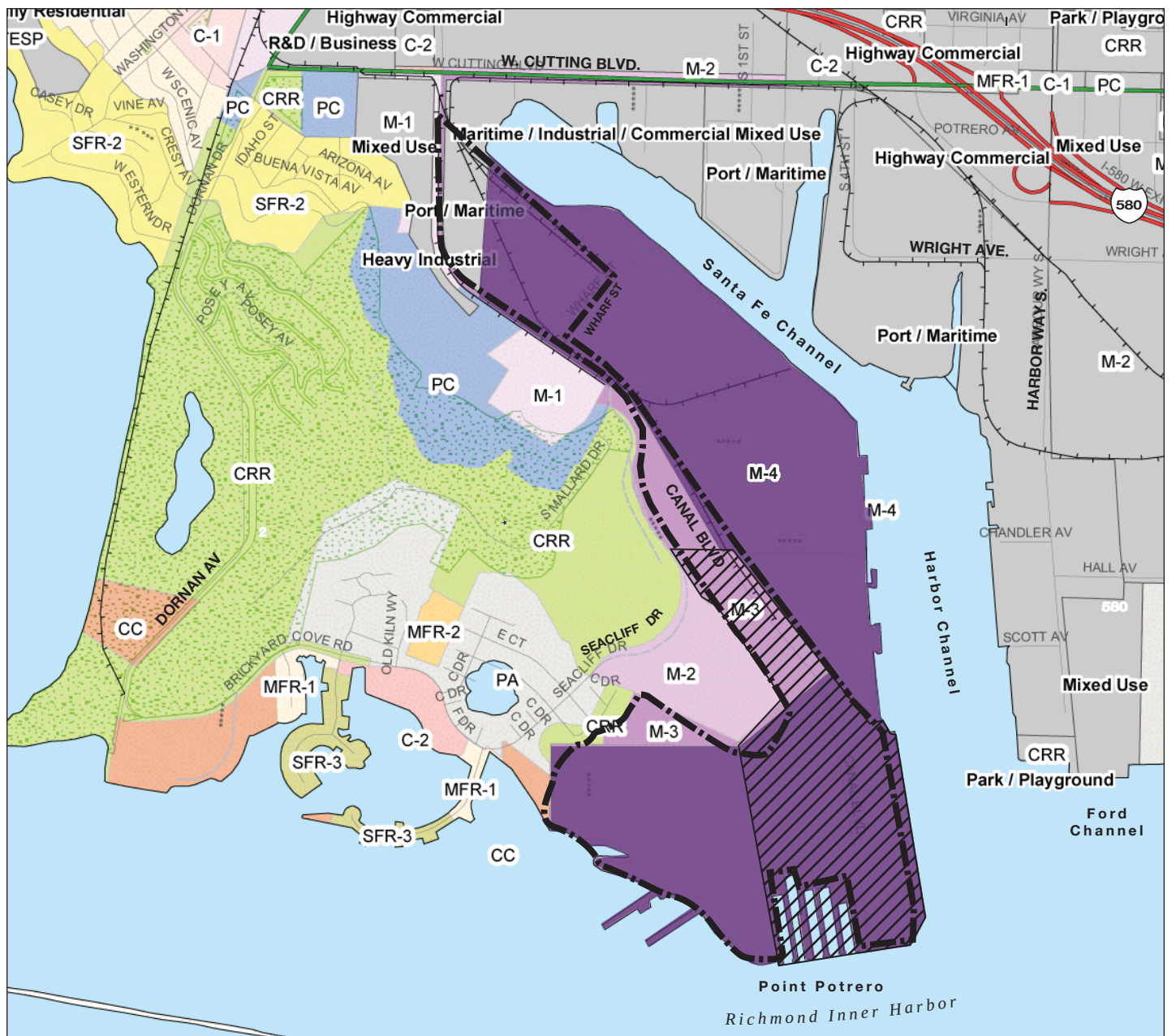
Permitted uses in the M-4 district include port/marine terminal (including petroleum storage facilities); various manufacturing facilities dependent upon port access (e.g., apparel; food; leather and leather products, except tanning and finishing; lumber and

wood products; professional, laboratory, and photographic equipment; stone, clay, and glass products); transportation, public utilities, and communications facilities; wholesale trade of durable goods (e.g., furniture, lumber, motor vehicles, motor vehicle parts and supplies); and civic, public, and semi-public uses. Many additional uses are allowed as conditional uses (i.e., subject to a Conditional Use Permit from the Planning Commission), such as industrial uses; construction contractors; manufacturing dependent upon port access (e.g., fabricated metals industries, furniture and fixtures, industrial and commercial machinery, paper products, textile products, ship building); warehousing; communications facilities; local and interurban passenger transit; and various commercial uses, including business services, commercial filming and recording studios, eating establishments, and massage establishments. The transportation facilities permitted by right include marine cargo handling and deep sea transportation of freight; the proposed project would be consistent with these permitted uses.

The M-3 (Heavy Industrial) zone is intended to create, preserve and enhance areas containing a wide variety of industrial uses, including but not limited to manufacturing and related establishments which are potentially incompatible with most other establishments. M-3 zones are generally found in areas that are distant from residential areas and which provide a wide variety of sites with good rail and highway access.

Permitted uses in the M-3 district include a wide variety of construction, manufacturing, transportation, warehousing, wholesale trade, miscellaneous repair, public safety, agricultural, commercial, and other uses. A wide variety of conditional uses may be permitted by the Planning Commission in the M-3 district, including manufacturing that involves the use of hazardous materials, quarrying and rock crushing, recycling facilities, and much more. Included in the list of explicit conditional uses, under Water Transportation, are “marine cargo handling” and “deep sea transportation of freight.”¹² A major component of the proposed project entails marine cargo handling and the deep sea transportation of freight (i.e., the shipment of Honda automobiles from Japan). However, another substantial component of the project entails rail shipment of new autos from the Midwest to the PPMT and their distribution throughout northern California by truck. This use would be consistent with the “motor freight, railroad and truck transportation” use that is permitted by right within the M-3 zone. Thus, while any processing of imported Japanese-built autos within the M-3 zone would require approval of a Conditional Use Permit (CUP), processing of the domestically-built autos only within the M-3 zone would not require a CUP. Accordingly, Staff is recommending that the Design

¹² City of Richmond, *Zoning Ordinance*, Section 15.04.330.040, updated January 2007.



Legend

--- PROJECT BOUNDARY

ZONING

C-1	MFR-1
C-2	MFR-2
CC	PA
CRR	PC
M-1	SFR-2
M-2	SFR-3
M-3	Parks and Other Public Areas
M-4	Specific Plan
	Historic Resource

RESIDENTIAL

SFR-2	Single Family Very Low Density Residential
SFR-3	Single Family Low Density Residential
MFR-1	Multi-family Residential
MFR-2	Multi-family Medium Density Residential

COMMERCIAL & INDUSTRIAL

C-1	Neighborhood Commercial
C-2	General Commercial
CC	Coastline Commercial
M-1	Industrial/Office Flex
M-2	Light Industrial
M-3	Heavy Industrial
M-4	Marine Industrial

PUBLIC

PC	Public & Civic Uses
PA	Planned Area

OPEN SPACE

CRR	Community & Regional Recreational

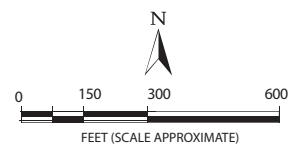


Figure 4-9

Zoning Districts in Project Vicinity

Source: City of Richmond GIS

Review Board adopt a condition of approval that would restrict project operations within the portion of the PPMT zoned M-3 to the storage and loading of domestically-produced autos only.

Development Regulations

The following general development standards apply to the M-4 Marine Industrial and M-3 Heavy Industrial zoning districts:

Minimum Lot Area:	none
Maximum Building Height	75 feet ¹³
Front-Yard Setback	10 feet (from minor street) 25 feet (from collector street)
Side-Yard Setback	none ¹⁴
Rear-Yard Setback	none ¹⁵

The allowable floor area ratio (FAR) is 0.5 in the M-4 district and 0.65 in the M-3 district. These standards are set by Sections 15.04.340.050 and 15.04.330.050, respectively, of the Zoning Ordinance. Sections 15.04.340.055 (M-4) and 15.04.330.055 (M-3) establish for both of these zoning districts additional standards for exterior development, which is defined as exterior activities (such as outdoor processing, assembly, or fabrication of goods, and maintenance, repair, and salvage of equipment) and exterior storage (such as outdoor storage of raw or finished goods, including gases, ore, chemicals, gravel, building materials, packing materials, salvage goods, machinery, equipment, damaged vehicles, etc.). Based on this list of defined exterior activities, the proposed project, which would entail short-term storage of new vehicles, including vehicles damaged in transit, would appear to be subject to the following exterior development standards, which are identical for the M-3 and M-4 districts.

For exterior development in an M-4 or M-3 district, Sections 15.04.340.055/15.04.330.055 require landscaped setbacks of 10 feet from a minor street and 25 feet from a collector street. No rear or side setbacks are required unless the property lines abut a street, in which case the street setbacks listed above would apply. Specific requirements pertaining to the nature, type, and design of landscaping required by these sections are set forth in

¹³ The height limit is 35 feet within 100 feet of shoreline, a public park, recreational trail, recreational right-of-way, or residential development. The Planning Commission may allow up to 75 feet plus appurtenances with approval of a Conditional Use Permit.

¹⁴ A 10-foot side yard (5 feet with a solid fence) is required when abutting residential, public park, recreational trail, recreational right-of-way, or residential development.

¹⁵ A 15-foot rear yard is required when abutting residential, public park, recreational trail, recreational right-of-way, or residential development.

Section 15.04.820.013 of the Zoning Ordinance. Although Section 15.04.820.013 appears to require a 6- to 8-foot-high solid screen along side and rear property lines and a 6- to 8-foot-high solid wall where they abut residential parcels and recreational amenities, an alternative approach could be approved by the development review organization (DRO), presumably as part of the Design Review Approval process. The DRO will also verify conformance with the requirements of Sections 15.04.340.050 and 15.04.330.050, discussed above.

The City may require aesthetic improvements along the existing and/or realigned portions of the fence encircling the PPMT as a condition of Design Review approval. Such improvements could include painting the fence and support posts with a dark-colored matte finish, planting vines to grow on the fence, or installing trees, hedge plants, or shrubs along the fence. Improvements such as these would improve the aesthetic experience of hikers on the planned Bay Trail segment. However, the aesthetic benefit to residents living in the Seacliff and Brickyard Cove developments to the west would be much more limited, due to the distance from the western fence to these receptors.

Performance Standards

Uses in the M-4 Marine Industrial and M-3 Heavy Industrial zoning districts must comply with the performance standards delineated in Section 15.04.840 of the Zoning Ordinance. This section establishes performance standards related to noise, odor, particulate matter, air contaminants, lighting, glare, tree preservation, creek protection, design standards, fire hazards, liquid or solid waste, sidewalks, street trees, construction operations, screening of activities and equipment, and maintenance. The requirements pertaining to noise, odor, particulate matter, air contaminants, and construction operations are addressed in Chapter 6, Air Quality, and/or Chapter 7, Noise. The standards related to lighting and glare are addressed in Chapter 13, Visual Quality. Although the proposed project is not expected to conflict with any of the other applicable performance standards in Section 15.04.840, this would be subject to verification by the Planning Department during the development review process.

Parking Requirements

The City of Richmond's parking and loading requirements, including those applicable to M-4 and M-3 zoning districts, are established in Section 15.04.850 of the Zoning Ordinance. The regulations establish standards related to parking space dimensions, parking lot design and layout, required number of spaces, landscape design, and more. In M-4 and M-3 districts, surface parking lots larger than 20,000 square feet are required to be paved and set back at least 5 feet from minor public streets and at least 25 feet from collector streets.

Section 15.04.850.050 requires all industrial off-street parking areas to be provided with drought-resistant landscaping over at least 10 percent of the parking lot area, with at least 50 percent of the landscaping located on the interior of the parking lot area. Section 15.04.850.060 establishes parking requirements for Heavy Industrial (Manufacturing) and Marine Industrial (Manufacturing) uses. It is not clear how these requirements would apply to the proposed project. The number of required spaces are as follows:

Heavy Industrial (Manufacturing): 1 parking per 1,500 square feet (sf) for the first 30,000 sf, then 1 space per each additional 2,000 sf

Marine Industrial (Manufacturing): 1 parking per 1,000 sf for the first 20,000 sf, then 1 space per each additional 1,500 sf

The auto storage areas on the project site do not constitute parking in the traditional sense, and they may not be subject to the parking and landscaping requirements established in Section 15.04.850. Furthermore, the project would not entail the construction of new buildings (other than a relocated guard house), so the parking requirements established in Section 15.04.850.060 may not apply. Although there appears to be some potential for the proposed project to be non-compliant with one or more of the requirements established in Section 15.04.850, the Design Review Board (DRB) must find that the project complies with all applicable provisions of the Zoning Ordinance prior to approving a Design Review application. A detailed review of the project's conformance with all zoning regulations will be performed by Planning staff and summarized in a Staff Report to the DRB before consideration of the Design Review application comes before the DRB. Staff will recommend conditions of approval, as warranted, to ensure compliance with the Zoning Ordinance. These institutional procedures already in place will ensure that the project complies with the applicable provisions of the Richmond Zoning Ordinance.

4.3 STANDARDS OF SIGNIFICANCE

The *CEQA Guidelines* indicate that a significant adverse land use and planning impact would result if a project would: (a) physically divide an established community; (b) conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or (c) conflict with any applicable habitat conservation plan or natural community conservation plan. These standards of significance are adopted for purposes of this EIR. In addition, based on the intent of the *CEQA Guidelines*, this analysis considers substantial incompatibility with established land uses in the project vicinity to constitute a significant impact.

4.4 IMPACTS AND MITIGATION MEASURES

Impact 4-1

The proposed project would be inconsistent with *Richmond General Plan* policies requiring compliance with adopted air quality standards and protection of the public from the adverse health effects of air pollution. (SU)

Land Use Element Policy LU-O.5 calls for the City to use established standards to limit industrial activities which may be objectionable due to odors, noise, fumes or other emissions. The Open Space and Conservation Element of the General Plan promulgates Goal OSC-P, which calls for the preservation of air quality so that air pollution levels do not threaten public health and safety, and Policy OSC-P.1, which states “(O)nly approve projects that will comply with applicable regulations and will not exceed air quality standards.” As discussed in detail in Chapter 6, Air Quality, the air emissions from project operations would exceed the Bay Area Air Quality Management District’s (BAAQMD) significance thresholds for nitrogen oxides. Although mitigation has been identified to reduce the impact on regional air quality, implementation of mitigation would not be sufficient to reduce the project’s air emissions to within the BAAQMD thresholds. The impact has therefore been identified as significant and unavoidable. Because the project would exceed applicable air quality standards and could therefore potentially threaten public health and safety, the project would be inconsistent with Goal OSC-P and Policies OSC-P.1 and LU-O.5. Because no feasible mitigation has been identified to render the project in compliance with the BAAQMD’s standard for nitrogen oxides, this conflict with these policies would also be a *significant and unavoidable impact*.

Mitigation Measure 4-1

None feasible.

Impact 4-2

The proposed project would be inconsistent with *Richmond Coastline Plan Public Access Policy 1*, which call for permanently guaranteed access to the shoreline. (LTSWM)

Although the proposed project would accommodate and facilitate construction of a planned segment of the San Francisco Bay Trail, which would provide public access to the Bay shoreline adjacent to the PPMT, the Port of Richmond is legally precluded from providing a binding guarantee of permanent access. As a secured international port facility, the PPMT is governed by rules and regulations of the U.S. Coast Guard, U.S. Customs, and Department of Homeland Security. The regulations set by these agencies

require the Port to maintain flexibility in the alignment of roads and trails in case new security measures require their re-alignment. For this reason, the Port of Richmond is legally precluded from guaranteeing permanent access by dedicating an easement, granting fee title, or other binding mechanism. Therefore, although the planned Bay Trail segment would provide public shoreline access and would be consistent with other provisions of the *Richmond Coastline Plan*, as well as numerous other planning documents calling for public shoreline access, it would still conflict with Public Access Policy 1. However, the adopted language of Policy 1 reads “Require that all new major waterfront developments provide a *reasonable degree* of free permanently guaranteed access to the shoreline . . .” [emphasis added]. Implementation of Mitigation Measure 4–2 would satisfy this criterion for shoreline access guaranteed to a reasonable degree. This would therefore be a *significant impact* but would be mitigated to a *less-than-significant* level through implementation of the following mitigation measure:

Mitigation Measure 4–2

The Port of Richmond shall maintain permanent public access to the shoreline and historic sites on the PPMT to the greatest extent feasible while complying with federal security regulations. If relocation of the planned Bay Trail Segment is required in the future due to national security concerns or for other reasons, the Port shall provide alternative shoreline access and, if feasible, alternative access to the historic resources at the PPMT.

Impact 4–3

The proposed project would conflict with *San Francisco Bay Area Seaport Plan* policies identifying the project site as a future container cargo port facility. (LTS)

Continued long-term operation of the PPMT as an automotive processing facility, as intended by the proposed project, would conflict with several policies established in the San Francisco Bay Conservation and Development Commission’s *San Francisco Bay Area Seaport Plan* that identify Terminals 5, 6, and 7 (the finger piers, graving docks, and large ship berths at the PPMT, respectively) as a 3-berth container cargo terminal by the year 2020. Marine Terminal Policy 2 states that future marine terminals should be developed for the type of cargo specified in Part II of the Seaport Plan, which identifies Point Potrero as a future container cargo terminal. Marine Terminal Policy 6 states that by 2020 each port and port priority use area should have the number of berths shown in Table 6 of the Plan, which indicates a total of 12 berths, including 5.5 container berths, for the Port of Richmond. Port of Richmond Policy 1 states that by the year 2020 the Port of Richmond should have the annual cargo throughput capabilities shown in Table 15 of the Plan, which lists a total expected optimum annual throughput of 2.28 million metric tons at the PPMT. Port of Richmond Policy 6 states that Terminals 5, 6, and 7 should be combined into a 3-berth container terminal with near-dock intermodal rail facilities, which would require 15 acres of fill in the graving docks (Terminal 6) and 18 acres of fill at Terminal 5

(the finger piers) to create the intended 140-acre container terminal. Implementation of the proposed project would preclude compliance with each of these policies.

Although the proposed project would be inconsistent with these Seaport Plan policies calling for the future use of the PPMT as a container cargo terminal, it would be consistent with many City of Richmond policies that stipulate the use of the Port property for the type of automotive import and distribution activities currently present on the site and proposed for continued use and expansion under the project proposal. With the exception of the unrelated policy conflicts identified in Impacts 4-1 and 4-2, the project would be consistent with the *Richmond General Plan*, the Redevelopment Plan for the Harbour Channel area, the *South Richmond Shoreline Special Area Plan*, the *Richmond Coastline Plan*, and the *San Francisco Bay Plan* (with the exception of one policy referencing the Seaport Plan, the subject of this discussion). Furthermore, as discussed above, in June 2007 the Richmond City Council adopted the Port of Richmond Strategic Business Plan, which asserts the City's intention to operate the PPMT as an international automotive distribution facility, capitalizing on almost 20 years of experience with this niche cargo operation, as well as the facility's strategic location with respect to a regional truck and rail distribution network.

Marine Terminal Policy 2 of the Seaport Plan notes that if a port or terminal operator proposes to use a terminal for a cargo other than that designated in the Seaport Plan, the project proponent must demonstrate to the Seaport Planning Advisory Committee that the proposed project does not prevent Bay Area ports from achieving adequate cargo throughput capability to meet the 2020 projections. In reviewing such requests, the Seaport Planning Advisory Committee will make use of the cargo monitoring data that is collected as part of the implementation of the Seaport Plan.

Development of Point Potrero as a container cargo port facility would create a variety of new significant adverse environmental effects, including impacts related to noise, air quality, stormwater, aesthetics, rail and truck traffic, and operations impacts. Given the increasing encroachment of residential development around the western portion of the PPMT in recent years, with additional, closer development currently planned, a highly industrial cargo container facility at Point Potrero would not be a compatible land use with these existing and planned residential uses. As previously set forth in Section 4.3, the *CEQA Guidelines* indicate that a conflict with any applicable land use policy adopted for the purpose of avoiding or mitigating an environmental effect would constitute a significant adverse planning impact. Because the Seaport Plan policies referenced above were adopted for purposes of economic development and not environmental protection, and further, because compliance with the policies would create new significant impacts to the environment and worsen existing impacts, the project's inconsistency with the Seaport Plan policies listed above would be a *less-than-significant impact*. Although no

mitigation is required pursuant to CEQA, implementation of the following measure is recommended to further reduce the significance of this impact:

Mitigation Measure 4–3

As part of the application for a development permit from the San Francisco Bay Conservation and Development Commission (BCDC), the project sponsor should provide data to the Seaport Planning Advisory Committee of BCDC that demonstrate that implementation of the proposed project would not prevent Bay Area ports from collectively achieving the 2020 cargo projections contained in the San Francisco Bay Area Seaport Plan.

Although the City cannot require implementation of Mitigation Measure 4–3 as part of the certification of this EIR, the City does intend to require its implementation as a condition of the Design Review approval required for the project.

CUMULATIVE IMPACTS

The *CEQA Guidelines* define cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.¹⁶ The cumulative impact from several projects is defined as the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.¹⁷ Although cumulative land use impacts occur at a localized level, secondary cumulative impacts associated with the land use development may occur at a regional scale.

Although the Honda Port of Entry project is a local project, due to its transportation-oriented nature, it would have regional impacts, both individual and cumulative, that are addressed in other chapters of this EIR, such as Chapter 5, Traffic and Transportation, and Chapter 6, Air Quality. From a land use standpoint, implementation of the project would not result in a significant cumulative impact because it would not substantially change the existing land uses on the PPMT and BNSF sites and would not expand the sites or add new development outside the site boundaries. While one may argue that continued development of the Point Potrero peninsula creates a significant cumulative impact related to the loss of open space on the peninsula, the proposed project's contribution to this effect would not be cumulatively considerable; in fact, it could be asserted that there would be no project contribution to this impact.

¹⁶ *CEQA Guidelines*, Section 15355.

With respect to the planning and policy conflicts identified in this chapter, these are project-specific impacts, but the project would not combine with other existing, planned or anticipated projects in the area so as to result in significant cumulative impacts related to these policy conflicts. While Impact 4-1 identifies project conflicts with General Plan policies calling for the preservation of air quality and approval only of projects that will not exceed air quality standards, there is no cumulatively considerable effect of other projects conflicting with these policies. In contrast, the project's actual physical impacts on air quality would indeed be cumulatively considerable, as addressed in detail in Chapter 6, Air Quality. Similarly, Impact 4-2 would be limited to a project-specific impact. Other existing and planned developments along the South Richmond shoreline have provided or will be required to provide guaranteed permanent shoreline access; they would not be constrained by federal regulations from providing these guarantees, as is the case with the proposed project. Finally, the policy conflicts identified in Impact 4-3 relate to economic development, not environmental protection. Under CEQA, there is therefore no potential for a significant cumulative environmental impact related to these policy conflicts.

In conclusion, there are no other planned or anticipated projects in the area that would have the potential to combine with the project-specific land use impacts to result in significant cumulative impacts. No other land use or policy impacts have been identified with the potential to cumulatively combine with other local or regional projects. There would therefore be no cumulative land use impacts associated with implementation of the project.

¹⁷ CEQA Guidelines, Section 15355(b).

5. TRANSPORTATION/CIRCULATION

5.1. INTRODUCTION

This chapter is based on a transportation impact study by PHA Transportation Consultants completed in March 2008 and on marine transportation research conducted by Philip Williams and Associates.¹ This chapter provides information on the analysis of the traffic impacts of the proposed Honda Port of Entry project, including impacts on local streets and intersections and on the regional freeway interchange that would be utilized by project-generated traffic, as well as impacts related to ship and rail traffic. The analysis also evaluates effects related to public transit operations, bicycle facilities, site access, site circulation, and parking.

Additionally, the study evaluated the following traffic-related issues raised during the public scoping meeting:

- train traffic and potential blocking of vehicular traffic at at-grade crossings;
- emergency access at railroad crossings;
- sight distance problem at the intersection of Canal Boulevard and Seacliff Drive; and
- truck traffic impact and the potential impact and damage on Canal Boulevard.

5.2 VEHICLE TRAFFIC SETTING METHODOLOGY

Traffic operations were analyzed for the following five land use development scenarios:

- Scenario 1:** *Existing Conditions* – Existing peak-hour traffic volumes obtained from counts conducted in early December 2007.
- Scenario 2:** *Background Conditions* – Existing peak-hour volumes plus growth from both approved, but not yet constructed, developments and other anticipated probable projects in the vicinity of the proposed project that would be completed in the near-term future.
- Scenario 3:** *Background Plus Project Conditions* – Background Conditions with the addition of project-generated traffic.

¹ PHA Transportation Consultants, *Honda Port of Entry Traffic Study* (draft), March 2008.

Scenario 4: *Cumulative Year 2030 Conditions* – Future traffic volumes from cumulative traffic based on volume projections from the Contra Costa Transportation Authority's (CCTA) 2030 traffic model for the region.

Scenario 5: *Cumulative Year 2030 Plus Project Conditions* – Future cumulative traffic volumes (Scenario 4) with the addition of project-generated traffic.

Eleven study intersections most likely to be affected by the project were analyzed under Scenarios 1 through 5 during the weekday AM and PM peak-hour traffic conditions. The intersections and their lane configurations are shown on Figure 5-1. The study intersections, which are all currently signalized, include:

1. Canal Boulevard/Seacliff Drive (One-way stop control)
2. Canal Boulevard/Wharf Street (One-way stop control)
3. Canal Boulevard/Cutting Boulevard (Signalized)
4. Canal Boulevard/EB I-580 on off-ramps (Signalized)
5. Canal Boulevard/WB I-580 on off-ramps (Signalized)
6. Richmond Pkwy-Garrard/Ohio Avenue (Signalized)
7. Richmond Pkwy-Macdonald Avenue (Signalized)
8. Richmond Pkwy/Barrett Avenue (Signalized)
9. Harbour Way/Cutting Boulevard (Signalized)
10. West Cutting Boulevard/Wine Street (One-way stop control)
11. West Cutting Boulevard/South Garrard Boulevard (4-way stop control)

In addition, average daily traffic (ADT) counts were conducted on the following roadways, also shown on Figure 5-1:

1. West Cutting Boulevard (west of Canal Boulevard).
2. West Cutting Boulevard (east of Canal Boulevard).
3. Canal Boulevard (south of West Cutting Boulevard).
4. Wharf Street (east of Canal Boulevard)
5. Canal Boulevard (north of PPMT entrance gate)
6. Seacliff Drive (west of Canal Boulevard)
7. Dornan Drive (west of Brickyard Cove Road)
8. South Garrard Boulevard (north of West Cutting Boulevard)
9. South Garrard Boulevard (south of West Cutting Boulevard)
10. Freeway I-580 (west of Canal Boulevard)
11. Freeway I-580 (east of Canal Boulevard)

Intersection and roadway operations were analyzed during peak weekday traffic conditions, referenced as the AM and PM peak hours. These periods often correspond to

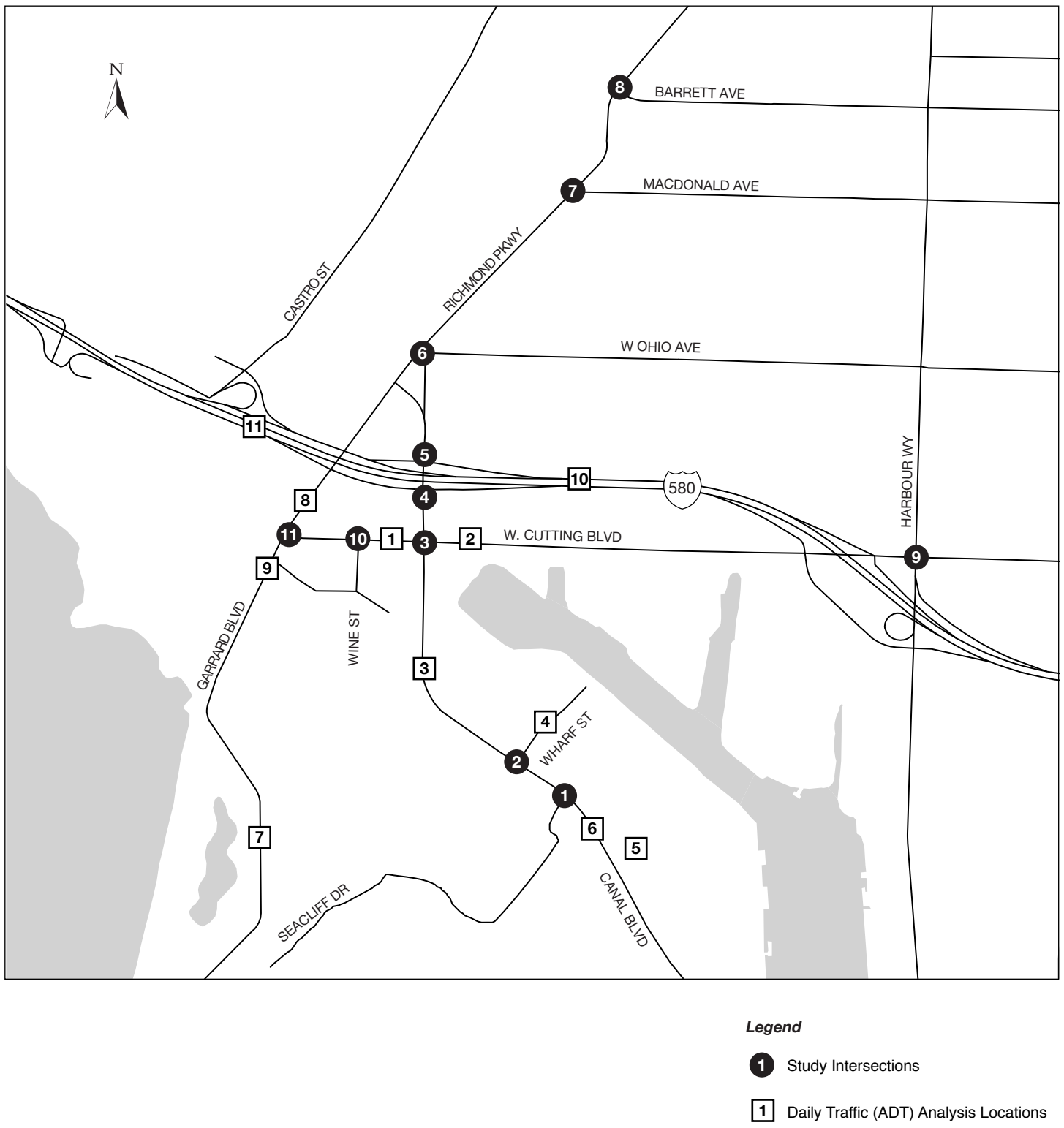


Figure 5-1

Traffic Study Intersections

Source: PHA Transportation Consultants

two-hour commute periods; within the City of Richmond, they are defined as the highest four consecutive 15-minute periods occurring between 7:00 a.m. and 9:00 a.m. for the AM peak hour and between 4:00 p.m. and 6:00 p.m. for the PM peak hour. Within the project study area, these periods vary by intersection, but generally occur between 7:45 a.m. and 8:45 a.m. and between 4:45 p.m. and 5:45 p.m. for the AM and PM peak hours, respectively. Traffic counts for the eleven study intersections were collected during a typical AM and PM peak period in early December 2007.

Quantitative Level of Service (LOS) analyses were performed for the signalized study intersections using the Contra Costa Transportation Authority's (CCTA) adopted methodology and computer software, with LOS determined based on the volume-to-capacity (V/C) ratio for the intersection as a whole. Traffic LOS at unsignalized intersections was determined using the SYNCHRO analysis software, based on the 2000 *Highway Capacity Manual* (HCM) methodologies published by the Transportation Research Board. At the unsignalized intersections, LOS was determined based on delays for approaches controlled by either stop signs or yield signs to traffic from the other directions.

EXISTING ROADWAY NETWORK

The local road network, shown on Figure 5-1, includes the following roadways:

Interstate 580 (I-580) is a six-lane east/west regional freeway running between U.S. 101 in Marin County and Interstate 5 south of Tracy, connecting the cities of Richmond, Albany, Berkeley, Oakland, San Leandro, Hayward, Pleasanton, Dublin, and Livermore. It provides ramp access near the project site via on/off-ramps at Canal Boulevard and Garrard Boulevard-Richmond Parkway. 2006 Caltrans' traffic data indicated I-580 near Canal Boulevard carried about 71,000 vehicles daily during the peak month. According to the project proponent, most auto carrier trucks would use I-580, in conjunction with I-80 and U.S. 101, to distribute new Hondas to Northern California dealerships.

Richmond Parkway is a four- to six-lane arterial street linking I-80 near Hilltop Drive with I-580 at the Castro Street and Canal Boulevard interchanges near the Richmond San Rafael Bridge. The average daily traffic volume count south of Gertrude Avenue is about 36,500 vehicles, according to a 2007 traffic count. Some of the employee traffic associated with the proposed project may use this route to access the PPMT site, and some of the auto carrier trucks could use Richmond Parkway to travel to and from I-80.

Cutting Boulevard is a four-lane, east/west arterial street that runs between El Cerrito in the east and Garrard Boulevard in the west. Parking is permitted on both sides of the street. The average daily traffic volume west of Canal Boulevard is about 5,770 vehicles. The

average daily traffic volume east of Canal Boulevard is about 6,830 vehicles. According to the project proponent, auto carrier trucks associated with the project are not expected to use Cutting Boulevard as their distribution routes. However, some facility employees and longshoremen used to unload ships may use this route to access the PPMT.

South Garrard Boulevard is a four-lane north/south collector street connecting Richmond Parkway and West Cutting Boulevard. Neither employee nor auto carrier trucks are expected to use this route to access the PPMT facility. The ADT on South Garrard Boulevard is about 2,200 vehicles north of West Cutting Boulevard. South of Cutting Boulevard, the daily traffic is about 5,325 vehicles.

Canal Boulevard is a four-lane collector street connecting Richmond Parkway, I-580, and the PPMT facility. It is a four-lane roadway between Richmond Parkway and Seacliff Drive, but transitions down to two lanes between Seacliff Drive and the PPMT facility. The ADT on Canal is about 7,895 vehicles south of West Cutting Boulevard. South of Seacliff Drive the ADT is about 5,500 vehicles.

INTERSECTION LEVELS OF SERVICE

Level of Service Definitions

The operations of roadway segments and intersections are described with the term “level of service.” Level of service (LOS) is a qualitative assessment of the motorists’ and passengers’ perceptions of traffic conditions. The LOS generally reflects driving conditions such as travel time and speed, freedom to maneuver, traffic interruptions, comfort, and convenience—even though it uses quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the users’ perceptions and expectations vary by roadway type. Six service levels are defined by the Transportation Research Board, designated by letters ranging from “A” for most favorable to “F” for least favorable, with each representing a range of conditions. LOS A represents free-flow conditions, while LOS E corresponds to conditions nearing “at-capacity” operations. When volumes are at capacity or exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

The LOS ratings are based on length of delay at the intersection during peak travel periods. The intersection LOS can be calculated using several different methods; the methods differ by the type of facility being analyzed and the level of detail required for the analysis. As previously noted, the analysis summarized in this chapter utilized the CCTA methodology for signalized intersections and the 2000 *Highway Capacity Manual* (HCM) Operations method for unsignalized intersections. The resulting LOS calculations for all scenarios are

presented in Appendix C. Thresholds defining the six Levels of Service, as established in the 2000 HCM, are presented in Table 5-1.

Table 5-1
Intersection Level of Service Thresholds

Level of Service	Critical Volume-to-Capacity Ratio (for Signalized Intersections) ¹	Control Delay per Vehicle (Seconds) (for Unsignalized Intersections) ²
A	0.0–0.60	0.0–10.0
B	0.61–0.70	10.0 to 15.0
C	0.71–0.80	15.1 to 25.0
D	0.81–0.90	25.1 to 35.0
E	0.91–1.00	35.1 to 50.0
F	> 1.00	> 50.0

Source: Contra Costa Transportation Authority (CCTA); Transportation Research Board, 2000.

¹ Based on Contra Costa Transportation Authority (CCTA) methodology.

² Based on the 2000 *Highway Capacity Manual* (HCM) methodology. Control delay includes acceleration, deceleration and stop time. For 4-way intersections, delay and LOS are the average of all approaches. For 2-way intersections, delay and LOS represents only the side street approach with the worst delay and LOS. Main street approaches generally would operate at LOS A as major street traffic would not have to stop to yield.

Existing Levels of Service

In consultation with City of Richmond staff, PHA Transportation Consultants reviewed a list of intersections in the project area to determine which intersections to evaluate for the project traffic impact analysis. The resulting study intersections shown on Figure 5-1 represent those intersections considered to be the ones most likely to be adversely affected by the proposed project. The existing AM and PM peak-hour traffic volumes reflecting the December 2007 counts are shown on Figure 5-2 and the corresponding V/C ratios or delays and resulting levels of service are listed in Table 5-2. As shown in the table, all of the study intersections currently operate at or near optimal levels, with most at LOS A during both peak hours, and a couple at LOS B during the AM peak hour.

Based on field observations of the transportation consultant, a large percentage of traffic at the study intersections, particularly those on Canal Boulevard, consists of truck traffic. To reflect the larger size and slower movement of such vehicles, the traffic volumes as counted

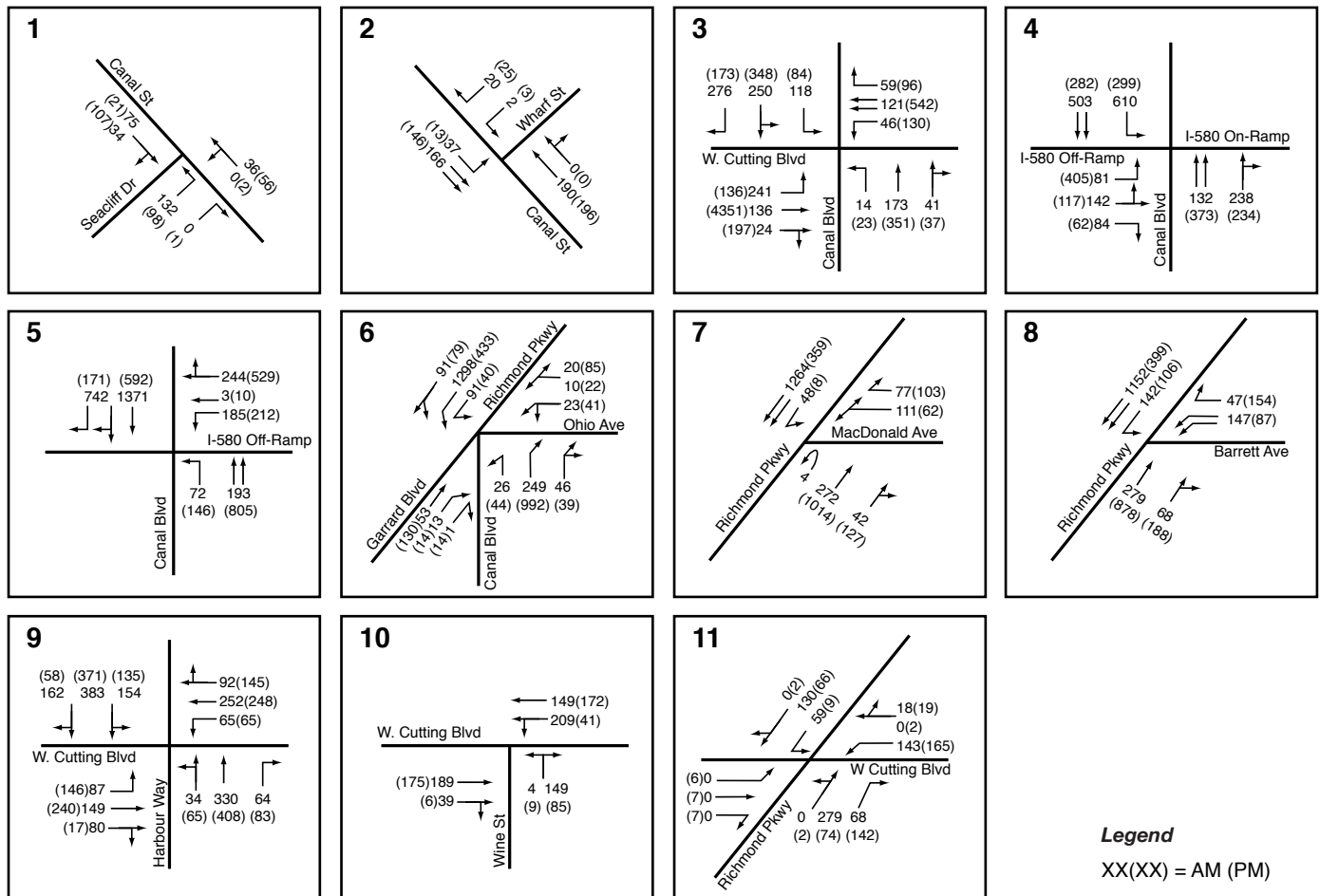
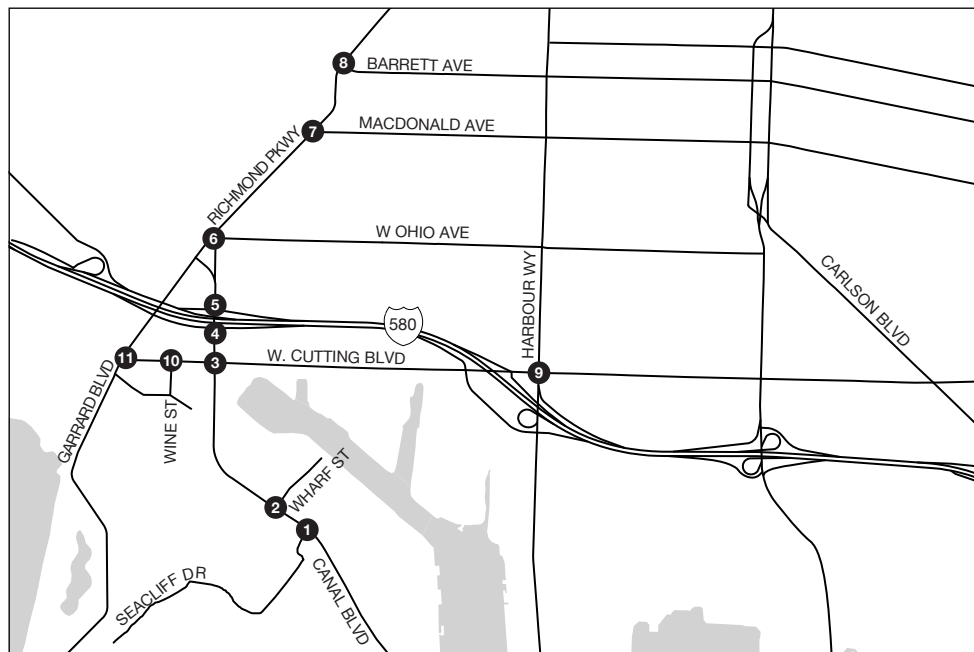


Figure 5-2

Existing (2007) Peak-Hour Traffic Volumes

Source: PHA Transportation Consultants

were adjusted upward by 20 percent for intersections 1 through 5 (Canal Boulevard between Seacliff Drive and the I-580 interchange), while traffic volumes for the remaining six intersections 6 through 11 were adjusted upward by 10 percent.

Table 5-2
Existing Intersection Levels of Service

		Existing Conditions	
Study Intersections	Time Period	V/C ¹ (Delay) ²	LOS ³
1. Canal/Seacliff – (1-way stop control)	AM	(10.10)	B
	PM	(9.90)	A
2. Canal/Wharf – (1-way stop control)	AM	(9.20)	A
	PM	(9.10)	A
3. Canal/W. Cutting – (Signalized)	AM	0.31	A
	PM	0.29	A
4. Canal/EB I-580 ramps – (Signalized)	AM	0.49	A
	PM	0.45	A
5. Canal/IWB I-580 ramps – (Signalized)	AM	0.62	B
	PM	0.56	A
6. Richmond Pkwy/Ohio – (Signalized)	AM	0.48	A
	PM	0.47	A
7. Richmond Pkwy/Macdonald – (Signalized)	AM	0.43	A
	PM	0.39	A
8. Richmond Pkwy/Barrett – (Signalized)	AM	0.38	A
	PM	0.40	A
9. Harbour Way/Cutting – (Signalized)	AM	0.39	A
	PM	0.43	A
10. W. Cutting/Wine – (1-way stop control)	AM	(10.20)	B
	PM	(9.60)	A
11. W. Cutting/Garrard – (4-way stop control)	AM	(8.50)	A
	PM	(8.40)	A

Source: PHA Transportation Consultants, based on December 2007 counts.

¹ V/C: Volume-to-Capacity ratio

² Delay: vehicle delay in seconds

³ LOS: Level-of-Service

The City of Richmond considers LOS D with a V/C ratio of 0.89 as the lowest acceptable Level of Service for signalized intersections, and would require mitigation for intersections with a V/C ratio higher than 0.89 or LOS worse than D. The City of Richmond does not have a specified standard for non-signalized intersections. In traffic engineering practice, when a four-way stop-controlled intersection reaches LOS E, or when the side street approaches at a two-way stop-controlled intersection reach LOS E, potential mitigation should be investigated and considered.

OTHER TRANSPORTATION INFRASTRUCTURE

Transit Service

Alameda-Contra Costa County Transit (AC Transit) provides primary public bus service in the City of Richmond, as well as throughout western Alameda and Contra Costa counties, and with commuter service to and from San Francisco. There are no public transit services in the immediate vicinity of the PPMT facility. The only bus line that serves the general area is AC Transit Route 72 M, which runs between the Oakland Amtrak Station and Washington Park in Point Richmond, about a mile north of the PPMT. In addition, Route 74 provides service from Richmond City Hall and the Marina Bay development east of the project area to the Orinda BART station, and Route 76 travels between the El Cerrito Del Norte BART station and the Richmond Parkway Transit Center, via Cutting Boulevard and Harbour Way South.

Golden Gate Transit (GGT) provides commuter service through the project area and across the Richmond-San Rafael Bridge. GGT Routes 40 and 42 provide connections between the El Cerrito Del Norte BART station and the San Rafael Transit Center in downtown San Rafael, traveling along Cutting Boulevard and I-580 north of the site. Route 42 also makes stops at the Richmond Amtrak and BART stations. The proposed project is not expected to have an impact on public transit services.

Bicycle and Pedestrian Facilities

Bike lanes are generally provided on both sides of Canal Boulevard north of Seacliff Drive. However, a bike lane is lacking along a section of the west side of Canal Boulevard between West Cutting Boulevard and the water quality control plant. Pedestrian sidewalks are available only on the west side of the street between the water quality control plant driveway and West Cutting Boulevard. Field observation indicated little to no pedestrian traffic on Canal Boulevard except occasional joggers. However, there is bicycle traffic observed on Canal Boulevard between the residential development at Seacliff Drive and West Cutting Boulevard during commute hours.

BACKGROUND TRAFFIC

Trip Generation and Distribution

Richmond City staff have identified 13 approved or planned projects in the vicinity of the proposed project that are anticipated to add considerable traffic to the study area intersections and roadways. Table 5-3 lists the projects, their approved or anticipated sizes, and their anticipated vehicle trip generation; the locations of the projects are mapped on Figure 5-3. New trips from the planned developments were estimated based on the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*.² Auto trips generated by the Background projects were distributed onto the local roadway network based on a combination of trip distribution patterns of existing daily traffic; street network considerations, including capacity; and the distribution patterns identified in the traffic reports prepared for the background projects, when available. As there are no planned or programmed roadway improvements or signalization projects in the vicinity of the project site, it was assumed that the street network for the Background Conditions scenario would remain unchanged from the Existing Conditions scenario.

Background Intersection Levels of Service

Peak-hour traffic volumes during Existing Plus Background Conditions are shown on Figure 5-4. The resulting intersection levels of service are listed in Table 5-4. As shown in the table, all of the study intersections would continue to operate efficiently at LOS A or B during both peak hours. Based on this analysis, the traffic generated by the background projects is not expected to cause any significant adverse effects on the roadway network.

5.3 TRAIN TRAFFIC SETTING

EXISTING RAIL NETWORK

The proposed project would utilize the Burlington Northern Santa Fe Railroad (BNSF) rail network. BNSF is a large rail freight carrier serving western and Midwestern states in the U.S. In addition to bulk products such as grain and coal and neo-bulk products such as automobiles, BNSF transports a wide range of consumer and business products via container cars. The BNSF interstate rail network encompasses over 32,000 miles of track. Systemwide, the railroad owns and operates approximately 6,300 locomotives and about 220,000 freight cars.

Within the City of Richmond, BNSF rail operations are comprised of the Richmond Yard and a relatively short network of tracks serving local industrial companies. The BNSF

² Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 7th Edition, 2003.

Table 5–3
Background Projects Trip Generation

No.		Units/ Ksf	AM Peak Hour Trips					PM Peak Hour Trips					Daily Trips				
			Rates	% Enter	Trips	% Exit	Trips	Rates	% Enter	Trips	% Exit	Trips	Rates	% Enter	Trips	% Exit	Trips
1	100 Macdonald Ave.																
	Condo/Townhouses (ITE 230)	27	0.44	17%	2	83%	10	0.52	67%	9	33%	5	5.86	50%	79	50%	79
	Retail (Specialty Retail ITE–814)	10	0	0%	0	0%	0	2.71	44%	12	56%	15	44.32	50%	222	50%	222
2	12th & Macdonald																
	Condo/Townhouses (ITE 230)	237	0.44	17%	18	83%	87	0.52	67%	83	33%	41	5.86	50%	694	50%	694
	Retail (Specialty Retail ITE–814)	25	0	0%		0%	0	2.71	44%	30	56%	38	44.32	50%	554	50%	554
3	25 Harbour Way																
	Condo/Townhouses (ITE 230)	21	0.44	17%	2	83%	8	0.52	67%	7	33%	4	5.86	50%	62	50%	62
4	400 Ohio Ave.																
	Industrial buildings (ITE 110)	52	0.92	88%	42	22%	11	0.98	12%	6	28%	14	6.97	50%	181	50%	181
5	Anchor Cove																
	Condo/Townhouses (ITE 230)	133	0.44	17%	10	83%	49	0.52	67%	46	33%	23	5.86	50%	390	50%	390
	Retail (ITE–814) – Project is 1 / 2 occupied	46	0	0%	0	0%	0	2.71	44%	55	56%	70	44.32	50%	1,019	50%	1,019
6	Anchorage at Marina Bay																
	Residential Townhomes (ITE 230)	208	0.44	17%	16	83%	76	0.52	67%	72	33%	36	5.86	50%	609		609

Table 5-3
Background Projects Trip Generation (con't.)

No.		Units/ Ksf ¹	AM Peak Hour Trips					PM Peak Hour Trips					Daily Trips				
			Rates	% Enter	Trips	% Exit	Trips	Rates	% Enter	Trips	% Exit	Trips	Rates	% Enter	Trips	% Exit	Trips
7	Building Trade Studios																
	Live-work units	16	0.72	40%	5	60%	7	0.66	37%	4	63%	7		50%	38	50%	38
8	Ford Assembly Building																
	Mixed use building (Project is 1 / 2 occupied)				219		69			97		251		50%	1,060	50	1,060
9	Hartmon Studio (ITE 150)																
	Warehouses	72	0.45	82%	27	18%	6	0.47	25%	8	75%	25	4.96	50%	179	50%	179
10	Kaiser Medical Center Addition																
	Hospital addition (ITE)	39	1.2	67%	31	33%	15	1.8	33%	23	67%	47	17.57	50%	343	50%	343
11	Westshore Marina																
	Condo / Townhouses (ITE 230)	269	0.44	17%	20	83%	98	0.52	67%	94	33%	46	5.86	50%	788	50%	788
12	Seacliff Marina																
	Condo / Townhouses (ITE 230)	300	0.44	17%	22	83%	110	0.52	67%	105	33%	51	5.86	50%	879	50%	879
13	Point Richmond Shore																
	Condo / Townhouses (ITE 230)	330	0.44	17%	25	83%	121	0.52	67%	115	33%	57	5.86	50%	967	50%	967
Note: Trip generation estimates for background projects were obtained from various traffic reports. For projects without traffic report, trips generation estimates were made based on ITE rates. The background project list is provided by Richmond Planning staff.																	

Source: PHA Transportation Consultants, 2008

¹ Ksf = thousands of square feet

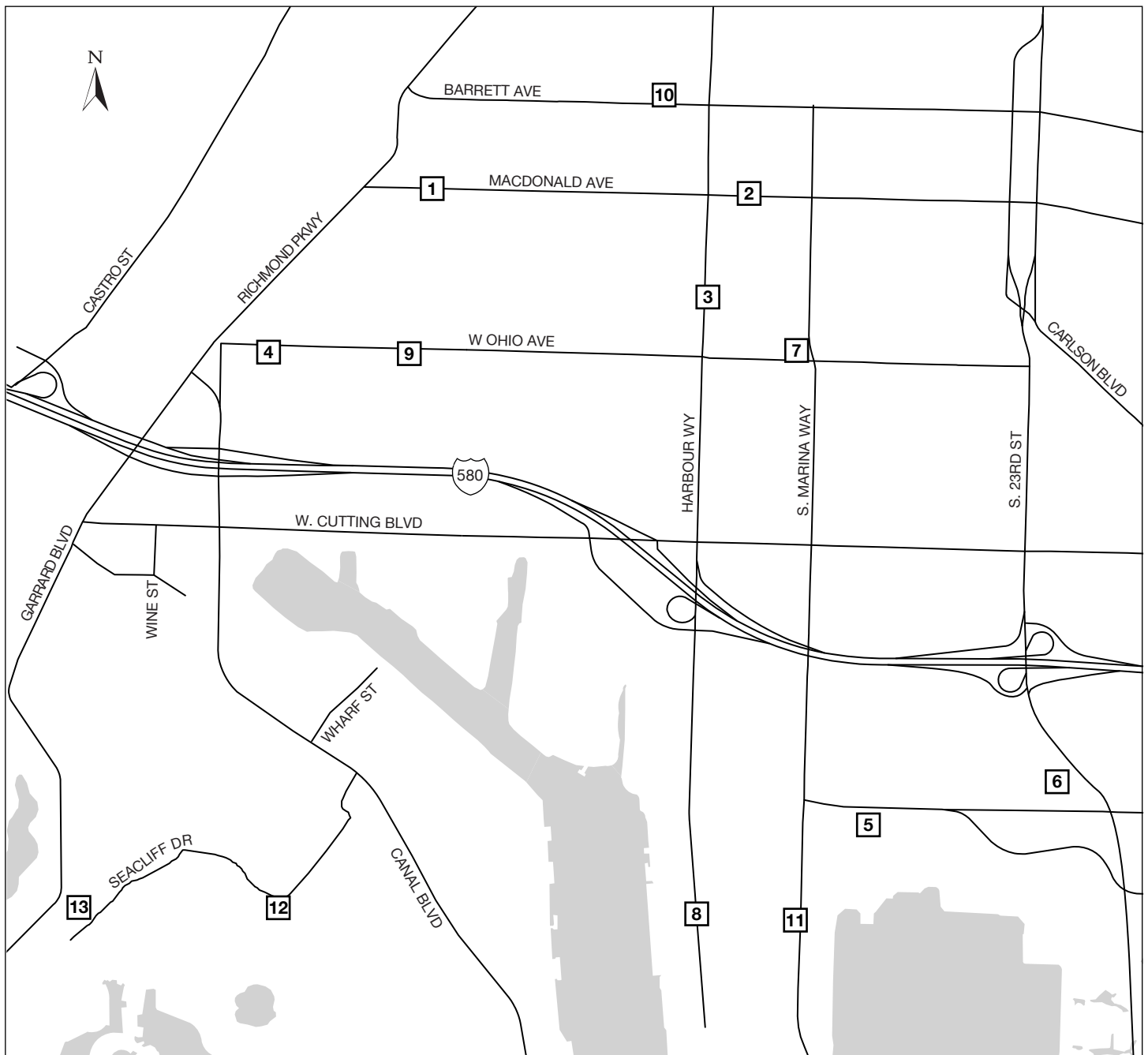


Figure 5-3

Locations of Background Projects

Source: PHA Transportation Consultants

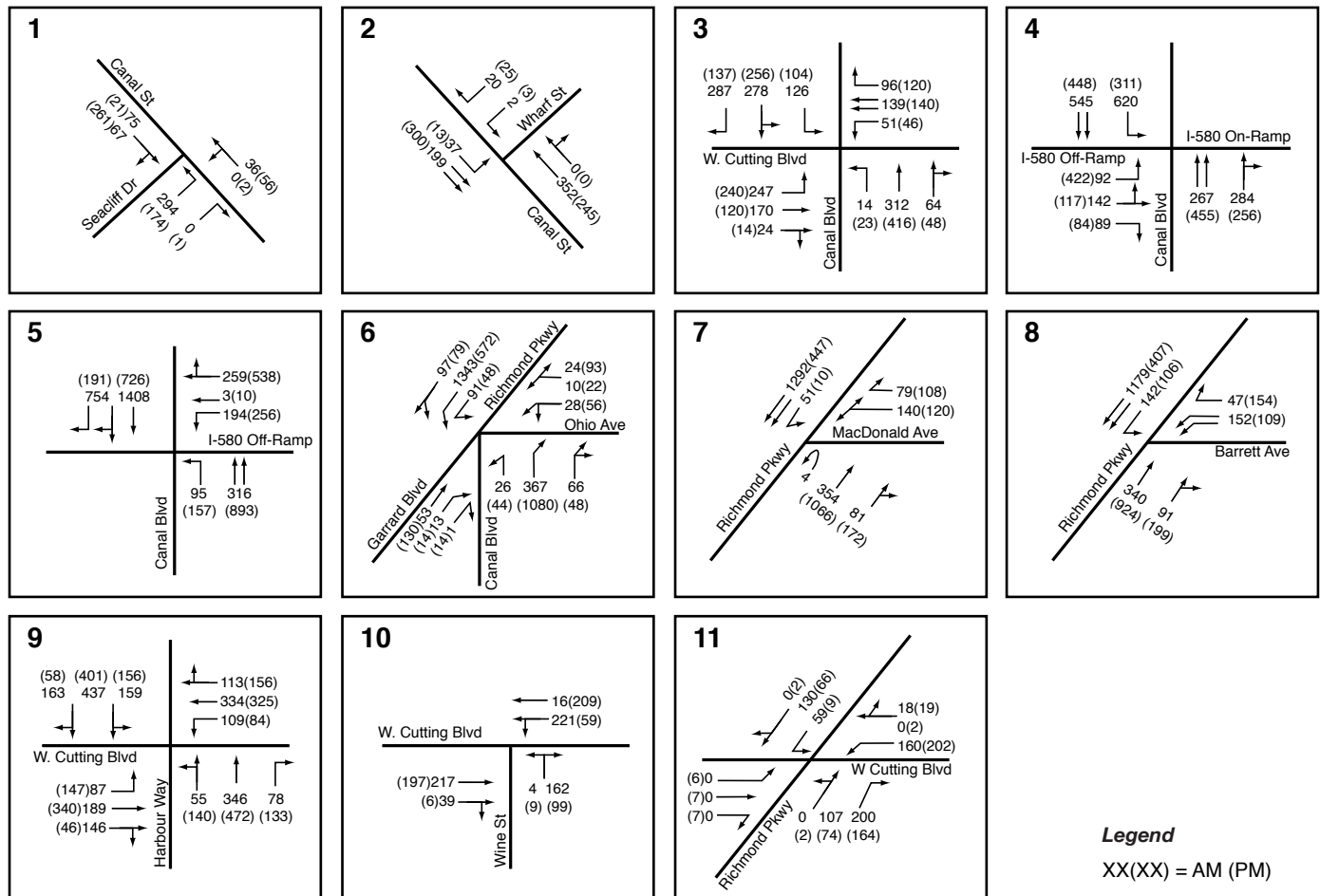
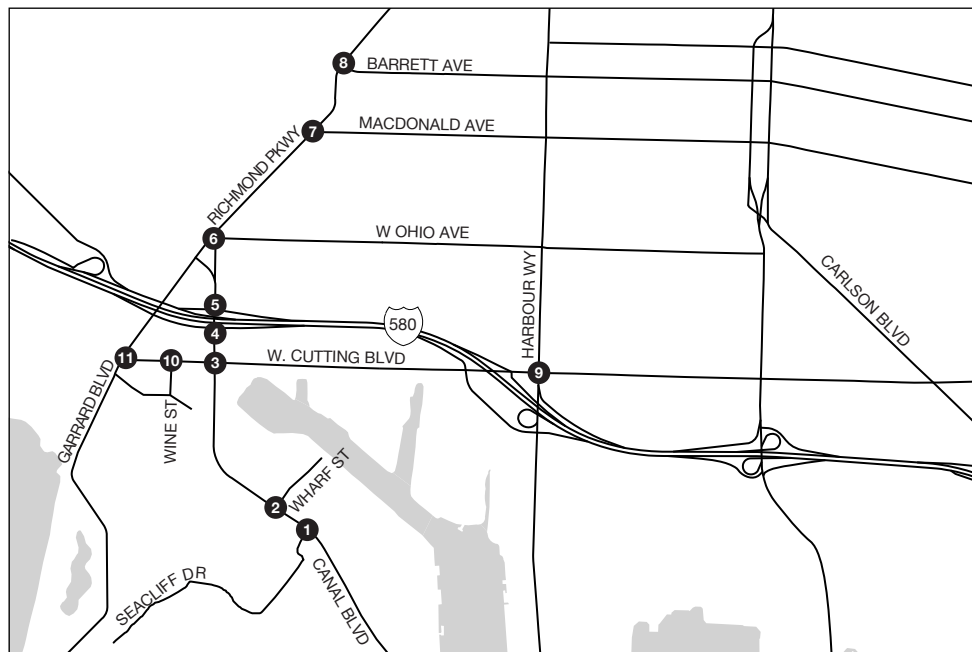


Figure 5-4
Existing Plus Background Peak-Hour Traffic Volumes

Source: PHA Transportation Consultants

Table 5–4
Existing Plus Background Intersection Levels of Service

		Existing Conditions		Existing + Background	
Study Intersections	Time Period	V/C ¹ (Delay) ²	LOS ³	V/C ¹ (Delay) ²	LOS ³
1. Canal/Seacliff – (1-way stop control)	AM	(10.10)	B	(12.00)	B
	PM	(9.90)	A	(11.30)	B
2. Canal/Wharf – (1-way stop control)	AM	9.20	A	9.90	A
	PM	9.10	A	9.50	A
3. Canal/W. Cutting – (Signalized)	AM	0.31	A	0.34	A
	PM	0.29	A	0.33	A
4. Canal/EB I-580 ramps – (Signalized)	AM	0.49	A	0.53	A
	PM	0.45	A	0.48	A
5. Canal/IWB I-580 ramps – (Signalized)	AM	0.62	B	0.65	B
	PM	0.56	A	0.62	B
6. Richmond Pkwy/Ohio – Signalized)	AM	0.48	A	0.50	A
	PM	0.47	A	0.51	A
7. Richmond Pkwy/Macdonald – (Signalized)	AM	0.43	A	0.46	A
	PM	0.39	A	0.44	A
8. Richmond Pkwy/Barrett – (Signalized)	AM	0.38	A	0.39	A
	PM	0.40	A	0.42	A
9. Harbour Way/Cutting – (Signalized)	AM	0.39	A	0.45	A
	PM	0.43	A	0.51	A
10. W. Cutting/Wine – (1-way stop control)	AM	(10.20)	B	(10.40)	B
	PM	(9.60)	A	(9.80)	A
11. W. Cutting/Garrard – (4-way stop control)	AM	(8.50)	A	(8.80)	A
	PM	(8.40)	A	(9.00)	A

Source: PHA Transportation Consultants, 2008

¹ V/C: Volume-to-Capacity ratio

² Delay: vehicle delay in seconds

³ LOS: Level-of-Service

Richmond Rail Yard is located immediately to the west of South Garrard/Garrard Boulevard, extending from I-580 on the south to West Barrett Avenue on the north; it is about 1.5 miles northwest of the PPMT. Richmond Yard has been operated for many years as a railroad classification yard, locomotive fueling and repair facility, and domestic intermodal terminal. However, over the past several years Richmond Yard has shifted away from intermodal loading operations, which has reduced total railcar volumes and created additional capacity for other types of railcars and cargo within the Yard. In addition to BNSF's local operations, the Richmond Pacific Railroad (RPRR) provides rail switching operations within the rail corridor which was originally owned by the Southern Pacific Railroad (SPRR) (now the Union Pacific Railroad (UPRR)), and incorporates the majority of the track and rail in and around the Marina Bay neighborhood. The Union Pacific mainline also extends through south Richmond to the Port of Oakland and points further south. The BNSF operates daily container trains to the Port of Oakland, which pass through Richmond Yard and portions of the Marina Bay neighborhood. The rail network in Richmond is shown on Figure 5-5.

There are several active at-grade railroad crossings in the project area, the use of which currently cause disruptions to vehicle traffic. Due to the proposed project plans to distribute new vehicles by rail to other parts of the country, area residents expressed concerns during the public scoping process about potential impacts on vehicle access at these railroad crossings. Although there are other at-grade railroad crossings in South Richmond that currently result in inconvenience to area drivers, only three crossings would be utilized by project rail traffic: Canal Boulevard, just south of West Cutting Boulevard; West Cutting Boulevard, just east of Wine Street and west of Canal Boulevard; and South Garrard Boulevard, immediately north of West Cutting Boulevard. These crossings are utilized by BNSF trains switching back and forth between the BNSF Automotive Facility (at the southeast corner of Canal Boulevard and West Cutting Boulevard) and the BNSF Richmond Rail Yard.

Trains departing the Richmond Rail Yard travel north on the BNSF main line, which travels to Stockton and beyond. North of the Richmond Rail Yard there are no at-grade crossings on the BNSF line within the City of Richmond. Trains traveling to the Port of Oakland exit the Richmond Rail Yard near West Ohio Boulevard and head southeast on the RPRR, crossing under I-580 and passing through the Marina Bay neighborhood across numerous at-grade crossings, then connecting with the Southern Pacific Railroad (SPRR) main line into Oakland. The proposed project would not utilize the RPRR line through Marina Bay, nor do trains currently transporting domestically-produced Hondas into the BNSF Automotive Terminal.

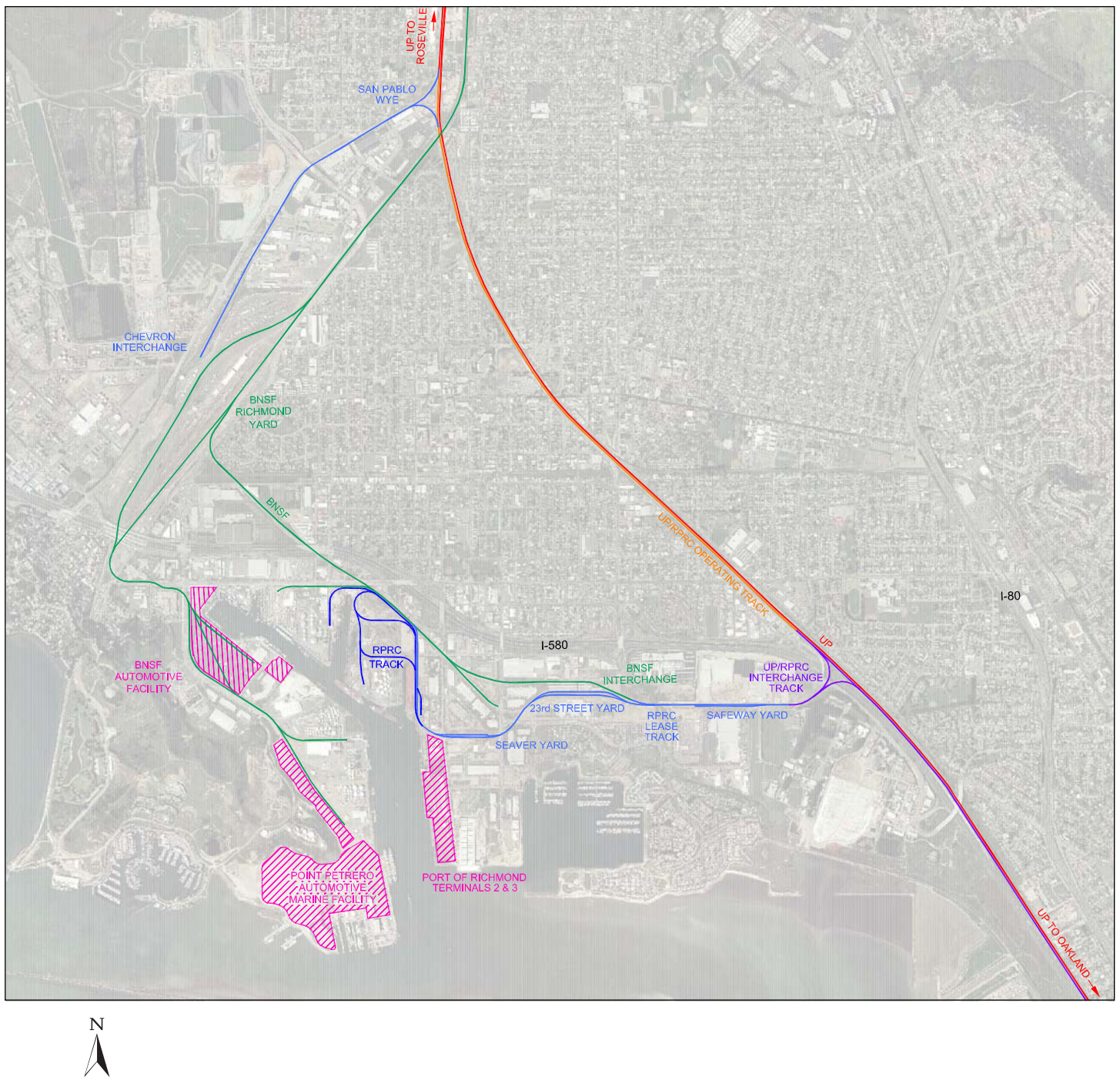


Figure 5-5

Railroad Network in the City of Richmond

Source: Transdevelopment Group

EXISTING TRAIN TRAFFIC

To evaluate the potential impact of added train traffic on local vehicle traffic, daily train traffic patterns at nearby rail crossings were monitored electronically at the at-grade railroad crossing on Canal Boulevard with noise-recording devices over a 72-hour period in early February 2008. The results are shown in Table 5-5, where the reported start and stop times reflect the monitoring period and the last three columns report, respectively, the total number of train crossings, the number of crossings that lasted more than 7 minutes, and the number of crossings that lasted 15 minutes or more. The results of the monitoring demonstrated that a total of 28 trains were recorded traveling through the Canal crossing over the 72-hour study period, representing an average of 9 train runs per day. The data also revealed that the train operations affect street traffic operations on average for a little over an hour (66.7 minutes) total elapsed time per day. However, of the 28 at-grade crossings, only 7 occurred during daytime hours (between 7:00 a.m. and 6:00 p.m.), and only 3 occurred during the peak commute periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.).

To gather additional data, train crossings were recorded manually during field observations during the morning and afternoon peak commute periods for three consecutive weekdays in late February 2008. The results of the monitoring are presented in Table 5-6. Over the three-day field observation period, only two trains were observed traveling through the Canal, Cutting, or Garrard crossings, and only one of these crossings involved the Cutting and Canal crossings. All of the crossings lasted less than one minute.

A third set of data on train crossings was obtained from BNSF. The BNSF data, presented in Table 5-7, indicate that of the 66.7 minutes of train crossings on a typical day, about 40 minutes are for switching operations, in which trains are moved back and forth between the rail yard north of Cutting Boulevard and the auto loading facility south of Cutting, in order to combine sections of rail cars into longer trains. As noted in the project description, the switching operations at these crossings would be eliminated upon implementation of the proposed project, but they would occur instead between the BNSF terminal and the PPMT, and would therefore affect the Wharf Street crossing which, as shown in Tables 5-6 and 5-7, does not currently experience at-grade train crossings on a regular basis. The potential effects of this change are discussed in Section 5.6.

Analysis of the three sets of data collected and summarized above revealed that there is no pattern or schedule to current BNSF train traffic, and very little train traffic occurs during the peak commute periods.

Table 5–5
Monitored Canal Boulevard Train Crossings

	Time Start	Time End	All trains	Trains @ crossing > 7 minutes	Trains @ crossing >= 15 minutes
2/5/2008 (Tue)	12:00:00 AM	12:15:00 AM	1	0	0
	1:00:00 AM	1:15:00 AM	1	0	0
	4:00:00 PM	4:15:00 PM	1	0	0
	4:15:00 PM	4:30:00 PM	1	0	0
Day Total			4	0	0
2/6/2008 (Wed)	2:15:00 AM	2:30:00 AM	1	0	0
	2:45:00 AM	3:00:00 AM	1	1	1
	4:30:00 AM	4:45:00 AM	1	0	0
	4:45:00 AM	5:00:00 AM	1	1	1
	5:00:00 AM	5:15:00 AM	1	1	0
	10:15:00 AM	10:30:00 AM	1	0	0
	1:15:00 PM	1:30:00 PM	1	0	0
	1:30:00 PM	1:45:00 PM	1	0	0
	8:00:00 PM	8:15:00 PM	1	0	0
	8:15:00 PM	8:30:00 PM	1	0	0
	8:30:00 PM	8:45:00 PM	1	1	0
	9:00:00 PM	9:15:00 PM	1	0	0
	9:15:00 PM	9:30:00 PM	1	0	1
Day Total			13	4	3
2/7/2008 (Thu)	12:15:00 AM	12:30:00 AM	1	0	0
	1:00:00 AM	1:15:00 AM	1	0	0
	1:30:00 AM	1:45:00 AM	1	1	0
	1:45:00 AM	2:00:00 AM	1	0	0
	2:00:00 AM	2:15:00 AM	1	0	0
	2:45:00 AM	3:00:00 AM	1	0	0
	8:00:00 AM	8:15:00 AM	1	0	0
	11:30:00 AM	11:45:00 AM	1	1	0
	7:00:00 PM	7:15:00 PM	1	0	0
	7:45:00 PM	8:00:00 PM	1	1	1
	8:45:00 PM	9:00:00 PM	1	1	0
Day Total			11	4	1
Three–Day Total			28	8	4
Daily Average			9.3	2.7	1.3
Maximum minutes/day				66.7	

Source: Miller Environmental Consultants, 2008

Table 5–6
Observed Peak Commute Period¹ Train Traffic

	Tue (2/26)	Wed (2/27)	Thu (2/28)
Garrard Crossing	1 / 4:24 pm / 4	1 / 8:21 am / 2	No train observed
Cutting Crossing	0/8:16 am/0 1 / 4:23 pm / 4 0/4:20 pm/0 0/4:29 pm/0	No train observed	No train observed
Canal Crossing	0/8:16 am/0 1 / 4:23 pm / 4 0/4:20 pm/0 0/4:29 pm/0	No train observed	No train observed
Wharf Crossing	No train observed	No train observed	No train observed
1 / 4:24 pm / 4 = (# of trains / time of train run / # of rail cars)			
0/8:16 am/0 = (false alarm, alarm was sounded and gates were down but no train passes.			

Source: PHA Transportation Consultants, 2008

¹ Peak commute period = 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.

Table 5–7
Daily BNSF Train Switching Operations
Duration (min:sec.) of Typical Single-Day Switching Operations

From Richmond Yard to BNSF Auto Facility									
						Duration of Crossing			
Move- ment No.	Travel Direction	Approx. Time	Train Type	No. of Rail Cars	Operation	Canal Crossing	Cutting Crossing	S Garrard Crossing	Wharf Crossing
From Richmond Yard to BNSF Auto Facility									
1	South	9:00 PM	Freight	16	Switching	3:30	3:30	3:30	0:00
2	North	9:20 PM	Freight	8	Switching	1:45	0:00	0:00	0:00
3	South	9:30 PM	Freight	8	Switching	1:45	0:00	0:00	0:00
4	North	9:35 PM	Loco	0	Switching	0:30	0:30	0:30	0:00
5	South	10:00 PM	Freight	30	Switching	6:00	6:00	6:00	0:00
6	North	10:20 PM	Freight	15	Switching	3:00	3:00	0:00	0:00
7	South	10:30 PM	Freight	15	Switching	3:00	3:00	0:00	0:00
8	North	10:30 PM	Loco	0	Switching	0:30	0:30	0:30	0:00
Cumulative Duration➡						20:00	16:30	10:30	0:00
From BNSF Auto Facility to Richmond Yard									
9	South	10:45 PM	Loco	0	Switching	0:30	0:30	0:30	0:00
10	North	10:50 PM	Freight	8	Switching	1:45	0:00	0:00	0:00
11	South	10:55 PM	Freight	8	Switching	1:45	0:00	0:00	0:00
12	North	11:00 PM	Freight	16	Switching	3:30	3:30	3:30	0:00
13	South	11:30 PM	Loco	0	Switching	0:30	0:30	0:30	0:00
14	North	11:45 PM	Freight	15	Switching	3:00	3:00	0:00	0:00
15	South	12:00 PM	Freight	15	Switching	3:00	3:00	0:00	0:00
16	North	12:20 PM	Freight	30	Switching	6:00	6:00	6:00	0:00
Cumulative Duration➡						20:00	16:30	10:30	0:00

Source: Burlington–Northern Santa Fe Railroad, 2008.

5.4 MARINE TRAFFIC SETTING

This section describes the marine traffic characteristics of San Francisco Bay and the Port of Richmond.

NAVIGATION

San Francisco Bay contains several bays that provide protected navigation and mooring conditions for a variety of large and small vessels. Seven ports allowing incoming and outgoing deep-draft vessel traffic are accessed through a dredged Main Ship Channel. Vessels enter and leave through the Golden Gate along the Traffic Separation Scheme (TSS); the federal navigation channels consist of three traffic lanes (northern, main or western, and southern), extending from outside the entrance through the Golden Gate. The principal navigation routes on San Francisco Bay are shown on Figure 5-6.

Regulated Navigation Areas

Once inside San Francisco Bay, ship traffic proceeds along seven Regulated Navigation Areas (RNAs). The RNAs were established by the United States Coast Guard (USCG) in 1993 with input from the Harbor Safety Committee (HSC) of the San Francisco Bay region. The roles of the USCG relevant to this EIR are to eliminate deaths, injuries, and property damage associated with maritime transportation, facilitate maritime commerce and eliminate interruptions and impediments to the efficient and economical movement of goods and people, and eliminate environmental damage and the degradation of natural resources associated with maritime transportation. The HSC was set up in 1991 as part of the Oil Spill Prevention and Response Act (OSPR) to plan for the safe navigation and operation of tankers, barges, and other vessels within the harbor through adoption of a harbor safety plan. The RNAs organize traffic flow patterns to reduce vessel congestion where maneuvering room is limited, and limit vessel speed. Ship traffic accessing the PPMT uses the San Francisco Bay RNA, North Ship Channel RNA, and Southampton Shoal Channel/Richmond Harbor RNA.

San Francisco Bay RNA

The San Francisco Bay RNA consists of the water area in the Golden Gate east of the International Regulations for Avoiding Collisions at Sea (COLREGS) Demarcation Line (33 CFR 80.1142), the Central Bay including Raccoon Strait, and the existing charted Precautionary Area east of Alcatraz Island (see Figure 5-6). Traffic lanes have been established in this RNA to separate opposing traffic and reduce vessel congestion. Because of shoals and rocks in the Central Bay, the Central Bay Two-way Deep Water Traffic Lane (DWTL) provides the best water depth safety margin for inbound vessels with a draft of 45



Figure 5-6
Regional Regulated Navigation Areas

Source: NOAA, 1997

feet or greater and for outbound vessels with a draft of 28 feet or greater. Car-carrying ships can have a maximum draft of approximately 32 feet fully laden, and would likely use the DWTL for entering and exiting the Bay. Regulations prohibit a large vessel from entering the DWTL when another large vessel is navigating therein and when either vessel is carrying certain dangerous cargo (as defined in 33 CFR 160.203), bulk petroleum products, or is a tank vessel in ballast, if such entry could result in meeting, crossing, or overtaking the other vessel.

Because vessels are converging or crossing in such a manner that one-way traffic flow patterns cannot be established, there are two Precautionary Areas in the RNA: the Golden Gate Precautionary Area, which encompasses the waters around the Golden Gate between the Golden Gate and the Central Traffic Lanes; and the Central Bay Precautionary Area.

North Ship Channel RNA

This RNA consists of the existing charted channel and delineates the only areas where the depths of water are sufficient to allow safe transit of large vessels. The existence of strong tidal currents in these channels severely restricts the ability of large vessels to safely maneuver to avoid smaller vessels.

Southampton Shoal Channel/Richmond Harbor RNA

This RNA encompasses Southampton Shoal Channel, the Richmond Long Wharf maneuvering area, Richmond Harbor Entrance Channel, and Point Potrero Reach. These are dredged channels and areas within which maneuvering room is severely limited. In addition, the Southampton Shoal Channel is transited by a high number of laden tank vessels, and vessels carrying dangerous cargo or bulk petroleum. The Richmond Long Wharf maneuvering area, between Richmond Harbor Entrance Channel and Southampton Shoal Channel, often has vessels operating at low speeds where maneuvering is restricted. Large vessels are prohibited from entering the RNA if they could meet, cross, or overtake another large vessel.

Pilotage

Pilotage is important to Bay shipping because of complex local conditions consisting of narrow navigation channels, many bridges, swift tides and currents, variable weather patterns, and large numbers of ships and small vessels. Vessels of 300 gross tons or more and foreign vessels entering San Francisco Bay and bound for the PPMT are serviced by San Francisco Bar Pilots (Bar Pilots). Both State and federal licenses are required for a Bar Pilot to handle vessels entering the Bay and operating inside the Bay. Currently, there are 60 Bar Pilots providing service to vessels of all types, from tugs to supertankers, container and bulk cargo ships, military vessels, and cruise ships.

A Bar Pilot boards an inbound ship while it is outside the Golden Gate. Once on board, the pilot takes navigational control of the ship as it makes its way into San Francisco Bay. The pilot is responsible for navigating the ship through the Golden Gate, through the shipping lanes, and to the PPMT. Once in port, the pilot maneuvers the ship, directing tugboats to ease the ship alongside its berth. Two tugboats are used in tandem to maneuver the vessels into the berth. The Bar Pilots publish Operations Guidelines for the movement of deep-draft vessels on San Francisco Bay and its tributaries.

Vessel Accidents and Near-accidents

The USCG collates information regarding accidental grounding or unintended strike of a bridge, loss of primary steering or propulsion or associated control system, and occurrences that materially or adversely affect a vessel's seaworthiness. The Vessel Traffic Service (VTS) managed by the USCG summarizes near-accidents, which may include near-collisions, vessels impeding progress of other vessels, and violations of any navigation rules.

Over the past 36 years, several major accidents have taken place in or immediately outside San Francisco Bay with widespread environmental impacts. These accidents are listed in Table 5–8.

Table 5–8
Major Oil Spills in San Francisco Bay Since 1971

Year	Type of Accident	Impacts
1971	Collision between two vessels in dense fog and darkness immediately west of the Golden Gate Bridge	Spillage of 850,000 gallons of bunker fuel oil adversely affecting Marin to San Mateo Counties. Death of 4,000 birds.
1984	Explosion outside San Francisco Bay Entrance Channel	Crew injuries. Spillage of 1.6 million gallons of lube oil and bunker fuel oil adversely affecting Farallon Islands National Marine Sanctuary. Death of 2,900 birds.
2007	Collision with Oakland–Bay Bridge in dense fog	Spillage of 58,000 gallons of bunker fuel oil into Bay. Death of 1000's of birds.

Sources: NOAA Oil Spill Case Histories 1967–1991; Local newspaper reports.

ENVIRONMENTAL FACTORS AFFECTING VESSEL SAFETY

Descriptions of the hydrologic factors affecting vessel safety (tides, currents, and bathymetry) are provided in Chapter 11, Section 11.3, Marine Hydrology and Water Quality

Setting. Meteorological factors (winds and fog) are described below. The wind and fog information is taken from the United States Coast Pilot 7, 40th Edition, 2008³ and the San Francisco, San Pablo and Suisun Bays Harbor Safety Plan, 2007.⁴

Winds

With respect to marine navigation, San Francisco Bay winds vary by season. Winter winds from November to February shift frequently and have a wide range of speeds depending on the procession of offshore high- and low-pressure systems. Overall, calms occur 15 to 40 percent of the time inside the Bay, and 10 to 12 percent outside the Bay. Extreme wind conditions of 50 knots with gusts of 68 knots have occurred during the winter. The strongest winds tend to come from the southeast to southwest ahead of a cold front.

Spring tends to be the windiest season, with average speeds in the Bay of 6 to 12 knots. Extremes are less likely than during the winter, but winter wind speeds of 17 to 28 knots occur up to 5 to 10 percent of the time inside the Bay and up to 40 percent of the time approaching the Golden Gate. Wind direction stabilizes as the Pacific High Pressure System becomes the dominant weather influence. Northwestern winds are generated and reinforced by the sea breeze. Inside the Bay, winds are channeled and vary from northwest to southeast.

Summer winds are the most constant and predictable. The winds outside the Golden Gate are normally from northwest to north and are generated by the strong Pacific High Pressure System. This condition generally lasts through October until the system weakens and the winter cycle starts again. Winds inside the Bay are very localized, a result of the land contours influencing the onshore flow.

Fog

Fog in San Francisco Bay, particularly near the Golden Gate, is most common during the summer, occasional during fall and winter, and infrequent during spring. Summer fog depends on several conditions. The Pacific High Pressure System becomes well established off the coast and maintains a constant northwest wind. It also drives the cold California Current south and causes an upwelling of cold water along the coast. Air closest to the surface becomes chilled so that the temperature increases with altitude. This forms an inversion layer at about 500 to 1,500 feet (0.28 miles). Moist, warm ocean air moving toward the coast is cooled first by the California Current, then more by cold coastal water.

³ National Oceanic and Atmospheric Administration (NOAA), *United States Coast Pilot 7, Pacific Coast: California, Oregon, Washington, Hawaii, and Pacific Islands*, 40th Ed., 2008.

⁴ Harbor Safety Committee of the San Francisco Bay Region, *San Francisco, San Pablo, and Suisun Bays Harbor Safety Plan*, June 14, 2007.

Condensation occurs and fog will form to the height of the inversion layer. This happens often enough to form a semi-permanent fog bank off the Golden Gate during the summer.

Under normal summer conditions, a daily cycle is evident. A sheet of fog forms off the Golden Gate headlands during the morning and becomes more extensive as the day passes. As the temperatures in the inland valleys rise, a local low-pressure area is created, and a steady in-draft takes place. By late afternoon, the fog begins to move through the Golden Gate on the afternoon sea breeze. Once inside the Bay, it is carried by local winds. In general, the north part of the Bay is the last to be enveloped and the first to clear in the morning. If it continues for a few days, cooler ocean air replaces the warm valley air and causes the sea breeze mechanism to break down. Winds diminish and the Bay Area clears for a few days. Slowly the valley reheats and starts the cycle again.

Winter fog is usually radiation fog or “tule” fog. With clear skies and light winds, land temperature drops rapidly at night. In low, damp places, such as the Delta and Central Valley, it results in a shallow radiation fog (moist sea air reacting to cold land mass) that may be quite dense. In contrast to the summer fog that moves from sea to land at about 14 knots, the winter tule fogs move slowly seaward at about 1 knot.

Physical Oceanographic Real Time System

The Physical Oceanographic Real Time System (PORTS) was installed in the Bay Area in 1995, with the California Office of Oil Spill Preparedness and Response (OSPR) assuming overall responsibility for the system in 1998. The PORTS is designed to provide information in real time to mariners, oil spill response teams, managers of coastal resources, and others about San Francisco Bay’s water levels, currents, salinity, and winds. In partnership with the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), California OSPR, U.S. Geological Survey (USGS), and the local community, the Marine Exchange of San Francisco Bay operates PORTS as a service to those who must make operational decisions based on oceanographic and meteorological conditions in the Bay. PORTS stations are located at the Golden Gate entrance, Redwood City, Alameda, Oakland, Richmond, Benicia, Port Chicago, and Grizzly Bay.

The instruments that collect the information are deployed at strategic locations in the Bay to provide data at critical locations, and to allow nowcasting and forecasting using a mathematical model of the Bay’s oceanographic processes. Data from the sensors are fed into a central collection point; raw data from the sensors are integrated and synthesized into information and analysis products, including graphical displays of PORTS data. These displays are available over the Internet and through a voice response system.

WATERWAY USAGE AND SHIP POPULATION

A variety of vessels use and occupy San Francisco Bay. Vessels include several types of deep and light-draft commercial shipping vessels, commercial and sport fishing boats, tugs, military vessels, ferries, recreational power and sailboats, barges, and public agency vessels. In addition, sailboarding, rowing, kayaking, canoeing, and swimming are popular activities which occur in or near shipping channels. The following ship traffic analyses focus on large, commercial shipping, although the prevalence of small-craft vessels is a significant factor of marine traffic on the Bay.

The San Francisco Marine Exchange tabulates vessel arrivals and movements within San Francisco Bay. Historical trends of ship arrivals to San Francisco Bay show an average of 3,356 vessel arrivals from 1987 to 2007, as shown in Table 5-9.⁵ During the 1980s and early 1990s, shipping traffic was at a maximum, with a record 3,671 arrivals in 1988 and 1991. During the mid-1990s, shipping rates declined; the minimum number of ship arrivals of 2,897 vessels occurred in 1997. Since the late 1990s, shipping rates have gradually increased, approaching historic levels of ship arrivals – there were 3,620 and 3,585 ship arrivals in 2006 and 2007, respectively.

Ship arrivals by type of ship are shown on Figure 5-7. The majority of ship arrivals to San Francisco Bay are container ships, oil tankers, and bulk carriers, which accounted for a total of 86 percent of ship arrivals in 2006. The number of arrivals of vehicle carriers increased from 108 in 2005 (3 percent of total) to 265 in 2006 (7 percent of total), and then decreased to 228 in 2007 (6 percent of total).⁶

In addition to large, commercial vessels, approximately 20,000 small-craft vessels are berthed in the Bay Area, one-third of which are located in the Central Bay.⁷ The Harbor Safety Committee (HSC) estimated that up to 1,000 boats might be on the Bay at any given time, either from harbors or launch ramps. Small-craft vessels include recreational motor and sailboats, ferries, commercial and sport fishing boats, rowboats, sailboards, kayaks, and canoes. In 2004, approximately 85,000 in-Bay trips were made by the ferry system. The commercial fishing fleet in the Bay comprises approximately 1,000 boats in addition to about 150 to 200 party boats.

⁵ Marine Exchange of the San Francisco Bay Region, *Annual Statistics Report*, 2006 and 2007.

⁶ Marine Exchange of the San Francisco Bay Region, *Annual Statistics Report* 2006.

⁷ Harbor Safety Committee of the San Francisco Bay Region, *San Francisco, San Pablo, and Suisun Bays Harbor Safety Plan*, June 14, 2007.

Table 5–9
Annual Ship Arrivals to San Francisco Bay

Year	Number of Ship Arrivals
1987	3,662
1988	3,671
1989	3,634
1990	3,661
1991	3,671
1992	3,646
1993	3,484
1994	3,502
1995	3,177
1996	3,075
1997	2,897
1998	2,966
1999	3,194
2000	3,185
2001	3,142
2002	3,028
2003	3,156
2004	3,189
2005	3,331
2006	3,620
2007	3,585

Source: Marine Exchange of the San Francisco Bay Region

Ship calls to the Port of Richmond have ranged from approximately 600 to 750 arrivals per year since 2001, the first year for which the Marine Exchange provides statistics (see Table 5–10). Shipping traffic at the PPMT is much lower presently than it was in the 1980s.⁸ This Port of Richmond total includes ship arrivals to the Chevron Long Wharf, adjacent to the project site and on the route which all other ships navigate to the PPMT and other terminals of the Port of Richmond. Approximately 55 percent of arriving ships call to the Chevron

⁸ Norman Chan, Port Engineer, Port of Richmond, personal communication, January 28, 2008.

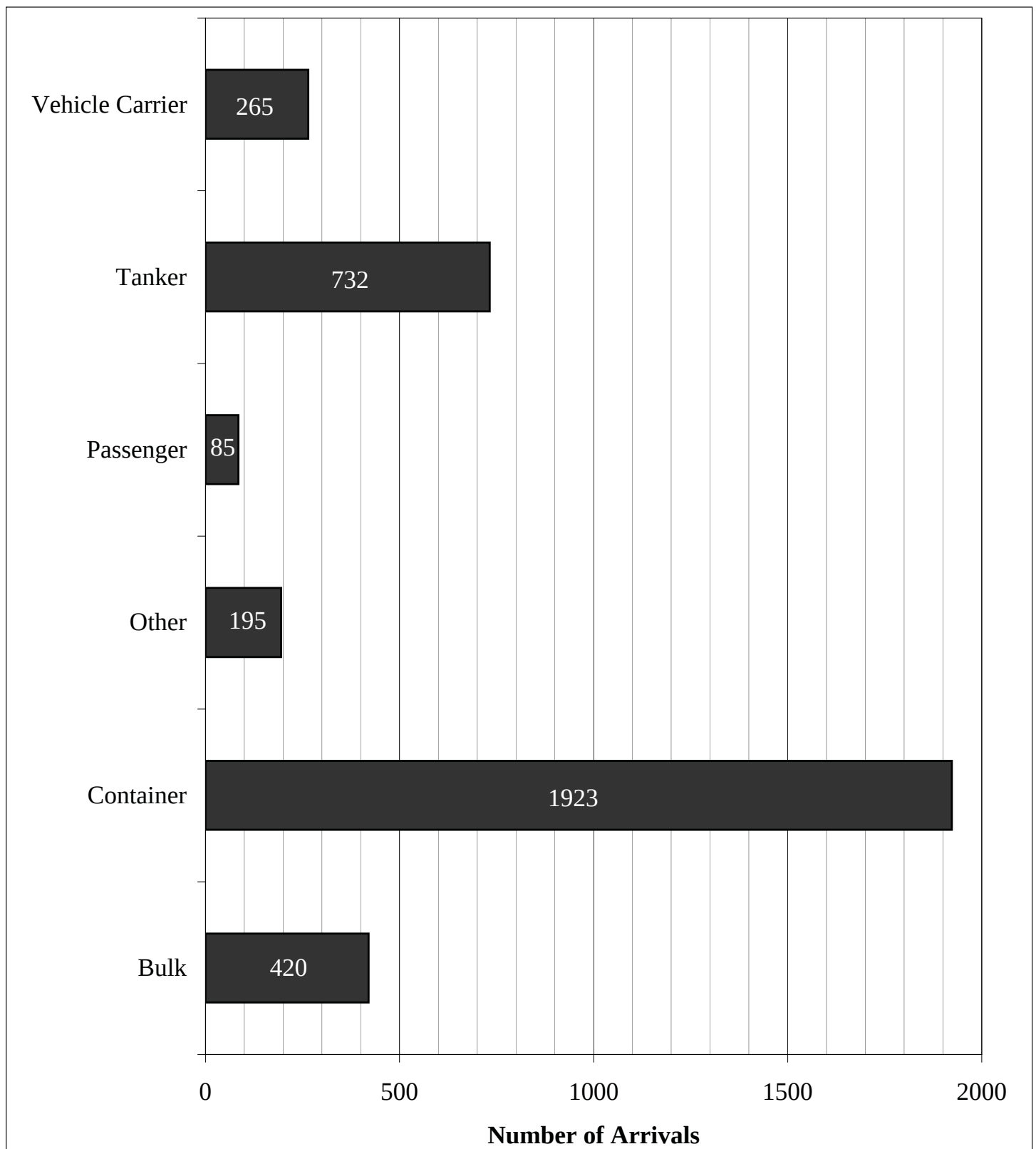


Figure 5-7

2006 Ship Arrivals to San Francisco Bay

Source: Marine Exchange of San Francisco Bay Region,
Annual Statistics Report, 2006

Table 5–10
Annual Ship Arrivals to the Port of Richmond⁹

Year	Number of Ship Arrivals
2001	628
2002	604
2003	611
2004	635
2005	629
2006	734
2007	744

Source: Marine Exchange of the San Francisco Bay Region

Long Wharf, and the remainder continue to the other several terminals and berths of the Port of Richmond.

5.5 STANDARDS OF SIGNIFICANCE

Based on the City of Richmond's standards for intersection operating conditions, the proposed project would cause a significant, adverse traffic impact if it would:

- cause an intersection operating at LOS D or better under Background Conditions to deteriorate to LOS E or F or increase the V/C ratio above 0.89; or
- increase peak-hour traffic volumes by more than 1 percent at an intersection already operating at LOS E or F under Background Conditions.

In addition, based on the *CEQA Guidelines*, project transportation impacts (including marine and rail impacts) would be considered significant if the project would:

- cause a substantial increase in traffic relative to the existing traffic load and the capacity of the street system;
- exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways;
- substantially increase safety hazards due to a design feature or marine hazards;

⁹ Values of ship arrival totals for years 2001 to 2004 were estimated from graphs.

- cause an increase in marine traffic which is substantial in relation to existing traffic load and capacity of the navigation system or would result in substantial safety risks;
- result in inadequate emergency access;
- result in inadequate parking capacity; or
- conflict with adopted policies, plans, or programs supporting alternative transportation.

5.6 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION IMPACTS

Impact 5-1

Construction of the proposed project would generate additional traffic from construction workers traveling to and from the site, from truck deliveries of construction materials and ballast stone, and from trucks exporting excess fill. (LTS)

According to the project proponent, construction of the proposed project is expected to take about seven months, or 189 days based on an assumption of 4.5 weeks/month and 6 days/week. Assuming up to 50 construction workers¹⁰ working on various parts of the project, construction workers would generate up to 100 daily trips (50 morning peak-hour inbound trips and 50 afternoon peak-hour outbound trips). Existing operations at the PPMT would continue at a normal level throughout the construction period, so all construction traffic would represent a net increase in traffic on the local road network, although it would be a temporary increase.

The earthwork and other construction-related work within the PPMT and the BNSF auto terminal facility would create a total of 57,000 cubic yards of excavated asphalt and earth (30,000 cubic yards from PPMT and 27,000 cubic yards from BNSF site). Of these materials, 42,750 cubic yards of material would be removed from the site and the remaining 14,250 cubic yards would be recycled at the site for later construction. Assuming a capacity of 25 cubic yards per truck, this represents 1,710 two-way truck trips over the course of construction, or about 9 two-way truck trips per day. The project would import up to 36,000 cubic yards of ballast stone during construction of the rail yard, lead track, and new loading tracks at the BNSF facility. This would generate a total of 1,440 two-way truck trips over the course of construction, or about 8 two-way truck trips per day.

These estimates are conservative as they are calculated assuming the import and export of excavated earth and construction materials would be separate trips. In reality, truckers

¹⁰ This represents a conservative peak, rather than the average of 40 workers per day reported in the project description.

would likely come in with construction materials and depart with excavated earth. It is conservatively assumed that all transportation of construction materials and excavated earth would occur during the first part of the seven-month construction period, essentially doubling the daily trip rate. Thus, for the purposes of this analysis, up to 34 two-way truck trips daily could be generated during the first half of the seven-month construction period.

Based on the existing and forecast Background Conditions peak-hour intersection operations (LOS) previously discussed, all of the study intersections currently operate (and would operate under Background Conditions) at LOS A or B, and would have the available capacity to accommodate the added construction traffic without degrading intersection operating conditions. Therefore, the addition of project construction traffic to the road network would be a *less-than-significant impact*.

Mitigation Measure 5-1

None required.

Impact 5-2

Staging of construction equipment and materials, construction parking, lane closures, and slow-moving construction trucks all have the potential to disrupt traffic on Canal Boulevard and create potential traffic hazards during construction. (LTSWM)

Although, as discussed under Impact 5-1, construction traffic would not adversely affect intersection operating conditions, depending on how staging, parking, stock-piling, and traffic control are handled, there is the potential for substantial traffic disruptions during construction. On-street parking is not permitted along Canal Boulevard, so it is expected that off-street parking and staging areas would have to be provided. Although with proper management, these construction logistics are not expected to create substantial problems, absent appropriate controls, this could be a *potentially significant impact*. Implementation of the following mitigation would ensure that the impact would be *less than significant*:

Mitigation Measure 5-2

Prior to construction, the project sponsor shall submit a construction management/traffic control plan for City review and approval. At a minimum, the plan shall include the following:

- identification of construction truck routes, staging, and parking areas for workers, as well as areas of potential encroachment into the public right-of-way;*
- provision of appropriate traffic control personnel and signs; and*
- designation of an on-site construction manager as a contact for the City and the public.*

VEHICLE TRAFFIC IMPACTS

Trip Generation and Distribution

Traffic generation for land development projects are generally estimated based on survey rates compiled by the Institute of Transportation Engineers (ITE). ITE conducts traffic surveys for various land uses throughout the nation, and rates are updated periodically as new survey data becomes available. In this case, because of the unique nature of the project, trip generation rates for the project are not available from the ITE *Trip Generation Manual*. Project trip generation for the project was instead estimated based on the operational characteristics of the project as discussed in Chapter 3. Below is a summary of the conservative operational assumptions used to estimate the trip generation of the proposed project:

- Up to 75 ship calls a year would be made at the PPMT, though approximately 60 ship calls are expected in a typical year.
- Ships would have capacities ranging from 500 to 3,500 vehicles, with an average capacity of 2,000 vehicles.
- Approximately 60 longshoremen would arrive at the PPMT to unload the ships, which would be berthed at the terminal for about 8 hours per call. Periodically, though not typically, two ships would be berthed at the same time (one with Honda vehicles and the other with Glovis vehicles), in which case up to 120 longshoremen would be employed for the day.
- Although AWC employees would work in two shifts, it is assumed that all 120 new AWC employees would travel to work during the AM peak hour and leave during the PM peak hour.
- Similarly, it is assumed that all 120 longshoremen would travel to work during the AM peak hour and leave during the PM peak hour.
- Honda would import 150,000 vehicles a year by ship, 115,000 of which would be transported out of PPMT by train; the remaining 35,000 vehicles would be shipped out via auto carrier trucks. (Train traffic is discussed separately later in this chapter.)
- Each auto carrier truck has the capacity to carry nine vehicles. Therefore, shipment of vehicles by truck would result in 11 daily truck trips ($35,000/9/350$ days of operation = 11). All truck trips were converted to passenger car equivalent for analysis.
- The 80,000 Honda vehicles currently being shipped into the BNSF Automotive Terminal by rail and out of the facility by truck have already been accounted for on the roadway network at all study intersections, with the exception of Canal Boulevard at Seaclyff Drive (Intersection 1). The approximately 25 daily truck trips¹¹ currently generated from the BNSF facility were added to Intersection 1 for all Plus Project traffic scenarios (because those trips would originate at the PPMT under the project proposal).

¹¹ This accounts for transport of Honda vehicles only. Substantial numbers of other makes of vehicles are currently transported to and from the BNSF Automotive Terminal, which would continue (minus the Honda and Glovis vehicles) following project implementation.

- It is conservatively assumed that 30 percent of the car carrier trucks would arrive and depart the PPMT during the AM peak period (7:00 a.m. – 9:00 a.m.) and that 30 of the trucks would arrive/depart during the PM peak period (4:00 – 6:00 p.m.).
- Up to 40 daily visitor trips are assumed, based on the current pattern of visitors to the PPMT; 30 of these trips were assigned to the AM and PM peak periods.

Based on the preceding assumptions representing a conservative, worst-case scenario, the project could generate up to 266 AM peak-hour trips (253 inbound and 13 outbound), and 266 PM peak-hour trips (13 inbound and 253 outbound). In practice, even this conservative estimate of trips would only potentially occur 60 to 75 days a year. For the remainder of the year, the project would likely generate about one half of the estimated traffic reported in this chapter. Table 5-11 summarizes trip generation estimates for the project.

The travel patterns for the project were estimated based on the existing street network, roadway capacities, existing traffic circulation, and area land use patterns. Truck traffic routes were estimated based on consultation with the project proponent. Figure 5-8 shows the estimated travel patterns for both truck traffic and employee/longshoremen traffic. As under the Background traffic scenario, no roadway improvements or intersection signalization are planned or assumed in the Plus Project scenarios.

Background Plus Project Intersection Levels of Service

The project-generated traffic was added to the Background Conditions forecasts to identify impacts under background-plus-project conditions during both the AM and PM peak hours. The resulting traffic volumes are shown on Figure 5-9 and the associated levels of service are listed in Table 5-12.

Impact 5-3

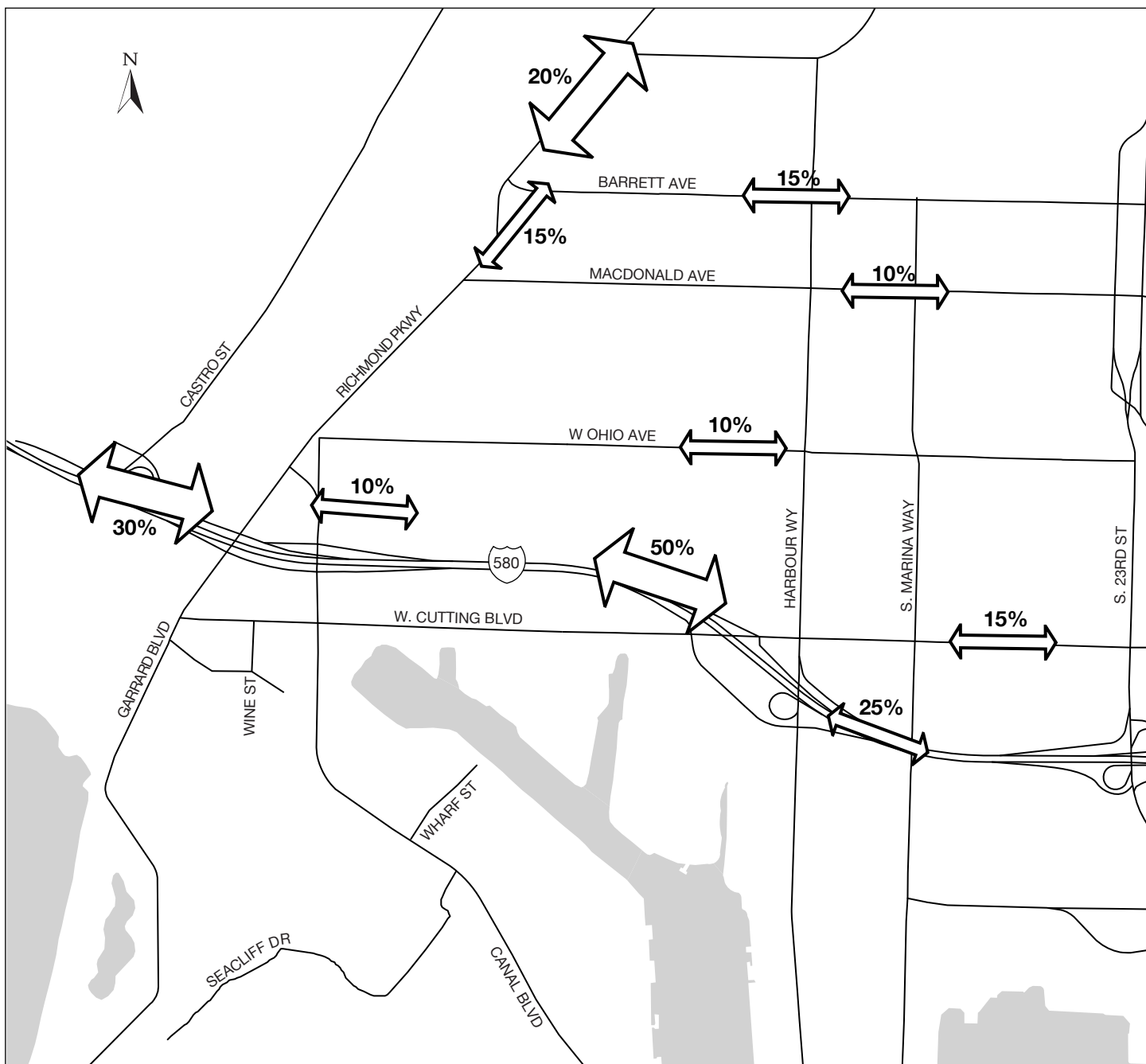
Under Background Plus Project Conditions, the addition of project-generated traffic to the local road network would incrementally increase average delay at project study intersections, but all of the intersections would continue operating acceptably at LOS C or better. (LTS)

As shown in Table 5-9, with the addition of project-generated traffic to the road network, all of the study intersections would continue to operate at acceptable conditions of LOS C or better for both the AM and PM peak hours. The V/C ratio at signalized intersections would range from 0.41 to 0.68, well below the City's threshold of 0.89. At the unsignalized intersection of Canal Boulevard and Seacliff Drive, average delay would increase by 8.5 seconds during the AM peak hour and by 5.4 seconds during the PM peak hour. This would degrade the level of service during both peak hours from LOS B to LOS C. At the unsignalized intersection of Canal Boulevard and Wharf Street, average delay would increase by 0.2 seconds during the AM peak hour and by 1.2 seconds during the PM peak

Table 5–11
Project Trip Generation

Trip Type	Units	AM Peak Hour Trips					PM Peak Hour Trips					Daily Trips				
		Rates	%Enter	Trips	%Exit	Trips	Rates	%Enter	Trips	%Exit	Trips	Rates	%Enter	Trips	%Exit	Trips
Employees	120	1.00	100%	120	0%	0	1.00	0%	0	100%	120	2.00	100%	120	100%	120
Longshoremen	120	1.00	100%	120	0%	0	1.00	0%	0	100%	120	2.00	100%	120	100%	120
Trucks (Passenger car equivalent)	22	0.64	50%	7	50%	7	0.64	100%	7	100%	7	2.00	100%	22	100%	22
Visitors	40	0.0	50%	6	50%	6	0.30	50%	6	50%	6	1.00	50%	20	50%	20
Total Trips				253		13			13		253			282		282

Source: PHA Transportation Consultants, 2008



Legend

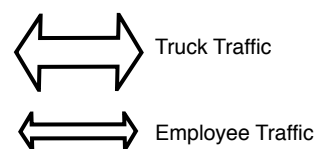


Figure 5-8

Project Traffic Distribution

Source: PHA Transportation Consultants

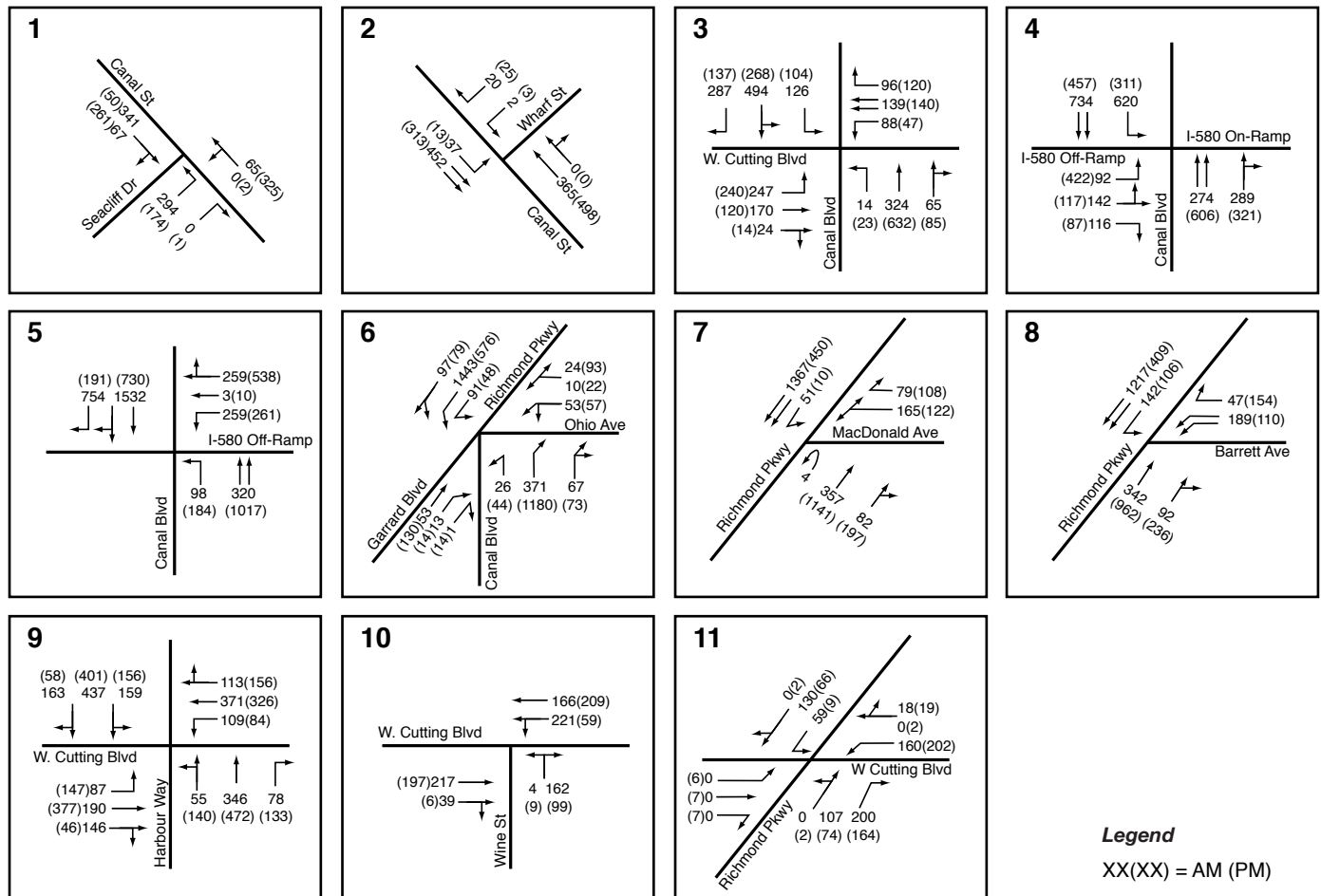
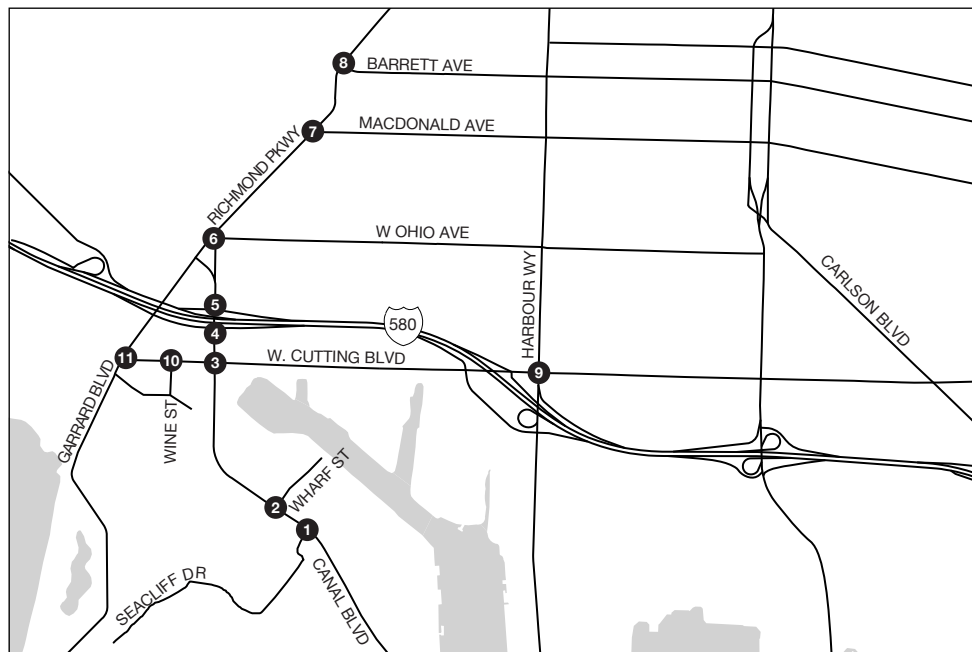


Figure 5-9

Existing Plus Background Plus Project Peak-Hour Traffic Volumes

Source: PHA Transportation Consultants

Table 5–12
Existing Plus Background Plus Project Peak-Hour Levels of Service

Study Intersections	Time Period	Existing		Existing + Background		Existing + Background + Project	
		V/C ¹ (Delay) ²	LOS ³	V/C ¹ (Delay) ²	LOS ³	V/C ¹ (Delay) ²	LOS ³
1. Canal/Seacliff – (1-way stop control)	AM	(10.10)	B	(12.00)	B	(20.50)	C
	PM	(9.90)	A	(11.30)	B	(16.70)	C
2. Canal/Wharf (1-way stop control)	AM	(9.20)	A	(9.90)	A	(10.10)	B
	PM	(9.10)	A	(9.50)	A	(10.70)	B
3. Canal/W. Cutting – (Signalized)	AM	0.31	A	0.34	A	0.46	A
	PM	0.29	A	0.33	A	0.46	A
4. Canal/EB I-580 ramps – (Signalized)	AM	0.49	A	0.53	A	0.53	A
	PM	0.45	A	0.48	A	0.52	A
5. Canal/IWB I-580 ramps – (Signalized)	AM	0.62	B	0.65	B	0.68	B
	PM	0.56	A	0.62	B	0.63	B
6. Richmond Pkwy/Ohio – (Signalized)	AM	0.48	A	0.50	A	0.54	A
	PM	0.47	A	0.51	A	0.54	A
7. Richmond Pkwy/Macdonald – (Signalized)	AM	0.43	A	0.46	A	0.50	A
	PM	0.39	A	0.44	A	0.47	A
8. Richmond Pkwy/Barrett – (Signalized)	AM	0.38	A	0.39	A	0.41	A
	PM	0.40	A	0.42	A	0.45	A
9. Harbour Way/Cutting – (Signalized)	AM	0.39	A	0.45	A	0.46	A
	PM	0.43	A	0.51	A	0.52	A
10. W. Cutting/Wine – (1-way stop control)	AM	(10.20)	B	(10.40)	B	(10.50)	B
	PM	(9.60)	A	(9.80)	A	(9.80)	B
11. W. Cutting/Garrard – (4-way stop control)	AM	(8.50)	A	(8.80)	A	(8.80)	A
	PM	(8.40)	A	(9.00)	A	(9.00)	A

Source: PHA Transportation Consultants, 2008

¹ V/C: Volume-to-Capacity ratio

² Delay: vehicle delay in seconds

³ LOS: Level-of-Service

hour. This small increase in delay would degrade the level of service during both peak hours from LOS A to LOS B. Delay at the remaining unsignalized intersections would increase at most 0.1 seconds, with no effect on level of service. The project-generated traffic would not cause level of service at any of the signalized intersections to deteriorate. Because all study intersections would continue to operate acceptably with the addition of project traffic, this would be a *less-than-significant impact*.

Mitigation Measure 5-3

None required.

Background Plus Project Traffic Volumes

Average daily traffic volumes for the study area were evaluated at key locations to provide another perspective on the project's potential effects on traffic circulation patterns in the area. The project would add about 600 daily trips in the study area, based on a worst-case scenario that assumes all 120 employees and 120 longshoremen would be needed to work at the same time. Table 5-13 shows the existing average daily traffic volumes at each study intersection and the forecasts of traffic volumes under each of the future traffic scenarios with and without project-generated traffic. The results of the daily traffic volume analysis indicated that capacity in the area is not currently a problem, nor would it be under the future scenarios. Generally speaking, four-lane streets such as West Cutting Boulevard and Canal Boulevard (north of Seacliff) have the ability to carry about 20,000 vehicles a day at an acceptable level of service, depending on the design characteristics, such as intersection spacing, curb cuts, traffic control devices, travel speed, and land use, etc. Two-lane streets like Seacliff Drive and Dornan Drive would have capacities to carry 8,500 to 10,000 vehicles per day, depending on the design characteristics. As shown in Table 5-13, the study area street system is currently carrying a traffic load well under its design capacity, and would continue to do so under projected 2030 conditions.

Traffic Signal Warrant Analysis

Traffic signal warrant analyses were conducted at the four unsignalized study intersections to determine if any of the intersections warrant signalization. The four unsignalized intersections are Canal Boulevard at Seacliff Drive, Canal Boulevard at Wharf Street, West Cutting Boulevard at Wine Street, and West Cutting Boulevard at South Garrard Boulevard. In most cases, signalization is the first step used to improve unacceptable LOS at unsignalized intersections. The California Department of Transportation (Caltrans) has established 11 warrants or justifications for signalization. They include peak-hour volume, delays, accident experience, pedestrian volume, and school area considerations, among others. The peak-hour volume warrant is generally considered the most easily satisfied

warrant. If an intersection fails to satisfy the peak-hour volume requirement, it most likely would not satisfy other signal warrants. The results of the signal warrants analysis performed by PHA Transportation Consultants indicated none of the four unsignalized intersections would meet the minimum requirement for peak-hour volumes warrants. Therefore, signalization is not recommended for any of these intersections.

Table 5-13
Average Daily Traffic (ADT) Under All Traffic Scenarios

Roadway Segment	Lane	Existing ¹ Volume	Existing ¹ + Bkgrd	Existing ¹ + Bkgrd + Project	Project Volume (%)	Long- range ²	Long- range ² + Project	Project (%)
1. W. Cutting (west of Canal)	4	5,770	6,546	6,546	0 (0%)	9,555	0	0 (0%)
2. W. Cutting (east of Canal)	4	6,830	8,446	8,598	87 (1%)	14,395	14,482	87 (1%)
3. Canal (south of W. Cutting)	4	7,895	10,479	11,531	580 6%	9,350	9,930	580 (6%)
4. Wharf (east of Canal)	2	1,350	1,350	1,350	0 (0%)	N.A.	0	0 (N.A.)
5. Canal (north of PPMT gate)	2	5,500	5,500	6,552	580 (11%)	6,515	7,095	580 (9%)
6. Seacliff (west of Canal)	2	2,460	5,044	5,044	0 (0%)	N.A.	0	0 (N.A.)
7. Dornan (east of Brickyard)	2	1,220	1,220	1,220	0 (0%)	N.A.	0	0 (N.A.)
8. S. Garrard (north of Cutting)	4	2,200	2,200	2,200	0 (0%)	5,675	0	0 (0%)
9. S. Garrard (south of Cutting)	4	5,325	5,325	5,325	0 (0%)	7,820	0	0 (0%)
10. I-580 (east of Canal) ³	6	71,000	71,932	72,117	175 0.2%	89,600	89,775	67 (0.2%)
11. I-580 (west of Canal) ³	6	68,000	68,820	68,887	67 (0.09%)	88,160	88,227	67 (0.07%)

Source: PHA Transportation Consultants, 2008

¹ Existing daily traffic volume counts were collected from the field by PHA Transportation in early December 2007 and January 2008.

² Long-range 2030 daily traffic volume were obtained from CCTA 's regional traffic model for Richmond Area.

³ I-580 volumes are 2006 data obtained from Caltrans.

Sight Distance Analysis

Sight distance analysis was conducted for the intersection of Canal Boulevard and Seacliff Drive in response to concerns expressed by residents of the Seacliff residential development during the public scoping meeting. Residents indicated that they were unable to see the on-coming vehicles traveling southbound on Canal, representing a safety hazard that would be exacerbated upon implementation of the proposed project, due to the increased number of trucks traveling the route. Two applicable sight distances, stopping sight distance and intersection sight distance, were evaluated for the intersection. Stopping sight distance is the continuous length of roadway ahead visible to the driver. The minimum stopping sight distance is the distance required by a driver of a vehicle traveling at a given speed to bring the vehicle to a stop after an object on the road becomes visible. The intersection sight distance is the distance required for a driver to see on-coming traffic and to safely enter a major street from a minor street at a non-signalized intersection.

Impact 5-4

The proposed project would increase the number of large trucks and other vehicles traveling at speed through the unsignalized intersection of Canal Boulevard and Seacliff Drive, which provides inadequate stopping sight distance and inadequate intersection sight distance. Although this is an existing condition, the additional project traffic would substantially exacerbate the safety hazard at this intersection by increasing the number of motorists exposed to potential accidents between autos and large car-carrier trucks. (LTSWM)

Field evaluation results indicated that the available stopping sight distance is about 280 feet from Seacliff Drive to the north on Canal Boulevard and the speed limit on Canal Boulevard in the vicinity of the intersection is 40 miles per hour (mph). According to Caltrans' *Highway Design Manual*, the minimum sight distance for a design speed of 40 mph is 300 feet, which means the existing sight distance at the intersection is below the minimum standard requirement. A speed survey conducted for Canal Boulevard north Wharf Street indicated the average speed in the area is about 43 mph, and therefore the minimum stopping sight distance should be higher, at about 360 feet. For intersection sight distance, the required sight distance is between 400 and 440 feet, while the available sight distance is less than 300 feet on Canal Boulevard north of Seacliff Drive. In other words, both stopping sight distance and intersection sight distance are short of the minimum requirement for this location. The additional project traffic would substantially exacerbate the safety hazard at this intersection by increasing the number of motorists exposed to potential accidents between autos and large car-carrier trucks, which would be a *potentially significant impact*. Implementation of the following measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 5-4

The City of Richmond shall install a traffic signal at the intersection of Canal Boulevard and Seaclyff Drive. The project sponsor shall pay the fair-share cost of implementing this mitigation measure, as determined by the City of Richmond.

Truck Impacts on Roadway Pavement

According to Richmond Public Works staff, Canal Boulevard was designed for a 6.5 Traffic Index (TI). TI is the measurement used in roadway/pavement design and is calculated based on the number of axle loads on a roadway facility during a given time period, usually daily. An increase in traffic volumes, especially involving heavy vehicles with three axles or more, may necessitate raising the TI for the roadway.

Impact 5-5

The proposed project would increase the number of large multi-axel trucks traveling on Canal Boulevard, contributing wear to a roadway that is already in substandard condition south of Seaclyff Drive. (LTS)

Honda is expected to import 150,000 new vehicles through the PPMT annually and to process an additional 80,000 domestically produced vehicles. Of the total of 230,000 vehicles, 115,000 would be distributed throughout Northern California and the Bay Area via auto carrier trucks. As discussed earlier, the truck loading and distribution operation at the PPMT would occur 360 days annually, and each auto carrier truck has the capacity to carry nine vehicles. This means the project would generate 12,778 truck trips annually on Canal Boulevard, or 25,556 truck trips including arrival and departure.

The added truck traffic impact on Canal Boulevard pavement was evaluated to determine if the existing TI would be adequate to handle the anticipated increased truck traffic. To establish a baseline, a one-day count of heavy trucks, by number of axels, was conducted on Canal Boulevard north of Wharf Street and south of West Cutting Boulevard. Counts at this location captured the existing transport of 80,000 domestically-produced Hondas currently departing the BNSF automotive terminal on an annual basis. The additional trucks that would be generated to transport the proposed 35,000 imported Hondas (i.e., 3,889 trucks, or 7,778 truck trips, equivalent to 22 daily trips) were added to the counts. To calculate a TI, truck trips were first converted into an Equivalent Single-Axle Load (ESAL), based on a standard per-axle weight, using conversion factors provided in Caltrans' *Highway Design Manual*.¹² Table 5-14 summarizes the TI evaluation for Canal Boulevard before and after the proposed Honda Port of Entry project. The analysis summarized in Table 5-14 indicates that the existing TI assigned to the roadway does not accurately reflect the current level of

¹² California Department of Transportation (Caltrans), *Highway Design Manual*, 5th Edition, September 2006.

truck traffic on Canal Boulevard. The results revealed that the TI to accommodate the current level of truck traffic should be 12.0 instead of 6.5.

Table 5–14
Canal Boulevard Traffic Index Calculations

Existing	2-axle Trucks	3-axle Trucks	4-axle Trucks	5-axle Trucks	6-axle Trucks	Total ESALs	Traffic Index
Truck Count by Axle	900	31	271	420	4		
ESAL Conversion Factor ¹	1,380	3,680	5880	13,780	13,780		
ESALs ²	1,242,000	114,080	0	5,787,600	55,120	7,198,800	12.0 ³
W/Project							
Truck Count by Axle	900	31	271	442	4		
ESAL conversion Factor	1,380	3,680	5880	13,780	13,780		
ESALs	1,242,000	114,080	0	6,090,760	55,120	7,501,960	12.0

Source: PHA Transportation Consultants, 2008

¹ Conversion factors contained in Table 603.3 A, Caltrans Highway Design Manual 5th Edition.

² Product of truck count and conversion factor (truck count x conversion factor).

³ Traffic Index based on ESAL contained in Table 613.3 C, Caltrans Highway Design Manual 5th Edition.

As can be seen from the table, the project's additional truck traffic would represent a small fraction of existing daily truck traffic on Canal Boulevard south of Cutting Boulevard. Consequently, following implementation of the proposed project, the increased truck traffic would not cause a change in the roadway TI, which would remain at 12.0. Therefore, although the project would incrementally contribute wear to the roadway, it would not affect the Traffic Index of the roadway, and it would be a *less-than-significant impact*.

Mitigation Measure 5–5

None required.

Site Access and Internal Circulation

According to preliminary plans, access to and from the PPMT facility would continue to be via Canal Boulevard, similar to existing conditions. However, the existing entrance road would be displaced by the proposed PPMT rail yard, and a new replacement roadway segment would be built west of the existing entrance road, connecting with the perimeter road that was built in 2004 to provide port tenants and others access to graving docks and other leased facilities at the southern end of Point Potrero. While the preliminary plans do

not indicate roadway width, the project sponsor has indicated that the roadway would be widened and improved to City of Richmond public street standards for local industrial streets. Richmond's standard for minor industrial streets is 60 feet of right-of-way with a curb-to-curb width of 44 feet. Another access road east of the new rail yard would provide access to other Port tenants (BP and Arco) east of the rail yard.

According to the preliminary plans, the site would have three access points, one for truck access, one for employees at the south end of the perimeter road, and a main entrance near the cafeteria building. These entrances would provide adequate site access. Internal roadways and drive aisles are not dimensioned on the site plan, but are expected to be of sufficient width for vehicle maneuvers, since it is not a public parking lot but an existing auto warehousing facility previously approved by the City. At any rate, final site plans should provide dimensions for parking stalls and drive aisles for City review and approval. The layout and width of the access driveways are not shown on the preliminary plans and should be provided in the final plans for review and approval by the City. Stop signs should also be installed for traffic control. Review and approval of the final site plan by both the Richmond Fire Department and the Public Works Department will be required prior to the issuance of a grading permit. The review by these departments will ensure that there is adequate site access, including emergency access, and adequate accommodation for internal circulation.

Operation of the proposed PPMT rail yard would result in new train crossings that could impede emergency access to existing industrial properties on the east side of Canal Boulevard. This issue is addressed under the separate discussion of train traffic, later in this section.

Parking Demand

Preliminary plans show two parking areas, one at the southern end of the facility for employee, longshoreman, and visitors, with the other near the cafeteria building, presumably for visitors. According to the project sponsor, the site would have a total of 170 parking spaces. This may be adequate for average days but would not be sufficient for the worst-case scenario when all 120 longshoremen and 120 AWC workers are needed to work, along with the existing AWC workers for the Hyundai and Kia operations, despite the fact that AWC workers would work in two shifts. Since the site is not accessible by public transit, it is important for the site to provide adequate parking to accommodate all AWC employees and longshoremen for both existing Hyundai and Kia and the proposed Honda operations, as well as visitors to the PPMT and the historic *SS Red Oak Victory* ship. Based on the conservative estimate of demand presented in Table 5-15, 370 parking spaces should be provided. The preliminary site plans indicated that there is adequate room to add more

parking spaces, if warranted. There is additional discussion of the City's parking requirements in Chapter 4, Land Use and Planning.

Table 5–15
Estimated Parking Demand at the PPMT

Facility/Source of Demand	Number of Potential Drivers	Number of Parking Spaces
Honda	60 longshoremen	60
	120 AWC workers	120
Hyundai/Kia	60 longshoremen	60
	80 AWC workers	80
PPMT	20 visitors	20
Port Tenants & Employees	10 tenants/employees	10
SS Red Oak Victory	20 visitors	20
Total	370 workers/visitors	370

Source: TransDevelopment Group

Impact 5–6

The anticipated parking demand by PPMT employees, longshoremen, visitors, and the public would exceed the parking supply proposed by the project. (LTSWM)

The proposed project includes development of a new employee parking lot east of the docks and west and south of Buildings 24 and 6, within a portion of the Port property reserved for public access to the historic whirly crane and *SS Red Oak Victory* ship currently tied up at Berth 6A. This parking lot would be used by AWC employees, Port tenants, Port employees, longshoremen, and visitors, and would also be available to the public visiting the historic ship. The new parking areas would provide parking for approximately 170 vehicles, while the existing employee parking lot, which accommodates 244 vehicles, would be eliminated by the new PPMT rail yard. As discussed above, the proposed project would generate parking demand on peak days of up to 370 spaces. Based on the standards of significance established in Section 5.5, this would be a *significant impact*. Implementation of the following measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 5-6

The City of Richmond, in consultation with the Port of Richmond and the Project Sponsor, shall make a determination as to the appropriate amount of parking to be provided at the PPMT, and this requirement shall become a condition of the Conditional Use Permit required for the project. This determination may allow for the Project Sponsor to designate a portion of the new auto storage areas as reserve parking (60 spaces) for the extra longshoremen needed at the site on the periodic occasions when two ships are at berth at the PPMT, thereby reducing the permanent parking requirement by 60 spaces. Prior to issuance of a grading permit, the Project Sponsor shall demonstrate on the final site plan the provision of the number of spaces required by the City.

FUTURE CUMULATIVE VEHICLE TRAFFIC IMPACTS

Long-term cumulative Year 2030 traffic volumes for the study area intersections were obtained from the Contra Costa County Regional Traffic Model for the Richmond area. The traffic model was prepared by CCTA in 2000, and factors in the level of land development that is expected to occur by 2030, based on projections by local jurisdictions and the Association of Bay Area Governments (ABAG). The forecast 2030 traffic volumes on the project study intersections are shown on Figure 5-10.

Project-generated traffic was added to the 2030 traffic volumes predicted by the CCTA model to obtain the Cumulative Year 2030 Plus Project Conditions, which are shown on Figure 5-11. The LOS conditions that would result from these volumes are listed in Table 5-16.

It may be noted that some study intersections could have a lower traffic volume and a better LOS ranking under 2030 conditions without the project when compared to the Background Plus Project Conditions scenario previously evaluated. This is primarily because some of the background projects and the proposed project were not included in the traffic model, among other variations in trip generation, distribution, and street network assumptions. Traffic forecasting, like weather forecasting and other future predictions, is an inexact science. The Background Plus Project Conditions scenario, on the other hand, is based on actual, recent traffic counts and the addition of quite predictable traffic from approved and pending projects, including the proposed Honda Port of Entry project.

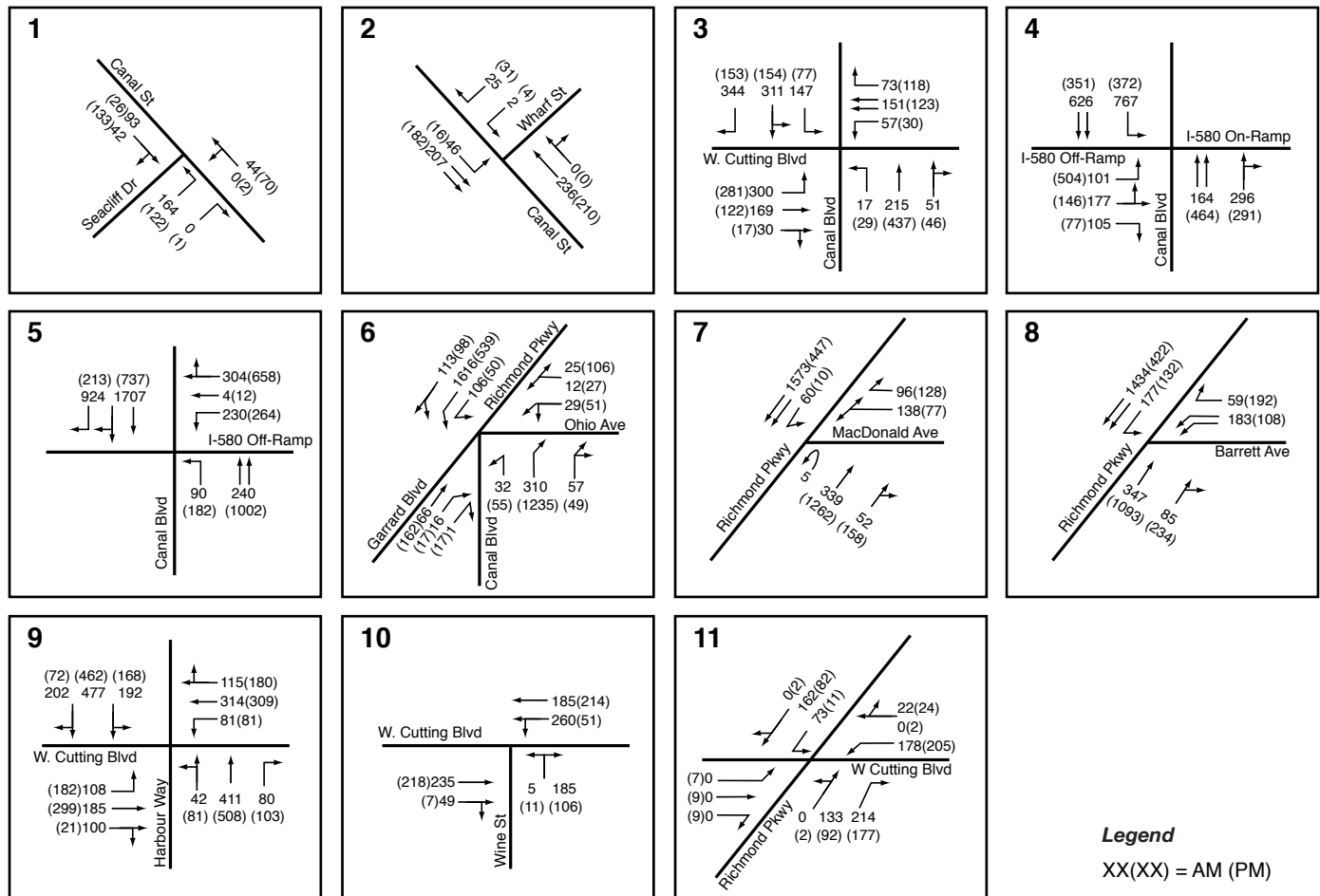
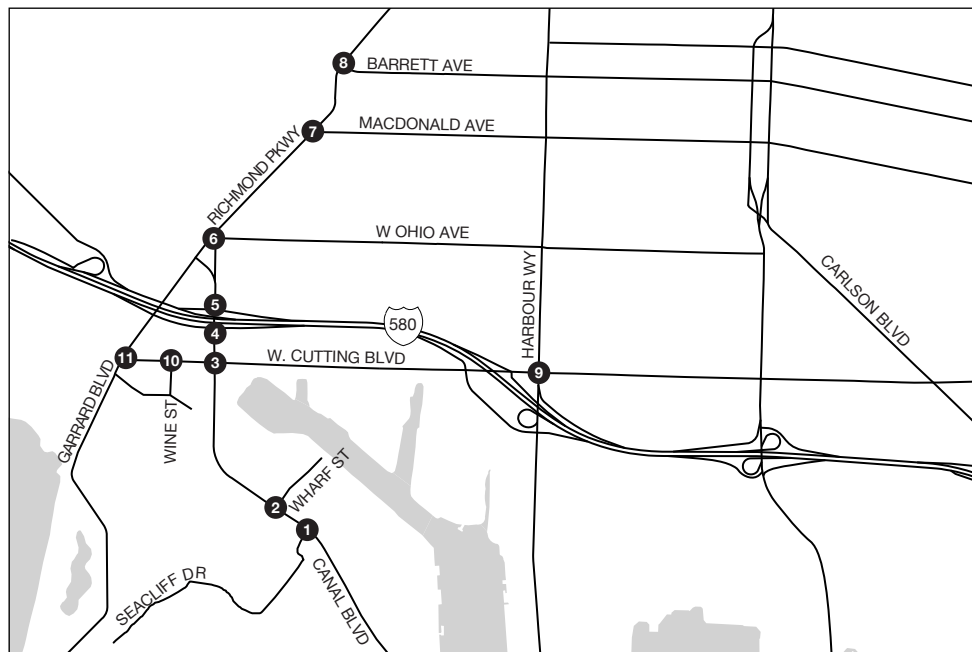


Figure 5-10

Future Cumulative Year 2030 Peak-Hour Traffic Volumes

Source: PHA Transportation Consultants

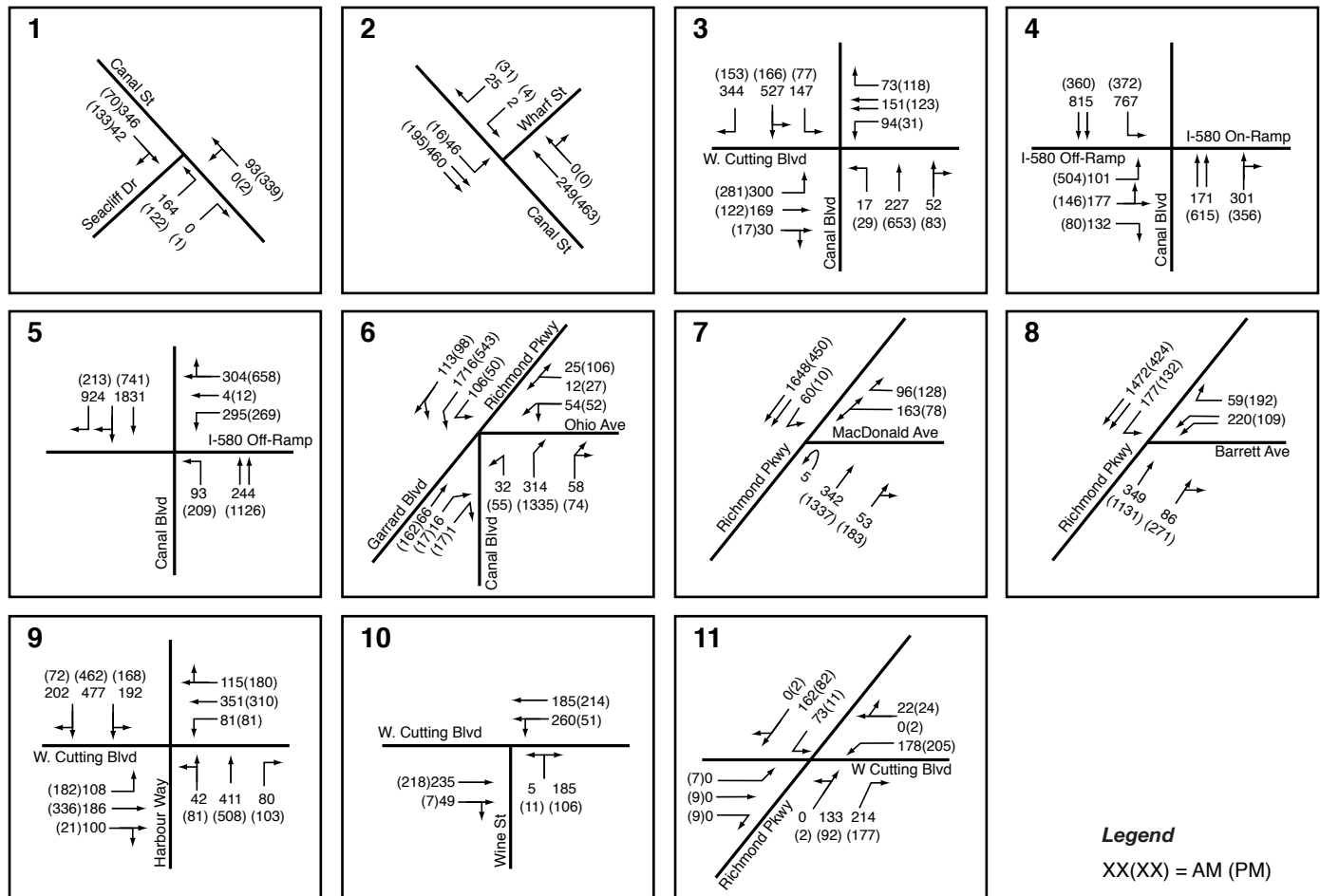
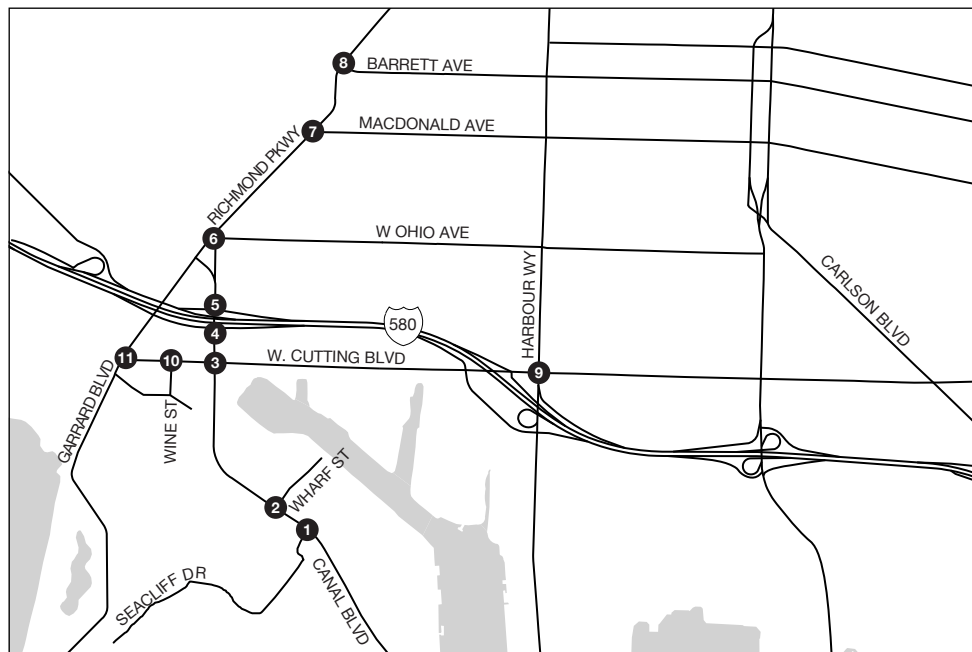


Figure 5-11

Future Cumulative Year 2030 Plus Project Peak-Hour Traffic Volumes

Source: PHA Transportation Consultants

Table 5-16
Cumulative Plus Project Conditions Intersection Levels of Service

		Long-range (2030)		Long-range + Project	
Study Intersections	Time Period	V/C ¹ (Delay) ²	LOS ³	V/C ¹ (Delay) ²	LOS ³
1. Canal/Seacliff – (1-way stop control)	AM	(10.60)	B	(15.20)	C
	PM	(10.30)	B	(14.40)	B
2. Canal/Wharf – (1-way stop control)	AM	(9.40)	A	(9.50)	A
	PM	(9.30)	A	(10.50)	B
3. Canal/W. Cutting – (Signalized)	AM	0.39	A	0.51	A
	PM	0.36	A	0.43	A
4. Canal/EB I-580 ramps – (Signalized)	AM	0.62	B	0.62	B
	PM	0.55	A	0.60	A
5. Canal/IWB I-580 ramps – (Signalized)	AM	0.77	C	0.80	C
	PM	0.70	B	0.72	C
6. Richmond Pkwy/Ohio – (Signalized)	AM	0.60	A	0.64	B
	PM	0.58	A	0.62	B
7. Richmond Pkwy/Macdonald – (Signalized)	AM	0.54	A	0.58	A
	PM	0.49	A	0.52	A
8. Richmond Pkwy/Barrett – (Signalized)	AM	0.48	A	0.50	A
	PM	0.50	A	0.52	A
9. Harbour Way/Cutting – (Signalized)	AM	0.48	A	0.50	A
	PM	0.54	A	0.54	A
10. W. Cutting/Wine – (1-way stop control)	AM	(11.10)	B	(11.10)	B
	PM	(10.00)	A	(10.00)	A
11. W. Cutting/Garrard (4-way stop control)	AM	(9.40)	A	(9.40)	A
	PM	(9.30)	A	(9.30)	A

Source: PHA Transportation Consultants, 2008

¹ V/C: Volume-to-Capacity ratio

² Delay: vehicle delay in seconds

³ LOS: Level-of-Service

Impact 5-7

Under Cumulative Year 2030 Plus Project Conditions, the addition of project-generated traffic to the local road network would incrementally increase average delay at project study intersections, but all of the intersections would continue operating acceptably at LOS C or better. (LTS)

As shown in Table 5-16, with the addition of project-generated traffic to the road network, all of the study intersections would continue to operate at acceptable conditions of LOS C or better for both the AM and PM peak hours under 2030 conditions. The V/C ratio at all but one of the signalized intersections would range from 0.43 to 0.72, well below the City's threshold of 0.89. During the PM peak hour, the V/C ratio at the intersection of Canal Boulevard and the I-580 Westbound Ramps would be 0.80, still comfortably under the threshold. During the PM peak hour at this intersection, the V/C ratio would increase from 0.70 to 0.72, resulting in a change in level of service from LOS B to LOS C. Level of service would also degrade at the signalized intersection of Richmond Parkway at Ohio Street, dropping from LOS A to LOS B during both peak hours with the addition of project-generated traffic.

At the unsignalized intersection of Canal Boulevard and Seaclyff Drive, average delay would increase by 4.6 seconds during the AM peak hour and by 4.1 seconds during the PM peak hour in comparison with 2030 conditions without the project. This would degrade the level of service during the AM peak hour from LOS B to LOS C. At the unsignalized intersection of Canal Boulevard and Wharf Street, average delay would increase by just 0.1 seconds during the AM peak hour and by 1.2 seconds during the PM peak hour. This small increase in delay would degrade the level of service during the PM peak hour from LOS A to LOS B. Delay at the remaining unsignalized intersections would not increase with the addition of project traffic. Because all study intersections would continue to operate acceptably with the addition of project traffic, this would be a *less-than-significant impact*.

Mitigation Measure 5-7

None required.

TRAIN TRAFFIC IMPACTS

New Train Traffic Generation

The proposed project is expected to import 150,000 new Hondas from Japan annually. Of these new vehicles, 35,000 would be distributed to Northern California and Bay Area dealership via auto carrier trucks, while the remaining 115,000 would be distributed via rail cars to other parts of the country. The 80,000 domestically produced Hondas that are currently transported by train to the BNSF Automotive Terminal would instead be

transported to the PPMT, also to be distributed throughout the northern part of the State by truck.

As shown in Table 5–17, the proposed project could generate two outbound train trips plus two inbound train trips, assuming as a worst case that empty rail cars would be brought in for the outbound shipments. However, in all likelihood, the outbound shipments would use the same rail cars that would bring in the American-made Hondas from the Midwest to the PPMT. Following are the assumptions that were used to estimate the projected train traffic:

- Number of new Hondas to be distributed by rail: 115,000 vehicles
- Railcar capacity (average): 12 vehicles
- Each train would consist of 14 rail cars
- $(115,000 \text{ vehicles} / 12 \text{ vehicles per rail car} / 14 \text{ rail cars per train}) = 685 \text{ Trains annually}$ or
- $(685 \text{ trains} / 360 \text{ days of operation}) = 2 \text{ trains daily (average)}$

Although approximately 78,000 Glovis vehicles would be shipped from the PPMT via rail following implementation of the project (requiring an average of one train per day), these vehicles are already being shipped by rail from the BNSF terminal, so they are considered existing train trips for purposes of this analysis. They would, however, have the potential to affect the at-grade crossing of Wharf Street, as discussed below.

Table 5–17
Estimated Project Train Traffic

	Existing Glovis Vehicles (Hyundai & Kia)	Proposed Honda Project
Total Outbound Vehicles Via Rail	78,000	115,000
Outbound Trains (Annually)	465	685
Outbound Trains (Daily)	1.3	1.9

Source: PHA Transportation Consultants, 2008

Switching Impacts on Wharf Street

Currently, train traffic/switching has little impact on Wharf Street, as previously shown by Tables 5–6 and 5–7. However, once the PPMT rail yard is established, train switching that currently occurs between the BNSF Automotive Terminal and the Richmond Rail Yard would instead occur between the BNSF Automotive Terminal and the PPMT. Although this

would eliminate the existing at-grade crossings of Canal, West Cutting, and South Garrard boulevards, train traffic and switching would begin to affect Wharf Street. Wharf Street is a short, local industrial street that extends from Canal Boulevard to the Santa Fe Channel and provides access to several industrial facilities including the existing BNSF auto loading facility. A 24-hour traffic hose count was conducted on Wharf Street just east of the intersection with Canal Boulevard on December 18, 2007. The collected traffic data, presented in Table 5-18, revealed that the total traffic volume on Wharf Street is about 1,300 vehicles per day, which is a relatively low volume of daily traffic. As shown by the gray-shaded rows in Table 5-18, the majority of traffic on Wharf Street traffic occurs between 6:00 a.m. and 6:00 p.m. Once the train shipment of Glovis vehicles is relocated to the PPMT, traffic on Wharf Street would drop because the existing shuttle of individual cars from the PPMT to the BNSF terminal would cease.

Impact 5-8

The proposed establishment of a rail yard at the PPMT would result in periodic delays to vehicles attempting to enter or exit Wharf Street during train crossings. (LTS)

As shown in Table 5-18, the majority of Wharf Street traffic occurs between 6:00 a.m. and 6:00 p.m. The majority (approximately 65 to 70 percent) of proposed switching operations and other at-grade train crossings at Wharf Street would occur between 6:00 p.m. and 6:00 a.m., when traffic on Wharf Street is quite low.¹³ Although drivers would be periodically inconvenienced by this, it would represent a substantial reduction in the number of drivers currently inconvenienced by crossings of Cutting, Canal, and South Garrard boulevards. Some of the drivers who would potentially be affected would be drivers who are currently affected by Canal Boulevard train crossings, because the majority of drivers traveling to or from Wharf Street are doing so via Canal Boulevard and West Cutting Boulevard. This would be a *less-than-significant impact*.

Mitigation Measure 5-8

None required.

Impact 5-9

Switching and other train operations between the proposed PPMT rail yard and the BNSF Automotive Terminal would temporarily block access to industrial properties east of Canal Boulevard. Project trains traveling between the PPMT and the Richmond Rail Yard and utilizing the at-grade crossings at Canal, West Cutting, and South Garrard boulevards would similarly temporarily block access to residential and other properties located south of these crossings. This could

¹³ Bill Robbins, Principal, TransDevelopment Group, personal communication, April 16, 2008.

result in the inability of emergency vehicles to access these properties during fires, medical emergencies, or other types of emergencies. (LTSWM)

Table 5-18
Existing Hourly Traffic Volumes on Wharf Street

Time (hour starting at) ¹	Eastbound Vehicles	Westbound Vehicles	Total Vehicles
00:00	3	0	3
01:00	4	0	4
02:00	9	6	15
03:00	4	4	8
04:00	8	15	23
05:00	6	6	12
06:00	12	38	50
07:00	16	32	48
08:00	28	46	74
09:00	35	40	75
10:00	28	32	60
11:00	31	40	71
12:00	22	41	63
13:00	36	98	134
14:00	45	110	155
15:00	49	82	131
16:00	54	119	173
17:00	45	76	121
18:00	19	7	26
19:00	13	8	21
20:00	16	6	22
21:00	4	1	5
22:00	2	5	7
23:00	3	7	10
Total	492	819	1311

Source: PHA Transportation Consultants, 2008

¹ Time reported using 24-hour military time.

A number of industrial properties are located on the east side of Canal Boulevard between the BNSF facility and the PPMT terminal, including BP Arco, Kinder Morgan, National Gypsum, and Conoco/Phillips. The sole access to these properties is via Canal Boulevard. The proposed lead track connecting the BNSF and PPMT facilities would involve at-grade crossings of all property driveways and Wharf Street, which provides access to additional properties. While the traffic volume at these driveways is low, implementation of the project would result in periodic blocking of the driveways by trains traveling to and from the PPMT and by train switching operations performed at the PPMT and at the BNSF automotive terminal. Although the at-grade railroad crossings at Garrard, Cutting, and Canal Boulevards are all protected by crossing gates and warning signs, the private driveway crossings have only crossbuck (railroad crossing) and stop signs. As currently proposed, the driveways at these crossings would be rehabilitated during construction of the new lead track between the BNSF and PPMT facilities; however, no warning system or additional safety devices are planned.

According to California Public Utilities Commission (CPUC) staff, the type of safety devices and warning signs for railroad crossings are dependent on traffic volume, speed, length of trains, line of sight, etc., and there are no established criteria or warrants for such devices. CPUC staff also indicated that except for the Wharf Street crossings, the driveway crossings are private crossings and the State does not have jurisdiction over them; it is up to the railroad company to install appropriate warning systems.¹⁴ However, if hazardous conditions are created by the Wharf Street crossing, the Commission staff would conduct a field review to determine the type of warning signs and safety equipment needed, if any.¹⁵

During emergencies, if a train occupied the public and private crossings along Canal Boulevard, emergency responders would be unable to access the site of the emergency. Similarly, blockages of the existing at-grade crossings between the BNSF Automotive Terminal and the Richmond Rail Yard by project trains would block direct access to properties south of the crossings, though it would be possible to reach them via alternative, less direct routes. These temporary blockages of emergency vehicle access could potentially result in impacts to human health and safety, such as fires not being controlled in a timely manner or people not receiving medical attention within a critical response period. This would be a *potentially significant impact*. Implementation of the following mitigation would reduce the impact to a *less-than-significant* level:

¹⁴ Felix Ko, California Public Utilities Commission, personal communications, June 18 and 19, 2008.

¹⁵ *Ibid.*

Mitigation Measure 5-9

The project sponsor shall prepare and implement an Emergency Response Plan, subject to review and approval by the Richmond Fire Department and Richmond Police Department, that addresses continuous emergency access to all properties potentially blocked by train crossings or switching operations. Possible approaches to improve or guarantee emergency access could include some or all of the following strategies:

- *Install mobile communications devices on trains so that they can communicate their location and time at crossings with fire and police personnel.*
- *Install GPS tracking devices on trains so that fire and police dispatchers can track train locations.*
- *Install web cams at rail crossings so that motorists and emergency vehicle personnel can remotely monitor the rail crossings for blockage via computer, PDA, or smart phones.*
- *Install a railroad preemption/warning system to alert motorists of crossing trains so that they can use alternate routes.*
- *Investigate the potential to locate a police and fire substation south of Cutting as a long-term solution.*
- *Investigate the potential to create a grade-separated crossing in the area.*
- *Schedule train traffic/switching after 6 p.m. since vehicle traffic on Wharf Street drops significantly after that time.*
- *Investigate the potential for an emergency access through PPMT facility to the east side of the rail yard. A locked gate to the proposed new BP/Arco entrance road could be established, with access codes or keys provided to emergency personnel (fire and police).*

Due to the low speeds at which project trains would cross the private driveways along Canal Street, the traffic safety hazard would not be significant. However, the City should consider inviting the CPUC to conduct a field review of these crossings to make an independent determination on whether additional warning signs or equipment are warranted.

MARINE TRAFFIC IMPACTS

Impact 5-10

The increase in ship traffic resulting from implementation of the proposed project could potentially cause congestion or disruption to the normal flow of traffic in San Francisco Bay. (LTS)

Arrivals of ships into San Francisco Bay have averaged 3,356 per year between 1987 and 2007, with a peak of 3,671 in 1988 and 1991, and a minimum 2,897 in 1997. In 2007, there were 3,585 ship arrivals. These data indicate that San Francisco Bay has historically accommodated more ships than at present, and that an increase of 75 vessels per year to the PPMT would be a *less-than-significant impact*.

Mitigation Measure 5-10

None required.

Impact 5-11

The increase in ship traffic at the project site caused by the proposed project could potentially cause congestion or disruption to the normal flow of traffic at the Port of Richmond. (LTS)

Shipping traffic at the PPMT was higher in the 1980s than it is presently; at that time, Honda, Volkswagen, Volvo, and other automobile companies were importing cars to the PPMT.¹⁶ Both Berths 6C and 7 were in operation, compared to only Berth 7 today, and the Port would often have two vessels docked at the same time. Now, the marine traffic at PPMT is significantly less because only one berth is available for the large car-carrying ships. The PPMT has historically accommodated many more vehicle carriers than at present and would therefore be able to accommodate the project's additional ship traffic. This would be a *less-than-significant impact*.

Mitigation Measure 5-11

None required.

Impact 5-12

The increase in ship traffic resulting from implementation of the proposed project could potentially increase risk of collision or accident in San Francisco Bay and at the project site. (LTS)

As discussed above for Impacts 5-10 and 5-11, San Francisco Bay and the PPMT have historically accommodated more ships than would occur with the addition of proposed project ship traffic to existing conditions. In addition, there is a high level of safety precautions applied to the movement of shipping in San Francisco Bay and around the project site. The car-carrying ships are steered along the outer navigation channels by experienced pilots, and then carefully maneuvered by two tugboats while in Richmond Inner Harbor, and into the PPMT berth (see discussion in Section 5.4). The risk of collision would therefore be considered a *less-than-significant impact*.

Mitigation Measure 5-12

None required.

¹⁶ Norman Chan, Port Administrator, Port of Richmond, personal communication, January 28, 2008.

CUMULATIVE IMPACTS

The potential cumulative traffic and train impacts have been addressed above. With respect to cumulative impacts related to marine traffic, San Francisco Bay and the PPMT have historically accommodated more ships than are proposed with existing conditions plus the project. The cumulative effect of the project in combination with other projects on marine navigation is considered less than significant.

6. AIR QUALITY

6.1 INTRODUCTION

This chapter provides an overview of existing air quality conditions within the vicinity of the proposed Honda Port of Entry site (PPMT) and the surrounding region, the associated regulatory framework, and an analysis of potential air quality impacts that would result from implementation of the proposed project. This chapter also evaluates the potential impacts of the proposed project on regional and local air quality, including temporary impacts due to construction of project components and long-term impacts due to operations from marine vessels, locomotives, auto carrier trucks, and automobiles. Appendix D provides additional information regarding the air emission calculations, assumptions, methodologies, and an assessment of the emissions from the proposed low emission National Railway Equipment Company (NREC) Genset Switcher locomotive.

Air quality issues are addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs that improve air quality. The regulatory context for air quality is described in this chapter.

6.2 SETTING

The project is located in a climatological subregion identified as the Northern Alameda and Western Contra Costa County in the Bay Area Air Quality Management District's (BAAQMD) *BAAQMD CEQA Guidelines*, which describes the climate, topography, and air pollution potential of the subregion as follows:

This climatological subregion stretches from Richmond to San Leandro. Its western boundary is defined by San Francisco Bay and its eastern boundary by the Oakland–Berkeley Hills. The Oakland–Berkeley Hills have a ridge line height of approximately 1500 feet, a significant barrier to air flow. The most densely populated area of the subregion lies in a strip of land between the bay and the lower hills.

In this area, marine air traveling through the Golden Gate, as well as across San Francisco and through the San Bruno Gap, is a dominant weather factor. The Oakland–Berkeley Hills cause the westerly flow of air to split off to the north and south of Oakland, which causes diminished wind speeds. The prevailing winds for most of this subregion are from the west. At the northern end, near Richmond, prevailing winds are from the south–southwest.

Temperatures in this subregion have a narrow range due to the proximity of the moderating marine air. Maximum temperatures in summer average in the mid-70's, with minimums in the mid-50's. Winter highs are in the mid- to high-50's, with lows in the low- to mid-40's.

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

This subregion contains a variety of industrial air pollution sources. Some industries are quite close to residential areas. The subregion is also traversed by frequently congested major freeways. Traffic and congestion, and the motor vehicle emissions they generate, are increasing.¹

Figure 6-1 shows the annual wind rose data for the University of California's Richmond Field Station, which is located approximately 2 miles east of the project site.

The pollution potential of the site area is relatively low compared to other portions of the Bay Area. Ventilation is relatively good, and there is limited transport of pollutants from other upwind urban areas. However, during periods of light or calm winds, which typically occur in the fall and winter months, the entire Bay Area air basin is subject to stagnation and poor air quality.

REGULATORY FRAMEWORK

Air quality issues are under the jurisdiction of the United States Environmental Protection Agency (US EPA), the California Air Resources Board (CARB), and the Bay Area Air Quality Management District (BAAQMD).

Regulation of air pollution is achieved through both federal and State ambient air quality standards and emission limits for individual sources of air pollutants. An "ambient air quality standard" represents a level of an air pollutant in the outdoor (ambient) air that is necessary to protect public health. The ambient standards do not apply to indoor environments.

As required by the federal Clean Air Act (CAA), the EPA identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS, or national standards) to protect the public health and welfare. There are NAAQS for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), respirable particulate matter equal to or

¹ Bay Area Air Quality Management District (BAAQMD), *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*, 1996, revised 1999.

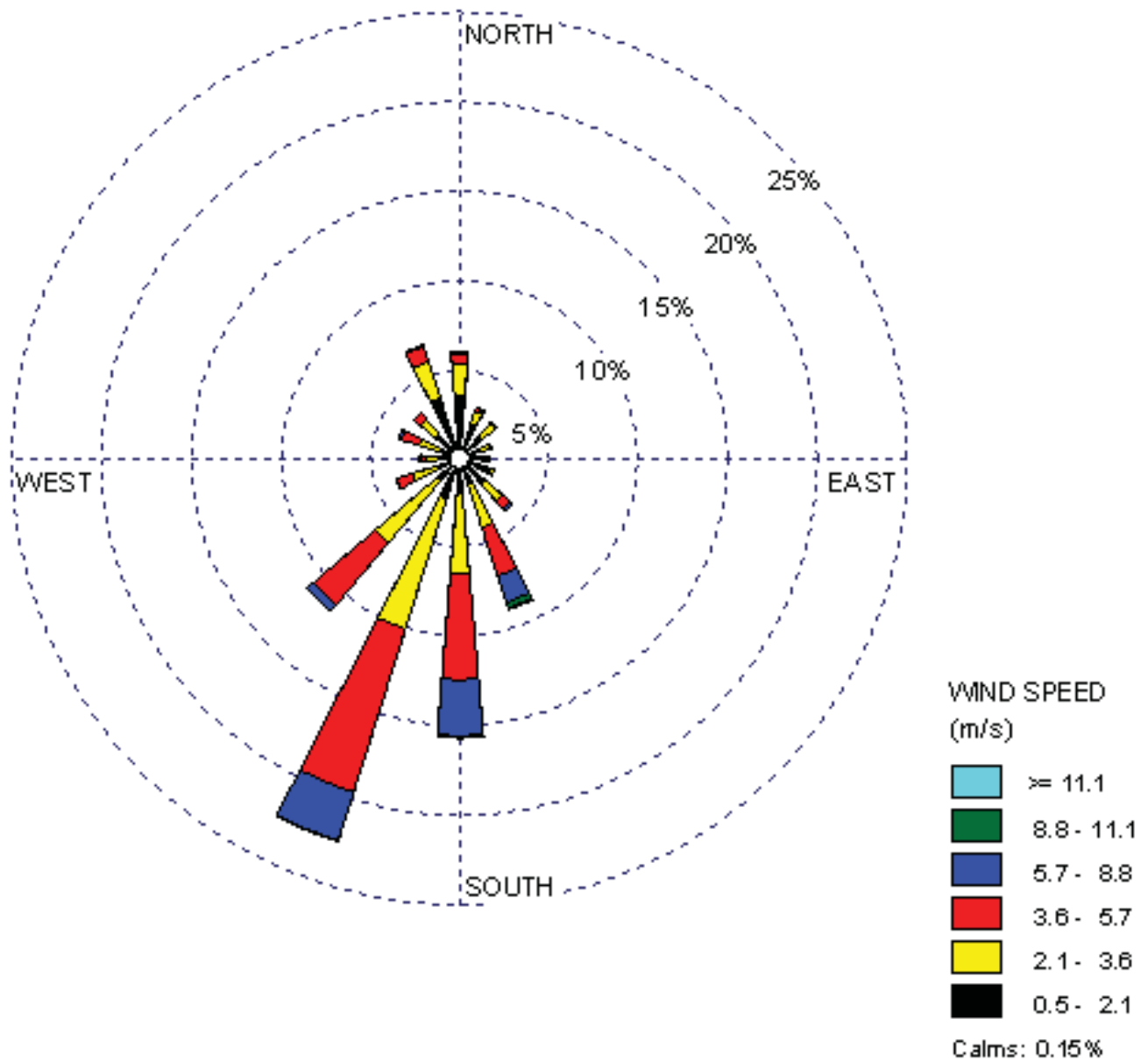


Figure 6-1

Wind Rose for Richmond Field Station

Source: Miller Environmental Consultants, 2008

less than 10 microns (PM_{10}), fine particulate matter equal to or less than 2.5 microns ($PM_{2.5}$), and lead (Pb). These pollutants are known as “criteria” air pollutants because standards have been established to meet specific public health and welfare criteria.

The NAAQS are defined as the maximum acceptable concentration that may be reached, but not exceeded more than once per year. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (CAAQS, or State standards). The pollutants of greatest concern in the area are ozone and PM_{10} . The State and National ambient air quality standards are summarized in Table 6-1, which also provides a brief discussion of the related health effects and principal sources for each air pollutant.

Criteria Air Pollutants

The following provides a brief summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants.

Ozone

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. Ozone 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 volatile organic compounds (VOCs) and nitrogen oxides (NO_x). VOCs and NO_x are known as precursor compounds for ozone. Substantial ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of VOC and NO_x under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

Carbon Monoxide

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic, and in wintertime, with wood-burning stoves and fireplaces. 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). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues.

Table 6–1
State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.08 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide (CO)	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide (NO ₂)	1 Hour Annual	0.18 ppm 0.03 ppm	– 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO ₂)	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	– 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM ₁₀)	24 Hour Annual	50 µg/m ³ 20 µg/m ³	150 µg/m ³ –	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter (PM _{2.5})	24 Hour Annual	– 12 µg/m ³	35 µg/m ³ 15 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead (Pb)	Month Quarter	1.5 µg/m ³ –	– 1.5 µg/m ³	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

SOURCE: California Air Resource Board, February 2, 2007, <http://www.arb.ca.gov/aqs/aaqs2.pdf>

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

This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California, but in 2008 CO measurements and modeling of CO are not a priority concern in any of the State's air districts due to the retirement of older polluting vehicles, reduced emissions from new vehicles, and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the California Air Resources Board's *Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan For Ten Federal Planning Areas*, shown below:

The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (ARB or Board) requirements for cleaner vehicles, equipment, and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as nonattainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard.²

Nitrogen Oxides

When combustion temperatures are extremely high, as in aircraft and truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and nitrogen dioxide (NO₂) are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO₂ and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO₂ can lead to respiratory illnesses such as bronchitis and pneumonia.

Particulate Matter

Particulate matter (PM₁₀ and PM_{2.5}) consists of airborne particles that are 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some

² California Air Resources Board (CARB), *Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan For Ten Federal Planning Areas*, 2004.

sources of particulate matter, such as demolition and construction activities and mining, are more local in nature, while others, such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 microns) settles out rapidly and is easily filtered by human breathing passages. This dust is of concern more as a soiling nuisance rather than a health hazard. The remaining fraction, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs.

Other Criteria Pollutants

Sulfur dioxide (SO_2) is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter, and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the project area are well below federal and State standards; as a result the area is in attainment status with both federal and State SO_2 standards.

Ambient lead concentrations meet both the federal and State standards in the project area. Lead has a range of adverse neurotoxin health effects, and was released into the atmosphere via leaded gasoline products. The phase-out of leaded gasoline in California resulted in dramatically decreased levels of atmospheric lead.

Odors

While offensive, odors rarely cause any physical harm, but they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the BAAQMD. The occurrence and severity of odor problems depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptor(s).

BAAQMD Regulation 7 places general limitations on odorous substances, and specific emission limitations on certain odorous compounds such as mercaptans and phenolic

compounds.³ The regulation applies when and if the BAAQMD receives validated odor complaints from 10 or more complainants in a 90-day period.

Toxic Air Contaminants

Toxic air contaminants (TACs) are pollutants that are associated with acute, chronic, or carcinogenic effects but for which no NAAQS or CAAQS have been established. TAC impacts are evaluated by determining if a particular chemical poses a significant risk to human health and, if so, under what circumstances. The ambient background of TAC is the combined result of many diverse human activities, including gasoline stations, refineries, automobiles, industrial operations, and painting operations. In general, mobile sources (such as diesel) contribute more significantly to health risks than stationary sources.

In August of 1998, the CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter [DPM]) as a TAC. In 2000, CARB published the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*⁴ and the *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*.⁵ The documents represent proposals to reduce diesel particulate emissions, with the goal being to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low-sulfur diesel fuel.

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases. The major concern is that increases in greenhouse gases are causing Global Climate Change. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is tremendous disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most experts agree that there is a direct link between increased emission of greenhouse gases and long-term global temperature.

Greenhouse gases (GHG) allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name *greenhouse gases*. Both

³ Bay Area Air Quality Management District (BAAQMD), BAAQMD Odorous Substances Regulation 7 <http://www.baaqmd.gov/dst/regulations/rg0700.pdf>

⁴ California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, September 28, 2000.

⁵ California Air Resources Board (CARB), *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, September 28, 2000.

natural processes and human activities emit greenhouse gases. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity production and motor vehicles have elevated the concentration of greenhouse gases in the atmosphere. This accumulation of greenhouse gases has likely contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. The principal greenhouse gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H₂O).

The California Energy Commission (CEC) estimated that in 2004, California produced 492 million gross metric tons of CO₂-equivalent greenhouse gas emissions.⁶ The CEC found that transportation is the source of 41 percent of the State's GHG emissions; followed by electricity generation at 22 percent and industrial sources at 21 percent.

In the Bay Area, the BAAQMD recently published the *Source Inventory of Greenhouse Gas Emissions*, which identifies and quantifies direct emissions generated from sources within the San Francisco regional air basin.⁷ This report shows that an estimated 78 million gross metric tons of CO₂-equivalent greenhouse gas emissions were generated in the Bay Area in 2002. The majority of GHG emissions in the Bay Area come from Transportation (50.6 percent), followed by Industrial/Commercial (25.7 percent). Domestic sources (e.g., home water heaters, furnaces, etc.) account for 10.9 percent of the Bay Area's GHG emissions, followed by power plants at 7.2 percent.

Regulatory Agencies

The US EPA is responsible for implementing a myriad of programs established under the federal Clean Air Act (CAA), such as establishing and reviewing the NAAQS and judging the adequacy of State Implementation Plans (SIPs). However, US EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

The CARB is responsible for establishing and reviewing California's State standards, compiling the California SIP, securing approval of this plan from US EPA, and identifying toxic air contaminants. CARB also regulates mobile emissions sources in California, such as construction equipment, trucks, and automobiles, and oversees the activities of air quality management districts, which are organized at the county and/or regional level. The

⁶ California Energy Commission, *Inventory of Greenhouse Gas Emissions and Sinks 1990–2004*, December 2006.

⁷ Bay Area Air Quality Management District (BAAQMD), *Source Inventory of Bay Area Greenhouse Gas Emissions*, November 2006.

county/regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their jurisdictions and for preparing air quality plans that are required under the federal Clean Air Act and California Clean Air Act. These regional air quality plans are prepared by districts throughout the State and compiled by CARB to form California's SIP. The local air districts also have the responsibility and authority to adopt transportation control and emission reduction programs for indirect and area-wide emission sources.

Local councils of governments, county transportation agencies, cities and counties, and various non-governmental organizations also join in the efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies, as well as implementation of extensive education and public outreach programs. BAAQMD is the regional agency with jurisdiction over the area surrounding the PPMT. The BAAQMD is responsible for bringing the area into compliance and/or maintaining air quality within federal and State air quality standards. This includes the responsibility to monitor ambient air pollutant levels and to develop and implement attainment strategies to ensure that future emissions are within federal and State standards.

In December of 1999, the BAAQMD prepared its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans* as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The BAAQMD CEQA Guidelines is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that the BAAQMD uses when reviewing and commenting on the adequacy of environmental documents, such as this EIR. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. This Air Quality chapter has generally followed the recommendations of the BAAQMD CEQA Guidelines. Certain issues in this chapter (i.e., AB 32 requirements for reducing greenhouse gases) are more recent than the BAAQMD CEQA Guidelines, so the Guidelines do not specify analysis methodologies for all air quality issues covered in this EIR.

Regulations and Policies

As required by the federal Clean Air Act and the California Clean Air Act, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the standards have been achieved. Nonattainment areas are also required to prepare air quality plans that include strategies for

achieving attainment. The San Francisco Bay Area Air Basin is in attainment of both the NAAQS and the CAAQS for NO₂, SO₂, CO, and lead. The Bay Area Air Basin is nonattainment with both the NAAQS and CAAQS for ozone. The Bay Area Air Basin is nonattainment of the CAAQS for PM₁₀ and PM_{2.5}, but is in attainment of the NAAQS for PM_{2.5} and is unclassified for the NAAQS PM₁₀ standard.

Air quality plans developed to meet federal requirements are referred to as SIPs. The federal Clean Air Act and the California Clean Air Act require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the State PM₁₀ standard). Plans are also required under federal law for areas designated as “maintenance” for national standards. Such plans include strategies for attaining the standards. Currently, there are three plans for the Bay Area:

- *Revised Ozone Attainment Plan for the 1-Hour National Ozone Standard*,⁸ developed to meet federal ozone air quality planning requirements;
- *Carbon Monoxide Maintenance Plan*,⁹ developed to ensure continued attainment of the national CO standard; and
- *Bay Area 2005 Ozone Strategy*,¹⁰ which was adopted by the BAAQMD Board of Directors on January 4, 2006, reviews the region's progress over the years in reducing ozone levels, describes current conditions, and charts a course for future actions to further reduce ozone and ozone precursor levels in the Bay Area.

The control strategy is a central element of the *Bay Area 2005 Ozone Strategy*. The control strategy outlines a set of control measures to further reduce ozone precursor emissions in order to reduce ozone levels in the Bay Area and to reduce transport of pollution to downwind regions. The control strategy includes stationary source measures, mobile source measures, and transportation control measures.

Assembly Bill 32 – California Global Warming Solutions Act

California Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006,¹¹ was enacted as legislation in 2006 and requires the CARB to establish a Statewide GHG emission cap for 2020 based on 1990 emission levels. AB 32 requires CARB to adopt regulations that will identify and require selected sectors or categories of emitters of GHGs to report and verify their Statewide GHG emissions, and CARB is authorized to enforce compliance with the program that will be developed. Under AB 32, CARB also is required to adopt a

⁸ Association of Bay Area Governments (ABAG), *Revised Ozone Attainment Plan for the 1-Hour National Ozone Standard*, adopted October 24, 2001.

⁹ Association of Bay Area Governments (ABAG), *Carbon Monoxide Maintenance Plan*, 1994.

¹⁰ Bay Area Air Quality Management District (BAAQMD), *Bay Area 2005 Ozone Strategy*, September, 2005.

¹¹ California Assembly Bill 32, the *Global Warming Solutions Act of 2006*, passed August 31, 2006, <http://www.arb.ca.gov/cc/docs/ab32text.pdf>

Statewide GHG emissions limit equivalent to the Statewide greenhouse gas emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations (which shall become operative January 1, 2012), to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions. AB 32 permits the use of market-based compliance mechanisms to achieve those reductions. AB 32 also requires CARB to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism that it adopts. The Port of Richmond will be required to comply with all applicable final rules, regulations, emissions limitations, emissions reduction measures or market-based compliance mechanisms adopted under AB 32.

In June 2007 CARB directed staff to pursue 37 early actions for reducing greenhouse gas emissions under the California Global Warming Solutions Act of 2006 (AB 32). The broad spectrum of strategies to be developed—including a Low Carbon Fuel Standard, regulations for refrigerants with high global warming potentials, guidance and protocols for local governments to facilitate greenhouse gas reductions, and green ports—reflects that the serious threat of climate change requires action as soon as possible.¹²

In addition to approving the 37 greenhouse gas reduction strategies, CARB directed staff to further evaluate early action recommendations made at the June 2007 meeting, and to report back to CARB within six months. The general sentiment of CARB suggested a desire to try to pursue greater greenhouse gas emissions reductions in California in the near-term. Since the June 2007 CARB hearing, CARB staff has evaluated all 48 recommendations submitted by several stakeholders and several internally-generated staff ideas and published the *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration* in October 2007.¹³ Based on its additional analysis, CARB staff is recommending the expansion of the early action list to a total of 44 measures. Nine of the strategies meet the AB 32 definition of discrete early action measures. Discrete early action measures are measures that will be in place and enforceable by January 1, 2010. The discrete early action items include: (1) a Low Carbon Fuel standards for ethanol, biodiesel, hydrogen, electricity, compressed natural gas, liquefied petroleum gas and biogas; (2) restrictions on High Global Warming Potential Refrigerants; (3) Landfill Methane Capture, (4) Smartway Truck Efficiency; (5) Port Electrification; (6) Reduction of perfluorocarbons from the semiconductor industry; (7) Reduction of propellants in

¹² California Air Resources Board (CARB), *Draft List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration*, September 2007.

¹³ California Air Resources Board (CARB), *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration*, October 2007.

consumer products; (8) Tire inflation; and (9) Sulfur Hexafluoride (SF6) reductions from non-electricity sector. There are four items from the list of the 44 recommended early actions that directly address port issues (1) Diesel – port trucks (2) Diesel – Vessel main engine fuel specifications (3) Diesel – Commercial harbor craft, and (4) Green Ports.

The 2020 target reductions are currently estimated to be 174 million metric tons of carbon dioxide (CO₂) equivalent (MMTCO₂E). In total, the 44 recommended early actions have the potential to reduce greenhouse gas emissions by at least 42 MMTCO₂E emissions by 2020, representing about 25 percent of the estimated reductions needed by 2020. CARB staff is working on 1990 and 2020 greenhouse gas emission inventories in order to refine the projected reductions needed by 2020 and expects to present its recommendations to the CARB by the end of 2007. The 44 measures are in the sectors of fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, solid waste, cement, oil and gas, electricity, and fire suppression.

In addition to identifying early actions to reduce greenhouse gases, the CARB has also developed mandatory greenhouse gas reporting regulations pursuant to requirements of AB 32. The regulations will require reporting for facilities that make up the bulk of the stationary source emissions in California. The regulations identify major facilities as those that generate more than 25,000 metric tons/year of CO₂ equivalent (CO₂E). Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons/year of CO₂E make up 94 percent of the point source CO₂ emissions in California.¹⁴

City of Richmond General Plan

As part of the Open Space and Conservation Element of the General Plan, the City of Richmond has adopted certain goals and policies intended to improve air quality in the City. These are:

Goal OSC-P	Preserve the air quality so that air pollution levels do not threaten public health and safety. This will apply not only to the local area, but to potential sources of pollution originating in though not impacting the City of Richmond.

Existing and proposed programs and actions designed to meet the policies of Goal OSC-P include the following:

1. City will require individual developers to closely coordinate with the BAAQMD in implementing applicable new stationary source control measures as proposed

¹⁴ California Air Resources Board (CARB), *Mandatory Reporting of California greenhouse gas Emissions*, Presentation in El Monte, California, December 6, 2007.

in the most recent CAP, while conforming to existing BAAQMD stationary source regulations and requirements and complying with BAAQMD rules and regulations regarding indirect sources.

2. City will develop an ordinance requiring fireplaces in all new residential units to be of the EPA-certified type, which would reduce wood smoke particulate emissions by up to 70–80 percent when compared with ordinary fireplaces.
3. City will continue to coordinate with the Air District in planning future growth, designating land uses for future development, implementing regional transportation plans and trip reduction measures, and controlling stationary source emissions.

Policy OSC–P.1	Only approve projects that will comply with applicable regulations and will not exceed air quality standards.
Policy OSC–P.2	New developments should not subject residents to objectionable odors or other nuisances (e.g., dust).
Policy OSC–P.3	Ensure that developers and businesses work with regional, State and federal agencies to meet air quality standards.

Zoning Ordinance Air Quality Provisions

The City of Richmond Zoning Ordinance contains Air Quality requirements as specified in Section 15.04.840.030 shown below.

15.04.840.030 Odor, Particulate Matter and Air Contaminant Standards. No continuous, frequent or repetitive odors are permitted which are perceptible on or beyond adjacent property lines. An odor detected no more than a total of 15 minutes in any one day shall not be deemed to be continuous, frequent or repetitive for this regulation. No dust or particulate matter shall be emitted that is detectable at boundary lines or property by a reasonable person without instruments. Exhaust air ducts shall be located or directed away from abutting residentially-zoned properties.

The Zoning Ordinance also contains Section 15.04.840.110 that requires the following Construction Operation Standards that relate to air quality:

During the construction of a project, all portions of the site shall be watered as necessary to reduce emissions of dust and other particulate matter and all stockpiles shall be covered. Streets shall be made dirt free at the completion of construction. All construction and transport equipment shall be muffled in accordance with State and Federal laws. Construction and transport equipment shall be operated so as to minimize exhaust emissions. Grading and pile driving operations within ¼ mile of residential units shall be limited to between 7 a.m. and 7 p.m., or as otherwise restricted as part of an approval. All water run-off from construction site shall be controlled. During construction trucks and equipment should be running only when necessary.

EXISTING AIR QUALITY

BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria pollutants. Existing and probable future general levels of air quality in the proposed project area can generally be inferred from ambient air quality

measurements conducted by BAAQMD at its monitoring stations. The major pollutants of concern in the San Francisco Bay Area are ozone, PM₁₀, PM_{2.5}, CO, NO₂, and SO₂, which are monitored at a number of locations. Within Contra Costa County, the BAAQMD operates or receives data from seven monitoring stations in the local area.

Background ambient concentrations of pollutants are determined by pollutant emissions, wind patterns, and meteorological conditions within a given area. As a result, background concentrations can vary among different locations within an area. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations. The closest and most representative monitoring stations to the proposed project site are in the City of San Pablo on Rumrill Boulevard at Dover Avenue (about 3.3 miles north of the PPMT) for most of the pollutants, and Concord, the nearest monitoring station for PM_{2.5}. Table 6-2 shows a five-year (2003–2007) summary of maximum concentration monitoring data collected from the monitoring stations, compared with AAQS. The monitoring data show that ozone, PM₁₀, and PM_{2.5} periodically exceeded the AAQS.

For the purposes of air quality analyses, sensitive receptors are generally defined as land uses with population concentrations that would be particularly susceptible to disturbance from dust, noise, vibration, air pollutant concentrations, or other disruptions associated with project construction and/or operation. These receptors generally include schools, day care centers, libraries, hospitals, residential care centers, parks, and churches. Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than is the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

Table 6–2
Air Quality Data Summary (2003–2007) For the Project Area¹

Pollutant	Monitoring Data by Year					
	CAAQS/ NAAQS ²	2003	2004	2005	2006	2007
Ozone						
Highest 1 Hour Average (ppm) ³	0.09	0.091	0.105	0.066	0.061	0.074
Highest 8 Hour Average (ppm) ³	0.07	0.068	0.069	0.057	0.050	0.051
Particulate Matter (PM10)						
Highest 24 Hour Average ($\mu\text{g}/\text{m}^3$) ³	50	49	64	42	62	54
Annual Average ($\mu\text{g}/\text{m}^3$) ³	20	20.6	21.2	19.0	21.3	21
Particulate Matter (PM2.5)						
Highest 24 Hour Average ($\mu\text{g}/\text{m}^3$) ³	35	50	74	48.9	62.1	47
Annual Average ($\mu\text{g}/\text{m}^3$) ³	12	9.8	11.5	9.3	10.0	8.0
Carbon Monoxide (CO)						
Highest 1 Hour Average (ppm) ³	20	3.1	3.2	2.8	2.5	2.4
Highest 8 Hour Average (ppm) ³	9	1.8	1.8	1.3	1.4	1.2
Sulfur Dioxide (SO2)						
Highest 1 Hour Average (ppm) ³	0.25	0.019	0.019	0.025	0.017	0.017
Highest 3 Hour Average (ppm) ³	0.5	0.013	0.010	0.013	0.012	0.012
Highest 24 Hour Average (ppm) ³	0.04/0.14	0.005	0.005	0.006	0.005	0.005
Annual Average (ppm) ³	0.03	0.002	0.002	0.002	0.002	0.002
Nitrogen Dioxide (NO2)						
Highest 1 Hour Average (ppm) ³	0.18	0.070	0.055	0.054	0.055	0.052
Annual Average (ppm) ³	0.03	0.013	0.013	0.012	0.013	0.011

SOURCE: EPA (<http://www.epa.gov/air/data/>), 2003–2007 and BAAQMD (http://www.baaqmd.gov/pio/aq_summaries/index.htm), 2003–2006.

NOTE: Values in **bold** are in excess of applicable standard.

¹ Ambient monitoring station for ozone, CO, SO₂, NO₂, and PM₁₀ is at 1865 Rumrill Blvd, San Pablo; for PM_{2.5} is at 2956 Treat Blvd, Concord.

² California Ambient Air Quality Standards are not to be exceeded and National Ambient Air Quality Standards are not to be exceeded more than once per year.

³ ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

6.3 STANDARDS OF SIGNIFICANCE

Significance criteria were derived from Appendix G of the CEQA Guidelines. Impacts to air quality resources would be considered significant if the project were to:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality;
- expose sensitive receptors to substantial pollutant concentrations;
- create objectionable odors affecting a substantial number of people; or
- cause a significant health risk increase above the thresholds of the BAAQMD relative to emissions of toxic air contaminants.

The *BAAQMD CEQA Guidelines* contain a set of recommendations that provide specific guidance on evaluating projects under CEQA relative to the above general criteria. The BAAQMD has established significance criteria for criteria air pollutants, toxic air contaminants, and odors.

For temporary construction-phase impacts, the BAAQMD recommends a qualitative approach that focuses on the dust control measures that would be implemented. If appropriate mitigation measures are implemented to control PM₁₀ emissions, the impact from construction would be less than significant.

For evaluating operational phase emissions, the BAAQMD recommends that local agencies consider individual development projects exceeding either of the following thresholds to have a significant impact on the environment:

- Project would cause a net increase in pollutant emissions of reactive organic gases (ROG), NO_x, or PM₁₀ exceeding 80 pounds per day or 15 tons per year.
- Project would cause a net increase in carbon monoxide emissions exceeding 550 pounds per day, reduce roadway Level of Service for intersections operating at Level of Service D; cause a reduction of intersection Level of Service to D, E or F; increase traffic volumes on nearby roadways by 10 percent or more; or violate State CO concentration standards, as determined by the modeling of CO emissions. The level of significance of CO emissions from mobile sources is determined by modeling the ambient CO concentration under project conditions and comparing the resultant 1- and 8-hour concentrations to the respective State CO standards of 20.0 and 9.0 parts per million.

With respect to odors, the BAAQMD's significance criteria are more subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD

considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. In practical terms, the BAAQMD considers odor impacts for projects located near an existing source of odors to be significant if there has been either: 1) more than one confirmed complaint per year averaged over a three-year period; or 2) three unconfirmed complaints per year averaged over a three-year period.

The significance of toxic air contaminant (TAC) emissions from the project is dependent on the chance of contracting cancer from exposure to the TACs or of having adverse health effects from exposure to non-carcinogenic TACs. These exposure criteria are discussed in more detail below.

CANCER RISK

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chances in one million of contracting cancer, for example one cancer case among one million people exposed. Incremental cancer risks are determined by summing the individual risk for each TAC.

A project is considered to have a significant cancer risk if the incremental cancer risk at a receptor exceeds 10 in a million. This is consistent with regulation under AB 2588 as well as Proposition 65, both of which require public notification if the incremental risk equals or exceeds 10 in a million. The *BAAQMD CEQA Guidelines* also recommend that the cancer risk significance threshold be 10 in a million. The incremental risk from exposure to a given TAC is calculated by multiplying the concentration (or dosage level) of the given TAC by its specific unit risk factor or potency slope. The unit risk factor or potency slope of a TAC is derived from epidemiological studies, and the published values are based on the assumption that a person would be exposed to the given TAC at that dosage constantly for 70 years or for the life of the project.

NON-CANCER HEALTH RISK

Health risks for each non-carcinogenic TAC are determined using a Hazard Index (HI), which is the ratio of the predicted exposure concentration to a threshold level that could cause adverse health effects other than cancer, as established by the Office of Environmental Health and Hazard Assessment (OEHHA). The ratio (HI) of each non-carcinogenic substance is added to the calculated Hazard Indices of the other non-carcinogens to produce an overall HI. If the overall HI exceeds 1.0, then the impact would be significant. The HI significance threshold of greater than 1.0 is defined in the *BAAQMD CEQA Guidelines* and is consistent with the value requiring public notification in the AB 2588 regulation and in Proposition 65.

CUMULATIVE IMPACTS

The *BAAQMD CEQA Guidelines* indicate that any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. For any project that does not individually have significant operational air quality impacts, the determination should be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the regional air quality plan.

GREENHOUSE GASES

At this time there are no Statewide guidelines for greenhouse gas emission impacts, but this will be addressed through the provisions of Senate Bill 97 (SB 97), which was enacted in 2007. SB 97 "2007 Statutes, Ch. 185" acknowledges that local agencies must analyze the environmental impact of greenhouse gases under CEQA. Furthermore, the bill requires the State Office of Planning and Research (OPR) to develop CEQA guidelines for the effects and mitigation of greenhouse gas emissions. Unfortunately, the guidelines will not be available for some time as OPR has until July 1, 2009 to draft the new greenhouse gas guidelines, and the State Resources Agency will thereafter have until January 1, 2010 to certify and adopt the regulations. In the interim local agencies must analyze the impact of greenhouse gases. There is currently no adopted threshold for all City projects, so for this analysis, the project would be considered to have a significant impact if the project would be in conflict with the AB 32 State goals for reducing greenhouse gas emissions.

6.4 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION IMPACTS

Impact 6-1

Activities associated with proposed project construction would generate short-term emissions of criteria pollutants, including construction-related dust emissions and equipment exhaust emissions, during the term of construction. (LTSWM)

Construction-related emissions would occur at individual project construction sites and be relatively short term, within the construction period, but could still cause adverse effects on the local air quality. Proposed project construction could generate substantial amounts of dust (including PM₁₀ and PM_{2.5}), primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe), and other criteria air pollutants, primarily from operation of heavy equipment construction machinery (primarily diesel operated) and construction worker automobile trips (primarily gasoline operated).

Criteria pollutant emissions of VOC and NO_x from construction equipment would incrementally add to the regional atmospheric loading of ozone precursors during project construction. The *BAAQMD CEQA Guidelines* recognize that construction equipment emits ozone precursors, but for the purposes of CEQA analyses, the guidelines indicate that such emissions are included in the emissions inventory that is the basis for regional air quality plans. Therefore, the construction equipment emissions would be consistent with emission inventory estimates and are not expected to impede attainment or maintenance of ozone standards in the Bay Area.¹⁵

Construction-related dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, site visibility and PM₁₀ concentrations may be adversely affected on a temporary and intermittent basis during the construction period. Construction-related emissions are generally short-term in duration. In the *BAAQMD CEQA Guidelines*, PM₁₀ is the pollutant of greatest concern with respect to construction activities. The BAAQMD approach to analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. The District considers a project's construction-related dust emissions to be less than significant if the required dust-control measures are implemented. The BAAQMD has identified a set of feasible PM₁₀ control measures for construction activities to be implemented based upon the size and sensitivity of the construction activities. As identified in Mitigation Measure 6-1, the Honda Port of Entry shall implement the following control measures identified by the BAAQMD, during all construction activities. The measures include all the recommended Basic Control Measures and the Enhanced Control Measures. The project's construction-related dust emissions could cause a *significant, adverse impact*, which would be reduced to a *less-than-significant* level through implementation of the following control measures:

Mitigation Measure 6-1

The applicant shall implement dust abatement measures identified by BAAQMD as feasible dust control, during all construction activities, including the following:

- *water all active construction areas at least twice daily;*
- *cover all trucks hauling soil, sand, and other loose materials, or require such trucks to maintain at least two feet of freeboard;*
- *pave, apply water at a minimum three times daily in dry weather, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas;*

¹⁵ Bay Area Air Quality Management District (BAAQMD), *Source Inventory of Bay Area Greenhouse Gas Emissions*, November 2006.

- *sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas;*
- *sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets areas;*
- *hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more);*
- *enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.);*
- *limit traffic speeds on unpaved roads to 15 miles per hour;*
- *install sandbags or other erosion control measures to prevent silt runoff to public roadways; and*
- *replant vegetation in disturbed areas as quickly as possible.*

OPERATIONAL IMPACTS

Impact 6-2

Operation of the proposed project would generate emissions of criteria pollutants from the auto carrier marine vessels, tugs, rail activities, auto carrier trucks, and employee vehicles. The impacts of carbon monoxide, volatile organic compounds, and particulate matter (PM₁₀ and PM_{2.5}) would be less than significant. However, the impact from emissions of nitrogen oxides would be significant and unavoidable. (SU)

As shown in Tables 6-3 and 6-4, the proposed project operations would generate emissions of CO, VOC, NO_x, PM₁₀, and PM_{2.5} due to operation of marine vessels (auto carriers and tugs), rail activities, and motor vehicles. Appendix D provides additional information regarding the air emission calculations, assumptions, and methodologies. Table 6-3 and 6-4 present the daily and annual emissions for the existing Glovis operations and the proposed Honda operations.

Of the proposed project's total daily NO_x emissions, rail operations would generate 2 percent, auto carrier marine vessels would generate 88 percent, tugs would generate 2 percent, auto carrier trucks would generate 8 percent, and employee vehicles would generate less than 1 percent. Of the proposed project's total annual NO_x emissions, 5 percent would come from rail operations, 65 percent would come from auto carrier marine vessels, 3 percent would come from tugs, 25 percent would come from auto carrier trucks, and 1 percent would come from employee vehicles.

Within the auto carrier marine vessels, the main engine emits 85 percent, the auxiliary engine emits 15 percent, and the auxiliary boiler emits less than 1 percent of the auto carrier marine vessel NO_x emissions, respectively.

Table 6–3
Daily Operational Emissions (Pounds)

Source	Operation	ROG	CO	NO _x	PM ₁₀	PM _{2.5}
Rail	Existing Glovis	1	3	25	1	1
Marine Vessels		21	160	1,024	26	21
Tugs		1	6	25	1	1
Auto Carrier Trucks		2	11	25	1	1
Employee Vehicles		1	34	3	0	0
Auto Shuttle		1	7	1	0	0
San Diego Auto Carrier Trucks		5	22	49	3	2
Existing Glovis Total		32	243	1,152	32	26
Rail	Proposed Honda	2	8	36	1	1
Marine Vessels		42	321	2047	53	49
Tugs		1	11	51	1	1
Auto Carrier Trucks		17	82	186	10	9
Employee Vehicles		3	80	7	1	0
Proposed Honda Total		65	502	2,327	66	60
Difference		33	259	1,175	34	34
CEQA Threshold		80	550	80	80	
Exceeds		No	No	Yes	No	

SOURCE: KB Environmental Science, Inc., 2008

The total proposed project emissions reflect improvements in air quality as a result of elimination of the existing auto shuttling on Canal Boulevard and shipment of vehicles from San Diego in auto carrier trucks, as well as the use of a very-low-emission NREC Genset Switcher locomotive that will use ultra-low sulfur fuel in the engines. Nevertheless, the daily and annual NO_x emissions would exceed the significance thresholds, and would therefore be a *significant, adverse impact*.

Mitigation Measure 6–2

The Port of Richmond, shall develop a Clean Air Action Plan (Plan) that targets all emissions, focusing primarily on reducing NO_x and TACs (especially diesel particulate matter). The Plan shall implement measures largely through the CEQA/NEPA process, tariffs, and new leases. One goal of the plan shall be to stay consistent with California Air Resources Board (CARB) regulations. The Plan shall focus on reducing NO_x and

Table 6-4
Annual Operational Emissions (Tons)

Source	Operation	ROG	CO	NO _x	PM ₁₀	PM _{2.5}	CO ₂
Rail	Existing Glovis	0.2	0.4	3.9	0.1	0.1	0
Marine Vessels		0.8	6.0	38.4	1.0	0.8	2,591
Tugs		0.1	0.4	1.9	0.0	0.0	134
Auto Carrier Trucks		0.4	1.8	4.0	0.2	0.2	481
Employee Vehicles		0.2	6.0	0.5	0.1	0.0	599
Auto Shuttle		0.1	1.2	0.1	0.0	0.0	154
San Diego Auto Carrier Trucks		0.7	3.5	7.8	0.4	0.4	936
Existing Glovis Total		2.5	19.3	56.1	1.8	1.5	4,895
Rail	Proposed Honda	0.2	1.2	5.6	0.1	0.1	1
Marine Vessels		1.6	12.0	76.8	2.0	1.8	5,182
Tugs		0.1	0.8	3.8	0.1	0.1	267
Auto Carrier Trucks		2.7	13.1	29.8	1.6	1.4	3,556
Employee Vehicles		0.5	14.0	1.3	0.1	0.0	1398
Proposed Honda Total		5.1	41.1	117	3.9	3.4	10,405
Difference		2.8	21.9	60.6	2.1	1.9	2.8
CEQA Threshold		15		15	15		
Exceeds		No		Yes	No		

SOURCE: KB Environmental Science, Inc., 2008

diesel particulate emissions, thereby having a primary benefit of improving local and regional health. The Plan shall contain provisions for implementing the following measures (but not limited to just these measures), as feasible, for the Honda Port of Entry project.

- **Cleaner Ship Fuels.** Provide reduced dockage fees for ship operators that use cleaner fuels and cleaner ship engines.
- **Cleaner Engine Technologies.** Instead of meeting the cold ironing shore power requirements, ship owners may elect to reduce their fleet emissions at a terminal by 50 percent by 2014 using engine optimization (e.g., Miller Cycle Value timing), engine process modifications (e.g., addition of water, urea, or ammonia to the combustion process), and/or after-treatment processes (e.g., Selective Catalytic Reduction system).
- **Idling Restrictions.** Impose mandatory idling restrictions for tugboats and trucks at the PPMT.

- **Cleaner Auto Carrier Trucks.** Develop a program to encourage cleaner trucks at the PPMT. A schedule shall be developed to achieve 2007 emission standards for the auto carrier trucks ahead of regulations.
- **Grant Funding.** Actively pursue State, Bay Area, and grant funds (i.e., the Carl Moyer Fund, Transportation Fund for Clean Air, etc.) for improved trucks and retrofits such as the diesel particulate filters.
- **General Mitigation Measure.** For any of the above emission reduction measures, if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could be used to replace the existing emission reduction measure pending approval by the Port.
- **Periodic Review of New Technology and Regulations.** The Port shall require the tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification. If the technology is determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology.
- **Cold Ironing.** Similar to proposed CARB regulations for container ships, by 2014 no less than 50 percent of the project's auto carrier ships shall limit the use of auxiliary diesel engines to less than 5 hours per visit. Power can be provided either by grid-based shore power (essentially connecting to the PG&E grid) or by ultra-clean distributed generation (proof of concept tests at the Port of Oakland have shown the ability of mobile liquefied natural gas generators to fully power ocean-going vessels while docked at berth or under "hotelling").

Implementation of measures in the proposed Port of Richmond Clean Air Plan could be quite effective in reducing NO_x and also diesel particulate matter (PM) related to the project. However, because the daily levels of NO_x from the project would be more than ten times the BAAQMD daily NO_x emission threshold, it would require NO_x reductions of more than 90 percent of the ship and truck emissions. Even the most aggressive implementation of the Port of Richmond Clean Air Plan and anticipated stricter regulations from the CARB would not achieve this level of NO_x reduction in the foreseeable future. Therefore, NO_x emissions from the project would remain a *significant, unavoidable impact*.

Impact 6-3

Operation of the proposed project would generate emissions of greenhouse gases (GHG) from the auto carrier marine vessels, tugs, rail activities, auto carrier trucks, and employee vehicles. (LTS)

As with other individual projects the specific emissions from this project would not be expected to individually have an impact on Global Climate Change, but they are analyzed for the potential for a significant contribution to the cumulative impact on greenhouse gas emissions.¹⁶ Recent guidance indicates that greenhouse gas impacts are considered to be

¹⁶ Association of Environmental Professionals (AEP), *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, 2007.

exclusively cumulative impacts; there are no non-cumulative greenhouse gas emission impacts from a climate change perspective.¹⁷

Three types of analyses are used to determining whether the project could be in conflict with the State goals for reducing greenhouse gas emissions. The analyses are as follows:

- A) Identification of any potential conflicts with the CARB's 44 early action strategies.
- B) Evaluation of the relative size of the project. The project's greenhouse gas emissions will be compared to the size of major facilities that are required to report greenhouse gas emissions (25,000 metric tons/year of CO₂E)¹⁸ to the State; and the project size will be compared to the estimated State greenhouse reduction goal of 174 MMTCO₂E per year by 2020. As noted above the 25,000 metric ton annual limit identifies the large stationary point sources in California that make up 94 percent of the stationary emissions. If the project's total emissions are below this limit, its total emissions are equivalent in size to the smaller projects in California that as a group only make up 6 percent of all stationary emissions. It is assumed that the activities of these smaller projects will not conflict with State's ability to reach AB 32 overall goals. In reaching its goals the CARB will focus upon the largest emitters of greenhouse gas emissions.
- C) Evaluation of the basic energy efficiency parameters of a project to determine whether its design is inherently energy efficient.

With regard to Item A, the project does not pose any apparent conflict with the most recent list of the CARB early action strategies. As mentioned in the discussion on AB 32 in Section 6.2, above, four items from the list of the 44 recommended early actions directly address port issues: (1) Diesel – port trucks, (2) Diesel – Vessel main engine fuel specifications, (3) Diesel – Commercial harbor craft, and (4) Green Ports. Of the four, only the Green Ports is a discrete early action item that would be enforceable by January 1, 2010.

The green ports strategy involves providing an alternative source of power for ships while they are docked. For example, the ships can use cables to receive electricity from the shore, thereby allowing them to shut off their auxiliary engines, reducing emissions of air pollutants. CARB staff proposes to present the draft regulation to the CARB as a measure to reduce NO_x and diesel particulate emissions and to quantify the associated CO₂ emission

¹⁷ California Air Pollution Control Officers Association (CAPCOA), *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

¹⁸ The State of California has not provided guidance as to quantitative significance thresholds for assessing the impact of greenhouse gas emissions on climate change and global warming concerns. Nothing in the *CEQA Guidelines* directly addresses this issue.

reductions. By focusing on NO_x and diesel particulate reductions, the measure will address the local and regional health impacts of ships docked in California ports.¹⁹

According to the CARB staff, to be an attractive candidate for shore electrification, a ship must visit a California port frequently, spend a sufficient number of hours in berth, and have an ample power demand while docked. The ship categories that typically meet these criteria are container ships, passenger ships, and refrigerated cargo ships. (Passenger ships, although in port for only about 10 hours, visit frequently and have tremendous power needs.) Ship categories that are not considered attractive candidates by CARB include bulk cargo ships, vehicle carriers, and most tankers. The ports that receive numerous calls by container ships, passenger ships, and refrigerated cargo ships—and therefore the ports most likely to employ port electrification—are Los Angeles, Long Beach, San Diego, Oakland, San Francisco, and Hueneme.²⁰

Because the Port of Richmond and car carrier vessels are not identified in the Green Ports discrete early action, the project would not conflict with AB 32. However, any mitigation added to the Honda Port of Entry project that would promote shore electrification would benefit global climate change by reducing greenhouse gas emissions, and would benefit local and regional health impacts by reducing NO_x and diesel particulate matter. The Port of Richmond and car-carrying vessels are not identified in the regulation because the other vessel types and locations are considered to provide more cost efficiency in reducing the emissions.

Any mitigations the project adopts (prior to the regulations) related to the other early action items listed above—(1) Diesel – port trucks, (2) Diesel – Vessel main engine fuel specifications, and (3) Diesel – Commercial harbor craft—would also benefit global climate change by reducing greenhouse gas emissions, and would benefit to local and regional health impacts by reducing NO_x and diesel particulate matter.

This EIR assumes that the Port of Richmond will comply with all AB 32 regulations that would apply to this project as those regulations are adopted by the State.

With regard to Item B, above, annual project greenhouse gas emissions would be approximately 10,405 metric tons/year of CO₂E. Based on size, the project would not be classified as a major source of greenhouse gas emissions; operational emissions would be about 42 percent of the lower reporting limit of 25,000 metric tons/year of CO₂E.

¹⁹ California Air Resources Board (CARB), *Expanded List of Early Action Measures To Reduce Greenhouse Gas Emissions In California Recommended For Board Consideration*, October 2007.

²⁰ *Ibid.*

When compared to the overall State reduction goal of approximately 174 million metric tons/year of CO₂E, the maximum greenhouse gas emissions for the project (10,405 metric tons/year of CO₂E, or 0.006 percent of the State goal) are quite small and should not conflict with the State's ability to meet the AB 32 goals.

With regard to Item C, above, the project design is inherently energy efficient as it will deliver Honda vehicles directly to northern California rather than deliver them to San Diego and have them transported to northern California on auto carriers. The project would also eliminate the shuttling of cars on Canal Boulevard to the BNSF Automotive Facility, and the project would incorporate highly efficient Genset switching locomotives to move the railcars at the new PPMT rail facility.

The review of Items A, B, and C indicate that the project would not conflict with the State goals established in AB 32 and, therefore, the project's emissions of greenhouse gases would constitute a *less-than-significant impact*.

Mitigation Measure 6-3

None required.

Impact 6-4

Although operation of the proposed project would create objectionable diesel odors in proximity to the sources, at the nearest sensitive receptors they would not be detectable, or at worst would be below offensive concentrations. (LTS)

The project would increase the number and frequency of ships that would be hotelling and auto carrier trucks driving (and potentially idling) at the PPMT. Both of these activities would increase diesel combustion emissions, which some individuals consider an objectionable odor. However, the nearest truck activities would be about 250 feet from the Seacliff at Point Richmond residences, and any objectionable diesel odors would disperse to below objectionable levels over this distance, particularly given the prevalence of sea breezes at this location. The nearest ship berth would be nearly 2,500 feet away, so diesel odors would also disperse to below objectionable levels before reaching the nearest residences. This would be a *less-than-significant impact*.

Mitigation Measure 6-4

None required.

Impact 6-5

Project emissions of diesel particulate matter could pose a risk to human health. (LTS)

Implementation of the project would increase maritime, rail, and trucking activity at the PPMT. As identified in Section 6.3, Standards of Significance, the significance of TAC emissions from the project is dependent on the chance of contracting cancer from exposure to TACs or of having adverse health effects from exposure to non-carcinogenic TACs. Cancer risks would be significant if the incremental risk equals or exceeds 10 in a million for the Maximally Exposed Individual.²¹ Exposure to non-carcinogenic substances would be significant if the Hazard Index (HI) exceeds 1.0.²²

The project would increase the number of car carrier ships that could berth at PPMT during the year. This would increase the local concentrations of TACs (primarily diesel particulate matter, or DPM) from the increased automotive operations at PPMT).

The TAC standards identified above are typically applied to the results of a health risk assessment (HRA) through a detailed air dispersion modeling effort using the US EPA's Industrial Source Complex (ISC3) or AERMOD model. This assessment is intended to provide a worst-case estimate of the increased exposure through the use of an analysis that employs a standard emission estimation program and an accepted pollutant dispersion model. An HRA accounts for project operation variations, equipment location, equipment scrapage/replacement factors, usage rates, equipment size, meteorology, and improving diesel engine technology to determine the DPM emissions. Auto carrier trucks emission factors are based on CARB's EMFAC2007, while marine and rail emission factors are based on published analysis for similar facilities such as the Port of Long Beach. The dispersion modeling uses the annual emission rates of DPM while accounting for the duration of operations.

A human HRA was conducted to assess the DPM impacts on the nearby residential sensitive receptors due to onsite operations, and is summarized in this section. Attachment B of Appendix D of this DEIR (Volume II) provides the HRA methodologies and assumptions. The HRA was based on a maximum of 75 new ship calls per year. If the number of ship calls were to exceed 75, the health risk would be greater than that summarized below.

²¹ The Maximally Exposed Individual represents the worst-case risk estimate, based on a theoretical person continuously exposed for 70 years at the point of highest compound concentration in the air.

²² The Hazard Index is the ratio of a hazardous air pollutant concentration to its Reference Concentration, or safe exposure level. If this "hazard index" exceeds one, people are exposed to levels of hazardous air pollutants that may pose non-cancer health risks.

The CARB has declared that DPM from diesel engine exhaust is a TAC. Additionally, the California Office of Environmental Health Hazard Assessment (OEHHA) has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects. The OEHHA has specified an acceptable exposure level (AEL) of DPM as a non-carcinogen of 5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (annual average). OEHHA has also established a DPM Cancer Potency Factor, which is the probability of contracting cancer if exposed to an average concentration of 1 $\mu\text{g}/\text{m}^3$ for 70 years.

Using the OEHHA DPM Cancer Potency Factor, the incremental carcinogenic risk from the PPMT is estimated to be 3.6 cancers per million persons at the maximally exposed individual, accounting for land use type, which is a residential receptor, located to the north-northeast of PPMT. This receptor is located approximately 1,800 meters (1.25 miles) to the north-northeast of the berths within the PPMT, north of I-580. The maximum incremental cancer risk at the Seacliff at Point Richmond residences is estimated to be 1.7 cancers per million persons. For off-site worker exposure (surrounding and to the northeast of the PPMT) the maximum incremental cancer risk is estimated to be 3.2 cancers per million persons, and at the Ford Building (a live-work location to the east of the PPMT berths) the maximum incremental cancer risk is estimated to be 3.3 cancers per million persons. The estimated cancer risk at the Washington Elementary School would decrease slightly due to movement of the locomotive operations further to the south. Depending on the receptor location, the source contributions to the HRA vary among rail, truck, and marine operations. Figure 6-2 shows a simplified display of the cancer risks within the area surrounding the PPMT.

Given the significance threshold of 10 cancers per million persons, the incremental increase in cancer risk that would result from implementation of the project would constitute a *less-than-significant impact*. This analysis is based on conservative (overestimated) assumptions, and can be considered a worst-case analysis. It should also be noted that this risk is low in comparison to the overall incremental risks from TACs in the Bay Area and the overall cancer incidence for all causes in the United States.^{23, 24} It is recommended that a condition of approval be attached to the proposed project limiting the number of new

²³ Based on an analysis of data from 2003, the inhalation cancer risk is 143 in one million (down from an incremental risk of 303 in 1995) in the Bay Area from the measured TACs and estimated at 500 – 700 in a million from diesel particulate matter. BAAQMD, 2007, *Toxic Air Contaminant Control Program Annual Report 2003*.

²⁴ The estimated cancer risk from exposure to emissions from a project can be compared with the lifetime probability of being diagnosed with cancer in the United States from all causes, which is about 40 percent or 400,000 in one million (National Cancer Institute, NCI, 2000). Medical advances have improved cancer cure rates such that the lifetime probability of dying from cancer in the United States is about 220,000 in a million (NCI, 2000). A large portion of these cancer cases are believed to come from smoking, genetic susceptibilities, diet, natural radiation, and other lifestyle factors. National Cancer Institute, Bethesda MD, 2000, *Surveillance, Epidemiology, and End Results (SEER) Cancer Statistics Review, 1973–1997*.

ship calls to 75 per year in order to ensure that the incremental increase in cancer risk does not exceed the threshold of significance.

The Hazard Index is an expression used to describe the potential for non-cancer health effects. The OEHHA has established a significance threshold for non-cancer health risk based on concentrations that would result in a Hazard Index greater than 1.0. Based on the modeling, the non-cancer health risks would be well below the Hazard Index of 1.0 at all receptors. The maximum non-cancer hazard risk would be an HI of 0.03 at the off-site industrial worker location. The maximum HI at a residential receptor would be less than 0.01. Therefore, the non-cancer health risks from the project have been a *less-than-significant impact* on human health and safety. Implementation of the measures identified in Mitigation Measure 6-2 would reduce DPM emissions and further reduce both cancer and non-cancer health risks near the project area.

Mitigation Measure 6-5

None required.

CUMULATIVE IMPACTS

Construction emissions from the project would result in the generation of air pollutants in the project area and in the immediate vicinity, and would incrementally add to cumulative emissions. With implementation of the mitigation identified for the project construction emissions, the cumulative impact from construction would also be reduced to a less-than-significant level.

The project's ongoing operations would also add to ozone precursor emissions on a regional basis and would incrementally add to PM₁₀, PM_{2.5}, and CO emissions on a local basis. Based on the procedure for evaluating cumulative impacts of projects specified by the BAAQMD CEQA Guidelines, any project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. Thus, because the project's operational emissions would be significant and unavoidable (see Impact 6-2), the project's operational emissions would also have a significant cumulative impact on air quality.



Figure 6-2

Incremental Cancer Risks

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7. NOISE

7.1 INTRODUCTION

Information in this chapter is based on noise surveys and noise measurements at and near the project site conducted by Miller Environmental Consultants (MEC) and noise modeling to analyze potential noise impacts generated by the project construction and operations. The chapter presents results of the noise surveys and noise measurements at the site and in the surrounding community, predicts noise impacts of the project based on a comparison of future noise levels with applicable acoustical criteria, and provides mitigation measures where appropriate.

This chapter addresses relevant City of Richmond noise goals and policies pertaining to the control of noise as set forth in the Noise Element of the General Plan¹ and noise regulations in the City of Richmond Municipal Code.

7.2 SETTING

INTRODUCTION TO NOISE DESCRIPTORS

To describe noise environments and to assess impacts on noise-sensitive areas, a frequency weighting measure, which simulates human perception, is commonly used. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA)² is cited in most noise criteria. Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. Table 7-1 identifies decibel levels for common sounds heard in the environment.

¹ City of Richmond, *City of Richmond 1994 General Plan*, Noise Element, 1994.

² A decibel (dB) is a unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level") measured in dB. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

Table 7–1
Typical Noise Levels

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80–90	Diesel truck at 50 feet	Loud television at 3 feet
70–80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60–70	Commercial area	Normal speech at 3 feet
40–60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20–40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10–20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: (modified from California Department of Transportation, *Caltrans Technical Noise Supplement*, 1998)

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (L_{eq});³ average day-night 24-hour average sound level (L_{dn});⁴ with a nighttime increase of 10 dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL),⁵ also a 24-hour average that includes both an evening and a nighttime weighting.

³ The Equivalent Sound Level (L_{eq}) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

⁴ L_{dn} is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a ten-decibel penalty applied to nighttime hours between 10:00 p.m. and 7:00 a.m.

⁵ CNEL is the average A-weighted noise level during a 24-hour day, obtained by the addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and the addition of a 10-decibel penalty in the nighttime hours between 10:00 p.m. and 7:00 a.m.

EXISTING NOISE ENVIRONMENT

Sensitive Receptors

The City of Richmond Community Noise Ordinance (Section 9.52.030) defines noise-sensitive uses as land uses in which specific uses are located which have associated indoor and/or outdoor human activities that may be subject to speech, hearing or sleep interference, and/or annoyance from noise produced by community sound sources. The uses identified can generally be described as residences, hospitals, convalescent care, churches, libraries, and schools. The nearest sensitive receptors to project activities include residences near East Richmond Avenue (west of the BNSF Auto Facility), Seacliff at Point Richmond residences (northwest of PPMT), and residences at Sandpiper Spit (west of PPMT). The Miller-Knox Regional Shoreline is further west and northwest of the site and should not be affected by noise from the project.

The nearest residential sensitive receptors for project are the Seacliff at Point Richmond residences, which are located as close as 110 feet from the perimeter access road or about 170 feet from the fence enclosing the existing parking storage lot. Approximately 40 single-family homes within the Seacliff development are within 600 feet of the existing western parking area.

Noise Measurements

To quantify existing ambient noise levels in the immediate project vicinity, short-term and continuous noise level measurements were performed. Noise measurements were made using Metrosonics db308 Sound Level Meters. The meters were calibrated before and after use to ensure the accuracy of the measurements.

Figure 7-1 shows the location of each of the noise measurements. The continuous (24-hour) noise level measurement locations were selected to measure existing noise sources and to measure locations that could be affected by the project. The noise measurements are summarized in Table 7-2. Figures Noise-E1 through Noise-E10 in Appendix E show the hourly values for L_{eq} , L_{max} ,⁶ L_{50} ,⁷ and L_{90} ⁸ in each hour of the long-term measurements.

⁶ L_{max} is the highest instantaneous noise measurement during any measurement period.

⁷ L_{50} is the noise level equaled or exceeded for 50 percent of the specified measurement period.

⁸ L_{90} is the noise level equaled or exceeded for 90 percents of the specified measurement period. It is often referred to as the background noise level.



Note: Refer to Table 7-2 for the associated noise monitoring data.

Figure 7-1

Noise Monitoring Locations

Source: Miller Environmental Consultants, 2008

Table 7-2
Existing Noise Measurements

Location	Time Period	L_{eq} (dBA)	Noise Sources
<u>Site 1.</u> Approximately 200 feet from car-carrying ship docked and unloading.	Monday 2/4/2008 2:03 – 2:33 p.m.	5-minute L _{eq} s: 61, 61, 62, 62, 60, 62 dBA	Background ship engines and wind about 60 dBA. Cars passing at about 50 feet have noise of about 60 dBA also. Some thumping as cars exit ship.
<u>Site 1.</u> Approximately 200 feet from car-carrying ship docked and unloading.	Tuesday 2/12/2008 10:10 – 10:15 a.m.	5-minute L _{eq} and L ₉₀ : 75 dBA	Background ship engines are 75 dBA at approximately 200 feet. Cars were not unloading at this time.
<u>Site 2.</u> Project Site fence near current car-carrier truck loading area	Estimated CNEL based on 20- hour noise measurement: Tues. Feb. 5: 65 dBA	Hourly Average L _{eq} range: Feb.5 : 48 – 65	Long-term measurements do not identify noise sources.
<u>Site 2.</u> Project Site fence near current car-carrier truck loading area	Tuesday 2/12/2008 9:57 – 10:02 a.m.	5-minute L _{eq} : 62 dBA 5-minute L ₉₀ : 61 dBA	Main noise (63 dBA) is the engines of the unloading ship. Some distant train horns.
<u>Site 3.</u> Project Site fence at nearest point to Seacliff at Point Richmond residences	24- hour CNEL measurements were: Tues. Feb. 5: 60 dBA Wed. Feb. 6: 56 dBA Thurs. Feb. 7: 57 dBA	Hourly Average L _{eq} range: Feb.5 : 44 – 60 Feb 6: 43 – 57 Feb 7: 41 – 60	Long-term measurements do not identify noise sources.
<u>Site 3.</u> Project Site fence at nearest point to Seacliff at Point Richmond residences	Monday 2/4/2008 2:45 – 2:55 p.m.	5-minute L _{eq} s: 52, 48 dBA 5-minute L ₉₀ 's 42, 43 dBA	Trucks on access road 75' from meter – 55, 60, 67. Very light traffic. Distant train horn 56 dBA. Various low decibel noises in distance. Cars exiting ship <45 dBA.
<u>Site 3.</u> Project Site fence at nearest point to Seacliff at Point Richmond residences	Tuesday 2/12/2008 9:34 – 9:39 a.m.	5-minute L _{eq} : 52 dBA 5-minute L ₉₀ :	Birds chirping. Cars on access road 65, 65. Low volume of traffic. Maybe can hear faintly the engine from ship

		48 dBA	unloading <48 dBA. Frequent train horns.
<u>Site 4.</u> Overlook in Seacliff at Point Richmond residential area, off Seaview Drive	Tuesday 2/12/2008 10:55 – 11:00 a.m.	5-minute L_{eq} : 57 dBA 5-minute L_{90} : 53 dBA	Person with leaf blower was working on the street. About 54 dBA when leaf blower was going, 48 dBA when blower was turned off temporarily.
<u>Site 4.</u> Overlook in Seacliff at Point Richmond residential area, off Seaview Drive	Friday 3/28/2008 11:56 – 12:06 a.m.	10-minute L_{eq} : 58 dBA 10-minute L_{90} : 54 dBA	Car on perimeter road below 58 dBA. No noise from car parking area. Wind has picked up and is steady.
<u>Site 5.</u> Near Building 23, 50 feet from center of Canal Blvd.	24- hour CNEL measurements were: Tues. Feb. 5: 72 dBA Wed. Feb. 6: 70 dBA Thurs. Feb. 7: 70 dBA	Hourly Average L_{eq} range: Feb.5 : 58 – 69 Feb 6: 58 – 70 Feb 7: 58 – 69	Long-term measurements do not identify noise sources.
<u>Site 6.</u> Near Canal Blvd. Rail Crossing and West Cutting Blvd.	24- hour CNEL measurements were: Tues. Feb. 5: 71 dBA Wed. Feb. 6: 75 dBA Thurs. Feb. 7: 77 dBA	Hourly Average L_{eq} range: Feb.5 : 57 – 72 Feb 6: 56 – 76 Feb 7: 56 – 77	Long-term measurements do not identify noise sources.
<u>Site 7.</u> BNSF Automotive Facility – Off-loading older rail cars – 50 feet away.	Friday 3/28/2008 8:54 a.m. to 9:03 a.m.	L_{eq} = 58 dBA L_{max} = 67 dBA	Off-loading an older auto-carrier railcar, at off-load end car.
<u>Site 7.</u> BNSF Automotive Facility – Off-loading older rail cars – 40 feet away.	Friday 3/28/2008 9:06 a.m. to 9:11 a.m.	L_{eq} = 64 dBA L_{max} = 82 dBA	Off-loading an older auto-carrier railcar, at a junction between two cars. More noise than the end car.
<u>Site 7.</u> BNSF Automotive Facility – Off-loading older rail cars – 25 feet away.	Friday 3/28/2008 9:16 a.m. to 9:24 a.m.	L_{eq} = 71 dBA L_{max} = 82 dBA	Off-loading an older auto carrier railcar – 2 nd level. Between railcars. Drive-bys from 2 loaded auto-carrier trucks also.
<u>Site 7.</u> BNSF Automotive Facility – Off-loading older rail cars – 25 feet away.	Friday 3/28/2008 9:40 a.m. to 9:48 a.m.	L_{eq} = 71 dBA L_{max} = 86 dBA	Off-loading an older auto carrier railcar – 1st level. Between railcars. Unknown hammering. Bad plank between railcars – thump, thump for each car.

Site 7. BNSF Automotive Facility – Off-loading older rail cars – 25 feet away.	Friday 3/28/2008 9:49 a.m. to 9:53 a.m.	$L_{eq} = 68$ dBA $L_{max} = 81$ dBA	Off-loading an older auto-carrier railcar – 1st level, between railcars. Better connection between railcars.
Site 7. BNSF Automotive Facility – Off-loading modern sealed articulated railcars – 50 feet away.	Friday 3/28/2008 10:04 a.m. to 10:12 a.m.	$L_{eq} = 62$ dBA $L_{max} = 71$ dBA	Off-loading a modern sealed articulated railcar – 2nd level – between railcars. Noticeably quieter than old railcars.
Site 7. BNSF Automotive Facility – Off-loading modern sealed articulated railcars – 50 feet away.	Friday 3/28/2008 10:13 a.m. to 10:20 a.m.	$L_{eq} = 60$ dBA $L_{max} = 68$ dBA	Off-loading a modern sealed articulated railcar – 2nd level – at end car. Noticeably quieter than old railcars.
Site 7. BNSF Automotive Facility – Loading cars onto auto truck carrier – 100 feet away.	Friday 3/28/2008 10:33 a.m. to 10:47 a.m.	$L_{eq} = 62$ dBA $L_{max} = 77$ dBA	Another truck idling: 60 dBA. Backing on an Element: 77 dBA. Chaining down: 73 dBA. Throwing bar on ground: 69 dBA. Loading Odysseys: 73 dBA. Chain down: 73 dBA.
Site 7. BNSF Automotive Facility – Loading cars onto auto truck carrier – 50 feet away.	Friday 3/28/2008 10:52 a.m. to 11:00 a.m.	$L_{eq} = 61$ dBA $L_{max} = 79$ dBA	Loading top level. Chains 69 and 78 Lmax.
Site 7. BNSF Automotive Facility – Off-loading modern sealed articulated railcars – 50 feet away.	Friday 3/28/2008 11:05 a.m. to 11:12 a.m.	$L_{eq} = 64$ dBA $L_{max} = 77$ dBA	Off-loading a modern sealed articulated railcar. Changing exist ramp from 2nd level to 1st level. Quick and not very loud.
Site 7. BNSF Automotive Facility – Loading cars onto auto truck carrier – 50 feet away.	Friday 3/28/2008 11:19 a.m. to 11:28 a.m.	$L_{eq} = 69$ dBA $L_{max} = 92$ dBA	Hydraulic adjust 68 dBA. Throwing top rails to split top of car 92 dBA – impact noise.
Site 8. Across street from 1405 and 1409 Sandpiper Spit	Friday 3/28/2008 12:13 p.m. to 12:25 p.m.	12-minute L_{eq} : 51 dBA 12-minute L_{90} : 46 dBA	Very quiet area. Waves lapping on shore. Birds. No noise from auto yard. Planes overhead 54 and 58 dBA.
Site 9. East Richmond Avenue; in median near 345 East	Friday 3/28/2008 12:56 p.m. to 13:06	10-minute L_{eq} : 54 dBA	Trucks on Canal: 54, 56, 58 dBA. Noise from Rail yard: 47 dBA. Planes

Richmond	p.m.	10-minute L_{90} : 48 dBA	overhead: 65, 56. ARCO tanker: 58 dBA. Cars on Canal: 53, 60.
<u>Site 10.</u> Washington Elementary School 565 Wine Street; measurement 150 feet from center of school facing Cutting Avenue	Friday 3/28/2008 13:10 p.m. to 13:20 p.m.	10-minute L_{eq} : 58 dBA 10-minute L_{90} : 52 dBA	Car passbys on Cutting: 56, 61, 58, 58, 63, 55, 58, 57. Train horn to the east – not very loud.

Source: Miller Environmental Consultants, 2008

Overview of Existing Noise Sources

The existing ambient noise levels on the project site and in the immediate project vicinity are defined primarily by various industrial and maritime sources (including ship engine noise), railroad operations (train horns), and heavy trucks and cars on Canal Boulevard. Additional noise sources observed in the Seacliff residential area include miscellaneous sources such as leaf blowers and residential traffic on other roadways west of Canal Boulevard.

Short-term measurements of the ship engine noise of two different ships indicate that engine noise from car carrier ships while being unloaded at the site ranges from 60 to 75 L_{eq} dBA at a distance of 200 feet from the ship.

Noise measurement Site 5 (see Table 7–2) recorded noise levels on Canal Boulevard, the primary commute road to the project site. Three days of continuous sound level measurements along Canal Boulevard indicate that the average noise level at 50 feet from the centerline of Canal Boulevard (near Building 23, Site 6) ranges from 70 to 72 dBA and the hourly L_{eq} range is approximately 56 to 77 dBA.

Existing roadway noise along the perimeter access road was also measured. Sound level measurements were taken at the fence line immediately below (to the southeast) the Seacliff at Point Richmond residential area, near the perimeter access road. Three days of continuous measurements at this location (Site 3) indicate that the existing noise level along the perimeter road did not exceed 60 dBA CNEL and the highest hour recorded was 60 dBA L_{eq} . Short-term daytime measurements at the same fence location ranged from 48 to 52 dBA.

REGULATORY FRAMEWORK

In most areas, automobile and truck traffic are the major source of environmental noise. Traffic activity generally produces an average sound level that remains fairly constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas, such as the project site and project vicinity. Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth the specific standards and procedures for addressing particular noise sources and activities. General plans recognize that different types of land uses have different sensitivities toward their noise environment. Residential areas are generally considered to be the most sensitive type of land use to noise, while industrial/commercial areas are generally considered to be the least sensitive. Local noise ordinances typically set forth standards related to construction activities, nuisance-type noise sources, and industrial property-line noise levels.

General Plan

Goals and Policies

The City of Richmond is currently undertaking a General Plan review and update. Until the new plan is adopted, the exiting 1994 *City of Richmond General Plan* provides policies pertaining to land uses and noise compatibility levels. The Richmond Noise Element provides the following goals and policies that would generally be relevant to the proposed project, although some of the actions require City initiatives outside the control of the project proponents:

Goal NE-A	Control the level of noise pollution in the community by preventing the development of incompatible land uses, rather than relying entirely on acoustical techniques after the fact such as sound walls, buffers, etc.
Policy NE-A.1	Discourage development where such development will significantly increase existing noise levels unless mitigation measures are designed as part of the project to limit noise emissions to an acceptable level compared to the existing sound level.
Policy NE-A.6	Require new commercial and industrial developments with potential noise and vibration producing activities to provide noise study reports prepared by a qualified professional with demonstrated experience in noise control engineering.

Policy NE-A.9	Seek to limit the impact of nuisance noise sources upon noise-sensitive land uses and consider noise and vibration impacts in land use planning decisions.
Policy NE-A10	Require parties responsible for noise producing sources or activities to limit noise, which affects nearby noise-sensitive land uses.
Goal NE-B	Reduce existing transportation related noises and minimize noise impacts of new transportation facilities.
Policy NE-B.1	Work to mitigate transportation noise impacts through location and design of transportation facilities and location and design of noise sensitive uses.
Goal NE-D	Encourage other agencies developing within the Planning Area to reduce noise levels generated by roadways, railways, and other facilities.
Policy NE-D.1	Urge strict enforcement of current Federal railroad noise emission standards by the U.S. Department of Transportation.
Policy NE-D.2	Encourage local railway companies to reduce noise near residential areas.

Land Use Compatibility Standards

The applicable noise standards governing the project site are set forth in the Noise Element of the General Plan. The City of Richmond has adopted the State of California Land Use Noise Compatibility Matrix as part of the Noise Element of the General Plan, shown on Figure 7-2.

Municipal Code Community Noise Ordinance

The City of Richmond has an adopted Community Noise Ordinance in the City's Municipal Code Chapter 9.52. The following sections are relevant to the proposed project:

Exterior Noise Limits 9.52.100

With the exception of transportation sources, no uses or activities are to exceed 60 dBA at the property line of a single family or 65 dBA at the property line of a multifamily residential property for more than 30 minutes in any hour (L50). At night (between 10 p.m. and 7 a.m.) the noise levels from Heavy and marine industrial districts are not to exceed 50 dBA for more than 5 minutes in any hour at the boundary of a Residential Zone.

Prohibited Noises 9.52.090

The Community Noise Ordinance (Richmond Municipal Code, Section 9.52.090, Prohibited Noises) regulates construction noise as follows:

- (a) It is hereby declared unlawful and a public nuisance for any person, firm, association or corporation to cause, create or allow to be caused or created anywhere within the City any noise which is a noise disturbance or any of the following:

LAND USE CATEGORY		COMMUNITY NOISE EXPOSURE - Ldn or CNEL (db)													
		50		55		60		65		70		75		80	
Residential - Low Density Single Family, Duplex, Mobile Home															
Residential - Multi-Family															
Transient Lodging – Motel/ Hotel															
Schools, Libraries, Churches, Hospitals, Nursing Homes															
Auditorium, Concert Hall, Amphitheaters															
Sports Arena, Outdoor Spectator Sports															
Playgrounds, Neighborhood Parks															
Golf Courses, Riding Stables, Water Recreation, Cemeteries															
Office Buildings, Business, Commercial and Professional															
Industrial, Manufacturing, Utilities, Agriculture															
	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.													
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.													
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.													
	Clearly Unacceptable	New construction or development generally should not be undertaken.													

Figure 7-2

Land Use Compatibility for Community Noise Environments

Source: State of California General Plan Guidelines,
Office of Planning and Research,
November 1998, Appendix
A: Noise Element Guidelines.

...

- (14) Construction Activities. Causing or permitting the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work at any time between the hours of 7 p.m. and 7 a.m. on weekdays or 6 p.m. and 8:30 a.m. on weekends and legal holidays in any residential or commercial zoning district or adjacent to any noise-sensitive uses or so as to create a noise disturbance or cause any violation of this chapter. Prior to commencing any construction project, the project sponsor may meet and confer with the City Public Works Department to establish an appropriate construction schedule which is designed to minimize construction noise impacts and which is in conformity with the requirements of this subsection. Where construction activities on a construction project which is adjacent to any noise-sensitive use(s) are anticipated to last for a year or more, temporary noise barriers shall be constructed that break the line of sight between the noise-sensitive use(s) and the construction project, and that minimize noise impacts.

The Chief of Police and the Director of Public Works are authorized and directed to use the provisions of the Community Noise Ordinance for the purpose of abating noise conditions defined as unlawful and a public nuisance.

Zoning Ordinance Noise Provisions

The City of Richmond Zoning Ordinance contains Noise Standards (Section 15.04.840.020) that mirror the Community Noise Ordinance Exterior Noise Limits (Section 9.52.100) discussed above. The Zoning Ordinance also contains Section 15.04.840.110 of the Zoning Ordinance, which establishes the following Construction Operation Standards:

During the construction of a project, all portions of the site shall be watered as necessary to reduce emissions of dust and other particulate matter and all stockpiles shall be covered. Streets shall be made dirt free at the completion of construction. All construction and transport equipment shall be muffled in accordance with State and Federal laws. Construction and transport equipment shall be operated so as to minimize exhaust emissions. Grading and pile driving operations within ¼ mile of residential units shall be limited to between 7 a.m. and 7 p.m., or as otherwise restricted as part of an approval. All water run-off from construction site shall be controlled. During construction trucks and equipment should be running only when necessary.

7.3 STANDARDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines indicates that a project may have significant noise impacts if it would result any of the following:

- exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

- a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- expose people residing or working in the project area to excessive noise levels (for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport); or
- expose people residing or working in the project area to excessive noise levels (for a project within the vicinity of a private airstrip).

The last two potential impacts (related to noise from aircraft) will not be further addressed because the project site is not located within 2 miles of a public use airport or in the vicinity of a private airstrip. The nearest airports are Oakland and San Francisco International Airport, located more than 10 miles south of the project site. Therefore, there would be no impact from aircraft noise.

The significance of project-related noise impacts is also determined by comparison of project-related noise levels to existing no-project noise levels. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable. A common practice has been to assume that minimally perceptible to clearly noticeable increases of 3 to 5 dBA represent a significant increase in ambient noise levels. If existing noise levels are already high (i.e., in the conditionally acceptable or higher range), a 3 dBA increase is considered significant if it affects sensitive receptors.

For transportation noise, an increase in noise levels of 5.0 dBA is considered significant where existing noise levels are less than 60 dBA L_{dn} .⁹ Additionally, an increase in noise of 3.0 dBA or more is considered significant for existing noise levels between 60 and 65 dBA L_{dn} , and an increase in noise by 1.5 dBA or more is considered significant for existing noise levels greater than 65 dBA L_{dn} . These criteria apply to existing residences only.

The City of Richmond Noise Element establishes noise standards for new projects. For this project, noise impacts are considered significant if project-generated noise exceeds Noise Element standards at the nearest existing residences.

⁹ Federal Interagency Committee on Noise (FICON), *Federal Agency Review of Selected Airport Noise Analysis Issues*, 1992.

7.4 IMPACTS AND MITIGATION MEASURES

METHODOLOGY

As previously discussed, short-term and long-term noise measurement were taken in the project area to quantify existing ambient noise levels in the immediate project vicinity. The noise measurement locations are shown on Figure 7-1 and Table 7-2 provides a summary of the noise measurements.

The noise level meters were programmed to record the maximum ($L_{\max}$) and average (L_{eq}) noise levels for direct comparison against the City of Richmond noise standards. The $L_{\max}$ represents the highest noise level measured at any time during each measurement period. The L_{eq} represents the average noise received by the meter during each measurement period.

The noise analysis utilized accepted noise-prediction and sound-propagation algorithms to predict project-generated noise levels and changes in ambient noise levels resulting from the project. The traffic-generated noise analysis used data from the traffic report prepared for the EIR.

CONSTRUCTION IMPACTS

Impact 7-1

Project construction would temporarily increase noise levels in the project vicinity. (LTS)

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Typical construction activities would generate maximum noise levels ranging from 85 to 90 dBA at a distance of 50 feet, as illustrated in Tables 7-6 and 7-7.

Heavy equipment would be used initially to break up the road asphalt on Canal Boulevard for the new rail improvements, but this activity would not be in the immediate vicinity of sensitive receptors.

Although project construction may result in substantial temporary increases in noise in the project vicinity, City of Richmond Municipal Code (Section 9.52.090, Prohibited Noises) regulates construction noise by prohibiting construction, drilling, repair, alteration or demolition work at any time between the hours of 7 p.m. and 7 a.m. on weekdays or 6 p.m. and 8:30 a.m. on weekends and legal holidays in any residential or commercial zoning district or adjacent to any noise-sensitive uses. Section 9.52.090 also prohibits the creation of a noise disturbance anywhere within the City. Project

Table 7-3
Typical Construction Noise Levels

Construction Phase	Noise Level (dBA, L_{eq}) ¹
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

Source: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971.

¹ Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Table 7-4
Typical Noise Levels From Construction Equipment

Construction Equipment	Typical Noise Level (dBA, L_{eq} at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	88
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Pile Driver	101
Backhoe	85

Source: Cunniff, *Environmental Noise Pollution*, 1977

compliance with these existing code requirements would limit noise disturbance from project construction to a *less-than-significant impact*.

Mitigation Measure 7-1

None required.

OPERATIONAL IMPACTS

Impact 7-2

Project-generated vehicle traffic would generate noise, but would not substantially increase roadside noise levels in the project vicinity under existing or long-term conditions. (LTS)

This impact assesses impacts on nearby land uses from vehicular trips associated with the project operations. Noise levels were modeled for existing, near-term (approximately 2010) and long-term (2030) conditions and are based upon the traffic analysis prepared by PHA Transportation Consultants for the proposed project.

Year 2010

Based on the traffic study prepared for the project, the proposed project would be expected to generate 146 additional weekday morning (AM) and 146 afternoon (PM) peak-hour vehicle trips. These additional trips would be distributed over the local street network and could affect roadside noise levels.

To assess the impact of project traffic on roadside noise levels, noise level predictions were made using the Federal Highway Administration (FHWA) noise prediction model for those roadway segments most affected by project-related traffic. Table 7-5 shows traffic-noise modeling results (using traffic estimates prepared for this project) at a distance of 50 feet from the roadway centerline. The model is based on the Calvenio reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volumes, speed, and roadway configuration.

As shown in Table 7-5, the proposed project would not substantially increase roadside noise levels along these segments under 2010 conditions. The greatest increase in noise levels caused by the project would be along Canal Boulevard south of West Cutting Boulevard, where the proposed project would result in an imperceptible 1.2-dBA increase in afternoon peak-hour noise levels. Noise levels along other roadway segments affected by the project would increase by 1.1 dBA or less and would not be considered significant.

Table 7-5
Existing and 2010 Traffic-Related Noise Levels

Roadway Segment	Modeled PM Peak-Hour Noise Levels (dBA L _{eq} ^{1, 2})				
	Existing	Year 2010		Project-Related Increase ³	Significant? ⁴
		With-out Project	With Project		
Richmond Pkwy. (north of Barrett Ave.)	73.8	74.1	74.2	0.1	No
Richmond Pkwy. (south of Barrett Ave.)	73.8	74.3	74.5	0.2	No
Barrett Ave (east of Richmond Pkwy.)	64.7	64.9	65.2	0.3	No
Richmond Pkwy. (north of West MacDonald Ave.)	73.8	74.2	74.4	0.2	No
Richmond Pkwy. (south of West MacDonald Ave.)	74.0	74.7	74.9	0.2	No
West MacDonald Ave. (east of Richmond Pkwy.)	62.2	63.5	63.8	0.3	No
Richmond Pkwy. (north of West Ohio Ave.)	74.1	75.1	75.3	0.2	No
Canal Blvd. (south of West Ohio Ave.)	73.6	74.7	75.0	0.3	No
West Ohio Ave. (east of Canal Blvd.)	57.1	57.5	57.9	0.4	No
Canal Blvd. (north of West Cutting Blvd.)	68.0	69.0	70.1	1.1	No
Canal Blvd. (south of West Cutting Blvd.)	65.5	67.4	68.6	1.2	No
West Cutting Blvd. (east of Canal Blvd.)	64.5	65.1	66.3	1.1	No
Harbour Way (south of West Cutting Blvd.)	67.4	68.4	68.5	0.1	No
West Cutting Blvd. (east of Harbour Way)	68.0	69.1	69.3	0.2	No
West Cutting Blvd. (west of Harbour Way)	67.2	68.6	68.8	0.2	No

Source: PHA Transportation Consultants, 2008.

Notes:

¹ Traffic noise levels were predicted using the FHWA roadway noise prediction model (FHWA-RD-77-108) based on traffic data obtained from the traffic study prepared for this project (PHA Transportation Consultants 2008). Predicted noise levels assume no natural or man-made shielding (e.g., vegetation, berms, walls, buildings).

² Distance from centerline of road is 15 meters (approximately 50 feet) for all modeled roadways.

³ Numbers may not sum because of rounding.

⁴ Considered significant if the incremental increase in noise is greater than 5 dBA L_{eq} in a noise environment of 60 dBA CNEL or less, greater than 3 dBA L_{eq} in a noise environment between 60 and 65 dBA CNEL, or greater than 1.5 dBA L_{eq} in a noise environment greater than 65 dBA CNEL.

Year 2030

The Year 2030 vehicular noise impact analysis includes trips from the proposed project and from anticipated growth in traffic in the region. To assess the effect of project traffic on roadside noise levels for the year 2030, noise level projections were made using the FHWA noise prediction model. Modeling results are shown in Table 7-6. The modeled results reflect noise levels at a distance of 50 feet from the roadway centerline.

As shown in Table 7-6, the proposed project would not substantially increase roadside noise levels along these segments when considered in combination with past, current, and probable future projects. The greatest increase in noise levels when comparing the Without Project scenario to the With Project scenario would be along segments of West Ohio Avenue, where the proposed project would result in an imperceptible 0.4-dBA increase in PM peak-hour noise levels. The noise level increase on West MacDonald Avenue, and Canal Boulevard, would result in an imperceptible 0.3-dBA increase in PM peak-hour noise levels. Noise levels increases along other roadway segments would be even lower and would not be considered significant.

Summary of Impacts

Under both Year 2010 and Year 2030 conditions, traffic generated by the proposed project would not exceed the 5-dBA incremental increase threshold, the 3-dBA threshold, or the 1.5-dBA threshold in locations where it would apply. Therefore, traffic noise from the proposed project would not result in a substantial permanent increase in ambient noise levels and would be a *less-than-significant impact*.

Mitigation Measure 7-2

None required.

Impact 7-3

Noise from ship unloading could substantially increase noise levels at residential receptors. (LTSWM)

Short-term noise measurements were taken as two ships were unloaded. As seen in Table 7-2, noise levels near the ship (Site 1, 200 feet from the unloading ramp) were about 62 dBA on February 4, 2008 and 75 dBA on February 12, 2008. These noise levels were primarily from the auxiliary ship engines and were a constant noise source. As can also be seen in Table 7-2, short-term L_{90} background noise levels at the nearest receptors (Site 3, project site fence nearest to Seacliff at Point Richmond residences) were 42 dBA on February 4, 2008 and 48 dBA on February 12, 2008. The L_{90} measurement reflects a constant background noise source such as the idling engine of a ship. Observations on

Table 7–6
Year 2030 Traffic–Related Noise Levels

Roadway Segment	Modeled PM Peak–Hour Noise Levels (dBA L _{eq} ^{1, 2})			
	Year 2030		Project– Related Increase ³	Significant? ⁴
	Without Project	With Project		
Richmond Pkwy. (north of Barrett Ave.)	74.8	74.8	0.1	No
Richmond Pkwy. (south of Barrett Ave.)	74.8	75.0	0.2	No
Barrett Ave. (east of Richmond Pkwy.)	65.6	65.9	0.2	No
Richmond Pkwy. (north of West MacDonald Ave.)	74.8	75.0	0.2	No
Richmond Pkwy. (south of West MacDonald Ave.)	75.0	75.2	0.2	No
West MacDonald Ave. (east of Richmond Pkwy.)	63.1	63.4	0.3	No
Richmond Pkwy. (north of West Ohio Ave)	75.5	75.7	0.2	No
Canal Blvd. (south of West Ohio Ave.)	75.0	75.3	0.3	No
West Ohio Ave. (east of Canal Blvd.)	57.8	58.2	0.4	No
Canal Blvd. (north of West Cutting Blvd.)	69.9	70.0	0.1	No
Canal Blvd. (south of West Cutting Blvd.)	68.2	68.3	0.1	No
West Cutting Blvd. (east of Canal Blvd.)	65.8	65.8	0.0	No
Harbour Way (south of West Cutting Blvd.)	68.4	68.4	0.0	No
West Cutting Blvd. (east of Harbour Way)	68.9	69.1	0.1	No
West Cutting Blvd. (west of Harbour Way)	68.2	68.4	0.2	No

Source: PHA Transportation Consultants, 2008.

Notes:

¹ Traffic noise levels were predicted using the FHWA roadway noise prediction model (FHWA–RD–77–108) based on traffic data obtained from the traffic study prepared for this project (PHA Transportation Consultants 2008). Predicted noise levels assume no natural or man–made shielding (e.g., vegetation, berms, walls, buildings).

² Distance from centerline of road is 15 meters (approximately 50 feet) for all modeled roadways.

³ Numbers may not sum because of rounding.

⁴ Considered significant if the incremental increase in noise is greater than 5 dBA L_{eq} in a noise environment of 60 dBA CNEL or less, greater than 3 dBA L_{eq} in a noise environment between 60 and 65 dBA CNEL, or greater than 1.5 dBA L_{eq} in a noise environment greater than 65 dBA CNEL.

February 12, 2008 indicated a faint sound from the ship engine as experienced at Site 3. The loudest ship engine noise measured generated noise levels at Site 3 that are within the range of normal noise levels at Site 3 as measured over a three-day period. As seen in Table 7-2 average hourly noise levels at Site 3 range from 41 to 60 dBA. While the noise from the loudest ship at Site 3 was less than the nighttime noise limit of 50 dBA, a ship with louder engines could potentially exceed the nighttime noise limit of 50 dBA at Seacliff at Point Richmond Residences. Without mitigation, ships with loud engines could exceed the Community Noise Ordinance nighttime noise limit of 50 dBA for more than 5 minutes in an hour at Seacliff. This would therefore be a *potentially significant impact*.

Mitigation Measure 7-3

The City shall enforce the nighttime noise limit of 50 dBA at the residential property boundaries. Only ship engines that meet this noise level limit at the residential property boundaries shall be permitted to run at night (i.e., 10:00 p.m. to 7:00 a.m.).

Since even the louder of the two ships met the nighttime standard, it can be assumed that most ships delivering Hondas would be able to comply with the City's Community Noise Ordinance standard, and operations of ships that don't meet the standard would be limited by the mitigation measure. Implementation of this measure would reduce the impact to a *less-than-significant level*.

Impact 7-4

Noise from loading railcars at the new rail yard at PPMT would increase noise levels in the immediate vicinity, but would not substantially increase noise levels at residential receptors. (LTS)

Short-term noise measurements were taken of railcar unloadings at the existing BNSF Automotive Facility (Site 7) to determine the noise levels of vehicles being loaded or unloaded from railcars. The measurements for Site 7 are summarized in Table 7-2. Unloading noise was measured for two types of railcars: older railcars that were louder because of openings between railcars, and newer railcars that had flexible sealing material at the articulation of adjoining railcars. When adjusted for distance the noise levels measured from the two types of railcars were:

Older railcars = 58 – 65 Leq, dBA at 50 feet; and

New railcars = 60 – 62 Leq, dBA at 50 feet.

If these noise levels are projected to the proposed new Rail Yard at PPMT, the noise level at the nearest residence (Seacliff residences that are 2,200 feet away from the Rail Yard) would be:

Older railcars = 25 – 32 Leq, dBA at 2,200 feet

Newer railcars = 27 – 29 Leq, dBA at 2,200 feet

These noise levels would be well below the nighttime limit of 50 dBA at residential boundaries. Therefore, project-related noise generated by the loading of railcars during the day or night would cause a *less-than-significant impact*.

Mitigation Measure 7-4

None required.

Impact 7-5

Noise from loading auto carrier trucks at the new location at PPMT could substantially increase noise levels at residential receptors. (LTSWM)

The proposed site plan would move the location for loading auto carrier trucks (truck loading) closer to Seacliff residences (see Figure 3-7, Proposed Improvement Areas) than the current loading location (see Figure 3-3, Overview of Existing PPMT Facilities). The existing location is approximately 1,350 feet from the Seacliff residences and the proposed site plan indicates a relocated truck loading area that would be 450 feet from the Seacliff residences and a turnaround area that would be as close as 250 feet from the Seacliff residences. Truck loading operations would take place seven days a week, or about 350 days per year, 24 hours a day. At any time, up to eight trucks (20 percent of the daily total) may be queuing or loading on the site.

Short-term noise measurements were taken of loading auto carrier trucks at the existing BNSF Automotive Facility to determine the noise levels when vehicles are being loaded or unloaded from railcars. The measurements are summarized for Site 7 in Table 7-2. As indicated in Table 7-2 there are several operations from truck loading that cause moderately high noise levels, such as driving the vehicles onto the auto carriers, moving around and tightening the chains to hold the vehicles, throwing metal bars on the ground, flipping large metal supports on the auto carriers, and driving the auto carriers away fully loaded. Based on the recorded measurements, average noise levels (L_{eq}) of up to 70 dBA can be expected at a distance of 50 feet from truck loading and maximum noise levels of more than 95 dBA can be expected at a distance of 50 feet from truck loadings. While this operation is generally somewhat quiet, without a substantial amount of activity for an individual truck at any given time, the average noise level is increased by the rather loud periodic noises that occur from loading operations.

The nearest Seacliff residences are as close as 250 feet and the noise levels at this distance are estimated to be as high as 56 dBA L_{eq} and 81 dBA L_{max} during proposed project operations. The average noise level of 56 dBA would exceed the City of Richmond nighttime standard of 50 dBA for any 5 minute period in an hour between 10 p.m. and 7 a.m. This would be a *significant, adverse impact*.

Mitigation Measure 7-5

- a) *The site plan shall be reconfigured so that truck loading remains in the same location as current truck loading; or*
- b) *The site plan shall be reconfigured so that truck loading is moved to another location at the PPMT site no closer to the Seacliff residences than the current truck loading area; or*
- c) *The site plan shall be reconfigured so that all nighttime truck loading operations are at least 750 feet from the Seacliff residences and the line of sight from the residences to all truck loading operations is blocked by a sound barrier, or enclosed in a building.*

Implementation of any of the measures listed above would reduce the nighttime noise impact of truck loading to a *less-than-significant* impact. However, if the site plan cannot be modified and truck loading occurs as shown on Figure 3-5, the noise levels from truck loading operations would remain a *significant and unavoidable impact*.

CUMULATIVE IMPACTS

The most common cumulative impact for most development projects is from the traffic-related noise because traffic from different projects will use the same roadway network. The cumulative impact from traffic-related noise was analyzed in Impact 7-2 and the impact was found to be less-than-significant, as shown in Table 7-6, above.

Another potential cumulative noise impact for the proposed project would be nighttime noise levels, specifically related to loading the auto carriers trucks near the Seacliff residences. This noise impact is identified in Impact 7-5. If the proposed loading of the car carriers is not moved or the noise impact otherwise mitigated, this would be a potentially significant cumulative noise impact for the Honda project in conjunction with any additional loading of other automobiles at the PPMT, such as the Glovis vehicles already processed at the PPMT or other autos brought to the PPMT in the future. Additional car loading operations at this location near the Seacliff residences would further increase the potentially significant noise impact of the proposed Honda project.

8. BIOLOGICAL RESOURCES

8.1 INTRODUCTION

Identification of the potentially occurring special-status biological resources within the PPMT study area was based on review of environmental documentation prepared for nearby projects, review of existing pertinent literature and published lists and databases, and reconnaissance-level site surveys. The information presented herein provides a current analysis of impacts to endangered, threatened, and rare species, as well as federally and State-regulated biological resources. Information on special-status plant and animal species was compiled through review of the 2007 California Natural Diversity Data Base (CNDDB) and lists maintained by the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). Additional information on special-status plant species was obtained from the California Native Plant Society (CNPS). Reconnaissance-level site surveys were conducted by biologists Michael Wood and John Bourgeois on November 15, 2007 and Mr. Wood and Jerry Roe on December 5, 2007. A formal wetland delineation of a portion of the PPMT study area was performed by biologist Christopher Thayer on January 16, 2008; a separate wetland delineation technical report has been prepared.¹

8.2 TERRESTRIAL BIOLOGY SETTING

NATURAL CONTEXT

The project area is situated at the base of Nichol's Knob, a natural promontory located at the southeast end of the Potrero Hills. Based on a review of historical topographical maps,² all components of the study area, including the existing Point Potrero Marine Terminal, the Burlington Northern Santa Fe (BNSF) rail yard, and the connecting rail line, are situated on bay fill. Native surface vegetation and habitats were originally removed from the site when it was developed as a shipyard in the early 1940s for production of World War II ships. Additional grading and paving occurred in subsequent years when the southwestern portion of the site was used between 1964 and 1987 for metal scrapping operations. The

¹ Wood Biological Consulting, *Wetland Delineation and Preliminary Jurisdictional Determination for the Honda Port of Entry Project, City of Richmond, Contra Costa County, California*, January 29, 2008.

² U.S. Geologic Survey (USGS), topographic maps dated 1895, 1942.

eastern portion of the PPMT site was newly paved in the 1970s, following the 1968 purchase of the site by the City of Richmond. The western half of the PPMT site was again paved in 2003 and the eastern half was repaved in 2004. Thus, it has been well over half a century since the project site supported any substantial natural habitat.

The PPMT study area currently is industrial in character, consisting of level, paved asphalt surfaces, assorted warehouses and facilities, and shipping docks at the edge of Richmond Harbor. The project site is located less than one-quarter mile southeast of Miller Knox Regional Shoreline, a public open space park administered by the East Bay Regional Park District.

PLANT COMMUNITY TYPES

As a result of historic filling of the bay and grading associated with development of the harbor wharfs, none of the indigenous plant communities associated with the adjacent natural habitat remain. The majority of the PPMT study area is paved with asphalt, with very little vegetative cover present. Unpaved areas generally consist of graveled and compacted surfaces supporting sparse herbaceous vegetation characterized as ruderal habitat. A small amount of landscaping, including ornamental trees, shrubs and ground cover is present along the roadside of Canal Boulevard, at Building 23, the historic cafeteria building, and in the employee parking lot near the gated entrance to the port. A narrow band of coastal freshwater marsh is present within the study area, occurring within two excavated stormwater drainage ditches. Plant associations occurring on site are described in more detail below.

Ruderal Habitat

Ruderal habitat is that from which the native vegetation has been completely removed by grading, cultivation, or other surface disturbances. It is characterized by plants that thrive in waste places with hard-packed, disturbed soils.³ Left undeveloped, such areas may become re-colonized by widespread and invasive exotic species. Scattered native species might also re-colonize such sites after disturbance has ceased. Ruderal sites are typically dominated by herbaceous species, although scattered woody shrubs and trees may also begin to appear if left undisturbed long enough. Ruderal sites are characteristic of roadsides, fallow agricultural fields, and vacant lots.

Within the PPMT study area, numerous areas on the site have been severely disturbed by grading, paving, and construction activities. The native vegetation on these lands has been

³ V.L. Holland and D.J. Keil, *California Vegetation*, 1990.

completely removed and in some instances replaced by ruderal (i.e., weedy) non-native and occasionally native plant species. Areas of ruderal vegetation are restricted to the existing railway tracks and the edge of the shoreline at the northern end of the wharf. Common weedy species encountered in the project area include sweet fennel (*Foeniculum vulgare*), brome grasses (*Bromus* spp.), wild oats (*Avena* spp.), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Picris echioides*), ruby sand-spurrey (*Spergularia rubra*), horseweed (*Conyza canadensis*), rose clover (*Trifolium hirtum*), French broom (*Genista monspelianus*), bur clover (*Medicago polymorpha*), English plantain (*Plantago lanceolata*), hoary mustard (*Hirschfeldia incana*), and filaree (*Erodium* spp.), among others.

Ruderal habitat is not specifically described by Sawyer and Keeler-Wolf⁴ and would be classified as upland following Cowardin, *et al.*⁵

Ornamental Plantings and Landscaping

Ornamental plantings or landscaped areas represent anthropogenic plant associations dominated by plant species established by humans and actively maintained.⁶ Some are entirely artificial such as areas under active cultivation (i.e., row crops, orchards, vineyards, etc.). Others include areas used as rangeland or pasture, wasteland areas (e.g., ruderal), and areas influenced by urban or suburban landscaping or plantings. On such sites, the native vegetation has typically been removed by clearing in preparation for cultivation, landscaping, or development. Ornamental trees and shrubs are planted in developed areas for a variety of purposes including shade, windbreaks, or for aesthetic purposes.

Within the PPMT study area, ornamental plantings and landscaping were introduced following the reclamation and development of former bay tidelands by extensive filling sometime before 1942, specifically at Building 23. Recently installed landscaping is present at the parking lot at the entrance to the PPMT facility. Additional ornamental plantings are present at Building 23 and along Canal Boulevard median and roadsides. Trees species present include Monterey pine (*Pinus radiata*), Siberian elm (*Ulmus sibirica*), Lombardy poplar (*Populus nigra*), blue gum (*Eucalyptus globulus*), myoprum (*Myoporum* sp.), and ornamental pear (*Pyrus* sp.), among others. Landscape shrubs such as privet (*Ligustrum* sp.), boxwood (*Buxus microphylla*), New Zealand flax (*Phormium tenax*), Jupiter's beard

⁴ J.O. Sawyer and T. Keeler-Wolf, *A Manual of California Vegetation*. California Native Plant Society, 1995. Available on line at <http://davisherb.ucdavis.edu/CNPSActiveServer/index.html>.

⁵ U.S. Department of the Interior, Fish and Wildlife Service, L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe, *Classification of Wetlands and Deepwater Habitats of the United States*, 1979. Available online at <http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm>.

⁶ V.L. Holland and D.J. Keil, *op. cit.*.

(*Centranthus rubra*), Algerian ivy (*Hedera canariensis*), and oleander (*Nerium oleander*) are also present.

Coastal Freshwater Marsh

Freshwater marsh typically occurs in low-lying sites that are permanently flooded with fresh water and lacking significant current. This plant community is found on nutrient-rich mineral soils that are saturated for all or most of the year. Freshwater marsh is most extensive where surface flow is slow or stagnant or where the water table is so close to the surface as to saturate the soil from below. Freshwater marsh is distributed along the coast and in coastal valleys near river mouths and around the margins of lakes, springs, and streams.⁷ This vegetation community characteristically forms a dense vegetative cover dominated by perennial, emergent monocots⁸ 1 to 15 feet high that reproduce by underground rhizomes.⁹

Coastal freshwater marsh vegetation is present in two artificial stormwater drainage channels located at the northern end of the PPMT study area. Both channels are situated along the railroad tracks on the east side of Canal Boulevard, one adjacent to the BNSF rail yard, and the other just south of Wharf Street, as illustrated on Figure 8–1. Characteristic native species occurring within the channels include narrow-leaved cattail (*Typha angustifolia*), broadleaf cattail (*Typha latifolia*), western goldenrod (*Euthamia occidentalis*), common rush (*Juncus effusus* var. *pacificus*), umbrella sedge (*Cyperus eragrostis*), spearscale (*Atriplex triangularis*), and saltgrass (*Distichlis spicata*), among others. Saplings and small shrubs of arroyo willow (*Salix lasiolepis*) are also present.

Freshwater marsh conforms to the cattail series as described in Sawyer and Keeler-Wolf¹⁰ and would be classified as a palustrine persistent emergent freshwater wetland following Cowardin, *et al.*¹¹

A formal wetland delineation and preliminary jurisdictional determination of the BNSF Automotive Terminal property was conducted in accordance with the methodology

⁷ R. Holland, *Preliminary Descriptions of the Terrestrial Natural Communities of California*, California Department of Fish and Game, 1986.

⁸ *Monocotyledones* (monocots) are flower groups distinguished by three flower parts in a whorl. They typically have a single embryonic leaf (cotyledon) in their seeds, in contrast to *dicotyledones*, which generally have two cotyledons.

⁹ Rhizomes are horizontal stems of plants that typically grow underground, such as bermuda grass, though some grow at or above the ground surface.

¹⁰ J.O. Sawyer and T. Keeler-Wolf, *op. cit.*

¹¹ U.S. Department of the Interior, Fish and Wildlife Service, L.M. Cowardin, V. Carter, F.C. Golet, and E.T. LaRoe, *op. cit.*

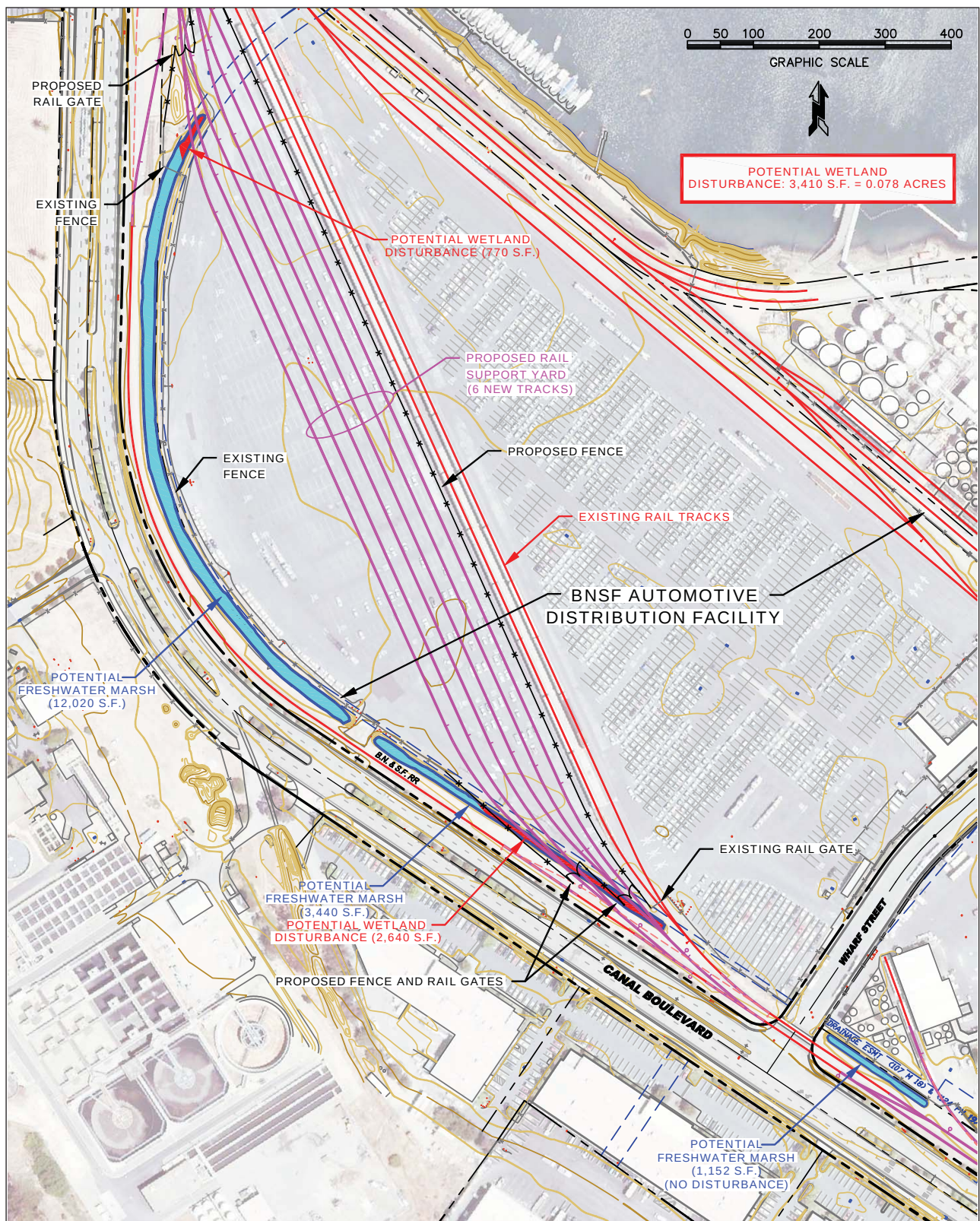


Figure 8-1

Delineation of Wetlands On/Adjacent to BNSF Site

Source: Wood Biological Consultants and TransDevelopment Group

outlined in the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*¹² and *Corps of Engineers Wetlands Delineation Manual*.¹³ The results of this analysis are presented in a separate technical report.¹⁴ Based on the wetland delineation, coastal freshwater marsh associated with the stormwater drainage channels meets the criteria for classification as a wetland subject to regulation under the Clean Water Act and Porter–Cologne Water Control Act. The delineation identified a total of 16,612 square feet (0.38 acre) of wetlands potentially falling under both federal and State jurisdiction. The USACE will verify the acreage and make the final determination of their jurisdiction within the study area; a jurisdictional determination by the USACE had not yet been made at the time of publication of this DEIR. However, for purposes of this analysis, the coastal freshwater marsh habitat on the BNSF site is presumed to fall under both federal and State jurisdiction, and the proposed filling of this habitat would therefore require permits from the USACE and the RWQCB in accordance with the requirements discussed below in Section 8.4.

Adjacent Vegetation Communities

Although not present within the PPMT study area, additional native and non-native habitats are present on the adjacent slopes of Nichol’s Knob, in undeveloped open space and in Miller Knox Regional Shoreline. Although these habitats are located outside of the project boundaries, a brief description is included here because they might support wildlife species that could be indirectly affected by the proposed project. This characterization is based on reconnaissance–level observations from the property edge and not on site–specific surveys of the habitats themselves.

The south–facing slope of Nichol’s Knob supports non–native annual grassland, comprised of non–native and native grasses and forbs, and stands of coyote brush scrub. The east–facing slope supports a dense stand of coastal (Franciscan) scrub. The adjacent coastal scrub habitat supports primarily common native shrub, vine, and fern species such as toyon (*Heteromeles arbutifolia*), poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), wild cucumber (*Marah fabaceus*), wood fern (*Dryopteris arguta*), and California polypody (*Polypodium calirhiza*), among others. Scattered coast live oaks (*Quercus agrifolia*) are also present.

¹² U.S. Army Corps of Engineers, *Distribution of Ordinary High Water Mark (OHWM) Indicators and Their Reliability in Identifying the Limits of Waters of the United States in Arid Southwest Channels*, Technical Report TR–06–05, 2006.

¹³ Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y–87–1, 1987.

¹⁴ Wood Biological Consulting, *op. cit.*

Relatively dense stands of Central Coast riparian scrub are present at the base of the east-facing slope of Nichol's Knob and in a linear strip just west of Building 23. This habitat is dominated by arroyo willow. At the base of the east-facing slope, are seasonal wetlands associated with three small constructed detention basins, dominated by non-native herbaceous plant species. Near the western end of the project site, on the shoreline of the San Francisco Bay, is a small stand of tidal northern coastal salt marsh dominated by pickleweed (*Salicornia virginica*) and marsh gumplant (*Grindelia stricta* var. *angustifolia*).

WILDLIFE HABITATS

Coastal freshwater marsh, ruderal, and ornamental plantings/landscaping communities provide habitat for a variety of native wildlife species. Trees and shrubs provide nesting and foraging habitat for various bird species such as western scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), Anna's hummingbird (*Calypte anna*), American robin (*Turdus migratorius*), and Bewick's wren (*Thryomanes bewickii*), among others. The dense to open understory associated with some habitats provides cover, forage, and movement pathways for a variety of mammals, reptiles, and amphibians including black-tailed deer (*Odocoileus hemionus*), gray fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), Botta's pocket gopher (*Thomomys bottae*), California meadow vole (*Microtus californicus*), western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), Pacific treefrog (*Pseudacris regilla*), and slender salamander (*Batrachoseps attenuatus*). Anthropogenic structures such as buildings, transmission towers, bridges, piers, etc. provide suitable nesting and roosting habitat for bird and mammal species such as gulls and terns (Laridae family), sparrows (Emberizinae and Passeridae), finches (Fringillidae), swallows (Hirundinidae), swifts (Apodidae), hawks (Accipitridae), bats (Megachiroptera and Microchiroptera), and rodents (Muridae) among others.

Anthropogenic features that might provide habitat for wildlife species include the existing vehicle processing complex, associated facilities buildings, adjacent warehouses and associated buildings and rooftops, and landscaping. Open water and benthic habitats associated with the Richmond Harbor and San Francisco Bay abut the shoreline of the project area. Most of these are deepwater areas subject to regular shipping traffic and are maintained by regular dredging.

8.3 MARINE BIOLOGY SETTING

The San Francisco Bay Estuary is the largest estuary on the west coast of North America. Typically, estuaries are biologically productive and diverse, and San Francisco Bay habitats are very productive. More than 250 species of birds, 120 species of fish, 81 species of mammals, 30 species of reptiles, and 14 species of amphibians occur regularly in the San

Francisco Estuary.¹⁵ The aquatic portion of the PPMT Study Area includes the open waters of the Bay and the Harbor Channel between Point Potrero and Brooks Island. Although not directly in the project action area, other habitats associated with the estuary system could be adversely affected by the project. For example, emergent vegetation associated with marshes outside the transit route, but fringing the nearby Bay waters, might be affected by boat-generated wake. Likewise, birds that nest on substrate near the shore (e.g., on Brooks Island) could be adversely affected by an increase in wake size. Thus, aquatic habitats in the general vicinity of the project site and ship transit route near the project site are described below.

Some 40 percent of California's combined watersheds drain into the San Francisco Bay; the Bay is among the U.S. estuaries most heavily modified by human activities.¹⁶ The Bay is generally shallow—less than 10 meters deep (< 10 m)—except in its central portion. San Pablo Bay and South Bay are broad shoals with relatively restricted channels, while central San Francisco Bay is comparatively deep (> 13 m) with shoals along its eastern edge.¹⁷ Deep channels are located at the Golden Gate (110 m) entrance to the Bay and at the Carquinez Strait (27 m).

Ship access to Richmond Harbor is supplied by a dredged channel from Central Bay, skirting Point Richmond via the Entrance Channel, running north of Brooks Island (Point Potrero Reach), and then turning (heading ~340 degrees, Point Potrero Turn) into the Harbor Channel. These ship channels are discussed in more detail in Chapter 5, Traffic and Transportation, and in Chapter 11, Hydrology and Water Quality, and are illustrated on Figures 5–6 and Figures 11–1.

Point Potrero Marine Terminal (PPMT) occupies a site on the shoreline of the Richmond Inner Harbor within central San Francisco Bay, as shown on Figures 3–1 and 3–2. The project site includes the berthing facilities, specifically Berth 6C and the Harbor Channel associated with PPMT (see Figure 3–3). The Harbor Channel is approximately 105 m wide at the site of the proposed improvements to Berth 6C. Dredging of the berths was last completed in 1998 to a maximum depth of 12 m. Please refer to Chapter 11 for additional information on these physical features.

¹⁵ S.W. Siegel and P.A.M. Bachand, *Feasibility Analysis, South Bay Salt Pond Restoration*, 2002.

¹⁶ F. H. Nichols, J. E. Cloern, et al., "The Modification of an Estuary," *Science* 231(4738): 567–573, 1986.

¹⁷ Shoals are granular, deposited linear landforms located under water. Although sand bars are an example, shoals can also be composed of much coarser material, including gravel and cobblestones.

Open Water and Subtidal Habitats

In San Francisco Bay, open-water and subtidal habitats include open Bay waters, tidal sloughs and channels, and areas of standing water in marshes and impounded areas. Deep-water habitat does not support emergent vegetation, although specific shallow open-water areas support eelgrass. Eelgrass (*Zostera marina* L.) is an important, highly productive subtidal and intertidal flowering plant that helps stabilize the substrate and add structure to benthic habitats. Eelgrass beds range in depth from 0.4 m above Mean Lower Low Water (MLLW) to 1.77 m below MLLW.¹⁸ Eelgrass beds in the San Francisco Bay range from Coyote Point in the South Bay to lower San Pablo Bay. Within the project area, eelgrass beds are found along the subtidal channel edge north and west of Brooks Island, and north and south along the subtidal edge of the jetty west of Brooks Island. Eelgrass patches are also located just east of the mouth of Richmond Inner Harbor.

The various intertidal and subtidal areas of the Bay offer important habitats for aquatic communities, supporting diverse assemblages of invertebrates, fishes, and waterbirds. The invertebrates support ecologically important fish populations, including species targeted by recreational and commercial fisheries (e.g., Pacific herring (*Clupea pallasii*), northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax caeruleus*), and California Halibut (*Paralichthys californicus*)). Fishes, in turn, provide food for piscivorous (i.e., fish-eating) birds such as common and Pacific loons; western, Clark's, eared, and horned grebes; Caspian and Forster's terns (*Hydroprogne caspia* and *Sterna forsteri*, respectively); double-crested and Brandt's cormorants; and American white and California brown pelicans. Aquatic invertebrates also provide food for diving ducks such as greater and lesser scaup, canvasbacks, and surf and white-winged scoters. Diving ducks can amass in large "rafts" of birds in open-water areas. Other species often seen in large numbers in open Bay waters in the vicinity of the project site include the American coot and various species of gulls (*Larus* spp.) The waters around Brooks Island provide important waterfowl habitat due to depth and substrate associated with the island.

The marine mammals that regularly use the Bay are California sea lion (*Zalophus californianus*), harbor seal (*Phoca vitulina*), and harbor porpoise (*Phocoena phocoena*). Gray whales (*Eschrichtius robustus*) and humpback whales (*Megaptera novaeangliae*) visit the Bay occasionally, but the open coast is considered more typical habitat. The southern sea otter (*Enhydra lutris nereis*) is typically found from Año Nuevo, San Mateo County, south to Point Sal, Santa Barbara County, closely associated with giant kelp (*Macrocystis pyrifera*) or bull kelp (*Nereocystis luetkeana*). The CNDDDB includes a single record of an animal foraging off

¹⁸ K. W. Merkel, *Baywide Eelgrass (*Zostera marina* L.) Inventory in San Francisco Bay*, Prepared for the San Francisco–Oakland Bay Bridge East Span Seismic Safety Project, 2004.

Sausalito Point (San Francisco Bay), and sea otters in San Francisco Bay should, at present, be considered highly unusual.

Brooks Island

Brooks Island is a 65-acre island that lies less than a mile from the Richmond Marina and approximately $\frac{1}{4}$ mile from Point Potrero (just south of the Richmond Inner Harbor). The main island consists of a rocky ridge and is about 47 acres in area and rises to 160 feet.¹⁹ Until 1938, this island was used as a quarry that provided rock to construct the breakwater that protects the channel leading into the Richmond Inner Harbor, as well as other Bay-associated projects. The breakwater has accumulated sufficient sand to form an east-west oriented, 0.8-mile-long broad sand spit that supports coastal strand habitats. There are currently two breaches through the spit; one is large enough for a small boat to pass through at high tide. There are also patches of salt marsh in small areas behind beaches. A 1-mile-long breakwater is attached to the west end of the spit. Brooks Island supports a variety of plant communities in a relatively undisturbed state.

Brooks Island became part of the East Bay Regional Parks District in 1968 and it represents an important refuge for birds. The East Bay Regional Park District Brooks Island Regional Shoreline Preserve comprises 75 acres. The Preserve includes an offshore rock that provides roosting habitat for shorebirds and other birds. Brooks Island is a bird sanctuary, which supports over 18 species of breeding birds, including an important breeding colony of Caspian terns. Other breeding species include the double-crested cormorant, black-crowned night heron, western gull, and black oystercatcher. In addition, the waters around the island and the island itself support a large number of migratory and wintering species as well. Thus, the island and surrounding waters support a high diversity of avian species and the area is a “birding hotspot.” A number of locally rare bird species and stragglers to California have been noted here.

8.4 REGULATORY FRAMEWORK

This section presents a general discussion of the authority of federal, State, and local agencies to regulate certain biological resources, which may or may not actually be affected by the proposed project.

¹⁹ J.A. Powell, *Lepidoptera (Butterflies and Moths) of Brooks Island, California*, UC Berkeley Museum of Entomology, http://essig.berkeley.edu/documents/lepidoptera/lepidoptera_brooks.pdf.

FEDERAL

U.S. Army Corps of Engineers

Section 404 of the Clean Water Act of 1972

Section 404 of the Clean Water Act of 1972 (CWA) regulates activities that result in the discharge of dredged or fill material into waters of the U.S., including wetlands. Section 10 of the Rivers and Harbors Act authorizes the U.S. Army Corps of Engineers (USACE) to regulate dredging, filling, and construction activities in navigable waters (see discussion below). The primary intent of the CWA is to authorize the U.S. Environmental Protection Agency (US EPA) to regulate water quality through the restriction of pollution discharges. The USACE has the principal authority to regulate discharges of dredged or fill material into waters of the U.S. However, the US EPA has oversight authority over the USACE and retains veto power over the USACE's decision to issue permits. Waters of the U.S. include:

20

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (a)(1)–(4) of this section;
6. The territorial seas;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)–(6) of this section.
8. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

²⁰ 33CFR 328.3

9. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the US EPA.

The limits of jurisdiction, subject to regulation under the CWA, are defined as:²¹

- a. **Territorial Seas.** The limit of jurisdiction in the territorial seas is measured from the baseline in a seaward direction a distance of three nautical miles.²²
- b. **Tidal Waters of the United States.** The landward limits of jurisdiction in tidal waters:
 1. Extends to the high tide line, or
 2. When adjacent non-tidal waters of the United States are present, the jurisdiction extends to the limits identified in paragraph (c) of this section.
- c. **Non-Tidal Waters of the United States.** The limits of jurisdiction in non-tidal waters:
 1. In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark, or
 2. When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high water mark to the limit of the adjacent wetlands.
 3. When the water of the United States consists only of wetlands the jurisdiction extends to the limit of the wetland.

Under Section 404, projects may be authorized under existing general permits (a Nationwide Permit) or may require an Individual Permit. A Nationwide Permit is a more streamlined permit process than an Individual Permit, although supporting compliance efforts, such as for the federal Endangered Species Act (ESA), are identical regardless of permit type. If the USACE decides that the proposed project requires a Section 404 permit for the placement of fill into a regulated wetland but that it is ineligible for a Nationwide Permit, then a Section 404 Individual Permit would be required. The requirements of a Section 404 Nationwide Permit allow less than 0.5 acre and 300 linear feet of channel of permanent impacts to federal jurisdictional wetlands. If permanent structures would require more than 0.5 acre within delineated federal wetlands, then a Section 404 Individual Permit would automatically be required. As a part of the Section 404 Individual Permit process, National Environmental Policy Act (NEPA) review would also be required. Due to the presence of wetlands potentially regulated under the CWA, unless impacts to wetlands can be avoided, project implementation is expected to fall under the jurisdiction of the USACE (see Impact 8-1).

²¹ 33 CFR 328.4

²² 33 CFR 329.12

Nationwide Permit

The current Nationwide Permits that may apply to the proposed project include Nationwide Permits 14, Linear Transportation Project; 18, Minor Discharges; 33, Temporary Construction, Access, and Dewatering; and 39, Commercial and Institutional Developments.²³ Nationwide permits can be “stacked” together, provided that the overall affected area of U.S. waters or jurisdictional waters does not exceed 0.5 acre or 300 linear feet of creek bank, as established by USACE regulations.

If the proposed project qualifies for a Nationwide Permit, the applicant would be required to notify the USACE. Compliance with the ESA, the National Historic Preservation Act (NHPA) Section 106 cultural resources compliance, and CWA Section 401 concerning the Regional Water Quality Control Board (RWQCB) water quality certification is the same regardless of what type of USACE permit is required. No alternatives analysis and no further NEPA compliance are required for authorization under a Nationwide Permit. Although the project is presumed eligible for coverage under one or more Nationwide Permits, the USACE will make this determination, and could require an Individual Permit.

Individual Permit

If the project does not qualify for a Nationwide Permit, then an Individual Permit would be required to comply with CWA Section 404. The primary differences between a Nationwide Permit and an Individual Permit concern the public interest review, compliance with Section 404(b)(1) guidelines (see below), which require an alternatives analysis, and NEPA compliance. It is not expected that the project would have to be processed under the Individual Permit process.

Public Interest Review. The public interest review considers the public and private benefits of a project compared with its adverse impacts on the environment. It includes such considerations as conservation, economics, aesthetics, navigation, fish and wildlife values, water supply, water quality, energy needs, and flood damage prevention. The USACE also considers all comments received in the permit process, whether in response to a public notice or a public hearing. A permit may be denied if the project is found to be contrary to the public interest. If an Individual Permit is required, it is presumed that information concerning the public interest review would be addressed through the permit application and supporting material.

Section 404(b)(1) Guidelines and Alternatives. The CWA Section 404(b)(1) Guidelines, published by the US EPA in conjunction with the USACE, contain substantive

²³ Federal Register, vol. 72, No. 47 (11180–11198).

environmental criteria used in evaluating discharges of dredged or fill material. Under the guidelines, no discharge can be permitted if there is a practicable alternative with a less adverse effect on the aquatic environment (unless the identified alternative poses other significant environmental problems). No discharge can be permitted under the guidelines if it would violate other applicable laws, such as State water quality standards, toxic effluent standards, or the ESA. The guidelines also prohibit any discharge that would cause or contribute to significant degradation of waters of the United States. In addition, discharges can be permitted under the guidelines only if all appropriate and practicable steps are taken to avoid, minimize, and mitigate (in that order) the adverse impacts of the discharge on the aquatic ecosystem, including compensating for unavoidable impacts. If an Individual Permit is required, a Section 404(b)(1) analysis must be prepared and the preferred alternative must meet the criteria in the guidelines for the least environmentally damaging practicable alternative.

National Environmental Policy Act. Prior to issuing a permit, federal agencies are required to evaluate the environmental impacts of their actions through the NEPA process. Typically minor, routine, or ongoing maintenance projects with no potentially significant environmental effects qualify as categorical exclusions that do not require preparation of an environmental assessment (EA) or an environmental impact statement (EIS). Each federal agency's NEPA regulations define which of their activities should be categorically excluded from NEPA. The USACE has addressed NEPA requirements for Nationwide Permits at the program level. Individual permits typically require an EA or an EIS. Therefore, at a minimum, the USACE would typically require preparation of an EA for an Individual Permit.

If an Individual Permit is required, the USACE would most likely prepare an EA to determine whether an EIS is required. Because an EIS is required only for "major federal activities significantly affecting the environment," an EIS is rarely required in typical USACE permit applications. The most likely NEPA document for an Individual Permit is an internal EA prepared by the USACE.

In most cases, the USACE prepares an internal document that is the equivalent of an EA. The permit applicant is usually asked to provide relevant information to assist the USACE in its preparation of this document. An environmental impact report (EIR) usually provides all of the information necessary to prepare an EA-equivalent document. For major permits, the USACE can require preparation of an EIS.

Section 10 of the Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899²⁴ authorizes the USACE to regulate dredging, filling, and construction activities in navigable waters. The Rivers and Harbors Act makes it a misdemeanor to discharge refuse matter of any kind into the navigable waters of the United States without a permit; this specific provision is known as the Refuse Act. The Rivers and Harbors Act also makes it a misdemeanor to excavate, fill, or alter the course, condition, or capacity of any port, harbor, channel, or other areas within the reach of the Act without a permit. Although many activities covered by the Rivers and Harbors Act are regulated under the CWA, the 1899 Act retains independent vitality. The Rivers and Harbors Act is administered by the USACE. Given that the proposed project overlaps the waters of the San Francisco Bay, conformance with the Rivers and Harbors Act would be required. Authorization under Section 10 of the Rivers and Harbors Act would be granted by the USACE as part of their processing of a Nationwide or Individual Permit (Impact 8–1).

Executive Order 11990 – Protection of Wetlands (May 24, 1977)

Executive Order 11990 provides for the protection of wetlands. The administering agency for the above authority is the USACE. Conformance with Section 404 of the CWA would bring the project into compliance with Executive Order 11990.

U.S. Fish and Wildlife Service and National Marine Fisheries Service

Federal Endangered Species Act

Section 9 of the federal Endangered Species Act (ESA)²⁵ prohibits the “take” of federally listed endangered species of fish or wildlife and many plant species.²⁶ The ESA defines *take* to mean “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or attempt to engage in any such conduct”.²⁷ Take can also include habitat modification or degradation that directly results in death or injury to a listed wildlife species. An activity can be defined as “take” even if it is unintentional or accidental. Section 7(a)(2) of the ESA requires that actions authorized, funded, or carried out by federal agencies (i.e., issuing a permit pursuant to the CWA) do not “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of lands determined by the USFWS or the National Marine Fisheries Service (NMFS) to be ‘critical

²⁴ 33 USC 201 et seq.

²⁵ 16 USC 1531 et seq.; 50 CFR Parts 17 and 222

²⁶ 16 USC 1538 [a][1][B]

²⁷ 16 USC 1532[19]

habitat” for such species.²⁸ If a federal agency determines that a proposed federal action (i.e., issuance of a CWA Section 404 permit for wetland fill) “may affect” a listed species and/or designated critical habitat, the agency must consult with the USFWS and/or the NMFS in accordance with Section 7 of the ESA. If take of a federally listed species may occur, the applicant may be required to obtain an incidental take permit from the USFWS and/or NMFS. This permit allows the taking of federally listed species if the take is “incidental to and not the purpose of, the carrying out of an otherwise lawful activity”²⁹. The USFWS and/or NMFS issues an incidental take permit only if the applicant, to the maximum extent possible, has minimized and mitigated for the impacts of the taking and provided adequate funding for the mitigation plan, and if the taking would not appreciably reduce the likelihood of the survival and recovery of the species in the wild³⁰.

Incidental take permits are obtained through Section 7 consultation between the USACE and USFWS and/or NMFS. The NMFS has jurisdiction over federally listed marine and anadromous fish. Federal consultation is initiated by submittal of a Biological Assessment (BA), normally prepared by the applicant, which describes the project and all potential adverse effects on listed species. The USFWS and NMFS review the BA and determine the potential effects of a project on listed species. The project applicant must demonstrate efforts to avoid or minimize impacts on listed species and their habitat. If the project largely avoids impacts on federally listed species, USFWS or NMFS may determine the project would either “not affect” or is “not likely to affect” federally listed species and their designated critical habitat. If the project would result in more substantial impacts to listed species or destruction or adverse modification to designated critical habitat, the USFWS and NMFS will issue a Biological Opinion (BO) that may or may not include a jeopardy opinion. A BO typically imposes terms and conditions on the project, whereas a jeopardy opinion finds that the proposed project would jeopardize the continued existence of federally listed species and imposes reasonable and prudent alternatives. In this case, the USACE is prohibited from approving the project until modifications have been made to avoid jeopardizing the species and the USFWS and NMFS have been consulted about the modified project. Project implementation would not have adverse effects on federally listed species; as such, the project would not require consultation under Section 7 or 9 of FESA.

²⁸ 16 USC 1536[a][2] and 16 USC 1532[5]

²⁹ 16 USC 1539[a][1][B]

³⁰ 16 USC 1539[a][2][B]

Magnuson–Stevens Fishery Conservation and Management Act (MSFCMA)

The Magnuson–Stevens Fishery Conservation and Management Act (MSFCMA) governs all fishery management activities that occur in federal waters within the United States' 200 nautical mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans to achieve the optimum yield from US fisheries in their regions. These councils, with assistance from NMFS, establish Essential Fish Habitat (EFH) in fishery management plans for all federally managed species. federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to NMFS's recommendations.

Bald Eagle Protection Act

The Bald Eagle Protection Act (BEPA),³¹ as amended, provides protection for the bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of such birds, their nests, eggs, or feathers unless expressly authorized by permit pursuant to federal regulations. Project implementation would not conflict with the BEPA.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918, as amended (MBTA)³² includes provisions for the protection of migratory birds, including basic prohibitions against any taking not authorized by federal regulation. The MBTA makes it unlawful, unless expressly authorized by permit pursuant to federal regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird. The administering agency for the above authority is the USFWS. Most bird species occurring within the project region fall under the protection of the MBTA except those species that belong to the families not listed in any of the four treaties, such as wrentit (*Chamaea fasciata*), European starling (*Sturnus vulgaris*), California quail (*Callipepla californica*), ring-necked Pheasant (*Phasianus colchicus*) and chukar (*Alectoris chukar*), among others less common in California. On December 8, 2004 congress adopted the Migratory Bird Treaty Reform Act (MBTRA),³³ which excludes from protection all

³¹ 16 U.S.C. 668–668d, 54 Stat. 250

³² 16 USC §703–711; 50 CFR Subchapter B

³³ Division E, Title I, Section 143 of the Consolidated Appropriations Act, 2005, PL 108–447.

migratory birds that are considered to be non-native or that have been human introduced to the U.S. or its territories. It defines a native migratory bird as a species present within the U.S. and its territories as a result of natural biological or ecological processes. The MBTRA excluded two additional species commonly observed in the U.S., the rock pigeon (*Columba livia*) and domestic goose (*Anser anser 'domesticus'*). As discussed in Section 8.7, Impacts and Mitigation Measures, project implementation would conflict with the MBTA.

Marine Mammal Protection Act

The 1972 Marine Mammal Protection Act³⁴ (MMPA) was enacted to conserve marine mammals, including cetaceans, pinnipeds, and other marine mammal species. With certain exceptions, the MMPA prohibits the taking and importation of marine mammals as well as products taken from them. Relevant to the Port of Richmond Project, the MMPA prohibits harassment of marine mammals, including the harbor seal. Project implementation and operation would not conflict with the MMPA (see Impact 8–3).

STATE

San Francisco Bay Conservation and Development Commission

The San Francisco Bay Conservation and Development Commission (BCDC) is a California State agency. BCDC jurisdiction in the project area extends over the Bay, up to mean high tide and to 5 feet above mean sea level in marshes; and over a 100-foot shoreline band inland from the line of mean high tide or the line 5 feet above mean sea level adjacent to marshes. BCDC is responsible for enforcing the McAteer–Petris Act, which requires that “maximum feasible public access consistent with a project be included as part of each project to be approved by the BCDC.” BCDC is also responsible for determining consistency with the federal Coastal Zone Management Act.

The federal Coastal Zone Management Act and the California Coastal Act require the BCDC to review federal projects, projects that require federal approval or projects that are supported by federal funds. The BCDC Bay Plan (Bay Plan) promotes Bay conservation along with shoreline development and public access. BCDC has adopted policies that specifically address public access and wildlife compatibility, where in some “cases public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources.”

³⁴ 16 USC Sec. 1361–1407

The proposed project would require a BCDC permit or consistency determination for the proposed shoreline improvements. As part of the BCDC permit process, the agency would ensure project consistency with the Bay Plan and the federal Coastal Zone Management Act. Additional discussion on the Bay Plan is provided in Chapter 4, Land Use and Planning.

California Department of Fish and Game

Habitats potentially under the regulatory jurisdiction of the California Department of Fish and Game (CDFG) are described under Division 2, Chapter 6, Section 1600–1607 of the Fish and Game Code of California. The CDFG extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.”³⁵ Such areas on the BNSF site were determined using the methodology described in *A Field Guide to Lake and Streambed Alteration Agreements*. Wetlands on site are not expected to be regulated under the California Fish and Game Code. However, obtaining concurrence from CDFG would be required, as discussed in Section 8.7, Impact and Mitigation Measures (see Impact 8–1).

Under Sections 1600–1607 of the Fish and Game Code of California, the CDFG does not claim jurisdiction over saltwater habitats, including diked, muted, and tidal salt marsh similar to that found outside but adjacent to the western edge of the PPMT site. These habitats are regulated under federal law (see above).

Other sections of the Fish and Game Code of California protect various groups of wildlife species, including fish, crustaceans, mollusks, birds, mammals, reptiles, and amphibians.

California Fish and Game Code

The classification of Fully Protected was the State’s initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, birds, and mammals. Most, though not all, fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. The CDFG enforces the California Fish and Game Code, which provides protection for “fully protected birds,”³⁶ “fully protected mammals,”³⁷ “fully protected reptiles and amphibians,”³⁸ and

³⁵ California Department of Fish and Game, Environmental Services Division, *A Field Guide to Lake and Streambed Alteration Agreements*, 1994.

³⁶ California Fish and Game Code, Section 3511.

³⁷ California Fish and Game Code, Section 4700.

“fully protected fish.”³⁹ With the exception of permitted scientific research, no take of any fully protected species is allowed. Project implementation could conflict with California Fish and Game Code Section 3511, governing the fully protected species white-tailed kite, as discussed in Section 8.7, Impact and Mitigation Measures (see Impact 8–2). Project implementation is not expected to conflict with any other sections of the code.

California Endangered Species Act of 1984⁴⁰

The California Endangered Species Act (CESA) includes provisions for the protection and management of species listed by the State of California as endangered or threatened or designated as candidates for such listing. The State of California has formally listed plant and animal species as endangered, threatened, or rare.⁴¹ The State prohibits the take of protected amphibians,⁴² protected reptiles,⁴³ and protected furbearers.⁴⁴ Additionally, CDFG maintains lists of “species of special concern” that are defined as species that appear to be vulnerable to extinction because of declining populations, limited ranges, and/or continuing threats.

The CDFG may provide comments on this DEIR and incorporate all CEQA and USFWS/NMFS mitigation measures into the Section 1600 Streambed Alteration Agreement. The CDFG may also authorize acts that are otherwise prohibited by issuance of permits or memorandums of understanding to allow the import, export, take, or possession of any endangered species, threatened species, or candidate species for scientific, educational, or management purposes.⁴⁵ The CDFG may also authorize, by permit, the take of endangered species, threatened species, and candidate species provided specific conditions are met.⁴⁶ Project implementation would not conflict with the CESA.

Native Plant Protection Act

The CDFG administers Sections 1900–1913 of the California Fish and Game Code, the Native Plant Protection Act NPPA. These sections allow the California Fish and Game Commission

³⁸ California Fish and Game Code, Section 5050.

³⁹ California Fish and Game Code, Section 5515.

⁴⁰ California Fish and Game Code, §§2050–2068.

⁴¹ 14 CCR 670.2 and 14 CCR 670.5, respectively.

⁴² 14 CCR 41

⁴³ 14 CCR 42

⁴⁴ 14 CCR 460

⁴⁵ California Fish and Game Code, Section 2081(a).

⁴⁶ California Fish and Game Code, Section 2081(b).

to designate rare and endangered rare plant species and to notify landowners of the presence of such species. Section 1907 also allows the commission to regulate the “taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants.” Section 1908 further directs that “... [n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant.” Project implementation would not conflict with the NPPA.

California Fish and Game Code, Sections 1930–1933

Sections 1930–1933 of the California Fish and Game Code provide for the Significant Natural Areas program and database. The administering agency for the above authority is the CDFG.

California Species Preservation Act of 1970

The California Species Preservation Act (California Fish and Game Code Sections 900–903) includes provisions for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California. The administering agency for the above authority is the CDFG.

California Fish and Game Code, Sections 3500 and 5050

California Fish and Game Code (CFG) §3503 makes it illegal to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided under the code. Section 3503.5 prohibits the take, possession, or needless destruction of any nests, eggs, or birds in the orders Falconiformes (new world vultures, hawks, eagles, ospreys and falcons, among others) or Strigiformes (owls); §3511 prohibits the take or possession of fully protected birds; and §3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA.

Section 5050 prohibits the taking or possessing of any reptiles and amphibians listed as “fully protected.” The Fish and Game Code defines take as any action to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (Section 86). The administering agency for the above authority is the CDFG.

Stream Bed Alteration–Section 1600 Series Permit

The CDFG administers Sections 1600 through 1607 of the California Fish and Game Code. These sections address any project that would “(1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake designated by the department [the CDFG] in which there is at any time an existing fish or wildlife resource or from which

these resources derive benefit, (2) use materials from the streambeds designated by the department, or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass in to any river, stream, or lake designated by the department.”⁴⁷ Wetlands on site are not expected to be regulated under the California Fish and Game Code. However, obtaining concurrence from CDFG would be required, as discussed in Section 8.7, Impact and Mitigation Measures (see Impact 8–1).

Regional Water Quality Control Board

Section 401 Certification

The RWQCB has authority over projects that could result in adverse effects on waters of the State and wetlands, including isolated wetlands not falling under USACE jurisdiction. The RWQCB typically requires mitigation for permanent effects on all wetlands or waters of the State, based on area as well as linear measurements. A condition of the Nationwide Permit or Individual Permit is compliance with Section 401 of the CWA. Pursuant to Section 401 of the CWA and US EPA Section 404(b)(1) Guidelines, an applicant for a federal permit to conduct any activity that may result in a discharge into navigable waters must provide a certification from the RWQCB that such discharge would comply with the State water quality standards.⁴⁸ The RWQCB’s policy of no net loss of wetlands typically requires mitigation for all impacts on wetlands before it issues a water quality certification or waiver from the requirements. Due to the presence of wetlands potentially regulated under the CWA on and adjacent to the BNSF site, unless impacts to wetlands can be avoided, project implementation is expected to fall under the jurisdiction of the RWQCB (see Impact 8–1).

Porter–Cologne Water Quality Control Act

Under the Porter–Cologne Water Quality Control Act⁴⁹, the RWQCB is authorized to regulate the discharge of waste that could affect the quality of the State’s waters. “Waste” is broadly defined by the Porter–Cologne Act to include “sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature....”⁵⁰ Concentrated silt or sediment associated with human habitation and harmful to the aquatic environment is “waste” under this section. In addition, the California Attorney General has interpreted this definition to include extraction of sand,

⁴⁷ California Fish and Game Code, Section 1601.

⁴⁸ 23 CCR 3830 *et seq.*

⁴⁹ California Water Code, §§13000–14920.

⁵⁰ California Water Code, Section 13050.

gravel, or other minerals from a streambed, because it may cause an increase in turbidity and silt in the waters of the stream downstream from the operations. Therefore, even if a project does not require a federal permit (i.e., a Nationwide Permit from the USACE), it may require review and approval of the RWQCB.

When reviewing applications, the RWQCB focuses on ensuring that projects do not adversely affect the “beneficial uses” associated with waters of the State. Generally, the RWQCB defines beneficial uses to include all of the resources, services, and qualities of aquatic ecosystems and underground aquifers that benefit the State of California. Numerous beneficial uses have been identified, including agricultural supply, wildlife habitat, recreation, groundwater recharge, and municipal and domestic water supply. In most cases, the RWQCB seeks to protect these beneficial uses by requiring the integration of water quality control measures into projects that will result in discharge into waters of the State. For most construction projects, RWQCB requires the use of construction and post-construction best management practices (BMPs). In the case of constructing new impervious surfaces, incorporation of BMPs such as detention ponds, grassy swales, sand filters, modified roof drains, and other features will speed project approval from the RWQCB. Development setbacks from a creek are also favored by the RWQCB, as they often lead to fewer creek-related impacts in the future. Proper integration of these and other features into project design will greatly decrease the necessary negotiation with RWQCB and speed the project approval process. The wetlands on the BNSF site would be subject to regulation under the Porter–Cologne act (see Impact 8–1).

The Water Quality Control Plan, San Francisco Bay Region (Basin Plan)

The Basin Plan establishes beneficial uses for surface and groundwater resources and sets regulatory water quality objectives that are designed to protect those beneficial uses.⁵¹ Under the current Basin Plan, designated beneficial uses of the San Francisco Bay Area’s surface waters include municipal and domestic supply; agricultural supply; industrial service supply; groundwater recharge; contact and non-contact recreation; warm freshwater fish habitat; cold freshwater fish habitat; wildlife habitat; migration of aquatic organisms; and spawning, reproduction, and/or early development of fish.

The Basin Plan provides a program of actions designed to preserve and enhance water quality and to protect beneficial uses. It meets the requirements of the US EPA and establishes conditions related to discharges that must be met at all times.

⁵¹ California Regional Water Quality Control Board, San Francisco Bay Region, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*. As amended by the Office of Administrative Law, January 18, 2007.

The implementation portion of the Basin Plan includes descriptions of specific actions to be taken by local public entities and industries to comply with the Basin Plan's policies and objectives. These include measures for urban runoff management and wetland protection.

REGIONAL REGULATIONS AND RELATED PROGRAMS

Association of Bay Area Governments San Francisco Bay Trail Plan

The plan for the Bay Trail proposes development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo Bays. The Bay Trail Plan was prepared by the Association of Bay Area Governments (ABAG) pursuant to Senate Bill 100, which mandated that the Bay Trail provide connections to existing park and recreation facilities; create links to existing and proposed transportation facilities; and be planned in such a way as to avoid adverse effects on environmentally sensitive areas. The Bay Trail Plan proposes an alignment for what is planned to become a 400-mile-long recreational "ring around the Bay."

California Native Plant Society

The California Native Plant Society (CNPS), a non-governmental conservation organization, has developed lists of plant species of concern in California. Vascular plants included on these lists are defined as follows:⁵²

- List 1A Plants considered extinct.
- List 1B Plants rare, threatened, or endangered in California and elsewhere.
- List 2 Plants rare, threatened, or endangered in California but more common elsewhere.
- List 3 Plants about which more information is needed – review list.
- List 4 Plants of limited distribution – watch list.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing on List 1B or List 2 are, in general, considered to meet CEQA's Section 15380 criteria and adverse effects to these species are considered significant. Project implementation would not result in impacts to any plant species listed by the CNPS.

⁵² <http://www.cnps.org/cnps/rareplants/ranking.php>

LOCAL

City of Richmond General Plan

City of Richmond policies pertaining to biological resources are set forth in the Open Space and Conservation Element of the *Richmond General Plan*. A discussion of these policies is presented in Chapter 4, Land Use and Planning.

City of Richmond Zoning Ordinances

The City of Richmond has adopted policies intended to protect and/or preserve biological and ecological resources in the City's shoreline and tideland areas. These policies are promulgated in Section 15.04.510.030(A) of the Zoning Ordinance, quoted below:

- 15.04.510.030(A) Shoreline and Tideland Areas. The following additional regulations apply to shoreline and tideland areas in the Resource Management Overlay (RMO) district. The purpose of the shoreline/tideland physical constraint area regulations is to provide for orderly and harmonious development of the shoreline and tideland areas in order to protect water quality, wildlife habitats and native or naturalized vegetation, and to provide maximum public access to and along the shoreline
1. All uses and development(s) shall obtain a conditional use permit pursuant to Section 15.04.910.
 2. In addition to the requirements for a grading permit contained in the excavation, grading, and earthwork ordinance of this Code, Chapter 12.44, a grading permit also shall be required for grading work on all industrially zoned lands.
 3. No use, development or alteration shall:
 - a. Create uniform and/or terraced building sites which are contrary to the existing land forms, including the shape of the shoreline;
 - b. Substantially change the existing characteristics of the following: existing watercourses, established and mature trees or other native shrub or coastal shrub, marshes or primary wildlife habitats.
 4. Filling of the San Francisco Bay and all areas subject to tidal action shall be permitted only if all of the following conditions are satisfied:
 - a. The fill is the minimum necessary to achieve the purpose of the project and no alternative upland location is available for such purpose;
 - b. The fill is approved by BCDC;
 - c. The fill consists of small amounts of earth fill used solely to improve shoreline appearance or provide new public access to the bay;

- d. Fill content and placement is consistent with a soils report prepared by a licensed soils engineer stating that no greater risk to persons or property would occur than on inland, stable sites.
- 5. Dredging of the bottom of San Francisco Bay, including mud flats, tidelands, marshes, and all wetland areas subject to tidal action, shall be permitted only if the following conditions are satisfied:
 - a. Additional area is created which is the minimum necessary to safely provide water access to an approved use;
 - b. New water surface or marsh is created by removal of bay fill;
 - c. Existing navigation channels, basins or areas are maintained;
 - d. Drainage or an outfall pipe or similar structure is provided;
 - e. The location and depth of dredging minimizes shoaling and the need for maintenance dredging;
 - f. An approved plan exists for the disposal of dredge spoils and all subsequent maintenance dredging for the life of the project; and
 - g. Approval is obtained from BCDC.
- 6. Development shall be sited so that it is harmonious with the character of the site and the surrounding environmental setting to the maximum extent feasible. This includes utilizing sensitive site planning, minimizing the area used for vehicle access and minimizing the impact of development of plant and animal habitats.
- 7. Underground utilities shall be required unless such underground installation would have a substantial adverse impact on the environment.
- 8. Provide maximum feasible public access to shoreline areas.
- 9. All land which is not developed or altered shall be maintained in a manner that protects, conserves and enhances the natural resources of the site.
- 10. Buildings shall be sited to be harmonious with the site, the surrounding area and the shoreline. The maximum height of buildings shall not exceed 35 feet, except that the Planning Commission may increase or decrease the height of buildings upon making a finding that this action is necessary to protect views and/or enhance public access to shoreline areas.

8.5 SPECIAL-STATUS BIOLOGICAL RESOURCES

SPECIAL-STATUS NATURAL COMMUNITIES

Special-status natural communities are those that are considered rare in the region, support special-status plant or wildlife species, or receive regulatory protection.⁵³ In addition, the California Natural Diversity Data Base (CNDDB) has designated a number of communities as rare; these communities are given the highest inventory priority.

Special-status natural communities on the site are limited to wetland areas. A formal wetland delineation and preliminary assessment of federal and State jurisdiction of the project site has been prepared but has not yet been verified.⁵⁴ However, within the project area, freshwater marsh vegetation, potentially falling under the jurisdiction of federal and State agencies, is present within two artificial drainage ditches located in the northern portion of the project area. The larger of the two channels extends approximately 1,500 feet northward from Wharf Street along the eastern edge of Canal Boulevard. After crossing the fenceline and entering the BNSF rail yard, the surface flows are directed to an underground culvert and flow northeasterly for approximately 300 feet before emptying into the north end of the Santa Fe Channel, an arm of Richmond Harbor. A second ditch, located southeast of Wharf Street and east of Canal Boulevard, flows southeasterly for approximately 150 feet before emptying into a culvert and flowing outside of the study area, also eventually emptying into the Santa Fe Channel. Both ditches were artificially constructed entirely within fill that was placed on site at least as early as 1942.⁵⁵ Both ditches may fall within the jurisdiction of the USACE because they each have a hydrologic connection with the Santa Fe Channel to the northeast. Regardless of their status under federal regulation, it is likely that the freshwater marsh habitat in both artificial stormwater drainage channels will be regulated as waters of the State by the RWQCB and possibly the CDFG.

No other special-status plant communities or habitats are present within the study area.

SPECIAL-STATUS SPECIES

Special-status plant and animal species include those listed as endangered, threatened, or as candidates for listing by the USFWS, NMFS and/or the CDFG, as well as species that are considered rare, declining, or sensitive by regulating agencies and professional

⁵³ Such protection is provided, for example, under §§404 and 401 of the Clean Water Act, §1600 *et seq.* of the California Fish and Game Code, and/or the Porter-Cologne Water Quality Control Act

⁵⁴ Wood Biological Consulting, *op cit.*

⁵⁵ U.S. Geologic Survey (USGS), 1942 topographic map.

organizations. Agencies and organizations that maintain these lists include the USFWS, NMFS, CDFG, the Audubon Society, and the California Native Plant Society, among others. The CNPS listing is used by the CDFG and serves as a list of rare plants that may warrant listing under the California Endangered Species Act. Other special-status species are those that receive federal protection under the BEPA, the MBTA, and various sections of the California Fish and Game Code.

Special-Status Plant Species

Based on a review of the CNDDB and CNPS lists for Contra Costa County, 34 special-status plant species were evaluated for their potential for occurrence on the project site. The complete list is presented in Appendix F, along with indication of the status, habitat affinities, reported localities in the project area, blooming period, and potential for occurrence within the project area. An explanation of the sensitivity status codes is provided in Appendix H.

Based on reconnaissance surveys performed in November and December of 2007, and an assessment of the available habitats on site, no federally or State-listed rare, threatened, or endangered plant species have any potential to occur in the project area. No special-status plant species were identified on the site during the reconnaissance-level biological surveys conducted in 2007, nor during the performance of a wetland delineation in January 2008, and the site lacks suitable habitat for almost all of the target species.

Although marginally suitable habitat exists on site for three of the target plant species (Delta tule pea [*Lathyrus jepsonii* var. *jepsonii*], Suisun Marsh aster [*Symphotrichum lentus*], and Mason's lilaeopsis [*Lilaeopsis masonii*]), they are not considered to have any potential for occurrence here because none of these species are known in the San Francisco Bay any farther south than the mouth of the Napa River, more than 12 miles north of the project area. None of the remaining 31 target special-status plant species were detected on site, and none are considered to have any potential for occurrence in the project area.

Special-Status Animal Species

Based on a review of the current CNDDB, 51 special-status animal species were evaluated for their potential for occurrence on site; they are listed in Appendix G. Based on surveys performed in November and December of 2007, and an assessment of the available habitats on site, no federally or State-listed rare, threatened, or endangered animal species have any potential to occur in the project area. A majority of the target animal species have no potential for occurrence within the project area based on an absence of suitable habitat. An explanation of the sensitivity status codes is provided in Appendix H.

The following is a discussion of special-status terrestrial wildlife species that have potential to occur on site, could be adversely affected by project implementation, or are prominent in the current regulatory environment in the geographic region.

White-Tailed Kite

Nesting individuals of the white-tailed kite (*Elanus leucurus*) are fully protected under the California Fish and Game Code.⁵⁶ This species receives additional protection under the MBTA. White-tailed kites inhabit open grasslands and savannahs. They breed in a variety of habitats including grasslands, cultivated fields, oak woodlands and suburban areas where prey is abundant. Nests are typically built in trees near water, but may occur in suburban areas with adjacent open areas with abundant prey. Breeding occurs between February and July, and may be double-brooded in some years.⁵⁷ During the non-breeding season, white-tailed kites may roost communally.⁵⁸ White-tailed kites occur throughout California west of the Sierra Nevada and are more commonly seen in the Central Valley and among the foothills. They prey on a variety of small mammals, reptiles, and occasionally birds.

The PPMT study area supports limited nesting habitat for white-tailed kites in the few trees that occur along the western boundary of the parking lots and adjacent to historic Building 23 west of Canal Boulevard; virtually no suitable foraging habitat is present on site. More suitable nesting and foraging habitat is present in the adjacent undeveloped land to the west, including nearby Miller-Knox Regional Shoreline and on Nichol's Knob. However, white-tailed kites have not been reported to nest within or adjacent to the Miller-Knox Regional Shoreline.^{59,60} The nearest reported occurrence is located approximately 1 mile to the southeast on Brooks Island, which is largely undeveloped and is a part of the East Bay Regional Parks District.⁶¹ Two additional occurrences have been reported within 5 miles located to the north and southeast.⁶²

⁵⁶ California Fish and Game Code, Section 3511.

⁵⁷ P.J. Baicich and C.J.O. Harrison, *Nests, Eggs, and Nestlings of North American Birds*, 2005.

⁵⁸ J. R. Dunk, *The Birds of North America*, 1995.

⁵⁹ California Department of Fish and Game, California Natural Diversity Data Base (CNDDB), Database Query for the Richmond, San Quentin, Mare Island, Cuttings Wharf, Oakland West, and San Leandro USGS 7-½ minute Quads, 2007.

⁶⁰ S. Glover and J. Herr, *Contra Costa County Breeding Bird Atlas*, 2003. Accessed January 2008 at <http://www.flyingemu.com/ccosta/>.

⁶¹ California Department of Fish and Game, California Natural Diversity Data Base (CNDDB), *op. cit.*

⁶² California Department of Fish and Game, California Natural Diversity Data Base (CNDDB), *op. cit.*

The project is not expected to result in permanent impacts or cumulative effects to white-tailed kites based on the limited habitat within the PPMT study area and current levels of activity associated with the existing port facilities. The project could result in temporary direct (e.g., nest disturbance or abandonment) or indirect (e.g., temporary modifications to foraging behavior, territory establishment, nest site selection, and noise/light pollution) impacts to nesting, roosting, or foraging white-tailed kites occurring in or adjacent to the western portion of the project area during construction.

California Least Tern

California Least Tern (*Sterna antillarum browni*) is federally and State-listed as an endangered species and as fully protected by the CDFG. It is also protected under the MBTA. California least tern is a small tern with a black cap and white forehead with a distinctive black tip on its yellow bill. They migrate to California in April and remain through August; wintering takes place south of the United States. They nest in colonies on bare or sparsely vegetated sandy beaches, alkali flats, and land fills. Presently, most nesting occurs on beaches or in coastal wetlands near estuaries, bays, harbors, or the ocean since this animal feeds on small fish. California least tern has been adversely affected by urban expansion into nesting and feeding areas, human disturbance, and predation by domestic cats.

A breeding colony of California least tern has been recorded from the former site of the Alameda Naval Air Station, approximately 9 miles south of the study area. Although a limited amount of marginally suitable nesting habitat for the subspecies may be present on the rooftop of Building 24, there is no evidence on the roof indicating significant bird use or past nesting activity. (Being tolerant of urban sites, least terns sometimes breed on rooftops.) California least tern is not expected to occur within the project area.

Other Migratory Birds

In addition to white-tailed kite, several other special-status bird species were determined to have the potential to nest or winter within or adjacent to the project site, as well as migratory birds protected under the MBTA. Where noted below, some species are designated as special status by the State only when they are nesting or wintering. Cooper's hawk (*Accipiter cooperii*, nesting; California Species of Special Concern), like white-tailed kite, could nest on site in the trees in the vicinity of Building 23, although available habitat is limited. Additional suitable habitat is present just off site, immediately adjacent to the western boundary. Similarly, Nuttall's woodpecker (*Picoides nuttallii*, nesting; a CDFG Special Animal), and Allen's hummingbird (*Selasphorus sasin*, nesting; CDFG Special Animal) could nest in the same vicinity on site or immediately adjacent. No suitable nesting habitat is available on the project site for California thrasher (*Toxostoma redivivum*; CDFG

Special Animal), northern harrier (*Circus cyaneus*, nesting; California Species of Special Concern), or merlin (*Falco columbarius*, wintering; California Species of Special Concern), although these species could potentially be present on lands immediately adjacent to the project boundary on the west. Although no suitable nesting habitat for Alameda song sparrow (*Melospiza melodia pusillula*; California Species of Special Concern) is present within the PPMT study area, marginally suitable habitat may be present immediately outside of the PPMT study area in the salt marsh and associated intertidal zone at Point Potrero.

No special-status bird species were observed within the PPMT study area during the present survey; however, many have been recorded breeding within Contra Costa County.^{63,64} Four Alameda song sparrow and one northern harrier occurrences have been reported within 5 miles of the project site.⁶⁵ Only one special-status bird occurrence, Alameda song sparrow, has been reported within a mile of the project site, in the Miller-Knox Regional Shoreline to the west.⁶⁶ During the December 5, 2007 site visit three dead barn owls (*Tyto alba*, protected under the MBTA) were observed on the top floor inside of Building 24. Evidence of barn owl roosting and nesting was also observed in this area. They are considered to forage on rodents found within and around Building 24 and adjacent off-site habitats.

Twenty additional special-status bird species were evaluated and subsequently determined to have no potential to occur within the PPMT study area based on the lack of suitable habitat, local range restrictions, regional extirpations, lack of connectivity between areas of suitable or occupied habitat, and/or incompatible land use and habitat degradation/alteration of on-site or adjacent lands, as detailed in Appendix G.

As with the white-tailed kite, the proposed project is not expected to result in permanent impacts or cumulative effects to migratory birds based on the minimal amount of suboptimal habitat within the project site and current level of port activity. The proposed project could result in temporary direct (e.g., nest disturbance or abandonment) or indirect (e.g., temporary modifications to foraging behavior, territory establishment, nest site selection, and noise/light pollution) impacts to nesting, roosting, or foraging migratory birds occurring within the on-site structures and landscaping and adjacent undeveloped habitats west of the project area during construction.

⁶³ California Department of Fish and Game, California Natural Diversity Data Base (CNDDB), *op. cit.*

⁶⁴ S. Glover and J. Herr, *op. cit.*

⁶⁵ California Department of Fish and Game, California Natural Diversity Data Base (CNDDB), *op. cit.*

⁶⁶ *Ibid.*

Special-Status Invertebrates

Eight special-status invertebrate species were considered to have some potential to occur within the project region. Of these, seven were determined to have no potential to occur within the PPMT study area due to a lack of suitable habitat (see Appendix G). Of these, one species, the mimic tryonia (*Tryonia imitator*; CDFG Special Animal), is considered to have at least some potential to occur immediately outside of the PPMT study area in the salt marsh and associated intertidal zone at Point Potrero.

The presence of a single species, a leaf cutter bee (*Trachusa gummifera*; a CDFG Special Animal) could not be entirely ruled out based on the paucity of life history, habitat, and distribution data, although it is highly unlikely to occur on site based on the limited amount of vegetated habitat and lack of rotting wood within the project area. *T. gummifera* is a native solitary bee that inhabits soft or otherwise rotting wood, pithy plants, and tunnels in the ground. The leaf cutting activity is purportedly to gather material to line nest cells. Marginally suitable habitat for this species may be present in the trees and shrubs that occur along the western boundary west of Canal Boulevard, and along the on-site drainage ditches along the railroad tracks northwest and southeast of Wharf Street. Based on the highly altered nature of the drainage ditch along the railroad tracks, the minimal proposed impacts to trees and shrubs along the western project boundary, i.e. trimming and pruning, and the very low potential for this species to occur within on and off-site habitats, significant adverse effects on these species are not likely to result from project implementation.

Special-Status Amphibians

Two special-status amphibian species, California red-legged frog (*Rana aurora draytonii*, federally listed as Threatened and a California Species of Special Concern) and California tiger salamander (*Ambystoma californiense*, federally listed as Threatened and a California Species of Special Concern), were evaluated based on their known occurrence within the greater Bay Area. The project location is greater than 5 miles west of the westernmost occurrences of these two species.⁶⁷ There is no potential for their occurrence within the PPMT study area due to a lack of suitable habitat and lack of connectivity to suitable habitat. No special-status or locally rare amphibian species were determined to have any potential to occur within the project area.

Special-Status Reptiles

Two special-status reptile species, Alameda whipsnake (*Masticophis lateralis euryxanthus*, federally and State listed as Threatened) and western pond turtle (*Actinemys marmorata*, a

⁶⁷ *Ibid.*

California Species of Special Concern), were evaluated based on their known presence within the project region. Neither species has any potential for occurrence within the PPMT study area based on the lack of suitable habitat. The PPMT study area is located outside of the Alameda whipsnake's known range. Although there is one reported western pond turtle occurrence reported from Brooks Island less than 1 mile to the southeast.⁶⁸ Freshwater emergent marsh located next to the railroad tracks and off site along the western boundary of the PPMT study area does not provide suitable habitat for pond turtles. The drainage is presumed not to pond water in sufficient amount or duration and the freshwater marsh vegetation supported there is characterized as a narrow and dense. The location is not suitable for western pond turtles. No special-status or locally rare reptile species were determined to have the potential of occur within the PPMT study area.

Special-Status Mammals

Ten special-status or locally rare mammal species were evaluated based on their presence within the region. The presence of these species within the PPMT study area was ruled out based on the lack of suitable habitat (e.g., cliff roosting, densely vegetated tidal marsh, etc.) and local range restrictions (e.g., subspecies confined to the island of Alameda and Angel Island).

Several bat species including the pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*) have been reported within the project vicinity.⁶⁹ These species occasionally use man-made structures such as buildings. Although there may be marginally suitable roosting habitat for bats in the buildings occurring within the PPMT study area, no evidence of bat usage was observed during the December 2007 site visit. In addition, the cool and windy location of the PPMT further reduces the potential for bats to roost or forage on site. Special-status bat species are not expected to occur within the PPMT study area. No other special-status mammal species were determined to have the potential to occur within the PPMT study area.

The California sea lions (*Zalophus californianus*) and harbor seals (*Phoca vitulina*) that frequent San Francisco Bay and the harbor porpoises (*Phocoena phocoena*), Gray whales (*Eschrichtius robustus*), and humpback whales (*Megaptera novaeangliae*) that occasionally visit the inner Bay are protected under the MMPA. Sea lions are unlikely to be disturbed by project construction or operations, and these animals are remarkably unaffected by human activity. Harbor seals have been known to haul out on Brooks Island and do flee the approach of vessels; however, the most likely haul out location on the island is on the

⁶⁸ *Ibid.*

⁶⁹ *Ibid.*

southeast side and isolated from vessel activity in the shipping channel. No significant effect is anticipated for either harbor seals or California sea lions. The cetaceans (gray whales, humpback whales and harbor porpoises) are not likely to enter the shipping channel, and no significant effect is expected for these species. The southern sea otter (*Enhydra lutris nereis*) is not typically found within San Francisco Bay (see Marine Biology setting).

Special-Status Fishes

Special-status fishes with the potential to occur in the project vicinity are listed in Appendix G, along with details of their status and habitat associations. They include the following species:

- two lamprey species (*Lampetra ayresi* and *L. tridentata*)
- green sturgeon (*Acipenser medirostris*)
- six salmonids:
 - Central Valley steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*)
 - Central California Coast steelhead DPS (*O. mykiss*)
 - Central California Coast coho salmon Evolutionarily Significant Unit (ESU) (*O. kisutch*)
 - three runs of Chinook salmon (*O. tshawytscha*):
 - Sacramento River winter-run Chinook salmon ESU
 - Central Valley Spring-run Chinook salmon ESU
 - Central Valley Fall/late-Fall-run Chinook salmon ESU])
- two smelt species:
 - Delta smelt [*Hypomesus transpacificus*]
 - longfin smelt [*Spirinchus thaleichthys*])
- Sacramento splittail (*Pogonichthys macrolepidotus*)
- tidewater goby (*Eucyclogobius newberryi*)
- Sacramento perch (*Archoplites interruptus*).

All species with a “high” potential to occur (indicated in Appendix G) are known to move through the waters of the greater San Francisco Bay between their oceanic adult habitat and their freshwater spawning grounds. None of these species is likely, however, to make use of the shallow, in-shore and generally degraded habitat that characterizes the waters in the vicinity (<500 m) of the PPMT. For the salmonids, the Bay appears to serve principally as a transition zone for out-migrating salmonid smolts and a corridor for returning spawning adults; this constitutes important habitat for these species/ESUs. The species listed with a ‘Moderate’ potential to occur, the longfin smelt, is a brackish water fish. While it may

descend into the Bay proper during periods of heavy rainfall, generally it is expected to occupy waters of lower salinity than those around the PPMT. Due to its proximity to the Bay entrance, the waters around the PPMT will remain relatively saline.

In addition, San Francisco Bay is considered Critical Habitat for Central California Coast and Central Valley steelhead DPSs and Sacramento River winter-run Chinook salmon ESU. However, this project does not propose any direct alteration or impact to Bay waters. Therefore, no destruction or adverse modification to the habitat itself would be expected from implementation of the project.

Wildlife Movement Corridors

The PPMT study area is entirely developed and does not act as a wildlife movement corridor or provide habitat connectivity. A slope supporting dense scrub, scattered trees, and patchy grassland is present west of the fence line delineating the western boundary of the two parking lots west of Canal Boulevard. The nearest suitable wildlife habitat is located in the undeveloped lands to the west, including Miller-Knox Regional Shoreline; however, this habitat is isolated from other open spaces by residential and industrial development except for the narrow western shoreline. The proposed project would not result in significant impacts to wildlife movement corridors or fragmentation of wildlife habitat.

Other Habitats

Peripheral components of the proposed project, including a new access road alignment running along the base of the adjacent hillside and the development of a segment of the San Francisco Bay Trail could have indirect impacts on special-status habitats and wildlife species immediately adjacent to the project area. These include several small stands of willows characterized as Central Coast riparian scrub present immediately adjacent to the proposed entrance road alignment. Also present immediately adjacent to the PPMT study area are seasonal wetlands (in detention basins), coastal salt marsh, coastal scrub, scattered oak trees, and non-native annual grassland. Potential indirect effects of project construction and implementation to these adjacent habitats would consist of trimming of tree/shrub branches, sedimentation, decreased water quality, noise and light pollution, and increased human activity.

8.6 STANDARDS OF SIGNIFICANCE

Significance criteria were derived from Section 15065 of the revised *CEQA Guidelines*. Impacts to biological resources would be considered significant if the proposed project were to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species;
- achieve short-term environmental goals to the disadvantage of long-term environmental goals;
- have environmental effects that are individually limited but cumulatively considerable; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

In addition, the following standards of significance, reflecting previous CEQA experience and incorporating State regulations, are adopted for purposes of this project analysis. The proposed project would be determined to have significant adverse effects if it were to:

- have a substantial adverse effect, either directly or through habitat modifications, on any special-status species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the CDFG, USFWS, or NMFS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG, USFWS, or NMFS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act and the California Porter Cologne Water Quality Control Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- cause substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

8.7 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION IMPACTS

Several special-status bird species could potentially nest, forage, roost, and/or winter within the trees, landscaped area, and buildings on site and in the adjacent vegetated habitats along the western edge of the study area, depending upon the species' specific habitat needs, time of year, and tolerance to human disturbance. This is specifically of concern on lands located between the intersection of Sea Cliff Drive and Canal Boulevard and the base of the southern-face of Nichol's Knob. In addition, many common wildlife

species may use a variety of habitats both within the PPMT study area and on lands immediately adjacent. These habitats include Central Coast riparian scrub, coastal scrub, and non-native annual grassland. Within the project study area, suitable nesting habitat for migratory birds is present within the ornamentally planted shrubs and trees occur along Canal Boulevard and the emergent freshwater marsh found along the railroad tracks that parallel Canal Boulevard. In addition, the rooftop of Building 24 represents suitable nesting habitat for a variety of birds species.

Although many common birds that could occur within and adjacent to the study area are not formally listed or included on local watch lists, both the MBTA and the California Fish and Game Code provide for protection of migratory birds.

Impact 8-1

Project implementation could result in the placement of fill into federal and/or State jurisdictional wetlands. (LTSWM)

Wetland habitat, presumed to be regulated under federal and/or State law, is present in the project study area, both on and adjacent to the BNSF Automotive Terminal and along a portion of the proposed alignment of a lead track to connect the BNSF facility with the PPMT. The proposed project would result in the loss of approximately 3,410 square feet of freshwater marsh habitat (400 linear feet of channel) growing in an artificial stormwater drainage channel at the BNSF rail yard. The proposed project would require the placement of fill into this habitat, resulting in a *potentially significant impact* on wetlands potentially falling under federal and/or State jurisdiction. The impact would be reduced to a less-than-significant level through implementation of the following mitigation measures:

Mitigation Measure 8-1

- a) A formal wetland delineation has been performed; the delineation shall be submitted to the U.S. Army Corps of Engineers (USACE) for a jurisdictional determination. If it is determined by the USACE that wetlands on site are regulated under the Clean Water Act, the project sponsor shall implement Mitigation Measure 8-1(b). Whether or not it is determined that wetlands on site are not regulated under the Clean Water Act, the project sponsor shall implement Mitigation Measure 8-1(c).*
- b) Prior to the placement of fill into any wetlands, the project sponsor shall obtain permits under Sections 401 and 404 of the Clean Water Act. These permits, administered by the Regional Water Quality Control Board (RWQCB) and USACE, respectively, would identify specific mitigation measures that would be imposed on the project as permit conditions. At a minimum, the project sponsor shall implement Mitigation Measure 8-1(d) or 8-1(e).*
- c) In order to determine the presence or absence of waters of the State subject to the jurisdiction of State regulatory agencies, a description of existing habitats on site shall be submitted to the California Department of Fish and Game (CDFG) and RWQCB for review. If waters of State are determined to fall under one or both of these agencies, the project sponsor shall obtain the appropriate permits. These permits would identify specific*

mitigation measures that would be imposed on the project as permit conditions. At a minimum, the project sponsor shall implement Mitigation Measure 8-1(d) or 8-1(e).

- d) *Given the artificial nature of the wetlands affected by the proposed project, and their location in a highly industrialize location, their biological functions and values are considered impaired. While it is generally preferred by the regulatory agencies that wetland impacts are compensated by the creation of similar habitats on site, in certain instances, compensation at an off-site location may be deemed acceptable. As part of the permitting process, the project sponsor must comply with all permit conditions of the regulatory agencies, including the implementation of an appropriate compensatory mitigation plan for unavoidable impacts to wetlands. At the discretion of the regulatory agencies, the project sponsor may seek a public or private entity in control of lands at a suitable off-site location with planned habitat restoration measures, to which an in-lieu-of fee could be paid. The recipient may be either an approved mitigation bank or public or private entity undertaking habitat restoration measures. The type of restoration project and amount of the in-lieu-of fee would be determined in consultation with the regulatory agencies with the ultimate objective of satisfying agency concerns and permit conditions. If payment of in-lieu-of fees is not acceptable to one or more of the regulatory agencies or a suitable recipient cannot be found, the project sponsor shall implement on-site wetland mitigation, as outlined in Mitigation Measure 8-1(e).*
- e) *If required by the USACE, CDFG, or RWQCB, a Wetland Mitigation and Monitoring Plan shall be prepared and submitted for agency review. Detailed wetland protection, replacement, and restoration plans shall be prepared by a qualified wetland restorationist hired by the City of Richmond and paid for by the project sponsor. The plans shall accurately identify the total wetlands and other jurisdictional areas that could be affected by the proposed project. The plans shall provide for re-establishment, enhancement, and/or replacement of wetland habitat and vegetation, and be approved by the regulatory agencies; in certain instances, cash contributions earmarked specifically for wetland creation, enhancement, or restoration offsite may be deemed appropriate and acceptable to the regulatory agencies. Mitigation plantings shall be monitored for no less than five years following completion of plant installation or as otherwise specified in the permit conditions. Annual reports shall be submitted to the City of Richmond and each permitting agency, e.g., USACE, RWQCB, and/or CDFG. Additionally, the City of Richmond shall ensure that all mitigation areas, along with an appropriate upland buffer, be placed in a permanent conservation easement, or similar deed restriction, and preserved in perpetuity, as specified in the permit conditions. Prior to the issuance of grading permits by the City of Richmond, the project sponsor shall provide evidence of the required approvals from all regulatory agencies.*

Impact 8-2

Project construction could result in direct or indirect impacts to nesting, roosting, or foraging special-status birds and other migratory birds. (LTSWM)

The PPMT study area supports a small amount of habitat that is considered suitable for certain special-status bird species, including white-tailed kite, Cooper's hawk, Nuttall's woodpecker, Allen's hummingbird, and barn owls. Specifically, this habitat consists of a few large trees in the vicinity of Building 23 and within the top floor and roof of Building 24. Additional suitable habitat is present on immediately adjacent property to the west, outside of the PPMT study area. Off-site habitat immediately adjacent to the PPMT study area could be used by other special-status bird species such as California thrasher, merlin, and

northern harrier. Because these species are known to occur in the region in habitat similar to that which is present on or immediately adjacent to the site, the potential exists for the presence of these species. If special-status bird species are present, construction activity in the vicinity of their habitat could result in nest disturbance or abandonment, or temporary modifications to foraging behavior, territory establishment, or nest site selection. Aside from special-status bird species, disruption of breeding by most common nesting birds would be in violation of the MBTA. These would be *potentially significant impacts*, which would be reduced to a *less-than-significant* level through implementation of the following mitigation measures:

Mitigation Measure 8-2

- a) *A qualified biologist shall conduct preconstruction nesting bird surveys of shrubs, willows, and other trees and non-native annual grassland habitats within 300 feet of the limits of work area, as well as the rooftop of Building 24, no more than 14 days prior to the start of construction for work occurring during the breeding season from February 1st to August 31st.*
- b) *If active nests of special-status birds and migratory birds (i.e., occupied nests) are identified within 300 feet of the limits of work, non-disturbance buffers shall be established by the project biologist at a distance sufficient to minimize construction-related disturbance based on the nest location, topography, cover, and species' tolerance to disturbance. Non-disturbance buffers shall be fenced off to exclude all construction activities, including staging, storage, and laydown, and shall be maintained until the young have fledged. Buffer size shall be determined by the project biologist and shall be consistent with agency recommendations as per the regulatory status and life history requirements of the species involved.*
- c) *If active nests are found within 300 feet of the limits of work and non-disturbance buffers are impracticable as determined by the project biologist, a qualified biologist shall be on site to monitor active nest(s) for signs of disturbance. If it is determined that construction activity is resulting in nest disturbance, work shall cease immediately until such time as it is determined by the project biologist that work may safely resume. If construction activities have caused nest abandonment, then the appropriate agency shall be contacted for further guidance, which shall be binding. If a federally listed species is involved, consultation with the U.S. Fish and Wildlife Service (USFWS) shall be initiated; if a State-listed species is involved, consultation with the California Department of Fish and Game (CDFG) shall be initiated.*

Impact 8-3

Project construction could result in indirect effects on special-status and other natural habitats located outside of the PPMT study area. Construction might also require the trimming of native willows and other trees and shrubs rooted just outside of the work area. (LTSWM)

The primary indirect effects of construction projects adjacent to wetlands and aquatic habitats involve 1) increased erosion due to the clearing of existing vegetation and the exposure of the bare soil surface, 2) degradation of off-site (e.g., downstream)

sedimentation, and 3) migration of pollutants such as fuels, oils, and hydraulic fluids. Construction activities could result in indirect effects on wetlands and aquatic habitat. Silt, pollutants, and fugitive dust could be discharged off site, adversely affecting adjacent habitats and wildlife species. These would be *potentially significant impacts*, which would be reduced to a *less-than-significant* level through implementation of the following mitigation measures:

Mitigation Measure 8-3

- a) *The project sponsor shall be responsible for ensuring that all contractors have in place appropriate Best Management Practices (BMPs) throughout construction to prevent the migration off site of any potential pollutants. The effects of erosion can be decreased by collecting surface water runoff in desilting ponds before releasing the water into natural drainages or the Bay. Erosion and sedimentation impacts can be further minimized by employing standard erosion control procedures such the use of sandbags, silt fences, hay bales, diversion ditches, desilting ponds, and undertaking stream bank stabilization procedures. BMPs shall be in place throughout construction.*
- b) *The project sponsor shall be responsible for ensuring that all contractors have in place appropriate measures to restrict the off-site migration of dust during construction activities. Fugitive dust emissions caused by prolonged grading activities shall be mitigated by employing standard air quality control procedures as noted in Chapter 6, Air Quality, of this EIR.*
- c) *To prevent harming breeding birds, the measures outlined in Mitigation Measure 8-2 shall be followed. If any unanticipated work will occur within areas containing shrubs, willows, or other trees or non-native annual grassland habitats more than 14 days following performance of the preconstruction survey required by Mitigation Measure 8-2(a) and during the bird breeding season (February 1st to August 31st), a follow-up survey shall be performed by the project biologist. If active nests of special-status birds and migratory birds (i.e., occupied nests) are identified, an appropriate non-disturbance buffer shall be established at a distance sufficient to minimize construction-related disturbance to breeding birds. If establishment of a non-disturbance buffer is impracticable as determined by the project biologist, a qualified biologist shall be on site to monitor active nest(s) for signs of disturbance during construction in this area. If it is determined that construction activity is resulting in nest disturbance, work shall cease immediately and shall only resume when is determined by the project biologist that work may safely resume. If construction activities have caused nest abandonment, then the appropriate agency shall be contacted for further guidance, which shall be binding. If a federally listed species is involved, consultation with the USFWS shall be initiated; if a State-listed species is involved, consultation with the CDFG shall be initiated..*

OPERATIONAL IMPACTS

As illustrated in Table 3-1, the total number of imported vehicles processed annually at the PPMT would increase from 96,000 to 326,000. To accommodate this increase, 120 new employees would be brought in, in addition to the 80 employees already part of the Glovis operation. With the proposed project, there would be times when two ships could be in port at the same time (one unloading Glovis vehicles and the other unloading Hondas).

Thus, the number of longshoremen would be doubled to 120 workers during these periods. Auto processing operations would continue to occur six days a week (300 days per year) during two shifts (see Section 3.7). Truck loading operations would take place seven days a week, or about 350 days per year, 24 hours a day. At any time, up to eight trucks (20 percent of the daily total) may be queuing or loading on the site.

Although the level of operations would increase as a result of project implementation, the concomitant increase in noise, human activity, and lighting is not expected to represent a substantial increase above current operations. Potential impacts on wildlife occurring in the project vicinity resulting from these increased levels would not be significant.

Impact 8-4

Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to erosion and disturbance of sensitive habitats at Brooks Island. (LTS)

Brooks Island is under the control of by the East Bay Regional Parks District (EBRPD). According to EBRPD staff familiar with Brooks Island, the wakes from large ships have not been a problem for shoreline erosion because the ships travel slowly, are pulled by tugs, and are at distance from the Brooks Island shoreline.⁷⁰ The new car-carrying ships berthing at the Port of Richmond travel at speeds of 1-2 knots on their journey from Outer Richmond Harbor Channel to the Inner Richmond Harbor Channel. The ships slow down and are then tug-assisted through the Inner Harbor Channel and into the berth. Two tugs assist each ship for about 1 hour, including berthing.

Ship wakes are a small source of the total wave energy to the Brooks Island shoreline. Small speed boats, which travel fast through the channel, are closer to the shoreline, and create significant wakes, are a more significant source of wave energy.⁷¹ The effects of project-related ship wakes on Brooks Island would therefore be a *less-than-significant impact*.

Mitigation Measure 8-4

None required.

Impact 8-5

Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to impacts to eelgrass habitat. (LTS)

Large ships entering shallow water may create turbulence from their hull and propellers that can disturb and displace sediment and increase suspended sediments in eelgrass

⁷⁰ Kevin Takei, Park Superintendent, East Bay Regional Park District, personal communication, January 3, 2008.

⁷¹ *Ibid.*

communities in their path. The new car-carrying ships berthing at the Port of Richmond travel at speeds of 1–2 knots on their journey from Outer Richmond Harbor Channel to the Inner Richmond Harbor Channel. The ships slow down and are then tug-assisted through the Inner Harbor Channel and into the berth. Two tugs assist each ship for about 1 hour, including berthing. The larger propellers of the deeper draft of car-carrying ships are closer to the bed and could potentially erode bottom sediments and create a small plume in the immediate vicinity of vessel operations. The slow speed of the car carrying ships minimizes the effect of turbulence resulting from propeller wash on eelgrass habitat. The propeller wash from tugs is near-surface and is likely to have only a small effect on bottom sediments. In the Harbor Channel, the suspended sediments would be dispersed only short distances because the tidal currents are weak. In both the Harbor Channel and the berthing areas, the suspended sediment plume would be short-lived because suspended sediment would settle back to the bed rapidly once maneuvering operations cease. The impact on eelgrass habitat due to propeller wash would be localized and temporary, and would be a *less-than-significant impact*.

Mitigation Measure 8–5

None required

Impact 8–6

The increase in ship traffic to the project site could increase the frequency of disturbance to harbor seals, hauled out on Brooks Island, and the degradation or functional loss of seal habitat within San Francisco Bay. (LTS)

This impact assumes that Brooks Island is a significant haul-out site for harbor seals. Seals have hauled out on Brook Island, but its importance as seal habitat is not well documented.⁷² While traffic frequency of large ships entering the shipping channels and passing Brooks Island is expected to roughly double, the southeastern margin of the island is likely the best haul-out site and the margins of the shipping channel are unlikely to be used by harbor seals. On the basis of surrounding habitat, bathymetry, and exposure, as well as existing vessel traffic patterns, the proposed project represents a *less-than-significant impact* to harbor seals and harbor seal habitat in San Francisco Bay.

Mitigation Measure 8–6

None required

⁷² B.A. Nickel, *Movement and Habitat Use Patterns of Harbor Seals in the San Francisco Estuary*, Masters Thesis, San Francisco State University, 2003.

Impact 8-7

Increased ship traffic at the project site would increase the frequency of ship wakes, which could lead to impacts to marine and anadromous fish habitat. (LTS)

Fishes inhabiting estuarine and coastal habitats are evolutionarily adapted to strong and variable water currents and wind-generated waves; ship wakes (or prop wash) from the project would therefore pose a *less-than-significant impact* to fishes or fish habitat.

Mitigation Measure 8-7

None required

CUMULATIVE IMPACTS

Project implementation would result in very minor loss of freshwater marsh habitat associated with two artificial stormwater drainage channels. With the incorporated mitigation, this would not represent a significant cumulative impact on wetlands or aquatic habitat.

Project operation would result in an incremental increase in shipping traffic in an area that already receives a significant amount of ship and small boat traffic. Over 3,600 large ships currently arrive and depart from San Francisco Bay annually, representing over 8,800 ship movements on the Bay. There were 734 ship arrivals at the Port of Richmond in 2006, or 345 arrivals excluding those destined to the Chevron Longwharf in Point Richmond.⁷³ The proposed project would result in up to 75 additional ship calls per year, representing an increase of approximately 2 percent in ship traffic on San Francisco Bay and a 22-percent increase in ships passing through the Richmond Harbor. Similar to the project-specific impacts described in Impacts 8-4 through 8-7, this increased ship traffic would not cause significant adverse changes on the biological resources of the Bay, Richmond Harbor, or Brooks Island. Therefore, the project would not result in cumulatively significant adverse effects on terrestrial or aquatic wildlife species or their habitats.

⁷³ Marine Exchange of the San Francisco Bay Region, *Golden Gate Ship Traffic*, 2006, January 20, 2007.

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9. CULTURAL RESOURCES

9.1 INTRODUCTION

This chapter analyzes the impacts associated with implementation of the proposed project on the historic and cultural resources of the study area. Cultural resources are defined as prehistoric and historic sites, structures, and districts, or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. For analysis purposes, cultural resources may be categorized into three groups: archaeological resources, historic resources, and contemporary Native American resources. Cultural resource impacts include those to existing historic resources (i.e., historic districts, landmarks, etc.) and to archeological resources.

9.2 SETTING

ENVIRONMENTAL SETTING

This section summarizes the cultural history of the study area. Since archaeological regions can represent large geographic areas and display some cultural homogeneity, a discussion of the prehistoric, ethnographic, and historic contexts is useful in the evaluation of potential impacts to cultural resources in the project area.

Prehistoric Setting

Although the project area is urbanized with a history of industrial and maritime uses since World War II, prehistorically it was a biologically rich upland and beach surrounded by intertidal flats and marsh. Natural marshland biotic communities along the edges of bays and channels were the principal source for subsistence and other activities from the middle Holocene until the contact period in the San Francisco Bay region. Efforts to reconstruct prehistoric times into broad cultural stages, e.g., Early Period, Middle Period, allows researchers to describe a wide number of sites with similar cultural patterns and components during a given period of time, thereby creating a regional chronology.

Many of the original surveys of archaeological sites in the Bay region were conducted between 1906 and 1908 by N.C. Nelson and yielded the initial documentation of nearly 425

“earth mounds and shell heaps” along the littoral zone of the Bay.¹ From these beginnings, the most notable sites in the Bay region were excavated scientifically, like the Emeryville shellmound (ALA-309),² the Ellis Landing Site (CCO-295) in Richmond, and the Fernandez Site (CCO-259) in Rodeo Valley.³ These dense midden sites consist of vast accumulations of domestic debris, which have been Carbon 14 dated to be 2310 +/- 220 years old, such as ALA-309, but other evidence from around the Bay suggests that human occupation in the region is of greater antiquity, or +/-5000 years before the Christian Era (B.C.E.)⁴ While many interpretations exist as to the function of the shellmounds, much of the evidence suggests that they served as sociopolitical landmarks on the cultural landscape and may have served as ceremonial features as well.

The Early Period (2000 B.C.E. – 500 B.C.E.) or the so-called “Berkeley Pattern” is characterized by almost exclusive use of cobble mortars and pestles, which is often associated with a heavy reliance on acorns in the economy.⁵ Such unusually intensive reliance on one foodstuff indicates that a shift away from the earlier reliance on a broad spectrum of dietary sources to supply demand was needed by around 1,000 B.P. (Before Present). The Late Pleistocene/Early Holocene profusion of food availability along lakeshores and estuaries likely led to an overexploitation of the resources that led, initially, to population increases, which may explain the shift toward exploiting a readily available, yet lower ranked resource like acorns or seeds.⁶ Nevertheless, given the burgeoning size of Early Period settlements, it is probable that the populations were denser and more sedentary, yet continued to exploit a diverse resource base—from woodland to grassland and marshland, to bay shore resources throughout the San Francisco Bay Area.⁷ Many of the Berkeley traits diffused throughout the region and spread to the interior areas of central California during this time period.

¹ N.C. Nelson, “Shellmounds of the San Francisco Bay Region,” *American Archaeology and Ethnology*, Vol. 7, No. 4, 1909.

² These archaeological site designations (e.g., ALA-309) are assigned by the Northwest Information Center of the California Historical Resources Information System, an affiliate of the State of California Office of Historic Preservation, which is the official State repository of archaeological and historical records. The three-letter prefix indicates the county (e.g., Alameda) in which the site is located. CCO designates Contra Costa County.

³ M.J. Moratto, *California Archaeology*, 1984.

⁴ T. L. Jones, *Settlement trends along the California coast*. In Jones, T. L. (ed.), *Essays on the Prehistory of Maritime California*, 1992.

⁵ M.J. Moratto, *op. cit.*

⁶ T. L. Jones, “Marine-resource value and the priority of coastal settlement: A California perspective,” *American Antiquity*, Vol. 56, 1991.

⁷ T.F. King, “The Evolution of Status Ascription Around San Francisco Bay,” *Bellena Press Anthropological Papers*, Vol. 2, 1974.

The population increases and larger, more complex settlements that began in the late–Early Period typify the Middle Period (ca. 500 B.C.E. – 1000 C.E. (Christian Era)).⁸ The sociopolitical landscape also appears to become more elaborate with clear differentiations in wealth. During the Late Period (ca. 1000 – 1700 C.E.), however, new sites start to decline in the record and the large shellmounds were abandoned. The Late Period also showed population declines and concomitant changes in resource use—likely due to human–caused depletions in some terrestrial food sources during the Middle Period.⁹ Broughton determined that vertebrate fauna discovered in the Emeryville shellmound showed clear changes in the Middle Period from preferred terrestrial species to expensive (or less efficiently pursued prey per unit of energy) marine mammals, and significant changes in body size in both terrestrial and marine animals, which suggests overexploitation.^{10 11}

Ethnographic Setting

Prior to Euro–American contact, the area of present–day Contra Costa County was occupied by the Ohlone (also known by their linguistic group, Costanoan). Politically, the Costanoan were organized into groups called tribelets. A tribelet constituted a sovereign entity that held a defined territory and exercised control over its resources. It was also a unit of linguistic and ethnic differentiation. The Port of Richmond, and a large area of the East Bay, is located within the territory of a people that spoke Chochenyo, one of several Costanoan languages.

The Ohlone economy was based on fishing, gathering, and hunting, with the land and waters providing a diversity of resources including acorns, various seeds, salmon, deer, rabbits, insects, and quail. The acorn was the most important dietary staple of the Costanoan, and the acorns were ground to produce a meal that was leached to remove the bitter tannin. Technologically, the Costanoan crafted tule balsa, basketry, lithics (stone tools) such as mortars and metates (a mortar–like flat bowl used for grinding grain), and household utensils. The Costanoan, like many other Native American groups in the Bay Area, likely lived in conical tule thatch houses.

⁸ J.E. Arnold, “The Archaeology of California,” *Journal of Archaeological Research*, Vol. 12, No. 1, 2004.

⁹ J.M. Broughton, “Declines in mammalian foraging efficiency during the late Holocene, San Francisco Bay, California,” *Journal of Anthropological Archaeology*, Vol. 13, 1994.

¹⁰ J.M. Broughton, “Widening diet breadth, declining foraging efficiency, and prehistoric harvest pressure: ichthyofaunal evidence from the Emeryville Shellmound,” *Antiquity*, Vol. 71, 1997.

¹¹ J.M. Broughton, *Resource Depression and Intensification During the Late Holocene, San Francisco Bay: Evidence from the Emeryville Shellmound Vertebrate*, 1999.

In 1770, the Costanoan-speaking people lived in approximately 50 separate and politically autonomous nations or tribelets, and the number of Chochenyo speakers reached 2,000, substantially more than the typical size of a tribelet, which ranged from 40 to 200 members.

During the Mission Period (1770–1835), native populations, especially along the California coast, were brought—usually by force—to the missions by the Spanish missionaries to provide labor. The missionization caused the Costanoan people to experience cataclysmic changes in almost all areas of their life, particularly a massive decline in population due to introduced diseases and declining birth rate, resulting in large part from colonization by the Spanish missionaries. Following the secularization of the missions by the Mexican government in the 1830s, most Native Americans gradually left the missions and established rancherias in the surrounding areas.

Native American archaeological sites that could shed light on the Costanoan ways of life in the pre-mission era tend to be situated near the historic extent of the Bay tidal marshland.

Historic Setting

The first Europeans to visit the Richmond area were the Spanish explorers Pedro Fages and Reverend Juan Crespi who passed through the East Bay in 1772. After Mexico won independence from Spain in 1821, large tracts of land in California were granted to military heroes and loyalists. In 1823, Don Francisco Castro was given 17,000 acres of land in Contra Costa which became known as Rancho San Pablo. Castro used the property to graze large herds of roving cattle and established fruit orchards and grape vineyards. The discovery of gold in 1848 led to a huge population boom in California, with settlers establishing themselves on parcels of Rancho San Pablo and eventually dwindling the original estate to a few acres surrounding the original adobe.¹² The 1851 California Land Claims Act required Mexican landowners in California to prove the validity of their claim on land held under Mexican titles. Lands under rejected claims were deemed public and available for arriving settlers. As the average length of time required to prove ownership was 17 years after submitting a claim, many landowners were bankrupted and forced to sell large portions of their land to the settlers they had been attempting to evict.¹³ The City of Richmond was established on a portion of Castro's land grant about seventy years after his death.

In 1895, Augustin S. Macdonald visited Point Richmond and proposed a transcontinental rail terminal and ferry service, to provide a means for commerce and the transport of goods between Richmond and San Francisco. By 1901, Santa Fe had moved its shops to Richmond

¹² M. B. Hoover, *Historic Spots in California*, 2002.

¹³ James J. Rawls, *California: An Interpretive History*, 2002.

and the Standard Oil Company built its refinery here also in 1901.¹⁴ Richmond incorporated as a city in 1905. During the early 20th Century, the harbor and major terminal construction began in earnest and, with the advent of World War II, ushered considerable growth for the Kaiser Richmond shipyards.

The Kaiser Richmond shipyards, one of the biggest wartime shipbuilding operations on the West Coast, were established on Richmond's South Shoreline, what is now the Port of Richmond, in January 1941. The Richmond Shipyards District was once a mammoth facility covering 880 acres in this North Bay community. The yards were constructed for and by the Henry J. Kaiser Company during 1941 and 1942. This resulted in incredible growth and a huge in-migration of workers to Richmond in order to operate the shipbuilding facilities. The shipyards covered much of the vacant industrial land in the South Shoreline harbor area, requiring extensive additional tideland filling. Richmond's population increased dramatically as tens of thousands of new residents migrated from the economically depressed South and Southwest to work in the shipyards.

The San Francisco Bay area became a tremendously important shipbuilding center of the nation during World War II. In 1944 the yards at Richmond were the largest in the world, and during the period 1941–1945 the yards built a total of 747 ships, including 519 Liberty Ships. The social and cultural landscapes of the Bay Area were reshaped by the influx of new workers. Between 1941 and 1943 the yards hired 90,000 new workers, many of them women, African Americans from the rural South, and members of other minority groups.¹⁵ The Shipyard facilities included buildings not only for the construction of the ships, but also support facilities for the workers. Many of these structures have been demolished since the closing of the Shipyards following the end of World War II in 1945. Following the war, the Port facility was used by new industries interested in the ease of rail access from the Port.

REGULATORY FRAMEWORK

Federal

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic resources. The NRHP is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, State, or local level.

¹⁴ City of Richmond, "The History of Richmond." Available online: <<http://www.ci.richmond.ca.us/index.asp?NID=112>>, Accessed January 2008.

¹⁵ <http://www.nps.gov/nr/travel/wwwIibayarea/ric.htm>

Structures, sites, buildings, districts, and objects over 50 years of age can be listed in the NRHP as significant historic resources. However, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP. The criteria for listing in the NRHP include resources that:

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

The project area is located within the boundaries of the Rosie the Riveter/World War II Home Front National Historical Park. The Rosie the Riveter/World War II Home Front National Historical Park was established in 2000 and is listed as a historic district in the NRHP. The park contains 4 historic structures listed in the NRHP, including:

- Building 6 – Riggers Loft/Paint Shop/Sheet Metal Shop
- Building 9 – First Aid Building
- Building 23 – Cafeteria
- Building 24 – General Warehouse

Information about these buildings is provided later in this chapter.

State

California Environmental Quality Act

CEQA Guidelines Section 15064.5(a) requires that public or private projects financed or approved by public agencies must assess the effects of the project on historical resources. Historical resources generally include buildings, sites, structures, objects, or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance.

Under *CEQA Guidelines* Section 15064.5(a), “historical resources” include the following:

- 1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Public Resources Code, Section 5024.1).
- 2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless

the preponderance of evidence demonstrates that it is not historically or culturally significant.

- 3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (Public Resources Code, Section 5024.1), including the following:
 - a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - b) is associated with the lives of persons important in our past;
 - c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - d) has yielded, or may be likely to yield, information important in prehistory or history.
- 4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

Historic resources are usually 45 years old or older and must meet at least one of the criteria for listing in the California Register, described above (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity.¹⁶

Archaeological resources that are not "historical resources" according to the above definitions may be "unique archaeological resources" as defined in Public Resources Code Section 21083.2, which also generally provides that "non-unique archaeological resources" do not receive any protection under CEQA. If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources will not be considered a significant effect on the environment. It is sufficient that the resource and the effects on it be noted in this report, but the resource need not be considered further in the CEQA process.

¹⁶ CEQA Guidelines Section 15064.5 (a)(3).

CEQA requires that if a project would result in an effect that may cause a substantial adverse change in the significance of a historical resource, or would cause significant effects on a unique archaeological resource, then alternative plans or mitigation measures must be considered. Therefore, prior to assessing effects or developing mitigation measures, the significance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- identify potential historical resources and unique archaeological resources;
- evaluate the eligibility of historical resources; and
- evaluate the effects of the project on eligible historical resources

Properties eligible for listing in the NRHP are automatically listed in the California Register of Historic Resources (CRHR). Other than the buildings listed above, no historic resources listed in or determined eligible for listing in the CRHR have been identified on or immediately adjacent to the project site.

Local

Richmond General Plan

The City of Richmond policies pertaining to cultural resources are set forth in the Land Use and Open Space and Conservation Elements of the *City of Richmond 1994 General Plan*. The following Land Use and Open Space and Conservation Element policies are relevant to the propose project.

- Policy LU–A.4: Require new development adjacent to historical sites to incorporate design elements so as to complement the character of the surrounding historical structures. (Note: Same as Policy OSC–E.4.)
- Policy LU–A.5: Preserve and enhance existing cultural and artistic artifacts and resources in the City.
- Policy OSC–E.1: Require archaeology reconnaissance surveys for all projects within an archaeological sensitivity area (as identified on maps on file with the Planning Department). When cultural resources are located, measures to deal with the historic resource shall be recommended by a qualified archaeologist.
- Policy OSC–E.2: Protect notable historic, archaeological, and cultural sites from destruction.
- Policy OSC–E.3: Support formulation of a plan for interpretive facilities on specific sites. Sites near local and regional recreation areas should be preferred. Sites should be included in parks, trails, and other facilities whenever possible.

The proposed project and the evaluation of the project summarized in this chapter generally comply with the General Plan policies listed above. Although there is a potential for the project to conflict with Policy LU–A.4, mitigation identified in Section 9.4, below, would

ensure compliance with this policy. Regarding Policy OSC–E.1, the project site is not within an archaeological sensitivity area identified on maps on file with the Planning Department. However, the City notes that significant archaeological resources may be located outside identified areas of archaeological sensitivity.

Richmond City Council Resolution 100–07

The Richmond City Council Resolution 100–07, adopted on September 11, 2007, directs the City Manager to prepare and implement a plan for the rehabilitation and adaptive reuse of the four vacant or underutilized historical buildings within the Rosie the Riveter World War II Home Front National Historical Park. The Port is currently in the process of implementing this resolution as a separate project. Mitigation is required in this chapter to ensure that the project would not interfere with implementation of Resolution 100–07 or adversely affect the four historic buildings on the site.

METHODOLOGY

Existing conditions were evaluated based on published and unpublished literature, visual observations of the project area, and review of boring logs from the project area. Efforts to identify cultural resources in the project's area of potential effect (APE) included archival research, contact with Native Americans, and a field survey. The potential impacts of the project on cultural resources were evaluated by considering both the initial construction activities as well as the long-term operation of the proposed project.

Archival Records Search

Environmental Science Associates (ESA) conducted a cultural resources records search of pertinent survey and site data at the Northwest Information Center (NIC) of the California Historical Resources Information System at Sonoma State University, on January 29, 2008 (NIC File No. 07–0862). The information center staff accessed the records for the Richmond U.S. Geological Survey (USGS) 7.5-minute quadrangle (1980) and included the project area along with a quarter-mile radius around each project element. The records search included a review of the Directory of Properties in the Historic Property Data File for Contra Costa County for information on sites of recognized historical significance in the National Register of Historic Places, California Register of Historical Resources, California Inventory of Historic Resources, California Historical Landmarks, and California Points of Historical Interest.¹⁷ The results of the records search are presented in the following subsection, Research Findings.

¹⁷ California Office of Historic Preservation (OHP), *Historic Landmarks: Contra Costa County*, 2008. Available online < http://ohp.parks.ca.gov/?page_id=21415 >. Accessed January 2008.

Field Survey

On February 12, 2008, ESA historian Katherine Anderson conducted a survey of the project area. All five structures listed in the National Register of Historic Resources were identified and photographed. The location of the proposed rail line and ship berth improvements were identified. Also on February 12, 2008, ESA archaeologist Heidi Koenig, who meets the Secretary of the Interior's Standards for Professional Qualifications for archaeology and is a Registered Professional Archaeologist, conducted a survey of the project area. The majority of the project area is paved or otherwise covered. A cursory/windshield survey was conducted of these portions of the site. The exposed area along the east side of the proposed road re-alignment was inspected on foot. No prehistoric or historic-period archaeological resources were observed during the field survey conducted by ESA.

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted by ESA archaeologist Heidi Koenig on December 10, 2007 and requested to provide information on locations of importance to Native Americans and a list of Native Americans that should be contacted. The NAHC sacred lands search did not identify any traditional cultural properties within the project area. The NAHC provided a list of Native American organizations that should be contacted concerning locations of importance to Native Americans in the project area. On December 17, 2007, ESA sent a letter to each organization on the NAHC list, providing information about the proposed project and requesting information on locations of importance to Native Americans. On June 25, 2008, ESA made follow up phone calls to the individuals provided by the NAHC. Messages were left with the contacts, requesting that they contact ESA if they had any questions or concerns regarding the project. Ms. Ann Marie Sayers of the Indian Canyon Mutsun Band of Costanoan, requested that an archaeological and Native American monitor be present during all earth moving activities due to the proximity of previously identified archaeological resources within the project area. Irenne Zwierlein, Chairperson of the Amah/Mutsun Tribal Band, also suggested the inclusion of an archaeological monitor due to the project's location on the San Pablo Land Grant and the presence of the railroad line. In response to these requests, additional requirements have been added to Mitigation Measure 9-3, presented in Section 9.4, Impacts and Mitigation Measures. No further responses have been received to date.

RESEARCH FINDINGS

Archaeological Sites

As described above, ESA conducted a cultural resources records search at the NIC of pertinent survey and site data within a quarter-mile of the project site. The records search

Table 9–1
Previous Archaeological Surveys within the Project Area

Survey Number	Date of Survey	Area Surveyed	Type of Survey	Resources Recorded
S-449	1977	20 acres and 2.25 linear miles in the northern portion of the study area, along Canal Street	Archaeological survey	none
S-7250	1985	17 acres in the northern portion of the study area, west of Canal Street	Archaeological survey	none
S-1647	1974	Southeastern portion of the study area between Canal Street and the Harbor Channel. Survey area includes area outside of the project study area.	Archaeological survey	CA-CCO-157 CA-CCO-293 CA-CCO-295 CA-CCO-297 CA-CCO-298 CA-CCO-299 CA-CCO-300
S-27704	2003	7.5 acres located west of Canal Street and north of the shipyard boundary.	Archaeological survey	none
S-25567	2002	10 acres along Canal Street in central portion of the study area	Archaeological survey	none
S-7250	1985	17 acres in the northern portion of the study area, west of Canal Street	Archaeological survey	none

Source: Northwest Information Center, Sonoma State University, 2008.

revealed that six archaeological surveys have been completed in the project area, as listed in Table 9–1.

No recorded prehistoric or historic-period archaeological resources are located within the project area. However, two recorded prehistoric cultural resources are located within one-quarter mile of the project area:

- CA-CCO-400 was recorded in 1979 as a partially destroyed shell midden. It is located west of Seacliff Drive on the east slope of Potrero San Pablo, and one-half mile north of Point Potrero.¹⁸
- CA-CCO-294 was originally recorded in 1907 by N.C. Nelson as a conical shell mound measuring 150 feet in diameter and 12 feet tall. It was documented again in 1979 by California Archaeological Consultants. At that time the shellmound had been leveled and covered with roads and asphalt parking lots. Only a small portion of the mound was still visible on the beginning of the hillside, although the lower deposits appeared to still be intact. The site is located to the west of the Canal Street Parking Lot 5, which is in the northern portion of the PPMT site, just to the south of the historic cafeteria building. CA-CCO-294 was relocated approximately 150 feet north of the proposed project boundaries. The site has been extensively diminished due to grading and other impacts.

In 1979 an augering program was implemented to determine the boundaries and integrity of CA-CCO-294.¹⁹ Six auger holes, using both hand and power augers, were excavated. Midden soils were uncovered in auger holes 1 (80–117 cm), 2 (64–200 cm), 3 (90–335 cm), and 6 (220–335 cm). Auger holes 4 and 5 did not uncover any culturally-modified soils. The main deposit was located in the vicinity of the drainage immediately behind the building at 1301 Canal Boulevard. The deposit lessened in density in the south near the access road to the oil storage tanks and north of the building. The depth of the deposit indicated that the materials extended below the level of the historical marsh.²⁰

Neither of these sites is anticipated to be adversely affected by the construction or operation of the proposed project.

Historic Properties

The Project Area lies partially within the boundaries of the Port of Richmond, Rosie the Riveter WWII Home Front National Historic Park. The park itself is listed as a historic district within the NRHP. There are four NRHP-listed historic buildings located within the park boundary, all of which are located on the project site:

- Building 6 – Riggers Loft / Paint Shop / Sheet Metal Shop
- Building 9 – First Aid Building
- Building 23 – Cafeteria
- Building 24 – General Warehouse

Following are additional details about each of these buildings:

¹⁸ These archaeological site designations (e.g., CA-CCO-400) are assigned by the California Department of Parks and Recreation; they differ from the numbers assigned by the Northwest Information Center, described in Footnote 2 of this chapter.

¹⁹ Banks, Peter, Site Record for CA-CCO-294, On file, Northwest Information Center of the California Historical Resources Information System, Sonoma State University, Rohnert Park, California, 1985.

²⁰ *Ibid.*

Building 6 – Riggers Loft/Paint Shop/Sheet Metal Shop

This wood-frame building with a timber pile foundation and corrugated metal exterior was built in August 1942. The built-up composited roofing is supported by wood trusses. The building was divided into three areas and used as riggers loft, paint shop, and metal shop. The roof over the paint shop area collapsed approximately ten years ago. Temporary structures were erected to support three roof trusses that were dry rotted in the sheet metal shop area.

Building 9 – First Aid Building

Constructed in July 1942, Building 9 is a wood-frame building with reinforcing concrete pile foundation and wood siding exterior. The building has a wood subfloor with linoleum finish. It was used as a medical facility for treating minor injuries and ailments of shipyard workers. Minor alterations have been made to the building's interior since it was originally completed.

Building 23 – Cafeteria

The cafeteria building was built in September 1943 as a wood-frame building with continuous concrete footings supporting the exterior walls and interior piers providing additional structural support. The exterior walls are finished with wood siding. The interior layout was modified some years after initial completion of the building. The building was used as a cafeteria to provide meals for shipyard personnel and entertainment facilities for ship launching parties.

Building 24 – General Warehouse

This four-story reinforced concrete structure was built in June 1942. The foundation is also reinforced concrete constructed on solid rock. It has two freight elevators and one passenger elevator. It was used to provide storage for ship supplies and furnishings.

The southeastern edge of the PPMT, where the proposed ship berth improvements are intended to occur, consist of post-war infill. The berths lining the Harbor Channel side of the shipyard were constructed in the 1970s, and do not possess exceptional importance to the history of the Port of Richmond, and are therefore not considered eligible for listing in the NRHP.

9.3 STANDARDS OF SIGNIFICANCE

Based on Appendix G of the *CEQA Guidelines*, a project may be deemed to have a significant effect on the environment with respect to cultural resources if it would result in:

- a substantial adverse change in the significance of a historical resource that is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources;
- a substantial adverse change in the significance of a unique archaeological resource;
- direct or indirect destruction of a unique paleontological resource or site or unique geologic feature; or
- disturbance of any human remains, including those interred outside of formal cemeteries.

CEQA provides that a project may cause a significant environmental effect where the project “may cause a *substantial adverse change in the significance of an historical resource*[.]”²¹ CEQA *Guidelines* section 15064.5 defines a “substantial adverse change in the significance of an historical resource” to mean “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be *materially impaired*.”²²

CEQA *Guidelines*, section 15064.5, subdivision (b)(2), defines “materially impaired” for purposes of the definition of “substantial adverse change ...” as follows:

“The significance of an historical resource is materially impaired when a project:

- (A) demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
- (B) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- (C) demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.”²³

²¹ Public Resources Code, § 21084.1 (emphasis added).

²² CEQA *Guidelines*, § 15064.5 (b)(1) (emphasis added).

²³ CEQA *Guidelines*, § 15064.5 (b)(2).

9.4 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION IMPACTS

Impact 9-1

Development of the proposed project could potentially cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5. (LTSWM)

Results from the archival search as well as the field reconnaissance by ESA historians identified several standing NRHP-listed historical structures located within the project area. As such, these buildings are considered to be “historical resources” as defined by CEQA. The proposed new construction, including installation of additional rail lines on top of a currently existing roadway and modifications to an existing ship berth, would not be expected to cause direct impacts to standing historical structures. However, indirect impacts to historical structures on the PPMT site could occur from construction-related vibration. Due to the distance between the vibration sources and the historical structures, the type of proposed construction methods, and the fact that vibration attenuates over distance, no significant vibration-related construction impacts are anticipated. However, any unexpected damage to the structures resulting from construction of the project would constitute a *significant, adverse impact* on historical resources. Implementation of the following mitigation measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 9-1

- a) *Resource Avoidance: The project sponsor shall plan construction of the proposed project so as to avoid adversely affecting the historic buildings on the site. The plan shall include precautionary measures (e.g., sufficient buffer distance) to avoid potential vibration impacts on the buildings. Prior to the initiation of construction, the project sponsor shall submit to the City of Richmond for review and approval a Construction Staging Plan that identifies the planned locations of access points, staging areas, and the delineated areas of all construction-related activities. The Plan shall identify specific measures to protect historic structures in the vicinity of each activity, which may include fencing and monitoring to ensure that sites are protected. Following approval of the Construction Staging Plan by the City of Richmond, the project sponsor shall implement the Plan throughout construction of the proposed project.*
- b) *Construction Personnel Training: Prior to the initiation of construction, all construction personnel who work on the project shall undergo a training session to inform them of the presence and nature of National Register-eligible cultural resources within the project area; of the laws protecting these resources and associated penalties; and of the procedures to follow if they discover cultural resources during project-related work.*

Impact 9-2

Development of the proposed project could potentially hinder the ability of the City Manager to carry out Richmond City Council Resolution 100-07, by limiting

access to or altering the historic setting of the four vacant historic structures within the Rosie the Riveter World War II Home Front National Historical Park. (LTSWM)

The City of Richmond has recently resolved, via Resolution 100-07, to renovate and restore the historic properties located in the Rosie the Riveter Historic Park for adaptive reuse. While the proposed project includes components intended to improve upon the landscaping surrounding the historic cafeteria, no detailed plans of the City's intended restoration and reuse effort were available during preparation of this DEIR. No direct effects to this building or the other historic buildings on the PPMT site are anticipated as a result of implementation of the proposed project, such as demolition or substantial alteration. The proposed project would, however, construct new parking facilities and other construction in the immediate vicinity of the cafeteria building which could indirectly affect this building's historic setting. In addition, the proposed project parking facilities surrounding the historic cafeteria (Building 23) and first aid (Building 9) buildings could potentially hinder the City's ability to provide adequate parking for future businesses using the renovated buildings. This a *potentially significant impact* which would be reduced to a *less-than-significant* level through implementation of the following measure:

Mitigation Measure 9-2

The City of Richmond shall review plans of new structures proposed in the immediate vicinity of the historic cafeteria and first aid buildings to ensure design compatibility with these historic buildings and maintain these buildings' historic setting. The City shall recommend appropriate setbacks and the amount of parking to be dedicated for use by tenants of the historic buildings, in order to ensure compatibility with City Council Resolution 100-07.

Impact 9-3

Development of the proposed project could potentially cause a substantial adverse change in the significance of archaeological resources, as defined in Section 15064.5 of the CEQA Guidelines. (LTSWM)

Neither the archival search nor the field reconnaissance resulted in the identification of recorded or unrecorded archaeological resources within the immediate project area. The project site is located in an area classified by the Contra Costa General Plan Archaeological Sensitivity Map as "largely urbanized areas and publicly owned lands excluded from archaeological sensitivity survey." The archaeological sensitivity of the site has been extensively diminished over time by grading and other impacts. Although the PPMT site has been extensively altered over the past 80 years due to grading, placement of fill, and other impacts, there remains some potential for the PPMT or BNSF sites to contain previously undiscovered archaeological resources. Archaeological site CA-CCO-294 is located approximately 150 feet north of the proposed construction zone for the new access

road. The augering program implemented in 1979 indicated that the site does not appear to extend into the current project area. However, the potential to impact unknown subsurface materials associated with CA-CCO-294 is considered high. While the project would occur predominantly above ground, construction of the proposed rail lines would require excavation and grading, which could damage or destroy any buried archaeological resources that may be present. Disturbance of buried cultural resources would be a ***potentially significant impact***. Implementation of the following mitigation would reduce potential adverse effects to ***less-than-significant*** levels:

Mitigation Measure 9-3

a) ***Cultural Resources Monitoring Plan.*** Prior to issuance of a grading permit, a qualified archaeologist retained at the applicant's expense shall prepare and submit a cultural resources monitoring plan to the City of Richmond Planning Department for review and approval. Monitoring shall be required for all surface alteration and subsurface excavation work including trenching, boring, grading, use of staging areas and access roads, and driving vehicles and equipment within 200 feet of registered archaeological site CA-CCO-294. Selection of the qualified professional archaeologist and the cultural resources monitors identified below in Mitigation Measure 9-3(b) (if different persons) shall be subject to approval by the Richmond Planning Department. The cultural resources monitoring plan shall address (but not be limited to) the following issues:

- Training program for all construction personnel involved in site disturbance and field workers;
- Person(s) responsible for conducting monitoring activities, including Native American monitors;
- How the monitoring shall be conducted and the required format and content of monitoring reports, including any necessary archaeological re-survey of the final track alignments (including the need to conduct shovel-test units or auger samples to identify deposits in advance of construction); assessment, designation and mapping of the sensitive cultural resource areas on final project maps; and assessment and survey of any previously unsurveyed areas;
- Person(s) responsible for overseeing and directing the monitors;
- Schedule for submittal of monitoring reports and person(s) responsible for review and approval of monitoring reports;
- Procedures and construction methods to avoid sensitive cultural resource;
- Clear delineation and fencing of sensitive cultural resource areas requiring monitoring;
- Physical monitoring boundaries (e.g., 200 feet each side of the site);
- Protocol for notifications in case of encountering of cultural resources, as well as methods of dealing with the encountered resources (e.g., collection, identification, curation);
- Methods to ensure security of cultural resources sites;
- Protocol for notifying local authorities (i.e., Port of Richmond and Richmond Police Department) should site looting or other illegal activities occur during construction.

- b) Archaeological and Native American Monitors. The project applicant shall retain the services of a qualified archeological consultant that has expertise in California prehistory and a Native American monitor from a culturally-affiliated tribe/organization to monitor ground disturbance within 200 feet of site CA-CCO-294. If an intact archeological deposit is encountered, all soil disturbing activities in the vicinity of the deposit shall cease until the deposit is evaluated. The archeological monitor shall immediately notify the project applicant and the City of Richmond Planning Department of the encountered archeological deposit. The archeological monitor shall, after making a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, present the findings of this assessment to the project applicant and the Planning Department. During the course of the monitoring, the archaeologist may adjust the frequency—from continuous to intermittent—of the monitoring based on the conditions and professional judgment regarding the potential to adversely affect cultural resources.

If the City of Richmond, in consultation with the archeological and Native American monitors, determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, the proposed applicant shall:

- Re-design the proposed project to avoid any adverse effect on the significant archeological resource; OR,
 - Implement an archeological data recovery program (ADRP), unless the archaeologist determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible. If the circumstances warrant preparation of an ADRP, the project archaeologist, project applicant, and Richmond Planning Department shall meet and consult to determine the scope of the ADRP. The archaeologist shall prepare a draft ADRP that shall be submitted to the project applicant and the Planning Department for review and approval. The ADRP shall identify how the proposed data recovery program would preserve the significant information the archeological resource is expected to contain. The ADRP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, shall be limited to the portions of the historic property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.
- c) Accidental Discovery: If historic or prehistoric archaeological resources, such as chipped or ground stone, large quantities of shell, historic debris, building foundations, or human bone, are inadvertently discovered during ground-disturbing activities, all construction activities within 100 feet of the find shall be halted until the City of Richmond is notified, and a qualified archaeologist can assess the significance of the find and prepare an avoidance, evaluation, or mitigation plan to prevent any significant adverse effects on the resource(s). The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)–(f) of the CEQA guidelines and Public Resources Code Section 21083.

Impact 9-4**Construction of the proposed project could potentially disturb buried human remains, including those interred outside of formal cemeteries. (LTSWM)**

Although no recorded prehistoric archaeological sites were identified on or in the vicinity of the project site, and no evidence exists to indicate that burials occurred within the project area, some potential remains for buried Native American or other human remains to be present within the project boundaries. While project construction would occur predominantly above ground, construction of the proposed rail lines would require excavation and grading, and the possibility still exists for encountering human remains. Disturbance of buried human remains would be a *potentially significant impact*. Implementation of the following mitigation would reduce potential adverse effects to *less-than-significant* levels:

Mitigation Measure 9-4

In the event that any human remains are encountered during site disturbance, all ground-disturbing work in the vicinity of the remains shall cease immediately until the coroner of Contra Costa County has been contacted, per Section 7050.5 of the California Health and Safety Code. If the coroner determines that the human remains are of Native American origin, the Native American Heritage Commission must be contacted within 24 hours, and the project sponsor shall comply with State laws relating to the disposition of Native American burials, regulated by the Native American Heritage Commission (Pub. Res. Code Sec. 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- *the coroner of the County has been informed and has determined that no investigation of the cause of death is required; and*
- *if the remains are of Native American origin,*
 - *the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or*
 - *the Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.*

OPERATIONAL IMPACTS

Impact 9-5**Vibrations from new train traffic during project operations could potentially cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. (LTSWM)**

Operation and implementation of the proposed project would not result in the demolition or significant alteration of the physical characteristics by which NRHP-listed historic resources

on and adjacent to the project site attained eligibility for listing in the NRHP. Vibration resulting from the use of trains to transport vehicles to and from the PPMT could cause vibration-related damage to the two historic buildings located near the proposed railroad tracks. Two historic buildings located within 100 feet or less from the proposed train tracks: Building 23, the Cafeteria Building, and Building 9, the First Aid Building. However, the proposed train tracks would terminate less than 50 feet from Building 9; therefore, the trains would be at or near a complete stop at points closest to the historic buildings in the project area. This would result in low levels of vibration-related impacts on the nearby historic structures. While no significant building damage would be expected, and the probability of cosmetic cracking is considered very low, some cosmetic cracking (e.g., hair-line cracking or loose wall material spalling off) could result to fragile, older structures. While the potential for cosmetic cracking is considered low, it cannot be ruled out. Any physical damage to the historic buildings caused by train traffic would constitute a *significant, adverse impact* to historic resources. Implementation of Mitigation Measure 9-5 would reduce the potential impact to a *less-than-significant* level.

Mitigation Measure 9-5

A pre-construction survey of the two historic structures nearest proposed project operations—Building 23, the Cafeteria Building, and Building 9, the First Aid Building—shall be undertaken prior to issuance of a grading permit to determine their current state of structural and cosmetic integrity. This information shall be used as a baseline reference for future maintenance needs stemming from the construction and operations of the proposed rail road yard and rail road tracks. In the event that cosmetic or structural damages resulting from the implementation of the project occurs, the project applicant shall be responsible for performing any necessary repairs or maintenance.

Impact 9-6

Implementation of the proposed project would potentially cause a substantial adverse impact on public access to the Rosie the Riveter/World War II Home Front National Historical Park. (LTSWM)

Operation of the proposed project would not result in a significant change in the current ability of the public to access the Rosie the Riveter/World War II Home Front National Historical Park via the driving route established by the National Park Service (NPS). The NPS provides interpretive facilities in the Visitor Center located at 1401 Marina Way South as well as the Rosie the Riveter Memorial at Marina Bay Park. The NPS also provides a self-guided driving tour of Historic Richmond Shipyard No. 3 that skirts the western PPMT boundaries and terminates at the SS Red Oak Victory Ship located at the southern end of the PPMT. Access to several of the historic buildings within the project area, such as the General Warehouse, First Aid building, and Rigger's Loft building, is already restricted due to safety regulations limiting unauthorized personnel within the Port Facility. However, the

establishment and operation of the rail yard facility at the PPMT would result in a permanent change to the site layout of the Port facility. While the proposed site plan provides for continued public access to the historic resources of the Rosie the Riveter / World War II Home Front National Historical Park, as previously noted in the discussion of Impact 4-2 (Chapter 4, Land Use and Planning), permanent access cannot be guaranteed in perpetuity due to federal restrictions. Therefore, the potential for interrupted public access to the Historic Richmond Shipyard No. 3 cannot be ruled out. Disruption of this public access would be considered a *significant, adverse impact*, which would be reduced to a *less-than-significant* level through implementation of the following mitigation:

Mitigation Measure 9-6

Same as Mitigation Measure 4-2.

CUMULATIVE IMPACTS

Although construction of the proposed project could result in potentially significant impacts to historic architectural resources, there are no other past, present, or reasonably foreseeable future development projects in the City of Richmond (such as alterations to other historic resources or their settings) which could combine with the project's impacts, to form a significant, adverse cumulative impact to historic resources. The City of Richmond's plans to rehabilitate and adaptively reuse the cultural resources at the PPMT (historic buildings 6, 9, 23, and 24) by other tenants would result in a beneficial cumulative impact on the known historic resources in the City of Richmond.

Although the proposed project would have potentially significant impacts to archaeological resources and human remains, there are no other past, present, or reasonably foreseeable future development projects in the City of Richmond (such as accidental discovery and damage) which could combine with the project's impacts, to form a significant, cumulative impact to archaeological resources or human remains. Therefore, the proposed project would not result in significant cumulative impacts to cultural resources.

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10. GEOLOGY AND SOILS

10.1 INTRODUCTION

This chapter describes existing geological and soil conditions, the potential associated geologic and geotechnical hazards, and potential impacts and proposed mitigation measures for the project. General geologic hazards with potential impacts to the project include erosion, surface fault rupture, strong ground shaking, liquefaction, liquefaction-induced lateral spreading, differential compaction, expansive soils, soft and/or loose soils, differential settlement, and the potential for ground subsidence caused by groundwater withdrawal. Proper siting of the proposed project components, design-level geotechnical investigations, and appropriate engineering and construction measures would avoid, eliminate, or reduce potential impacts of geologic hazards to a less-than-significant level.

METHODOLOGY

Existing conditions were evaluated based on published and unpublished literature, visual observations of the project area, and review of specific information from the project area. The potential impacts of the project on geology and mineral resources were evaluated by considering both the initial construction activities as well as the long-term operation of the proposed project. When evaluating potential project impacts, it was assumed that the project proponent would comply with applicable federal, State, and local regulatory requirements.

10.2 SETTING

NATURAL CONTEXT

Topography

The site is essentially level, and covered almost entirely with impervious pavement and buildings, most of which were constructed during World War II. Although elevations across most of the site historically ranged between 10 feet and 16 feet above mean sea level (msl), the western side of the site was capped in 2004, and the western and central portions of the site were resurfaced. The resulting elevations now range between 16 feet and 24 feet msl, with elevations on the eastern side of the site generally between about 13 and 14 feet msl.

Immediately northwest of the PPMT, a large hillside rises to an elevation of 327 feet. Adjacent to the PPMT, the hillside is owned by BP/Arco and is partially developed with a petroleum product tank farm with a dozen storage tanks of varying sizes. The rest of the hillside comprises the Miller-Knox Regional Shoreline Park owned by the East Bay Regional Park District (EBRPD). The PPMT is bounded on the east, south, and west by Bay waters.

Soils

Soils are the byproduct of physical and chemical weathering of underlying rock and alluvial deposits. They consist of mineral and organic matter and are created through physical, chemical, and biological processes. The United States Department of Agriculture's (USDA) Natural Resource Conservation Service (NRCS) (formerly known as the Soil Conservation Service) prepares soil surveys that classify soil characteristics and their suitability for agriculture and development based on distinct combinations of soils known as associations. With the exception of a small strip of exposed soil, the site is covered with impervious pavement and buildings and surface soil is not present in the project area. The native soil of the large hillside northwest of the PPMT has been classified as the Millsholm loam, a clay loam/loam that occurs on steep to very steep slopes.¹ The clay loam/loam has a thickness of up to 12 inches and is underlain by sandstone.

Geology

General

The project site is located on the eastern shoreline of the San Francisco Bay, within the northern half of the Coast Range geomorphic province. San Francisco Bay is a northwesterly-trending structural depression that lies along the boundary of the Pacific and North America tectonic plates. Active faults, including the San Andreas, Hayward, and Calaveras Faults, roughly parallel the western and eastern limits of the Bay. The Bay began forming during the Pleistocene Epoch, approximately 2 million years ago, when the San Francisco-Marin block began to tilt eastward along the Hayward Fault. The eastern side of the block became a depression and filled with sediment and water. The San Francisco Bay is generally bounded on the east by the Hayward fault and on the west by the San Andreas fault.

¹ United States Department of Agriculture (USDA), Soil Conservation Service, Soil Survey, Contra Costa County, September 1977.

The stratigraphy of the Coast Range consists primarily of sedimentary rocks underlain by either the granitic and metasedimentary rocks of the Salinian block or the greywacke, shale, limestone, basalt, chert, and related rocks of the Franciscan Formation. In the project area, the Franciscan Formation consists primarily of sandstone with interbedded shale, locally overlain by up to 300 feet of much younger sediments, including the Merrit Sand, Older Bay Mud, and Young Bay Mud.²

Near Point Potrero, the depth to bedrock beneath the Bay Mud has been estimated at approximately 100 feet.³ However, the depth to bedrock at the Seacliff Marina (located immediately west of the site) was encountered at 2 to 43 feet below ground surface.⁴ The thickness of the younger Bay Mud has, been estimated at 20 feet in this area. The occurrence of sand deposits within the sediments is very erratic, but sand layers have been identified from Point Richmond southward to Bay Farm Island.⁵ The thicknesses of these sand layers range from 10 to 50 feet. The Older Bay Mud unit overlying the bedrock ranges in thickness from 1 to 200 feet, but can be absent from locations at the bay margins.

Historic Seismicity

The project area is located in the seismically active San Francisco Bay region and has experienced ground shaking associated with moderate to large earthquakes throughout the period where records are available. Earthquakes of magnitude 5 or greater that have occurred within about 62 miles of the project area are summarized in Table 10–1. As indicated in this table, the closest recorded earthquake occurred about 3.5 miles from the site and was associated with a magnitude 5.3 earthquake that resulted in an estimated site peak horizontal ground acceleration (PHGA) of about 0.28 g–force (g).⁶ The highest historic PHGA was about 0.30g and was associated with an earthquake of magnitude 6.8

² California Division of Mines and Geology (CDMG), *Geologic and Engineering Aspects of San Francisco Bay Fill*, CDMG Special Report 97, 1969.

³ *Ibid.*

⁴ Department of Toxic Substances Control (DTSC), *Negative Declaration, Feasibility Study/Remedial Action Plan, Port of Richmond, Shipyard No. 3 Former Scrap Area Site, Operable Units 2&3, Richmond, California*, 2000.

⁵ CDMG, 1969, *op. cit.*

⁶ In an earthquake, sudden rupture or displacement along a fault releases energy in the form of seismic waves, which travel outward from the source. The amount of energy released by an earthquake is related to its magnitude. Seismic waves travel through the earth causing displacements or movements of the ground, similar to ripples on a pond. As waves travel away from the source, their energy is both absorbed and spread over an increasingly larger area through a process called attenuation. Through attenuation, the amount of acceleration, velocity, and displacement caused by the passage of seismic waves decreases with distance from the source. Thus, both the distance from the seismic source and earthquake magnitude affect the amount of wave energy reaching a given location. A number of empirical attenuation relationships, which describe the relationship between the amplitude of ground motion, earthquake magnitude, and distance, have been developed based on analysis of past earthquake motions. The PHGA was calculated using the Abrahamson and Silva (1997) attenuation relationship assuming “deep soil” conditions.

Table 10–1
Summary of Historic Earthquakes Greater Than Magnitude 5
within 20 Miles of the Site

Date	Approximate Distance (miles)	Magnitude	Site Acceleration (g) ¹	Site Intensity ²
4/2/1870	3.5	5.3	0.283	IX
9/10/1935	7.3	5.0	0.133	VIII
10/5/1859	7.5	5.0	0.130	VIII
5/15/1851	7.5	5.0	0.130	VIII
6/21/1808	10.4	6.3	0.270	IX
7/31/1889	11.5	5.2	0.100	VII
6/10/1836	11.5	6.8	0.298	IX
12/11/1855	13.0	5.0	0.074	VII
10/22/1854	13.0	5.0	0.074	VII
2/26/1864	13.0	5.0	0.074	VII
4/25/1906	16.0	5.3	0.078	VII
4/18/1906	16.0	8.25	0.281	IX
6/2/1899	16.0	5.4	0.085	VII
3/22/1957	17.4	5.3	0.071	VI
10/24/1955	17.7	5.4	0.076	VII
11/23/1852	17.8	5.7	0.099	VII
10/21/1868	20.2	6.8	0.144	VIII
3/31/1898	20.4	6.2	0.133	VII

Source: Blake, 2004a

¹ Site acceleration calculated based on Abrahamson and Silva (1997) attenuation relationship for soil sites.

² Estimated site intensity based on Modified Mercalli Scale – See Table 10–3.

that occurred on the Hayward fault approximately 10 miles from the site in 1836. It is likely that the project area will experience periodic minor to moderate earthquakes and possibly a major earthquake of moment magnitude 7 or greater during the life of the project. For example, the U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities evaluated the probability of one or more earthquakes of Richter magnitude 6.7 or higher occurring in the San Francisco Bay Area within the next 30 years. The result of the evaluation indicated a 62 percent likelihood that such an earthquake event will occur in the Bay Area between 2003 and 2032.⁷

Active and Potentially Active Faults

Numerous active and potentially active faults are located in the project area, as listed in Table 10-2. An explanation of the intensities reported in Table 10-2 is provided in Table 10-3. Most of the regional faults are related to the San Andreas fault system and approximately parallel the northwesterly structural trend of the region. Major regional systems within about 62 miles of the project area include the northern San Andreas fault zone, the Hayward fault zone, the Calaveras fault zone, the Healdsburg–Rodgers Creek fault zone, the Concord–Green Valley fault zone, the Great Valley fault zone, and the Greenville fault zone, shown on Figure 10-1. The most significant of these faults with respect to site seismicity include:

- **Calaveras Fault.** The active Calaveras fault is located approximately 18.3 miles from the site. A strong historic earthquake occurred on the fault in 1861. The magnitude of this earthquake was on the order of 6-1/2 and was associated with surface rupture along the fault trace.
- **Rodgers Creek Fault.** The Rodgers Creek Fault Zone is the southern segment of a fracture zone that includes the Rodgers Creek fault (north of San Pablo Bay) and the Healdsburg fault (northern Sonoma County). The most recent significant earthquakes on the fault zone both occurred on October 1, 1969. On this date, two earthquakes of Richter magnitude 5.6 and 5.7 occurred within an 83-minute period. The California Geological Survey (CGS) estimates that the fault zone is capable of generating a maximum moment magnitude 7.0 earthquake.
- **Greenville Fault.** The Greenville fault is located approximately 23.4 miles from the project. Surface rupture of a portion of the fault was noted in the Livermore area following the January 24, 1980 magnitude 5.8 and January 26, 1980 magnitude 5.2 earthquakes that occurred on the Greenville fault.
- **Hayward Fault.** The Hayward fault is located about 3.8 miles southwest of the site and strikes in a northwesterly direction from southern Santa Clara County to San Pablo. The Hayward fault is active based on tectonic creep along

⁷ United States Geological Survey (USGS), Working Group on California Earthquake Probabilities (WG02), *Open File Report 03-214: Earthquake Probabilities in the San Francisco Bay Region: 2002-2031, 2003*, <http://pubs.usgs.gov/of/2003/of03-214/>.

portions of the fault zone and on two historic earthquakes with magnitudes on the order of 6–1/2. These earthquakes occurred in 1836 and 1868 and are believed to have been associated with surface rupture along the trace of the fault.

- **Great Valley Fault Segments.** The Great Valley fault is characterized by a series of discontinuous, en echelon thrust fault segments along the eastern margin of the Coast Ranges and the western edge of the Central Valley. The closest segment to the project is located about 27.5 miles to the east and is believed capable of generating a magnitude 6.7 earthquake.
- **Concord Fault – Green Valley Fault.** The Concord fault is located about 18.1 miles from the site and forms the abrupt and linear eastern boundary between the Ygnacio Valley alluvium and the bedrock of the Diablo Range. This fault may represent a northward extension of the Calaveras fault based on similarities in relative motion and offset. The Concord fault is considered active based on a historic 5.4 Richter magnitude earthquake attributed to the fault. The active Green Valley Fault is believed to be an en echelon extension of the Concord fault. The fault trace is well-marked by very fresh topographic features such as aligned saddles and notches, linear depressions, springs, sags, and well-defined shutter ridges.
- **San Andreas Fault.** At its closest point, the active San Andreas fault is located approximately 14.0 miles from the site and marks the boundary of the American and Pacific plates of the earth's crust. The fault extends from Mexico to northern California and exhibits geomorphic evidence of recent faulting along much of its length. The San Andreas fault has generated two great historical earthquakes with magnitudes greater than 8 (the 1857 Fort Tejon and the 1906 San Francisco earthquakes).

PROJECT GEOLOGIC CONDITIONS

Soils

The site is covered entirely with impervious pavement and buildings and surface soil is not present in the project area.

Geologic Conditions

Subsurface investigations completed for the Feasibility Study/Remedial Action Plan for the Port of Richmond Shipyard No. 3 Former Scrap Area Site Operable Units 2 & 3 indicate the adjacent area west of the site and most of the PPMT site is located on top of fill materials.⁸ Two types of fills are apparently present at the site, including native soil and rock cut from the Point Potrero hills and imported fill of unknown origin. The fill ranges in thickness from a few feet next to the bluffs on the north side of the site to twenty feet or more at the present shoreline. The fill overlies Young Bay Mud that also thickens

⁸ Department of Toxic Substances Control, *op. cit.*

Table 10–2
Active Faults within 62 Miles (100 km) of the Project Site

Fault Name	Approximate Distance		Estimated Maximum Earthquake Event		
	miles	km	Maximum Moment Magnitude ¹	PHGA ²	Est. Site Intensity ³
Hayward (North)	3.8	6.1	6.9	0.387	X
Hayward (Total Length)	3.8	6.1	7.1	0.401	X
Rodgers Creek	12.7	20.5	7.0	0.181	VIII
San Andreas (1906)	14.0	22.5	7.9	0.223	IX
San Andreas (North Coast)	14.0	22.5	7.6	0.203	VIII
San Andreas (Peninsula)	14.3	23.0	7.1	0.171	VIII
San Gregorio	16.1	25.9	7.3	0.166	VIII
Hayward (South)	17.4	28.0	6.9	0.137	VIII
Concord–Green Valley	18.1	29.2	6.9	0.132	VIII
Calaveras (No. of Calaveras Reservoir)	18.3	29.5	6.8	0.126	VII
West Napa	19.1	30.7	6.5	0.110	VII
Greenville	23.4	37.7	6.9	0.106	VII
Point Reyes	25.6	41.2	6.8	0.117	VII
Great Valley 6	27.5	44.2	6.7	0.106	VII
Great Valley 5	29.9	48.1	6.5	0.090	VII
Great Valley 4	32.6	52.4	6.6	0.087	VII
Monte Vista–Shannon	32.9	53.0	6.8	0.094	VI
Hunting Creek–Berryessa	39.0	62.7	6.9	0.068	VI
Hayward (SE Extension)	39.6	63.8	6.4	0.053	VI
Great Valley 7	45.0	72.4	6.7	0.068	V
Calaveras (South of Calaveras Reservoir)	45.0	72.5	6.2	0.037	VI
Maacama (South)	49.6	79.9	6.9	0.055	VI
Great Valley 3	52.8	84.9	6.8	0.062	VI
San Andreas (Santa Cruz Mountains)	54.0	86.9	7.0	0.054	VI
Sargent	57.7	92.9	6.8	0.045	VI

Fault Name	Approximate Distance		Estimated Maximum Earthquake Event		
	miles	km	Maximum Moment Magnitude ¹	PHGA ²	Est. Site Intensity ³
Zayante–Vergeles	60.3	97.0	6.8	0.043	VI

Sources: Jennings, 1994; Blake, 2004b; Peterson et al., 1996.

¹ Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Moment magnitude provides a physically meaningful measure of the size of a faulting event. The Maximum Moment Magnitude Earthquake (Mw) is derived from the joint CGS/USGS Probabilistic Seismic Hazard Assessment for the State of California. (Peterson et al., 1996).

² PHGA is the estimated site peak horizontal ground acceleration based on the Abrahamson and Silva (1997) attenuation relationship for soil sites.

³ Estimated site intensity is based on the Modified Mercalli Scale – See Table 10–3.

from near the bluffs toward the Bay to the south. Investigations at the nearby Seacliff Marina observed Young Bay Mud thicknesses of 20 to 26 feet. The Young Bay Mud consists of plastic, olive–gray, soft clay with shell fragments.

Groundwater

Based on the available stratigraphic data and the groundwater level data, the first encountered groundwater underneath the site occurs within fill and the native sandy silt layer encountered between the bluff and the fill.⁹ However, the shallow groundwater table does not appear to extend into the bedrock formation in the bluff area. Recharge to the groundwater appears to occur primarily from precipitation and from runoff along the bedrock interface of the bluff north of the site. During the dry summer months, little or no groundwater recharge from upland areas occurs at the site. During months with precipitation, direct infiltration and runoff from the hillside may raise the groundwater table.

Groundwater level measurements do not show a consistent groundwater gradient in the shallow groundwater. Groundwater measurements also indicate an apparently tidally influenced groundwater gradient that is toward the Bay at low tide and away from the

⁹ Department of Toxic Substances Control, *op. cit.*

Table 10–3
Modified Mercalli Intensity Scale

Intensity	Description	Average Peak Acceleration (g) ¹
I	Not felt except by a very few persons under especially favorable circumstances.	<0.0017
II	Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.	<0.014
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. Duration estimated.	<0.014
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	<0.014–0.04
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.04–0.09
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.09–0.18
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.18–0.034
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.34–0.65
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65–1.24
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	>1.24
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	>1.24

Intensity	Description	Average Peak Acceleration (g) ¹
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	>1.24

Source: Bolt (1988)

¹ g (gravity) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

Bay at high tide. It is not clear whether there is a net groundwater discharge into the Bay over the course of a complete tidal cycle.¹⁰

Geologic Hazards

Ground Shaking

Seismic sources of possible significance to the project include the major faults within about 62 miles of the site that are listed in Table 10–2. This table also lists the closest distance of the fault to the site and the maximum credible earthquake (MCE) associated with each fault. Based on empirical relationships between the potential area of rupture and earthquake magnitude, the MCE is a rational and believable event that can be supported by the geologic evidence of past movement and the recorded seismic history of the region.

Ground shaking at a site is frequently expressed as the PHGA and is largely dependent on the MCE magnitude of the earthquake, the distance of the earthquake epicenter from the site, and the local site conditions. A site-specific deterministic seismic analysis was performed to assess PHGA in the project area associated with the MCE for the active faults identified in Table 10–3. This analysis was performed using the Abrahamson and Silva acceleration attenuation equation that relates earthquake magnitude, fault style, source-to-site distance, and local site conditions to derive an estimate of peak acceleration.¹¹ For the purposes of this analysis, the project area was assumed to be represented as a deep soil site.

Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state during which saturated soil temporarily loses strength resulting from the buildup of excess pore water

¹⁰ Department of Toxic Substances Control, *op. cit.*

¹¹ N.A. Abrahamson and W.J. Silva, "Empirical Response Spectral Attenuation Relations for Shallow Crustal Earthquakes," *Seismological Research Letters*, Vol. 68, No. 1, Jan/Feb 1997.

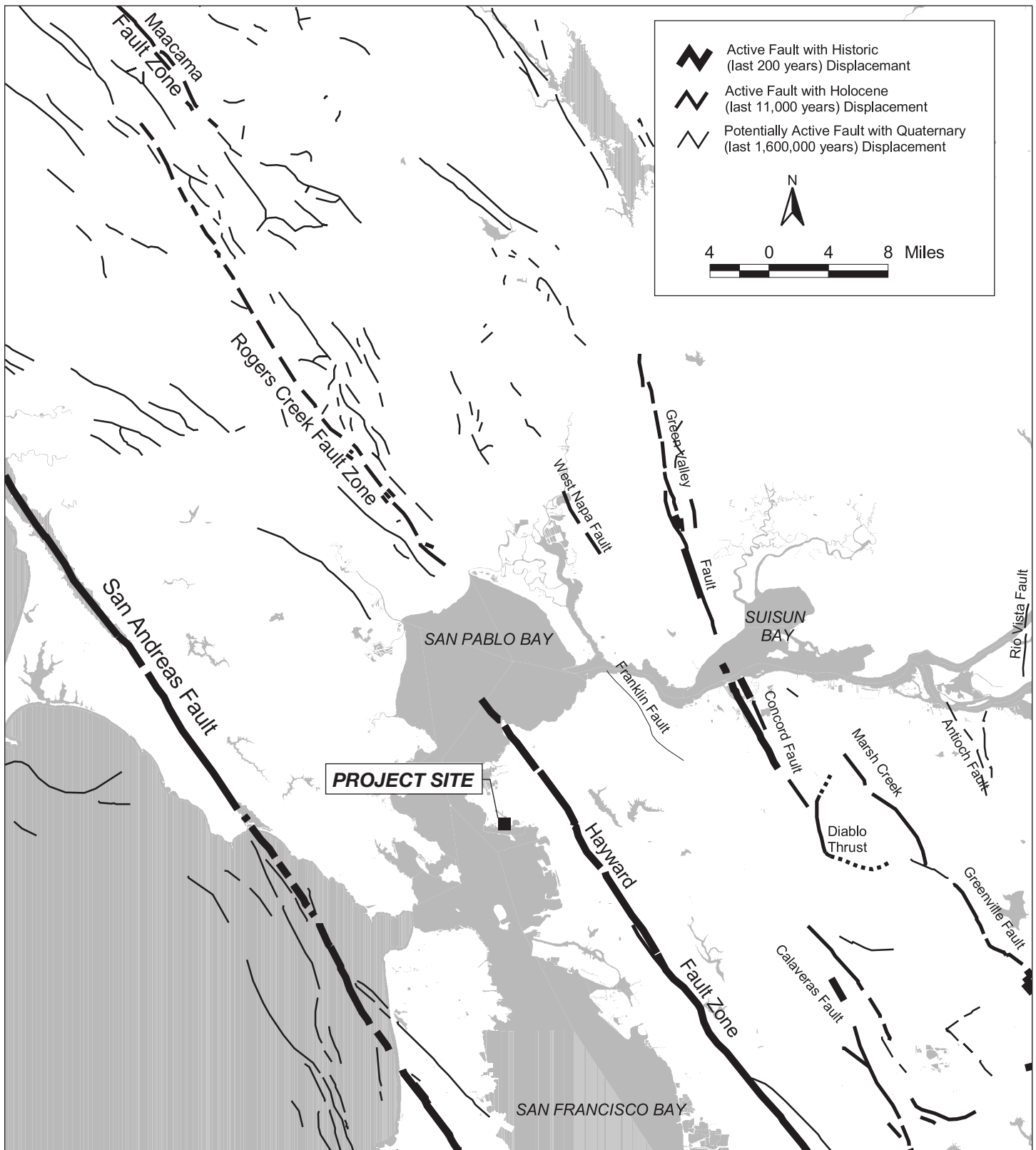


Figure 10-1

Active and Potentially Active Regional Earthquake Faults

Source: California Department of Conservation, Geological Survey (After Jennings, 1994)

pressure during earthquake-induced cyclic loading. Soils susceptible to liquefaction include saturated, loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. In addition, liquefaction can occur in unconsolidated or artificial fill sediments located in reclaimed areas along the margin of San Francisco Bay. Soil liquefaction may cause ground failures that can damage roads, pipelines, underground cables, and buildings with shallow foundations.

Hazard maps produced by the Association of Bay Area Governments (ABAG) depict liquefaction hazards for the entire Bay Area in the event of a significant seismic event.¹² According to these maps, the proposed project site is in an area expected to have a very low to very high potential for liquefaction. The very low potential liquefaction corresponds to the bedrock exposed in the hillside northwest of the site and the areas of the site that are currently covered with pavement and used to park cars. Portions of the site between Canal Boulevard to the east and the hillside to the west are identified as having very high potential for liquefaction. Because of this, liquefaction related ground failure is discussed in the impacts and mitigation measures section of this chapter.

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or unconsolidated sediments.

Landslides

Ground failure is dependent on the slope and geology as well as the amount of rainfall, excavation, or seismic activities. A slope failure is a mass of rock, soil, and debris displaced down slope by sliding, flowing, or falling. Steep slopes and downslope creep of surface materials characterize landslide-susceptible areas. The site is relatively flat and covered with pavement. Wentworth *et al.* (1997) maps this area as "...gentle slope at low elevation that have little or no potential for the formation of slumps, translational slides, or earthflows except along stream banks and terrace margins..."¹³ Wentworth *et al.*

¹² Association of Bay Area Governments (ABAG), Liquefaction Susceptibility, 2005. <http://gis.abag.ca.gov/website/liq/viewer.htm>; accessed on March 1, 2008.

¹³ C. M. Wentworth, *et al.*, *Summary Distribution of Slides and Earth Flows in the San Francisco Bay Region, California*, United States Geological Survey (USGS), Open-File Report 97-745C, 1997.

indicates the hill adjacent to the site is an area that contains few, if any, large mapped landslides, but that locally may contain scattered small landslides and questionably mapped larger landslides.

Expansive Soils

Expansive soils possess a “shrink–swell” characteristic. Shrink–swell is the cyclic change in volume (expansion and contraction) that occurs in fine–grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Soils in the project area have largely been removed and covered by existing impervious surfaces.

Settlement

Settlement is the depression of the bearing soil when a load, such as that of a building or new fill material, is placed upon it. Soils tend to settle at different rates and by varying amounts depending on the load weight, which is referred to as differential settlement. Areas are susceptible to differential settlement if they are underlain by compressible sediments, such as poorly engineered artificial fill or the Bay Mud present in the marshland on the San Francisco Bay margin.

Soil Erosion

Soil erosion is a widespread problem in many hilly portions of the Bay Area. It is a particular concern on steep slopes which have been disturbed during development grading and which are exposed to seasonal precipitation without adequate slope protection. Stream banks are especially prone to excessive erosion when changes in flow patterns and volume of water occur, such as during large storms. Soils in the project area have largely been removed and covered by existing impervious surfaces.

Mineral Resources

The project area is not identified as a Mineral Resource Zone (MRZ) by the California Division of Mines and Geology.¹⁴ The project area is not located within or near a potential source of oil or valuable mineral resources.¹⁵

¹⁴ California Division of Mines and Geology (CDMG), Department of Conservation, *Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production–Consumption Region*, Open Field Report 96–03, 1996.

¹⁵ E. H. Bailey and D. R. Harden, U. S. Geological Survey, *Map Showing Mineral Resources of the San Francisco Bay Region, California – Present Availability and Planning for the Future*, Miscellaneous Investigations Series, Map I-909, 1975.

REGULATORY FRAMEWORK

Alquist–Priolo Earthquake Fault Zoning Act

In California, the Alquist–Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupation to avoid the hazard of surface fault rupture. This Act and supplemental amendments groups faults into the categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre–Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be “sufficiently active” and “well defined” by detailed site–specific geotechnical explorations in order to determine that building setbacks might be required. The proposed project is not located within an Alquist–Priolo fault zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a Seismic Hazard Zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures incorporated into the project design. The project site and surrounding area have not been evaluated under the Seismic Hazards Mapping Program and, therefore, no hazard zones have been designated to date by the California Geological Survey.

California Building Code

The California Building Code is another name for the body of regulations known as the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC, 1995). Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable.¹⁶

Published by the International Conference of Building Officials (ICBO), the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The California Building Code incorporates the UBC by reference and includes necessary

California amendments. These amendments include criteria for seismic design. About one-third of the text within the California Building Code has been tailored for California earthquake conditions.¹⁷ The 1997 UBC requires extensive geotechnical analysis and engineering for grading and construction of foundations, retaining walls, and structures, with requirements varying according to the UBC-designated zones in which a project is located. The proposed project site is located within Zone 4, which, of the four seismic zones designated in the United States, is expected to experience the greatest effects from earthquake ground shaking and therefore has the most stringent requirements for seismic design.

City of Richmond General Plan

The City of Richmond has also established policies related to geologic hazards as part of their public safety element in the Richmond General Plan. The following policies relate to the proposed project:

- Policy SF-A.7: Require a site investigation for any major or important structures to determine the degree of seismic and geologic hazards that can be expected for the particular structure (e.g., unreinforced masonry), and have the investigation reviewed by a technically qualified professional.
- Policy SF-A.14: Conduct site specific geotechnical studies on a case by case basis on projects proposed to be built on or adjacent to inactive bedrock faults. These areas may represent geologic anomalies that could contribute to slope instability or other problems.
- Policy SF-A.16 Use established standards to limit industrial activities that may endanger human health and may cause damage to the environment.

City of Richmond Municipal Code

The City of Richmond Municipal Code Section 12.44 contains provisions for excavation and grading that require measures to control erosion. Any project that involves disturbing more than 50 cubic yards of soil is required to obtain a grading permit pursuant to the City's grading ordinance. The permit requires the preparation of an erosion control plan.

¹⁶ Bruce A. Bolt, *Earthquakes*, 1988.

¹⁷ International Conference of Building Officials (ICBO), *Uniform Building Code*, Volume 3, 1997.

10.3 STANDARDS OF SIGNIFICANCE

Potential seismic and soils-related effects associated with implementation of the project include both geologic hazards to people or structures, and construction-related impacts. Implementation of the project would be considered to result in a significant environmental impact if it were to:

- increase the exposure of people or structures to potential hazards associated with a regional seismic event, to levels generally considered unacceptable according to engineering standards for projects of this type in the seismically active San Francisco Bay region;
- expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault;
- result in placement of structures or infrastructure in locations susceptible to landslides or slope instability;
- result in construction of buildings on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risk to life or property; and/or
- result in substantial soil erosion or the loss of topsoil, either through construction activities or as a result of development.

Geologic impacts are typically considered less than significant if, through engineering, geotechnical investigation, and construction techniques, the risk of damage to structures can be greatly reduced, although not eliminated completely.

10.4 IMPACTS AND MITIGATION MEASURES

As described previously, site soils have been removed by previous grading operations and the proposed project would not contribute to a loss of topsoil. The proposed project is not located in the Alquist-Priolo earthquake fault zone; therefore, surface rupture from known active faults is not anticipated and impacts would be less than significant. Seismically-induced landslides are unlikely as the site is relatively flat.

The project area is relatively flat and the project does not include any cuts, fills, or structures that could destabilize natural or constructed slopes. Therefore, destabilization of natural or constructed slopes should not occur as a result of site preparation and construction activities. No impacts have been identified associated with the geologic and soils considerations discussed above.

CONSTRUCTION IMPACTS

Impact 10-1

Although the site is relatively flat and the project area is substantially covered with pavement, there is still potential for uncontrolled construction activities to result in accelerated soil erosion, which could degrade water quality in San Francisco Bay. (S)

Earthwork and grading within the PPMT rail yard and BNSF auto terminal would require excavation and stockpiling of about 57,000 yards of soil and asphalt. The asphalt is expected to comprise about 25 percent of the total (about 14,250 yards) and would be re-used for the project. The remaining 42,750 yards of soil would be removed from the project area for re-use or disposal. Imported rail ballast stone and other aggregates may also require temporary onsite stockpiling during construction. Uncontrolled runoff from open excavations or soil, asphalt, ballast stone, and aggregate stockpiles could lead to increased turbidity, sedimentation, and water quality degradation. Given the site's proximity to San Francisco Bay, the downstream recipient of the site's stormwater runoff, increase erosion could adversely affect water quality in San Francisco Bay. This would therefore be a *potentially significant impact*, which is addressed in more detail in Chapter 11, Hydrology and Water Quality. (Accelerated soil erosion following completion of construction would not be a significant impact because the site would be entirely covered with pavement and all drainage would be directed to the surface water drainage system that discharges to the Bay (see Chapter 11 for additional discussion on stormwater runoff). Implementation of the following measure would reduce this impact to a less-than-significant level:

Mitigation Measure 10-1

Same as Mitigation Measure 11-1.

OPERATIONAL IMPACTS

Impact 10-2

In the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the proposed project site due to structural damage of facility structures. Ground shaking could potentially expose persons and property to seismic-related hazards, including localized liquefaction and seismically-induced settlement. (S)

The proposed project would likely experience at least one major earthquake (greater than Richter magnitude 6.7) within the next 30 years.¹⁸ The intensity of such an event would

¹⁸ United States Geological Survey, 2003, *op. cit.*

depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. Potential damage at the project site from a significant earthquake on the Hayward fault (the closest major fault to the site) or one of the other major regional faults could include broken subsurface piping, broken pavements, compromised rail lines due to liquefaction or subsidence, or damaged structures.

Foundation and structural designs that can withstand the level of ground shaking that could occur at the proposed project site are in common use today. As required by the California Building Code (CBC), project facilities would be designed, at minimum, to withstand a ground acceleration that has a 10-percent probability of being exceeded in 50 years. With foundation and structural design in accordance with the current CBC standards, seismic shaking should not result in significant structural damage to the planned facilities. In the course of the final facility design, the project engineering geologist or geotechnical engineer will provide additional foundation design or ground improvement recommendations based on the ground conditions at the proposed site. These recommendations would become part of the project specifications.

A design-level geotechnical investigation would be performed for each project element site area. This evaluation would include an evaluation of liquefaction potential. The project applicant would be required to submit the design-level geotechnical report to the City in order to obtain grading or construction permits. Each investigation would include an analysis of expected ground motions at the site from known active faults and would evaluate subsurface conditions relevant to the construction. The analyses would be in accordance with applicable City ordinances and policies and consistent with the most recent version of the CBC, which requires structural design that can accommodate ground accelerations expected from known active faults. The investigations would determine final design parameters for the earthwork, foundations, foundation slabs, and any surrounding related improvements (utilities, roadways, parking lots and sidewalks). The investigations would be reviewed and approved by a registered geotechnical engineer. Although structural damage from seismically-induced groundshaking, liquefaction, and other seismic-related hazards would be a *potentially significant impact*, implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

Mitigation Measure 10-2

All structures (including rail transportation facilities) for the proposed project shall be designed in accordance with the UBC, which requires structural design that incorporates ground accelerations expected from known active faults. Expected ground motions determined by a registered geotechnical engineer shall be incorporated into the final structural design as part of the project. The design level geotechnical investigation shall evaluate subsurface conditions with respect to potential geologic hazards such as liquefaction, subsidence, settlement, and expansive soils, and shall provide

recommendations to mitigate these hazards as necessary. All geotechnical design recommendations shall be incorporated into the final project design and construction.

Impact 10-3

Operation of the proposed PPMT rail terminal, which would involve multiple closely-spaced rail spurs, could result in significant transient weight and vibratory loading due to multiple lines of railcars. These loads could result in subsurface settlements that could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products, which could, in turn, create a significant hazard to the public or the environment. (S)

The proposed rail terminal would include seven loading tracks extending approximately 1,300 feet southeast from the former Kaiser Shipyard entrance gate, located near the former Kaiser cafeteria building. The BP and Kinder Morgan underground pipelines extend as far south as the pipeline easement just south of the former cafeteria building. It is possible that the transient weight and vibratory loading associated with multiple lines of railcars on the multiple rail spurs could result in total and/or differential settlement of the underlying fill and native soils. These settlements, in turn, could compromise the integrity of the underground BP and Kinder Morgan pipelines, resulting in releases of petroleum products from the pipelines. This would be a *potentially significant impact*. Implementation of the following mitigation measure would reduce the impact to a less-than-significant level:

Mitigation Measure 10-3

Prior to construction of the PPMT rail terminal, an engineering evaluation shall be performed pursuant to City of Richmond permit requirements. This evaluation shall characterize subsurface conditions along the planned alignment and shall specifically consider the static loads associated with project structures and the transient loads associated with planned operations. During this engineering phase, loading as related to the underground pipeline and all other buried utilities shall be evaluated and any measures recommended to ensure pipeline integrity and safety shall be implemented by the project sponsor prior to construction of the new lead track and rail yard.

CUMULATIVE IMPACTS

The impacts identified in this section would all be less than significant with implementation of the identified mitigation. The project would construct facilities in a seismically active area, and thus would contribute to the cumulative exposure to seismic hazards, such as ground shaking, in the region as a whole. However, this is the case for any project constructed in the State of California, and the actual level of risk is site specific and would not be cumulatively increased at any particular site. The risk of damage from unstable slopes, on-site erosion, and expansive or corrosive soils is also site-specific.

Measures proposed as part of the project would reduce the impacts to a less-than-significant level, and because the risk is site-specific, it would not be cumulatively considerable at any particular site.

11. HYDROLOGY AND WATER QUALITY

11.1 INTRODUCTION

This section of the EIR describes the existing hydrology and water quality characteristics of the project site and San Francisco Bay. It then presents the potential impacts and mitigation measures for the proposed project and for cumulative conditions. With implementation of the recommended mitigation measures, construction and operation of the project are expected to have less than significant impacts on hydrology and water quality.

METHODOLOGY

Surface and groundwater in the project area were evaluated by inspecting water bodies and drainages, by reviewing studies completed by and for State and local water agencies, and by obtaining information from public water agencies. The potential impacts of the project on surface water and groundwater were evaluated by considering both the initial construction activities as well as the long-term operation of the proposed project. When evaluating potential project impacts, it was assumed the project applicant would comply with applicable federal, State, and local regulatory requirements intended to protect surface water and groundwater.

11.2 TERRESTRIAL HYDROLOGY/WATER QUALITY SETTING

REGIONAL SETTING

Precipitation

The climate of the San Francisco Bay Area is characterized as Mediterranean, with cool wet winters and relatively warmer dry summers. The mean annual rainfall in Richmond, for the period between 1950 and 2005, is approximately 23 inches.¹ Long-term precipitation records indicate that wetter and drier cycles, lasting several years, are

¹ Western Regional Climate Center, (WRCC), 2005, <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?carchm+sfo>, accessed March 3, 2008.

common in the region. The 100-year 24-hour storm is estimated at approximately 6 inches of rainfall in the proposed project area.²

Floods in the San Francisco Bay Area result from intense rainstorms, generally preceded by a prolonged rainfall period that has saturated the ground. Peak flows are usually of short duration. Historically, major flood problems have occurred in urban areas located in the relatively flat, wide valleys near the mouths of rivers.

Groundwater Hydrology

The project site is located in the San Francisco Bay Hydrologic Region that covers approximately 2.88 million acres and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, and Alameda counties. The region has 28 identified groundwater basins. Two of those, the Napa–Sonoma Valley and Santa Clara Valley groundwater basins are further divided into three and four subbasins, respectively. Groundwater use accounts for about 5 percent (68,000 acre–feet³) of the region’s estimated average water supply for agricultural and urban uses. In general, the freshwater-bearing aquifers are relatively thin in the smaller basins and moderately thick in the more heavily utilized basins. The more heavily utilized basins in this region include the Santa Clara Valley, Napa–Sonoma Valley, and Petaluma Valley groundwater basins. In general, groundwater quality throughout most of the region is suitable for most urban and agricultural uses with only local impairments. The primary constituents of concern are high total dissolved solids (TDS), nitrate, boron, and organic compounds.⁴

The project site is located at the southeastern margin of the East Bay Plain Subbasin (part of the Santa Clara Valley Groundwater Basin), a northwesterly trending alluvial plain that is bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Subbasin. The East Bay Plain Subbasin extends beneath San Francisco Bay to the west. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age that include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. Historic water levels in the deep aquifer in the subbasin have varied between –10 to –140 feet mean sea

² U.S. Weather Bureau, “Rainfall Frequency Atlas of The U.S. For Durations From 30 Minutes to 24 Hours and Return Periods from 1 to 100 Years,” Technical Paper #40, 1961.

³ An acre–foot is the amount of water needed to cover an acre of ground to a depth of 1 foot. It is equivalent to 325,851 gallons or 43,560 cubic feet.

⁴ Department of Water Resources, *California’s Groundwater, San Francisco Bay Hydrologic Region*, Bulletin 118, 2003.

level since the early 1950s. Water levels have been rising continuously since the 1950s, and as of 2000, water levels are very near the surface in all aquifers.⁵

A sodium chloride groundwater type predominates along the western margin and center of the subbasin near San Francisco Bay, while a sodium bicarbonate groundwater type predominates along the eastern portion. Groundwater is not used at the site (and is not proposed to be used as part of the project), nor are discharges made to the groundwater that lies below.

Surface Water Quality

The quality of the waters in the bays and creeks of San Francisco Bay is a product of a mix of point- and nonpoint-source discharges, ground and surface water interactions, and water quality / water quantity relationships. San Francisco Bay is an estuary with complex hydrodynamics and sediment and biochemical fate and transport processes. A number of water bodies are impaired due to excessive siltation, but it is very difficult to distinguish between excessive siltation and impairment due to flow alterations. The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) have implemented the Water Management Initiative as the model for which water resources are to be protected. The RWQCB is now structured to promote a watershed-based approach towards implementation of programs, with particular emphasis on integration of programs within county watershed management areas. RWQCB staff working in the San Francisco Watershed Management Area have identified issues based on consideration of a combination of water quality, customer service, and program requirements.

Surface water bodies in the proposed project region are used primarily for commercial and sport fishing, estuarine habitat, fish and wildlife habitat, recreation, rare species habitat, and industrial service supply. The San Francisco Bay RWQCB has listed central San Francisco Bay, San Pablo Bay, San Pablo Creek, and Wildcat Creek as impaired due to elevated levels of contaminants.⁶ The pollutants include chlordane, pesticides, dioxins, furans, mercury, PCBs, selenium, nickel, and diazinon. The sources of these pollutants include nonpoint sources from urban development, atmospheric deposition, ballast water, industrial and municipal point sources, agriculture, natural sources, and exotic species.

⁵ *Ibid.*

⁶ Regional Water Quality Control Board, *Introduction to TMDLs, 2002 CWA Section 303(d) List of Water Quality Limited Segment, San Francisco Regional Water Quality Control Board, 2002*, available at <http://www.swrcb.ca.gov/rwqcb1/>.

PROJECT SETTING

The site is essentially level, and covered entirely with impervious pavement and buildings, most of which were constructed during World War II. Although elevations across most of the site historically ranged between 10 feet and 16 feet above mean sea level (msl), the western side of the site was capped in 2004, and the western and central portions of the site were resurfaced. The resulting elevations now range between 16 feet and 24 feet msl, with elevations on the eastern side of the site generally between about 13 and 14 feet msl.

Immediately northwest of the PPMT, a large hillside rises to an elevation of 327 feet. Adjacent to the PPMT, the hillside is owned by BP/Arco and is partially developed with a petroleum product tank farm with a dozen storage tanks of varying sizes. The rest of the hillside comprises the Miller/Knox Regional Shoreline Park owned by the East Bay Regional Park District (EBRPD). The PPMT is bounded on the east, south, and west by Bay waters. No terrestrial surface water bodies are present on or adjacent to the PPMT.

Flooding

The Federal Emergency Management Agency (FEMA) maps flood hazards throughout the country, including the City of Richmond and the surrounding areas. These flood hazard maps, known as Flood Insurance Rate Maps, or FIRMS, are used to identify flood-prone areas, with the most susceptible areas designated as special flood hazard zones. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. The 100-year (1 percent annual chance) has been adopted by FEMA as the base flood for floodplain management purposes. The 500-year flood (0.2 percent annual chance) is used to indicate additional areas of flood risk in a community. The FEMA map for the project area shows the PPMT site is unshaded Zone X, or “Areas determined to be outside the 500-year flood plain.”⁷

Storm Water Management System

The PPMT portion of the site is covered with impervious pavement and buildings and runoff from the site is directed to a series of inlets and storm drains that discharge to two outfall structures which discharge into the Richmond Inner Harbor of San Francisco Bay. As described in Chapter 14, Utilities, a storm drain runs roughly eastward from the

⁷ Federal Emergency Management Agency, *Flood Insurance Rate Map, City of Richmond, California, Contra Costa County, Community Panel Number 0600350030 C*, Revised September 7, 2001.

western portion of the PPMT and discharges into the Harbor Channel through an outfall structure near the north end of Berth 7. This east–west storm drain is 30 inches in diameter for a short distance between the western end of the PPMT and a junction with a 12–inch drain from the north. Between this junction and the middle of the PPMT, the east–west drain is 42 inches in size. Near the middle of the site, at a four–way junction, a short 18–inch storm drain joins the east–west drain from the north, and a 54–inch drain continues southward to discharge into the Richmond Inner Harbor through an outfall structure located to the west of the graving docks (basins 1–5). Near the outfall, the east–west drain is joined by a drain extending southward through the parking area adjacent to Berth 7.

With the exception of a drainage ditch running along Canal Boulevard, the BNSF Automotive Facility is entirely developed with pavement, rail tracks, and two buildings. The BNSF facility is served by a storm drain running southward along Canal Boulevard, which joins the 48–inch east–west drain mentioned above at a point south of the main gate to the PPMT.

There have been no problems associated with the storm drains at the project site and the drains have sufficient capacity to accommodate all site runoff.⁸ There are no known deteriorated lines or storm drains in need of repair.

11.3 MARINE HYDROLOGY/WATER QUALITY SETTING

WATER QUALITY

The Water Quality Control Plan for San Francisco Bay (Basin Plan) is the RWQCB’s master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters. The Basin Plan is periodically updated to include Total Maximum Daily Loads (TMDLs). TMDLs examine the water quality problems, identify sources of pollutants, and specify actions that create solutions. Section 303(d) of the federal Clean Water Act (CWA) requires that states develop a list of water bodies that do not meet water quality standards, identify the pollutants that impair them, and develop TMDLs, which are then adopted by the RWQCB as amendments to the Basin Plan. Central Bay and San Pablo Bay are on the 2006 impaired water body list for a variety of pollutants, as shown in Table 11–1.

⁸ Norman Chan, Port Engineer, Port of Richmond, personal communication, January 13, 2008.

Central Bay is on the 2006 303(d) list for chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, mercury, polychlorinated biphenyls (PCBs), and selenium. San Pablo Bay is on the 303(d) list for all the same pollutants listed for Central Bay, and for nickel.

Table 11-1
Proposed 2006 Section 303(d) List of Pollutants
for Central Bay and San Pablo Bay.

Pollutants/Stressors	Source
Chlordane (this listing was made by USEPA)	Nonpoint Source
DDT (Dichloro-Diphenyl-Trichloroethane) (this listing was made by USEPA)	Nonpoint Source
Dieldrin (this listing was made by USEPA)	Nonpoint Source
Dioxin Compounds (this listing was made by USEPA)	Atmospheric Deposition
Furan Compounds (this listing was made by USEPA)	Atmospheric Deposition
Mercury (current data indicate fish consumption and wildlife consumption impacted uses; health consumption advisory in effect for multiple fish species including striped bass and shark. Major source is historic; gold mining sediments and local mercury mining; most significant ongoing source is erosion and drainage from abandoned mines; moderate to low level inputs from point sources).	Industrial Point Sources
PCBs (polychlorinated biphenyls) (non dioxin-like) (interim health advisory for fish; uncertainty regarding water column concentration data)	Municipal Point Sources
Nickel (San Pablo Bay only) (this listing was made by USEPA)	Resource Extraction
PCBs (dioxin-like) (this listing was made by USEPA)	Atmospheric Deposition
Selenium (affected use is one branch of the food chain; most sensitive indicator is hatchability in nesting diving birds, significant contributions from oil refineries (control program in place) and agriculture (carried downstream by rivers); exotic species may have made food chain more susceptible to accumulation of selenium; health consumption advisory in effect for scaup and scoter (diving ducks); low TMDL priority because Individual Control Strategy in place).	Natural Sources

Sources: San Francisco Bay RWQCB, *Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments*, 2006.

Since 1993, the San Francisco Estuary Institute has conducted a Regional Monitoring Program (RMP) for monitoring trace substances in water, sediment, and bivalves.⁹ The 2006 results and an analysis of the data sets from 2002 to 2006 were published in December 2007.¹⁰ The RWQCB uses the data for regulatory purposes, such as evaluating the Bay for 303(d) listing of water bodies and estimating TMDLs. The RMP samples water and sediment in five hydrographic regions including San Pablo Bay and Central Bay. Surface water samples are analyzed for heavy metals, polycyclic aromatic hydrocarbons (PAHs), PCBs, DDT, pesticides, and hexachlorocyclohexane (HCH). In general, between 2002 and 2006, the RMP found that Central Bay had the lowest amounts of heavy metals and total organics in the water. Total concentrations of cadmium, copper, mercury, nickel, and zinc were relatively high in San Pablo Bay. Apart from two mercury samples in San Pablo Bay, none of the 2002–2006 samples exceeded regulatory water quality criteria for heavy metals. No project site-specific water quality data are available.

BATHYMETRY

The project site is located between Central San Francisco Bay (Central Bay) to the south and San Pablo Bay to the north. Central Bay contains some of the deepest portions of the Bay with water depths greater than 300 feet at the Golden Gate Bridge. San Pablo Bay consists of a deep-water (>40 feet) channel that runs through its southern half bordered by relatively broad and shallow areas, with depths less than 15 feet. Extensive mudflats on the periphery of the bay are exposed at low tide.

At the project site, ships approach the PPMT along a series of navigation channels, shown on Figure 11–1. Ships transit in a northerly direction along Southampton Shoal Channel before entering a maneuvering area adjacent to Long Wharf where they turn to the southeast along Richmond Harbor Entrance Channel. After a small dog-leg, ships then progress east into Richmond Inner Harbor, along Point Potrero Reach (between the mainland and Brooks Island and its western jetty) into Point Potrero Turn, where they turn to the north to enter Harbor Channel. The depths of each of these channels are provided in Table 11–2.

⁹ Bivalves are mollusks with two-part shells, such as scallops, clams, oysters, and mussels.

¹⁰ San Francisco Bay Regional Water Quality Control Board (RWQCB), *Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments*, 2006.

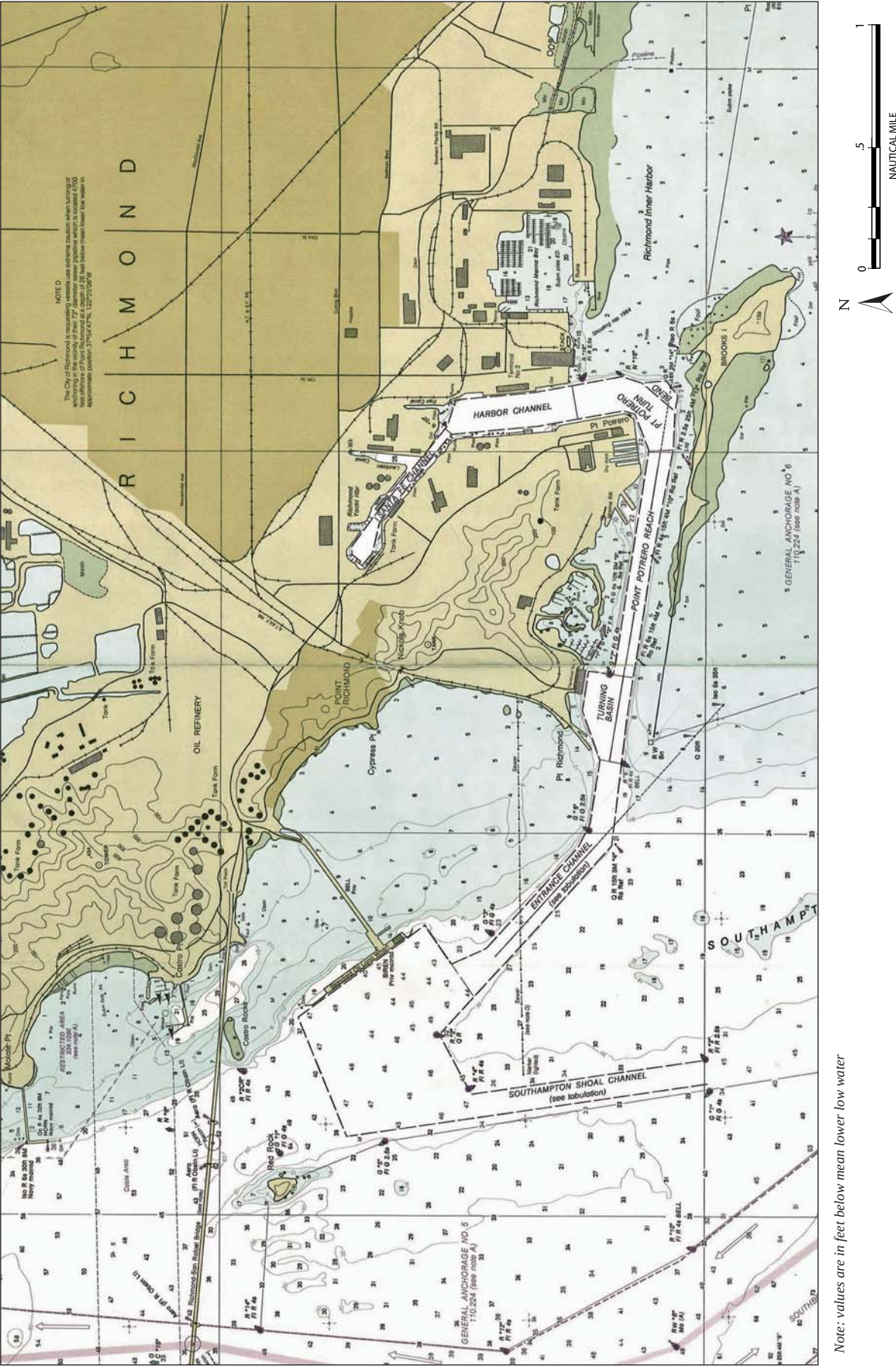


Figure 11-1

Project Site Bathymetry and Regulated Navigation Areas

Table 11-2
Channel depths adjacent to the PPMT (feet at MLLW)¹

Channel	Depth
Southampton Shoal Channel	44–45
Entrance Channel	37
Point Potrero Reach	37
Point Potrero Turn	36–37
Harbor Channel	36–37

Sources: NOAA, *Navigational Chart 18653*, 2005.

¹Mean Lower Low Water

Shallower subtidal areas are located adjacent to the channels in Richmond Inner Harbor and regionally to the north and south. Intertidal areas (i.e., areas exposed at low tide) occur to the north and south of Brooks Island and along the mainland east of the PPMT.

TIDAL RANGE

San Francisco Bay tides are characterized as mixed semidiurnal tides, with two high and two low tides of unequal height each day. The tides exhibit strong spring–neap variability on a two–week cycle. Spring tides exhibit the greatest difference between high and low tides while neap tides have a smaller than average range. The National Oceanic and Atmospheric Administration (NOAA) tidal datums for the 1983–2001 epoch for Richmond, Chevron Oil Pier, the nearest tide gauge, are summarized in Table 11–3. The mean tidal range (defined as mean high water minus mean low water) is 4.3 feet and the diurnal range (defined as mean higher high water minus mean lower low water) is 6.1 feet.

FRESHWATER INFLOW, CURRENTS, AND RESIDENCE TIME

An important parameter in water quality is residence time; characterized as the average length of time a water parcel or constituent spends in a given water body or region of interest. Residence time depends on the combination of freshwater inflow, tidal currents, and bathymetry (i.e., the measurement of depths).

Table 11-3
NOAA Tidal Datums for Richmond, Chevron Oil Pier

Tide Level		Elevation Relative To:	
		MLLW (feet)	NAVD88 (feet) ¹
MHHW	Mean Higher High Water	6.05	6.04
MHW	Mean High Water	5.45	5.44
MLW	Mean Low Water	1.13	1.12
MLLW	Mean Lower Low Water	0.0	-0.01

Source: NOAA Tides and Currents, Tidal Datum for Chevron Oil Pier Station 9414863, Accessed online at <http://tidesandcurrents.noaa.gov/> January 25, 2008.

¹ North American Vertical Datum of 1988

The most important factor affecting water quality in San Francisco Bay is the magnitude of freshwater inflow that enters San Pablo Bay and Central Bay from the Sacramento–San Joaquin Delta. The salinity of these Bays decreases with increases in freshwater Delta inflow as saltwater is flushed out, and salinity increases when freshwater inflow declines. Maintaining a sufficient Delta inflow of freshwater is important for dispersing and flushing contaminants from the Bay. Seasonally, residence time varies with freshwater inflows. The residence time is typically shorter during the winter and early spring wet periods and considerably longer during summer and/or drought years. Residence times for the northern reaches of San Francisco Bay can range from 2 to 14 days in the wet season and 20 to 30 days in the dry season. At the adjacent Long Wharf Marine Terminal, salinities of 5–10 parts per thousand (ppt) were reported during high Delta inflows and 25–33 ppt during low Delta inflows as described by Chambers Group¹¹.

Typical tidal current velocities in San Francisco Bay range from 0.5 feet per second in shallow waters (depths <10 feet) to more than 3.0 feet per second in channels (depths >10 feet), and near the Golden Gate. The orientation of the currents is generally directed parallel to the prevailing bathymetric contours. At Red Rock, approximately 3.5 miles west-northwest of the site, peak flood tide currents flow northwest, while peak ebb tide

¹¹ Chambers Group, Inc., *Final Addendum to the Draft Environmental Impact Report for the Chevron Richmond Long Wharf Marine Terminal Lease Consideration*, February 2007.

currents flow south. Ebb tidal currents at Red Rock can exceed 3.5 feet per second on spring tides.¹² At the project site, in Point Potrero Reach, currents are weak and variable and hence water residence times here (and in Harbor Channel) are longer than areas further Bayward, including Southampton Shoal Channel and Entrance Channel.

WINDS

The winds in San Francisco Bay exhibit both diurnal and seasonal trends, and are affected by local topography. At the project site, the average winds in the summer are from the west-southwest and southwest, as the westerly flow through the Golden Gate is deflected north by topography.¹³ The average hourly wind speed is approximately 9 to 18 miles per hour, although winds in excess of 20 miles per hour can occur. The daytime heating of air masses in the Central Valley causes the wind speed to increase greatly during the day, but winds remain relatively low and steady at night. This diurnal heating effect is less prominent in the winter season, when average wind speed is around 5 to 10 miles per hour. Winds from the south are the most critical for the project site, as the greatest wind-wave generation fetches (the unobstructed distance of sea over which the wind blows) occur in this direction.

WAVES

Wind waves generated in San Francisco Bay dominate the incident wave conditions at the project site. The irregular Bay shoreline limits the length of open water over which winds can generate waves that impinge on the shore. The longest fetch length is approximately 25 miles from a southerly direction. Brooks Island and its adjacent breakwater shelter the PPMT from waves from the south, and Point San Pablo headland shelters the site from waves from the north.

SEDIMENTATION AND DREDGING

Dredging activities in Point Potrero Reach and Harbor Channel are funded and performed by the U.S. Army Corps of Engineers. The Port of Richmond is contractually obligated to maintain a minimum depth at certain berths, and for the Honda project, this depth is approximately 32 feet below Mean Lower Low Water (MLLW).¹⁴ Maintenance dredging of the berths is typically performed every three to four years, but has been less frequent over the past decade. The most recent dredging of Berth 7 and Berth 6C (see

¹² *Ibid.*

¹³ National Oceanic and Atmospheric Administration (NOAA). *United States Coast Pilot 7, Pacific Coast: California, Oregon, Washington, Hawaii, and Pacific Islands*, 40th Ed., 2008.

¹⁴ Norman Chan, Port Engineer, Port of Richmond, personal communication, January 11, 2008.

Figure 3–3) occurred in 1998.¹⁵ The dredging process comprises testing of sediment, obtaining permits, dredging, and disposal.

11.4 REGULATORY FRAMEWORK

The following sections summarize the regulatory requirements for the project including the laws, regulations, plans, policies, agencies, and programs that are implemented at the Federal, State, local and regional levels.

FEDERAL REGULATIONS AND AGENCIES

Federal Clean Water Act

The purpose of the Clean Water Act is to protect and maintain the quality and integrity of the nation's waters by requiring states to develop and implement state water plans and policies. Section 303 of the Clean Water Act requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all waters of the United States. Pursuant to Section 303(d) of the Clean Water Act, states, territories and authorized tribes are required to develop lists of impaired waters. Impaired waters are those that do not meet water quality standards, even after point sources of pollution have installed the required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waterways on the lists and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDL) that set waste load allocations for point source and load allocations for non-point source pollutants. The Ducheny Bill (AB 1740) requires the State Water Resources Control Board (State Board) and its nine Regional Water Quality Control Boards to post this list and to provide an estimated completion date for each TMDL. TMDLs for San Francisco Bay are summarized in Table 11–1.

National Pollutant Discharge Elimination System

Part of the Clean Water Act provides for the National Pollutant Discharge Elimination System (NPDES), in which discharges into navigable waters are prohibited except in compliance with specified requirements and authorizations. Under this system, municipal and industrial facilities are required to obtain an NPDES permit that specifies allowable limits, based on available wastewater treatment technologies, for pollutant levels in their effluent. In California, US EPA has delegated the implementation of this program to the State Board and to the Regional Boards.

¹⁵ *Ibid.*

Stormwater discharges are regulated somewhat differently. Stormwater runoff from construction areas of 1 acre or more requires either an individual permit or coverage under the statewide General Construction Stormwater Permit. In addition, specific industries, including wastewater treatment plants that have direct stormwater discharges to navigable waters are required to obtain either an individual permit issued by the Regional Board, or obtain coverage under the Statewide General Industrial Storm Water Permit for stormwater discharges.

Environmental Protection Agency (US EPA)

The US EPA is responsible for implementing federal laws designed to protect air, water, and land. While numerous federal environmental laws guide US EPA's activities, its primary mandate with respect to water quality is the Clean Water Act. US EPA has developed national technology-based standards and states have developed water quality standards in accordance with the Clean Water Act. US EPA also has authority to establish water quality standards if a state fails to do so. US EPA has established such standards for certain toxic pollutants applicable to California waters, in the National Toxics Rule (NTR) and California Toxics Rule (CTR). These standards are used to determine the amount and the conditions under which pollutants can be discharged.

On April 28, 2000 the Office of Administrative Law approved the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy). The State Water Resources Control Board adopted the policy in March 2000. On May 18, 2000, the US EPA published in the Federal Register the California Toxics Rule establishing water quality standards for toxic pollutants for California waters (FR 31681). The CTR was effective on the date of publication. The State Implementation Policy (SIP) (discussed below) became fully effective on May 18, 2000 because it was conditioned on the effective date of the CTR.

Federal Emergency Management Agency (FEMA)

Under Executive Order 11988, FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year (also termed the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. In Contra Costa County, construction requirements are contained in the Floodplain Management Ordinance, adopted in 1982. Along with construction standards, the ordinance also specifies that a Floodplain Permit must be obtained prior to any grading within the 100-

year floodplain. As summarized above, the project site is not located within a 100-year floodplain.

International Maritime Organization (IMO)

The International Maritime Organization (IMO) regulates pollutant discharges from ships. The IMO is an agency of the United Nations, with 167 Member States including the U.S. The main task of the IMO is to develop and maintain a comprehensive regulatory framework for shipping, including safety and environmental concerns. The result is a comprehensive body of international conventions supported by member states that govern every facet of shipping including pollution generated by ships. The International Convention for the Prevention of Pollution from Ships (MARPOL), which was adopted by IMO in 1973, is an international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

STATE REGULATIONS AND AGENCIES

McAteer–Petrís Act

The McAteer–Petrís Act of 1965 established the Bay Conservation and Development Commission (BCDC) as a temporary State agency in charge of preparing the *San Francisco Bay Plan* (Bay Plan). In 1969, the Act was amended to make BCDC a permanent agency and to incorporate the policies of the Bay Plan into State law.

Under the McAteer–Petrís Act and the Bay Plan, any agency or individual proposing to place fill in, to extract materials from, or to substantially change the use of any water, land or structure in BCDC’s jurisdiction is required to secure a San Francisco Bay Permit. BCDC grants San Francisco Bay permits for projects that meet either of the following guidelines:

- The project is necessary to the safety, welfare, or health of the public in the entire Bay Area; or
- The project is consistent with the provisions of the implementing regulations and the Bay Plan.

The types of San Francisco Bay permits include region-wide, administrative, and major permits. The type of permit issued depends on the nature and scope of the proposed activities. Additional information of the Bay Plan requirements and policies is provided in Chapter 4, Land Use and Planning.

Porter–Cologne Act

The State Board and the Regional Boards share the responsibility under the Porter–Cologne Act to formulate and adopt water policies and plans, and to adopt and

implement measures to fulfill Clean Water Act requirements. Specific to the proposed project area, the *Regional Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) serves to protect the water quality of the state consistent with identified beneficial uses. The Basin Plan and the NPDES permit regulate stormwater discharge from the site into San Francisco Bay.

State Water Resources Control Board

The State Board administers water rights, water pollution control, and water quality functions Statewide. The State Board provides policy guidance and budgetary authority to nine Regional Boards, which conduct planning, permitting, and enforcement activities. The State Board shares the authority for implementation of the Clean Water Act and the State Porter–Cologne Act with the Regional Boards. The water quality near the PPMT is under the jurisdiction of the San Francisco Bay RWQCB.

Enclosed Bays and Estuaries Plan

Developed to apply Statewide to all enclosed bays and estuaries, the *Enclosed Bays and Estuaries Plan* was one of the water quality policies that the State Board developed for California. As defined by the State Board, enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. San Francisco Bay and its constituent parts fall under this category. However, State water quality control plans with water quality criteria for priority toxic pollutants were subsequently invalidated by a State court order in 1994.

Antidegradation Policy

The State of California has developed an Antidegradation Policy, which is consistent with the federal policy under 40 CFR 131.12. The Antidegradation Policy requires waste discharge requirements for any activity which may produce increased volumes or concentrations of waste discharge in high quality waters (SWRCB Resolution No. 68–16). The Antidegradation Policy applies to inland surface waters, ocean waters, and groundwater. Should there be a potential for significant increase in effluent pollutant discharge, the RWQCB may require an industrial discharger to submit an Antidegradation Report, which would address mass increases of pollutants discharged and propose new treatment process units, if necessary, to maintain water quality. The purpose of the Antidegradation assessment and report is to ensure that before any changes in discharge volume or concentration are implemented under the NPDES permitting process, there is sufficient data indicating that existing water quality can be maintained.

Water Quality Control Plan for the San Francisco Region (Basin Plan)

The RWQCB is responsible for developing and implementing the *Water Quality Control Plan for the San Francisco Region* (Basin Plan), which documents approaches to implementing State and federal policies in the context of actual water quality conditions. The Regional Board's other activities include permitting of waste discharges, and implementing monitoring programs of pollutant effects.

The Basin Plan has been adopted and approved by the State Water Resources Control Board, U.S. Environmental Protection Agency, and the Office of Administrative Law where required. The latest version is effective as of December 22, 2006. The Basin Plan identifies beneficial uses of receiving waters, water quality objectives imposed to protect the designated beneficial uses, and strategies and schedules for achieving water quality objectives. Section 303 (c) (2) (B) of the Clean Water Act requires Basin Plans to include water quality objectives governing approximately 68 of US EPA's list of 126 pollutants.

Water Quality objectives are achieved primarily through the establishment and enforcement of Waste Discharge Requirements (WDRs) for each wastewater discharger. The Basin Plan was amended in 1992 to include stricter water quality criteria that had been previously adopted in 1991 *Enclosed Bays and Estuaries Plan*, and although the *Enclosed Bays and Estuaries Plan* was later invalidated by court order, certain water quality criteria that were based on that plan remain in the Basin Plan. State policy for water quality control in California is directed toward achieving the highest water quality consistent with maximum benefit to the people of the State. Therefore, all water resources must be protected from pollution and nuisance that may occur from waste discharges. Beneficial uses of surface waters, ground waters, marshes, and mud flats serve as a basis for establishing water quality standards and discharge prohibitions to attain this goal.

Waste Discharge Requirements (Point Source)

Point source discharges are subject to federal regulations that are implemented at the State level by the RWQCB. Prior to any point source discharge that could affect the quality of the water of the State, the discharger must file a report of waste discharge with the Regional Board. After any necessary public hearings, the RWQCB prescribes Waste Discharge Requirements, which implement the water quality control plans. Under the Porter-Cologne Act, WDRs serve as NPDES permits.

Another point source control strategy of the State is the requirement to use site-specific Best Management Practices (BMPs) and a Storm Water Pollution Prevention Plan (SWPPP). These individual or combined measures are those that are the most practical and effective which, when applied, prevent or minimize the potential release of toxic or

hazardous pollutants in significant amounts to discharge waters. A Best Management Practices Program is required to include information of potential releases and management of solid and hazardous waste.

State Implementation Policy (SIP)

The SIP, also implemented by the RWQCB, establishes the policy for determining effluent limitations for toxic pollutants. The SIP establishes the implementation policy for all toxic pollutants including dioxins and furans. The SIP also requires monitoring for a minimum of 3 years by all major NPDES dischargers for the seventeen dioxin and furan compounds, whether or not a limit is necessary to prevent exceedance of the water quality standard that has been established for one of the dioxin compounds (2,3,7,8-TCDD). In summary, the steps involve:

- identifying applicable criteria and objectives;
- determining whether there is a reasonable potential for the pollutant to cause or contribute to exceedance of a water quality criterion or objective; and
- calculating a value for the effluent limit, taking into consideration the applicable criteria or objective and discharge variability; or
- if a TMDL is in effect, assigning a portion of the loading capacity to the discharge.

Marine Invasive Species Act (MISA)

The California Marine Invasive Species Act (MISA) of 2003 which became effective January 1, 2004, revised and expanded the Ballast Water Management for Control of Nonindigenous Species Act of 1999. The MISA specifies mandatory mid-ocean exchange or retention of all ballast water for vessels carrying ballast water into California waters after operating outside the U.S. Exclusive Economic Zone (EEZ) declared by Presidential Order in 1983. The EEZ includes the sea floor extending 200 nautical miles away from the U.S. coastline, including around all U.S. possessions and trust territories. For vessels coming from other west coast ports, the act requires minimization of ballast water discharges in State. However, beginning March 22, 2006, all vessels operating within the Pacific Coast Region have been required to manage ballast water. Management options include retention of all ballast water or exchange of ballast water in near-coastal waters before entering the waters of the State, if that ballast water has been taken on in a port or place or within the Pacific Coast region. All vessels are required to complete and submit a ballast water reporting form, maintain a vessel-specific ballast water management plan and ballast tank log book, remit the necessary fee to the Board of Equalization, and submit to compliance verification inspections.

California Clean Coast Act

The California Clean Coast Act went into effect January 1, 2006, and has several requirements to reduce pollution of California waters from large vessels. The California Clean Coast Act prohibits the operation of shipboard incinerators within 3 miles of the California coast, prohibits the discharge of hazardous wastes, other wastes or oily bilge water into California waters or a marine sanctuary, prohibits the discharge of gray water and sewage into California waters from vessels with sufficient holding tank capacity or vessels capable of discharging gray water and/or sewage to available shore-side reception facilities, requires reports of prohibited discharges to the California State Water Resources Board, and submission of an information report to the California State Lands Commission (CSLC).

REGIONAL AND LOCAL WATER QUALITY REGULATIONS

Bay Conservation and Development Commission (BCDC)

The 27-member San Francisco BCDC was created by the McAteer-Petris Act of the California Legislature in 1965 in response to broad public concern over the future of San Francisco Bay. The Commission is made up of appointees from local governments and State/federal agencies. The Commission, among other responsibilities, is charged with:

- Regulating new development within the first 100 feet inland from the Bay to ensure that maximum feasible public access to the Bay is provided.
- Pursuing an active planning program to study Bay issues so that Commission plans and policies are based upon the best available current information.
- Administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.
- Participating in California's oil spill prevention and response planning program.

The BCDC's *San Francisco Bay Plan*, adopted in 1968, provides policies to guide future uses of the Bay and shoreline. BCDC regulates all Bay dredging and filling to protect marshes, wetlands, and other resources of the Bay. Its jurisdiction includes all areas of the Bay below the line of highest tidal action as well as 100 feet inland from the line of highest tidal action. Policies within the Plan indicate that "pipeline terminal and distribution facilities near the Bay should generally be located in industrial areas" and that "marine terminals should also be shared as much as possible among industries and port uses." The Land Use and Planning chapter (Chapter 4) provides much more information on BCDC policies applicable to the proposed project.

Contra Costa Clean Water Program

The Contra Costa Clean Water Program was established as the local entity responsible for implementing compliance with the federal Clean Water Act to control stormwater pollution. It is comprised of Contra Costa County, 16 incorporated cities, and the Contra Costa County Flood Control and Water Conservation District. The program is being conducted in compliance with the municipal NPDES Permit No. CAS0029912 issued by the San Francisco Bay RWQCB. The permit contains a comprehensive plan to reduce the discharge of pollutants to the “maximum extent practicable” and mandated that participating municipalities implement an approved stormwater management plan by September 1, 1993. The program incorporates BMPs that include construction controls (such as a model grading ordinance), legal and regulatory approaches (such as stormwater ordinances), public education and industrial outreach (to encourage the reduction of pollutants at various sources), inspection activities, wet-weather monitoring, and special studies.

In February 2003, the California Regional Water Quality Control Boards for the San Francisco Bay Region and the Central Valley Region revised Provision C.3 in the NPDES permit governing discharges from the municipal storm drain systems of Contra Costa County and cities and towns within the County. The permit provision was phased in from 2004 through 2006. The C.3 requirements are separate from, and in addition to, requirements for erosion and sediment control and for pollution prevention measures during construction. These requirements are applicable to any project that results in the creation or replacement (other than normal maintenance) of at least 10,000 square feet of impervious surface area (roofs, streets, patios, parking lots, etc.).

In accordance with these requirements, project site designs must minimize the area of new roofs and paving. Where feasible, pervious surfaces should be used instead of paving so that runoff can percolate to the underlying soil. Runoff from impervious areas must be captured and treated. The permit specifies ways to calculate the required size of treatment devices. Projects may also be required to detain or infiltrate runoff so that peak flows and durations match pre-project conditions. In addition, project applicants must prepare plans and execute agreements to ensure the stormwater treatment and flow-control facilities are maintained in perpetuity.

City of Richmond and Port of Richmond Storm Water Management Plan

The City of Richmond prepared a Stormwater Management Plan (SWMP) that describes the activities that the City will undertake to control discharges of pollution to the storm drain system. In conjunction with the SWMP, the City has determined that the commercial and industrial facilities occupying land leased by the Port of Richmond have

significant or potentially significant sources of pollution discharge to the storm drain system and thus to San Francisco Bay. Therefore, each Port lessee is required to prepare a Stormwater Discharge Application and a Stormwater Pollution Prevention Plan (SWPPP), which is intended to be a brief description of the practices that will be implemented at the facility to control pollution discharges to the storm drain system. These lessees will submit a SWPPP prepared under the auspices of the General Permit to the RWQCB and the Port of Richmond. Those facilities not covered by the General Permit will follow guidelines contained in Port of Richmond Storm Water Management Plan and, in more detail, in the City of Richmond Commercial and Industrial Stormwater Inspection and Control Program (CISWICP), in preparing a SWPPP for submittal to the City and the Port.

11.5 STANDARDS OF SIGNIFICANCE

Significance criteria were derived from Section 15064 and Appendix G of the *CEQA Guidelines*. Impacts to hydrology and water quality would be considered significant if the project were to:

- substantially degrade the quality of the environment;
- have environmental effects that are individually limited but cumulatively considerable; or
- have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

In addition, for the purposes of this analysis, the project would be determined to have significant adverse effects if it were to:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- substantially alter the existing drainage pattern on the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on-or off-site;
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- place housing or structures within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- place structures within a 100-year flood hazard area that would impede or redirect flood flows;

- expose of people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

When evaluating the potential project impacts, it was assumed that the project applicant would comply with all applicable federal, state, and local regulatory requirements that protect surface water and groundwater. In accordance with the CWA, the applicant will prepare and implement a SWPPP that will include BMPs to minimize construction impacts on surface water and groundwater quality. The SWPPP will be prepared once the project is approved and after project facilities are sited and designed. The SWPPP will be subject to review and approval by Contra Costa County.

11.6 IMPACTS AND MITIGATION MEASURES

The site is almost entirely covered with impervious surfaces that limit groundwater recharge and groundwater will not be used for the project; there would therefore be no project impacts on groundwater resources. There are no creeks or other natural drainages located within the vicinity of the project and surface water is limited to runoff from storm events. The site is almost entirely covered with impervious surfaces that will not be substantially changed or modified during construction. With the exception of potential erosion or siltation during construction, which is addressed below by Impact and Mitigation Measure 11-1, any project impacts to the drainage patterns of the site would be *de minimus*, and essentially nonexistent. The project is not located within a flood zone and does not include housing. The project is not located downstream of a dam or a levee and is not located within a dam failure inundation area. Therefore, there would be no flooding impacts on or associated with the proposed project.

CONSTRUCTION IMPACTS

Impact 11-1

Site preparation and construction could contribute to accelerated soil erosion, downstream sedimentation, and reduced surface water quality. (LTSWM)

Earthwork and grading within the PPMT rail yard and BNSF auto terminal would require excavation and stockpiling of about 57,000 yards of soil and asphalt. The asphalt is expected to comprise about 25 percent of the total (about 14,250 yards) and would be re-used for the project. The remaining 42,750 yards of soil would be removed from the project area for re-use or disposal. Imported rail ballast stone and other aggregates could also require temporary onsite stockpiling during construction. Uncontrolled runoff from open excavations or soil, asphalt, ballast stone, and aggregate stockpiles could lead to increased turbidity, sedimentation, and water quality degradation. This would be a

potentially significant impact. Implementation of the following mitigation measure would reduce the impact to a *less-than-significant* level.

Mitigation Measure 11-1

A Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and Stormwater Control Plan (SCP) shall be prepared by the applicant and submitted along with grading permit applications. The SWPPP provides for temporary measures to control sediment and other pollutants during construction at sites that disturb 1 acre or more and the SCP specifies permanent controls that should last for the life of the project. The requisite plans shall be prepared in accordance with the standards provided in the Association of Bay Area Government's Manual of Erosion and Sedimentation Control Measures (ABAG, 1995). Implementation of the plan will help stabilize graded and stockpile areas and reduce erosion and sedimentation. The plans will designate Best Management Practices (BMPs) that shall be adhered to during construction activities. Erosion minimizing efforts such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions (for example, flagging), and/or retention/settlement areas shall be implemented as necessary before the onset of inclement weather. Mulching, seeding, or other suitable stabilization measures shall be used to protect exposed areas during construction activities. The plans shall incorporate requirements of the Contra Costa County Clean Water Program and the Port of Richmond Stormwater Management Plan.

OPERATIONAL IMPACTS

Impact 11-2

Site preparation, construction, and operations could create or contribute runoff water that could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. (LTSWM)

As summarized above, excluding the submerged areas, the site occupies approximately 110 acres (4,791,600 square feet) and is covered almost entirely with impervious pavement and buildings. There have been no problems associated with the storm drains at the project site and the drains have sufficient capacity to manage all site runoff.¹⁶ The project would include about 9,625 square feet of new impervious surface that would be associated with construction of a new rail yard at the PPMT; this area is shown on Figure 11-2. This is lower than the NPDES C.3 10,000-square-foot threshold and would result in a net impervious surface area increase of only about 0.2 percent. However, the NPDES C.3 requirements (see discussion in Section 11.4) also applies if replacement of existing impervious surfaces (excluding routine maintenance) would exceed 10,000 square feet. As currently planned, construction of the rail yard at the PPMT, the additional loading tracks at the BNSF facility, and the lead tracks connecting the two facilities, would entail removal of the existing pavements and replacement with new pavement and tracks. If it

¹⁶ Mary Phelps, Wastewater Project Manager, Engineering Division, City of Richmond, personal communication, June 27, 2008.

proves feasible, an alternative approach may be taken whereby the new rail facilities would be constructed on top of the existing pavements. Under either scenario, substantially more than 10,000 square feet of existing impervious pavement would be replaced. The Contra Costa Clean Water Program generally considers projects that would exceed the C.3 requirements to have potentially significant impacts on water quality unless mitigated through satisfactory implementation of the C.3 stormwater treatment requirements.¹⁷ Accordingly, the project would have a *potentially significant impact* on water quality; implementation of the following measure would reduce the impact to a *less-than-significant* level.

Mitigation Measure 11-2

Prior to issuance of a grading permit, the project applicant shall prepare a Stormwater Control Plan (SCP) and submit it to the Richmond Planning Department for review and approval. The SCP shall be prepared in accordance with the Contra Costa Clean Water Program (CCCWP) and the requirements set forth in the CCCWP's Stormwater C.3 Guidebook (Third Edition, 2006, plus updates and errata). The SCP shall provide for natural onsite treatment of 80 percent of the average annual stormwater runoff from the new and replacement impervious surfaces (i.e., pavements) created by the proposed project, and shall identify flow controls to ensure that the rate and duration of stormwater runoff does not exceed the calculated pre-project rates and durations. Implementation of Integrated Management Practices (IMPs), such as grassy swales, bioretention areas, and planter boxes, is recommended by the CCCWP as the most cost-effective way to comply with the Stormwater C.3 requirements. The SCP shall be prepared by a qualified civil engineer, architect, or landscape architect. The applicant shall demonstrate to the Richmond Planning Department via drawings and engineering calculations that the proposed project includes site design features sufficient to capture and treat on site all stormwater runoff from the project site, in compliance with Provision C.3 of the CCCWP. Landscape features shall be used in lieu of structural features to the degree feasible. The design approach must ensure that the proposed treatment features would not decrease stability of the slopes on the site or create significant erosion. As part of compliance with the CCCWP Stormwater C.3 requirements, the property owner (Port of Richmond) shall execute and implement a maintenance agreement with the City of Richmond to provide for the maintenance of all onsite stormwater treatment features and devices in perpetuity, including specification of how the maintenance will be financed. Prior to issuance of the building permit, the property owner or applicant shall provide proof of recording this agreement from the County Assessor's Office. The property owner or applicant shall submit to the City of Richmond Planning Department annual certificates of compliance with the operations and maintenance requirements stipulated in the maintenance agreement.

Impact 11-3

Implementation of the project could expose people or structures to inundation by seiche, tsunami, or mudflow. (LTS)

¹⁷ Contra Costa Clean Water Program, *Stormwater C.3 Guidebook*, Third Edition, October 2006.

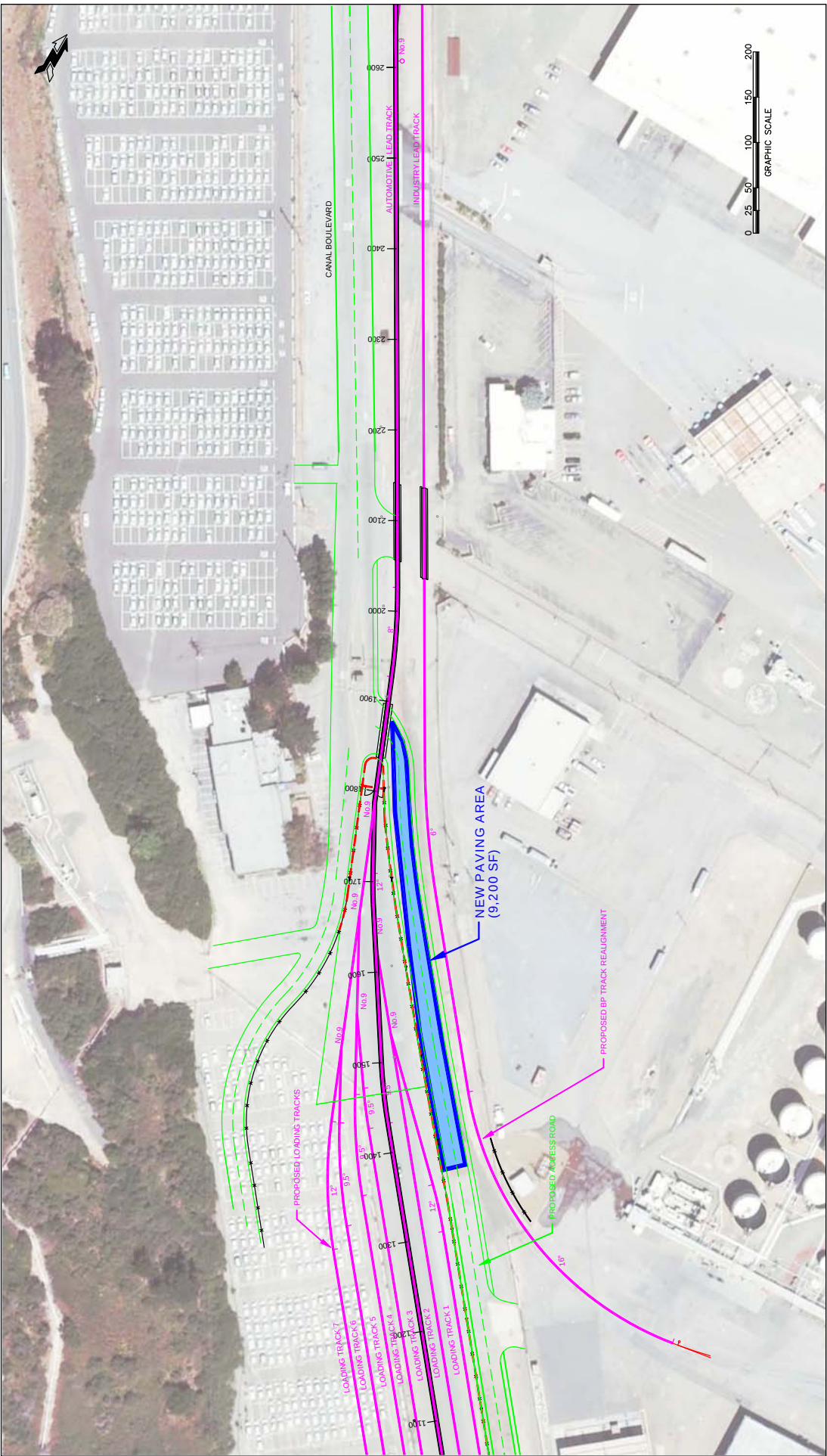


Figure 11-2

Proposed New Pavement at the PPMT

Tsunamis (seismic sea waves) are long-period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled but are still at or near sea level. There have been 19 recorded tsunamis in the Bay Area during the period of 1868 to 1968. The maximum wave height associated with these tsunamis was just under 15 feet at the Golden Gate Tide Gage in 1868.¹⁸ After natural attenuation across the Bay, estimates have been made that the wave height was approximately half that on the Richmond shoreline and reduced to nothing by the time it reached the Carquinez Strait.¹⁹ Based on this scenario, an approximately 7.5 foot high wave could be generated at the project site. This wave would be about 8.5 feet below the elevation of the site. Additionally, it is likely that the wave would be attenuated by Brooks Island before reaching the site. Therefore, the potential impact of a tsunami would be *less than significant*.

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. No seiches have ever been recorded in the Bay Area. Due to the relatively large size of San Francisco Bay with an inlet to the south and an outlet to the west, there is little potential for a seiche wave to occur in the Bay. Therefore, potential seiche impacts would be *less than significant*.

Mitigation Measure 11-3

None required.

Impact 11-4

The proposed project would increase ship traffic at the project site, which could potentially increase the introduction of pollutants into Bay waters due to accidental spills during routine maintenance. (LTS)

Minor repair and routine maintenance of the ships would occur at berth. Hazardous materials used on board include paints, thinners, and lubricating oils, and accidental spills of these materials could occur due to operator error. Mitsui O.S.K. Lines (MOL) and Kawasaki Kisen Kaisha Marine Freight Shipping (K-Line) implement best management practices (BMPs) to reduce the potential for accidental releases of these materials to Bay waters, in accordance with the International Maritime Dangerous Goods Code of the

¹⁸ California Geological Survey, Historic Tsunamis of California, http://www.consrv.ca.gov/CGS/geologic_hazards/Tsunami/About_Tsunamis.htm#Historic%20Tsunami%20in%20California; 2005, accessed March 3, 2008.

¹⁹ Contra Costa County, *Contra Costa County General Plan 2005-2020*, Safety Element, January 2005.

International Maritime Organization (IMO).^{20, 21} Storage of paints and thinners is in segregated store rooms equipped with fire detection and extinguishing systems. Any spill within a segregated storeroom would be contained within the storeroom, isolated from the Bay. All vehicle maintenance is conducted on land, not on-board the vessel. Signs are posted to educate all workers to the importance of preventing contaminants from entering the Bay. Continued implementation of these BMPs by the proposed car carriers would be sufficient to consider the impact of accidental spills as *less than significant*.

Mitigation Measure 11-4

None required.

Impact 11-5

The proposed project would increase ship traffic at the project site, which could result in an accidental release of fuel oil along shipping routes either in San Francisco Bay or outer coastal waters. (LTS)

Degradation of water quality could result from leaks or other accidental release of fuel from a vessel in transit or at dock. A larger fuel spill is more likely to occur in transit than at dock, and could have considerable impacts on water quality in San Francisco Bay. Both MOL and K-Line plan the position of fuel tanks in the vessel structure to minimize the risk of spilling oil into the Bay in case of grounding or collision with another vessel or structure. On the car-carrying ships of MOL, the fuel tanks used to be placed under the lowest of about ten car decks. On car-carriers launched by MOL since 2004, the fuel tank is placed where the lowest car deck would normally be, in effect creating a double hull.²² K-Line operates some vessels that are designed with a double hull and others without. However, future K-Line vessels will be built with the double hull feature.²³ In addition, MOL and K Line have contracts with authorized consultant companies (O'Brien's Oil Pollution Service and/or ECM Maritime Services) for oil spill in the U.S (including San Francisco Bay). All of the vessels have an Oil Spill Contingency Plan on-board as required by regulations set by the IMO convention of Safety of Life at Sea (SOLAS), and the vessels carry out monthly drills for oil spill prevention, based on SOLAS regulations. The potential for a fuel spill is considered highly unlikely. Based on the operational and equipment precautions that would be in place, accidental release of fuel oil by ships traveling between Japan and the PPMT would be a *less-than-significant impact*.

²⁰ Nick Mori, Assistant Manager, Mitsui O.S. K. Lines (MOL), personal communication, January 29, 2008.

²¹ Raymond Leonard, Vice-President, Kawasaki Kisen Kaisha Marine Freight Shipping (K-Line), personal communication, April 15, 2008.

²² Nick Mori, *op. cit.*

Mitigation Measure 11-5

None required.

Impact 11-6

The proposed project would increase ship traffic at the project site, which increase the introduction of toxic marine anti-fouling paint into San Francisco Bay. (LTS)

The fuel efficiency of a car-carrying ship declines when barnacles and marine plants attach to the bottom of the vessel and increase the hull's resistance as it travels through the water. The traditional approach to this problem has been to coat ship hulls with marine anti-fouling paints containing tributyltin (TBT) which is toxic to marine life. The paints may also contain copper, sodium, and zinc, as active ingredients. In the late 1980s, TBT was recognized as a substance that poses risks to human health and the International Maritime Organization (IMO) launched an initiative to limit its use. In 2001, the IMO adopted a treaty banning the use of TBT paints as of January 2003 (International Convention on the Control of Harmful Anti-Fouling Systems on Ships), and requiring elimination of TBT paint from vessels or overlaying coatings to prevent TBT from leaching into seawater, effective January 2008. The IMO has no conventions regarding the use of copper, sodium, and zinc.

In Japan, marine-related industries teamed up to effect a complete ban on the use of TBT paint on newly constructed vessels and those being repaired in Japan, starting in 1990. MOL changed to TBT-free (TF) paint on new vessels starting in 1999, and has moved forward to repaint vessels dry-docked overseas with TF paint since 2000. As a result, MOL completed the switch to TF paint on all its managed vessels by 2005.²⁴ All ships owned and managed by K-Line are also coated with TF paints. K-Line also implements the use of environmentally friendly paints, such as tar-free paints, which were introduced during new builds in 2006.²⁵

Given the ship carriers' compliance with the IMO convention to ban TBT-based paint, the potential for project ships to leach chemicals from anti-fouling paints into San Francisco Bay would be a *less-than-significant impact*.

Mitigation Measure 11-6

None required.

²³ Raymond Leonard, *op. cit.*

²⁴ Nick Mori, Assistant Manager, Mitsui O.S. K. Lines (MOL), personal communication, March 19, 2008.

²⁵ Raymond Leonard, *op. cit.*

Impact 11-7

The proposed project would increase ship traffic at the project site, which result in a local increase in turbidity from vessel maneuvers in Harbor Channel and at the PPMT berths. (LTS)

Transit and berthing operations in Harbor Channel could result in resuspension of unconsolidated bottom sediment due to propeller wash, increasing turbidity local to the project site. While the propeller wash from tugs is near-surface and is likely to have only a small effect on bottom sediments, the larger propellers of the deeper-draft car-carrying ships are closer to the bed and could potentially erode bottom sediments and create a small plume in the immediate vicinity of vessel operations. In the Harbor Channel, the suspended sediments would be dispersed only short distances because the tidal currents are weak. In both the Harbor Channel and the berthing areas, the plume would be short-lived because suspended sediment would settle back to the bed rapidly once maneuvering operations cease. Such operations occur within Harbor Channel on a daily basis; the proposed project result in an incremental increase in the frequency of this local ship traffic. Because turbidity due to propeller wash would be localized and temporary, this would be a *less-than-significant impact*.

Mitigation Measure 11-7

None required.

CUMULATIVE IMPACTS

Impact 11-8

The increased ship traffic that would occur as a result of project implementation could potentially increase the cumulative impact of contaminants on San Francisco Bay water quality. (LTS)

The water quality of San Francisco Bay has been degraded by inputs of pollutants from a variety of sources. Major sources of contaminants include municipal wastewater and industrial discharges, air pollutants, and a variety of nonpoint sources such as urban and agricultural runoff.²⁶ The current levels of many contaminants in the Bay exceed the water quality objectives in the *Water Quality Control Plan for San Francisco Bay* (Basin Plan).²⁷ Table 11-1 describes the contaminants of particular concern in Central Bay and San Pablo Bay.

²⁶ San Francisco Bay Regional Water Quality Control Board (RWQCB), *Water Quality Control Plan (Basin Plan)*, 2007.

²⁷ San Francisco Bay Regional Water Quality Control Board (RWQCB), *Proposed 2006 CWA Section 303(d) List of Water Quality Limited Segments*, 2006.

The Basin Plan describes the RWQCB regulatory programs and specific plans of action for meeting water quality objectives and protecting beneficial uses in San Francisco Bay (see the Water Quality discussion in Section 11.3 for additional information). The Plan adopts a watershed management approach for water quality control that includes prohibitions related to discharge. Prohibited substances that cannot be discharged from watershed sources include, but are not limited to:

- all toxic substances above those levels which can be achieved by a program acceptable to the RWQCB, to waters of the Bay;
- biocides of a persistent or cumulative form, which have particular characteristics of concern to beneficial uses; or
- oil or any residual product of petroleum to the waters of the State.

The Basin Plan does not impose regulatory requirements specific to discharge of pollutants into the Bay from vessels or marine traffic. The Basin Plan focuses on regulation of pollution from watershed sources and suggests that the federal government regulates waste discharges from vessels.

The IMO regulates pollutant discharges from ships at the federal level. The project ships would incorporate best management practices (BMPs) to reduce project-specific impacts to water quality following IMO conventions. Storage of paints and thinners in segregated store rooms follows the IMO International Maritime Dangerous Goods Code. All vessels carry an onboard Oil Spill Contingency Plan and carry out monthly drills for oil spill prevention following IMO SOLAS regulations. Avoiding TBT-based paint on all vessels comply with the International Convention on the Control of Harmful Anti-Fouling Systems on Ships. In all these respects the vessel operations are compliant with the MARPOL convention for the prevention of pollution by ships.

As discussed above for Impacts 11-1, 11-2, and 11-3, the effects of the project alone would be less than significant. Although a cumulative problem already exists due to other projects, the incremental contribution of the project to the cumulative effect would not be cumulatively considerable because the BMPs implemented by the project would comply with the requirements in approved plans (Basin Plan and IMO MARPOL Convention), which would avoid or substantially lessen the cumulative problem.²⁸ This would therefore be a *less-than-significant impact*.

²⁸ CEQA Guidelines, Section 15064(h)(3).

Mitigation Measure 11-8

None required.

12. HAZARDS AND HAZARDOUS MATERIALS

12.1 INTRODUCTION

This chapter describes the potential for hazardous materials or other hazards to affect human health and the environment at the project site. Contaminated soil and groundwater from historic releases of hazardous materials at the project site were remediated by capping in the past. There may be a potential for construction workers and future workers to be affected by residual concentrations of these contaminants in the subsurface during and following site development. Refer to Chapter 10, Geology And Soils, for a description of potential hazards related to seismicity, liquefaction, slope instability, and erosion conditions at the project site. Risks associated with flooding are analyzed in Chapter 11, Hydrology And Water Quality. Information provided in this chapter is based on results of a Phase I Environmental Site Assessment (ESA) conducted for the project site by Gribi Associates, a Registered Environmental Assessor (REA).¹

12.2 SETTING

REGULATORY FRAMEWORK

A myriad of laws and regulations at the federal, State, and local levels affect the management of hazardous materials. In California, the U.S. Environmental Protection Agency (US EPA) has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (Cal EPA). Cal EPA has, in turn, granted authority for implementation and enforcement of many hazardous materials regulations in Contra Costa County to the Hazardous Materials Program of Contra Costa County Health Services Department (CCCHSD) under the Certified Unified Program Agency (CUPA) Program.²

Regional agencies are responsible for programs regulating emissions to the air, surface water, and groundwater in California. In the San Francisco Bay Area and the City of Richmond, the Bay Area Air Quality Management District (BAAQMD) has oversight over

¹ Gribi Associates, *Phase I Environmental Site Assessment, Point Potrero Marine Terminal and BNSF Automotive Facility, Port of Richmond, Richmond, California*, January 16, 2008.

² California Health and Safety Code, Chapter 6.11.

air emissions, and the San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates discharges and water quality of surface water and groundwater.

Oversight of investigation and remediation of sites affected by hazardous materials releases in the City of Richmond is generally provided by State agencies, such as the Cal EPA Department of Toxic Substances Control (DTSC) and the RWQCB. Although their responsibilities sometimes overlap, the DTSC generally oversees sites with soil-only or primarily soil toxicity risk, and the RWQCB generally oversees sites with groundwater/surface water impacts or with primarily groundwater degradation risk. Also, the RWQCB generally oversees underground storage tank (UST) release site investigations and remediations.

In the past, the DTSC provided oversight of investigation and remediation activities on the southwest side of the project site. This portion of the site has been capped and is currently deed-restricted and under an Operation and Maintenance Plan which requires notification if excavation of the cap is contemplated. The RWQCB is currently providing oversight for a UST site on the project site.

The following implementing program from the Safety Element of the *Richmond General Plan* would apply to the project:

Policy SF-B-7 City will require the project applicant, for every potentially contaminated location to be developed within Richmond, to have the site inspected by a Registered Environmental Assessor (i.e., a professional environmental scientist or engineer registered as an REA in California) for the presence of hazardous materials and wastes. The investigations shall take the form of environmental audits, and shall include, at a minimum, site inspections for hazardous materials, examination of historic records, and reviews of public agency records. Reports detailing the results of the inspections shall be submitted to the City for review. The report preparer shall either certify that the site is free of hazards or recommend preparation of a site mitigation plan. If the results of the environmental audit indicate a potential for contaminated soils, the City will require the applicant to work with appropriate state and regional agencies to fully analyze the site and remediate the problem. The City shall check that inspection reports are on file prior to project approval and prior to any excavation or construction. Acceptance of the site inspections report shall allow the proposed development to proceed to the permitting stage. All activities under this mitigation shall be done in conformance with the policies and procedures presented in Chapter 11 of the County Hazardous Waste Management Plan. In the event that site inspections uncover pesticide contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes in the project area, the inspection report preparer shall so notify the City. The City shall notify the County Health Services Department. Under the direction of the appropriate agencies, a site remediation plan shall be

prepared by the project applicant that would (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards both during construction and for future maintenance and (2) certify that the proposed remediation measures would clean up the wastes, dispose of the wastes, and protect public health in accordance with federal, state, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the City. In accordance with OSHA requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the City) for the protection of workers and the public. All reports, plans, and other documentation shall be added to the administrative record. All activities under this mitigation shall be done in conformance with policies and procedures in Chapter 11 of the County Hazardous Waste Management Plan.

HAZARDOUS MATERIALS IN SOIL AND GROUNDWATER

Current site activities which could result in soil and groundwater impacts are described below. In addition, soil and groundwater at the project site have been contaminated by historic land uses. These land uses and a summary of environmental investigation and remediation activities conducted at the site are discussed below.

Current Site Conditions

The project site consists of a long, irregularly-shaped parcel measuring approximately 7,000 feet north to south and varying from 100 feet to 2,500 feet east to west. The project site comprises the Point Potrero Marine Terminal on the south half, the Burlington Northern Santa Fe (BNSF) Automotive Facility on the north, and connecting railroad tracks and parking between the two.

The Point Potrero Marine Terminal, which was formerly the historic Kaiser Shipyard No 3 during World War II, is owned by the City of Richmond and is leased to several tenants, including: (1) Auto Warehousing Company (AWC) at 1311 Canal Boulevard; (2) MAAS Boat Company at 1319 Canal Boulevard; (3) Marine Spill Response Company at 1314 Canal Boulevard; (4) Foss Marine at 1316 Canal Boulevard; and (5) Crowley Marine at 1330 Canal Boulevard. TransDevelopment Group, the transportation developer for the Honda Port of Entry project, occupies a portion of the former shipyard cafeteria building near the north end of Shipyard No. 3. During the Phase I ESA site inspection, no activities or conditions were identified relative to these uses which would be expected to significantly impact the project site environment.

The AWC facility processes new automobiles offloaded from ships, readying the automobiles for offsite delivery either by rail or by truck. The new Kia and Hyundai cars

collectively described as Glovis vehicles are offloaded from the ships by Marine Terminals Corporation (MTC), which provides stevedore services for the Port of Richmond. The new vehicles are required to be shipped with a minimum amount of gasoline (1 to 1-1/2 gallons).³ In accordance with union (International Longshore and Warehouse Union) and Pacific Coast Marine Safety Code (an employee association guideline), MTC dock workers undergo classroom training every three years, and a “gangplank” safety meeting is held each morning. Vehicle offloading practices are conducted in accordance with Occupation Safety and Health Administration (OSHA) guidelines contained in 29 CFR, Sections 1917 and 1918, which deal specifically with marine terminal operations and longshore worker health and safety, respectively.⁴ After receiving the vehicles from MTC, AWC inventories and surveys the vehicles, and then drives the vehicles a short distance either for damage touchup or for truck or rail transport.⁵ Prospective AWC drivers undergo drug screening and two days of supervised training, and safety meetings are conducted each morning.

The AWC facility at the PPMT includes the storage of small containerized quantities of fuel, oil, solvents, and other automotive fluids. The Phase I ESA site inspection noted that all such materials were properly stored in chemical storage cabinets, and do not pose an environmental or worker safety hazard.

The BNSF Automotive Facility is located on a nominally rectangular parcel at the north end of the project site. This facility consists primarily of paved parking and two parallel diagonally-transecting railroad tracks. At this facility, domestically-produced automobiles are transferred from train to truck carrier. In addition, automobiles from the AWC facility are loaded on trains for out-of-state transport. During the Phase I ESA site inspection, the REA noted no evidence of hazardous waste spills or staining in the readily visible drive-by areas, and noted no obvious fueling facilities on the site.

Railroad tracks connecting the PPMT on the south and the BNSF Automotive Facility on the north are mostly unpaved, except where road crossings provide access to industrial sites on the east side of Canal Boulevard. Paved road crossings are generally at grade, and unpaved track areas are generally lower in elevation than the surrounding asphalt-paved roadways and facility yard areas. Unpaved portions of the railroad tracks generally consist of railroad ballast and dirt. During a site inspection immediately following rainy weather, the REA noted large volumes of rainwater collecting in these low unpaved areas, particularly near the north end of Shipyard No. 3. During the site inspection, the REA noted sporadic dark

³ Ed Hughlett, Safety Manager, Marine Terminals Corporation, personal communication, March 18, 2008.

⁴ http://osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=0&p_key_value=

⁵ Marek Bocian, Terminal Manager, Auto Warehousing Company, personal communication, March 17, 2008.

staining of the railroad ballast, as well as either no vegetation or stressed vegetation along the unpaved portions of the railroad tracks. While specific spills and releases were not identified or observed on these railroad tracks, railroads in general have a well-documented history of environmental releases, particularly adjacent to bulk fuel and chemical facilities. However, the proposed project would not involve rail transport of fuels or chemicals (as is the case with the neighboring bulk fuel terminals), but rather the transport of automobiles. Although approximately 80 hazardous materials spills have been historically listed on the federal Emergency Response Notification System (ERNS) for the bulk fuel terminals (though the listings do not differentiate between rail car spills, tanker truck spills, or bulk fuel tank spills), the database contains no listings for the AWC facility at the PPMT.

Several closely-spaced underground fuel pipelines run east-west across the project site just south of the former Kaiser Shipyard cafeteria building. Also, below-ground high-pressure petroleum product pipelines operated by BP/Arco and Kinder Morgan run south from Cutting Boulevard along the east side of Canal Boulevard. The pipelines cross to the west side of Canal Boulevard near Seacliff Drive, and then cross back to the east side of Canal Boulevard and to their respective BP and Kinder Morgan facilities at the pipeline easement south of the former Kaiser Shipyard cafeteria building.⁶ It is possible that previous fuel leaks from these pipelines have contaminated soil and groundwater on the project site.

BP and Kinder Morgan currently maintain and actively monitor their pipelines via alarmed pipeline pressure and control valves that automatically shut down pumping operations when a change in system pressure or flow is detected. Kinder Morgan also has standard emergency operating procedures that include shutting down the system after an earthquake, maintaining minimum pressures to detect leaks when shut down, and following up with pipe investigation if damage is suspected. Kinder Morgan performs regular testing and maintenance and provides training for emergency responders on request by local agencies.⁷

Pipeline owners are required to report significant leaks as unauthorized releases. While current pipeline monitoring and maintenance practices employed by pipeline operators may be adequate in minimizing leaks, the same level of vigilance has not occurred throughout the life of the pipelines and fuel facilities. As noted above, previous leaks from the pipelines may have contaminated soil and/or groundwater on the project site. This is identified as a potential impact in Section 12.4, below, and implementation of appropriate mitigation is required.

⁶ Norman Chan, Port Administrator, Port of Richmond, personal communication, March 13, 2008.

⁷ Kinder Morgan, *Kinder Morgan Pipeline Safety*, Memo prepared for City Council by City of Berkeley Fire Department, March 7, 2006.

There are four groundwater monitoring wells—MW-1(U), MW-2(U), MW-3(U), and MW-5(U)—on the project site, west and southwest from the former Kaiser Shipyard cafeteria building, along the base of the northwest-southeast-trending San Pablo Hills. These wells were installed by BP/ARCO to assess potential environmental impacts from their Upper Terminal, located on the San Pablo Hills immediately southwest to west from the wells. Groundwater samples from these wells have shown very low or nondetectable concentrations of petroleum hydrocarbons.

Historic Land Uses

Prior to the 1920s, the PPMT site consisted of unimproved marshland. The site was apparently filled in behind established bulkheads between 1929 and 1941. The project site was procured by the U.S. Material Commission (USMC) in 1942 for use as a ship building facility. The USMC owned the site until 1968, when the Surplus Property Authority (SPA), an agency of the City of Richmond, purchased the property. From 1942 to 1945, during World War II, the project site was leased by Henry J. Kaiser Industries, who constructed and operated a military ship building facility on the project site. From 1964 to 1987, a portion of the southwest side of the project site was leased by Levin Metals Corporation, which operated a metal recycling facility for decommissioned ships and other scrap metals. From 1959 to 1978, a portion of the project site was also leased by Willamette Iron and Steel, which operated a ship repair, construction, scrapping, and steel fabrication facility. Point Richmond Shipyard, Inc. (PRS) leased a portion of the project site from approximately 1983 to 1985 and conducted ship overhauling and repairing. PRS and other ship repair and scrapping tenants apparently left large volumes of waste materials on the southwest side of the project site, west of the former ship building facility. The Pasha Group leased a portion of the project site from approximately 1979 to at least 1993, and apparently stored automobiles on the project site.

Previous Site Environmental Investigation and Remediation Activities

In 1984 and 1985, the DTSC conducted sampling of near-surface soils and sandblasting grit on the southwest side of the project site, immediately west from the ship basins. Elevated concentrations of polychlorinated biphenyls (PCBs), metals, and oil and grease were encountered in soil samples, and sandblasting grit showed elevated levels of metals.⁸

In July 1986, Donald Herzog & Associates conducted soil and sediment samples on the southwest side of the project site. Soil samples showed elevated concentrations of metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc), PCBs, total

⁸ Hart Crowser, Inc., *Final Remedial Investigation Report, Port of Richmond, Point Potrero Marine Terminal Shipyard No. 3 Scrap Area, Richmond, California*, June 4, 1993.

petroleum hydrocarbons as gasoline (TPH-G), and asbestos. In 1987 and 1988, IT Corporation removed sandblasting grit and drummed wastes at the site, and conducted additional near-surface soil sampling which apparently showed elevated concentrations of metals (lead and copper), PCBs, and asbestos.

Six underground storage tanks (USTs) were removed from the project site in 1987.⁹ The exact location of the USTs on the project site is not known, other than that five of the tanks were located on the Phase IV parking area and one of the tanks was located on the Phase I parking area. A site plan included in the Kaldveer and Associates report is schematic and does not show any buildings for reference, but simply shows the relative location of the tanks and shows a fence line separating the two parking areas. Following removal of the USTs in 1987, soil samples were collected at each end of the removed USTs, and two grab groundwater samples were collected from two of the UST excavation cavities. Soil samples showed no detectable concentrations of TPH-G and concentrations of total petroleum hydrocarbons as diesel (TPH-D) ranging from 5.3 milligrams per kilogram (mg/kg) to 100 mg/kg. One of the grab groundwater samples showed no detections, and the other grab groundwater sample showed 13,000 micrograms per liter ($\mu\text{g/l}$) of TPH-D. Soil and water samples showed no detectable concentrations of volatile hydrocarbon constituents. Following review of the soil and groundwater sampling results, this UST site was subsequently granted regulatory closure by the Contra Costa County Health Services Department (CCCHSD), and no further monitoring was required.

A preliminary remedial investigation was conducted in 1990 on the southwest side of the project site by Riedel Environmental Services. Eight groundwater monitoring wells, W-1 through W-8, were drilled and sampled on the southwest side of the project site. Soil samples from two of the well borings, W-3 and W-5, showed elevated concentrations of metals, including lead, and oil and grease. Groundwater samples from wells W-1, W-3, and W-5 showed elevated concentrations of oil and grease, and groundwater samples from wells W-5 and W-8 showed elevated concentrations of TPH-D. Hart Crowser, Inc. conducted additional remedial investigation on the southwest side of the PPMT parcel in 1992 and 1993. Based on the results, the RI report concluded that the contaminants encountered beneath the site are relatively immobile. The RI report recommended additional investigation, particularly in the inlet at the southwest edge of the site and adjacent to well W-5.

A Remedial Action Plan (RAP) was prepared on behalf of the Surplus Property Authority of the City of Richmond that provided an assessment of remedial alternatives for the

⁹ Peter Kaldveer and Associates, Inc., *Soil Testing Program, Tank Excavation, Pasha Car Terminal, Richmond, California*, November 9, 1987.

southwest portion of the project site (west of the former shipyard buildings and basins), in accordance with DTSC guidelines.¹⁰ The RAP divided the southwest portion of the project site into three areas (“operable units”) as follows: (1) Operable Unit No. 1 (OU-1), which consisted of contaminated soils and groundwater on the central portions of the site; (2) Operable Unit No. 2 (OU-2), which consisted of the shoreline and tidal/subtidal sediments in the onsite inlet on the southwest edge of the project site; and (3) Operable Unit No. 3 (OU-3), which comprised near-shore bayside tidal/subtidal sediments on the southwest side of the project site. The RAP addressed only OU-1, which represents the main portion of the site.

After evaluating six remedial alternatives, the RAP recommended a remedial alternative which included: (1) grading the site to re-direct stormwater runoff to an existing stormwater collection system; (2) installing an aggregate and asphalt cover over the entire OU-1 area; (3) installing a product skimmer and groundwater treatment system adjacent to well W-5; (4) implementing an operation and maintenance program, to include periodic groundwater monitoring and cap inspections; and (5) placing a deed restriction on the site.

A Final Remedial Design Report (FRDR) was prepared in 1996 which described pre-design investigative activities and provided a detailed design for remediation of Operable Unit No. 1 (OU-1).¹¹ The previously approved Final Remedial Action Plan for OU-1 proposed the installation of a cap over the entire area and the installation of a free product and groundwater extraction system adjacent to well W-5. Pre-design investigative activities conducted as part of the FRDR included groundwater monitoring and aquifer testing, and installation of one extraction well (EW-1) and two piezometers (TP-1 and TP-2) adjacent product well W-5. Results of these activities indicated that the previously-encountered free product in well W-5 was no longer present and was unlikely to exist in the vicinity of W-5. Thus, the FRDR did not include installation of a free product and groundwater extraction system, but rather included the construction of a cap only. The proposed cap design was to include a 2-foot-thick protective layer, followed by a 6-inch-thick aggregate layer, and then a 4-inch thick asphalt layer. The FRDR included detailed cap materials design criteria, and proposed to use dredged materials to be supplied by the U.S. Army Corps of Engineers. The FRDR also included a geotechnical and environmental evaluation of dredged materials, a cap operation and maintenance plan, and a sampling and analysis plan.

¹⁰ Hart Crowser, Inc., *Final Remedial Action Plan, Port of Richmond, Shipyard No. 3 Scrap Area Site, Richmond, California*, June 30, 1995.

¹¹ Hart Crowser, Inc., *Final Remedial Design Report, Port of Richmond, Shipyard No. 3 Scrap Area Site, Richmond, California*, June 13, 1996.

In February 2000, a Feasibility Study/Remedial Action Plan (FS/RAP) was prepared on behalf of the SPA of the City of Richmond that provided a summary of prior investigative results and an assessment of remedial alternatives for previously-designated Operable Units 2 and 3 (OU-2 and OU-3).¹² As previously described in the RAP, Operable Unit No. 2 (OU-2) consisted of the shoreline and tidal/subtidal sediments in the onsite inlet on the southwest edge of the project site, and Operable Unit No. 3 (OU-3) comprised near-shore bayside tidal/subtidal sediments on the southwest side of the project site. The FS/RAP evaluated site data and determined that sediment contaminant levels in OU-3 were below remedial action goals, and thus did not warrant remediation. For OU-2, the FS/RAP evaluated two general technology types, namely excavation/dredging of sediments, and installation of a bulkhead and cap to fill in and isolate the inlet contaminates in OU-2. The FS/RAP recommended the second approach, which generally proposed (1) the installation of a sheetpile bulkhead, (2) installation of a cap, and (3) implementation of institutional controls, in the form of a deed restriction.

Remediation of Operable Unit No 1 (OU-1) was conducted between 1998 and 2004.¹³ Remediation activities included: (1) grading the site to re-direct stormwater runoff to an existing stormwater collection system; (2) installing an aggregate and asphalt cover over the entire OU-1 area; (3) implementing an operation and maintenance program, to include periodic groundwater monitoring and cap inspections; and (4) placing a deed restriction on the site. The construction-related activities were apparently conducted in three distinct phases and included: (1) dredged materials placement, which included the offloading, drying, and placement of approximately 340,000 cubic yards of dredged material between 1998 and 2000 from the U.S. Army Corps of Engineers, sponsored Richmond Harbor Deepening Project, the San Mateo Bridge Retrofit Project, and the Richmond Marina Entrance Channel Dredging Project; (2) Seaclyff Marina mound relocation, which included the relocation of approximately 114,000 cubic yards of contaminated soil from the Seaclyff Marina in the spring and summer 2002; and (3) pavement and cover construction, which included the addition of lime to upper bay mud to add geotechnical strength and placement of an 8-inch layer of aggregate and a 2-inch layer of asphalt.

A Remedial Design and Implementation Plan (RDIP) was prepared in April 2005 that provided detailed design and implementation plans for the small inlet near the southwest

¹² Terra Verde Solutions, Inc., *Final Feasibility Study/Remedial Action Plan, Operable Units 2 and 3, Port of Richmond, Shipyard No. 3 Scrap Area Site, Richmond, California*, February 8, 2000.

¹³ Weiss Associates, *Final Remediation Documentation Report for Port of Richmond, Operable Unit 1 Shipyard No. 3 Scrap Area Site, Richmond, California*, September 15, 2004.

edge of the project site (OU-2).¹⁴ The RDIP generally provided an implementation plan for the previous FS/RAP-recommended remedial alternative (installation of sheetpile bulkhead and cap), with some changes. The previous FS/RAP recommended the installation of a sheetpile bulkhead at the mouth of the OU-2 inlet, which would have required infilling of almost 1 acre of the Bay and approval from the San Francisco Bay Conservation and Development Commission (BCDC). However, the BCDC did not support the project and encouraged the construction of a subaqueous “no-net-fill” cover, whereby a layer of contaminated sediments would be excavated and replaced with a layer of clean sediment, preserving the original sediment subsea elevation. This approach was adopted in the RDIP.

The RDIP divided the OU-2 inlet zone into three distinct zones: (1) Upland Zone, which was located on the margins of the area at mean sea level elevations between +14 feet and +20 feet; (2) Revetment Zone, which was located near the water margin at mean sea level elevations between +3.2 feet and +14 feet; and (3) Subaqueous Zone, which comprised the subaqueous sediments at mean sea level elevations between -3.2 feet and +3.2 feet. The RDIP proposed the excavation of contaminated sediments and soils from the subaqueous and revetment zones, and placement of these excavated materials in the upland zone as a sub-base for the upland zone cap. The subaqueous zone was then to be backfilled with dredged materials from Martinez Marina, and a revetment consisting of light rock and riprap was to be constructed along the shoreline, in the revetment zone. Finally a base rock and asphalt cap was to be constructed in the upland zone. The RDIP included proposed post-construction activities to include: (1) implementing an operation and maintenance program, to include periodic groundwater monitoring, tidal marsh revegetation, and cap inspections; and (2) placing a deed restriction on the site.

Remediation of Operable Unit No. 2 was conducted between July 2005 and May 2006.¹⁵ Sediments from an 0.94 acres of marsh and mudflat and 1,400 linear feet of shoreline were excavated to approximately 2.5 feet in depth and placed in the upland zone. Clean bay mud dredged from the Martinez Marina was placed in the dredged inlet and shoreline, and a revetment was constructed along the bay margin. A final aggregate and asphalt cap was placed over the dredged material in the upland zone, and three additional wells (W-21, W-22, and W-23) were installed. After completion of these activities, seven wells were still present at the site, including W-3, W-10, W-11, W-13, W-21, W-22, and W-23.

¹⁴ Weiss Associates, *Remedial Design and Implementation Plan for Operable Unit 2, Port of Richmond Shipyard No. 3 Scrap Area Site, Richmond, California*, April 4, 2005.

¹⁵ Weiss Associates, *Final Remediation Documentation Report for Port of Richmond, Operable Unit 2 Shipyard No. 3 Scrap Area Site, Richmond, California*, June 30, 2006.

In June 1996, a deed restriction was placed on this portion of the project site.¹⁶ This deed restriction describes remediation (excavation and cap) activities for Operable Units 1 and 2. In addition, the deed restriction specifies the following remnant hazardous materials still present in sediments, near-surface soils, and subsurface soils at the site.

Asbestos	0.5 to 20 percent
PCBs	Nondetect to 69 milligrams per kilogram (mg/kg)
PAHs	Nondetect to 30,650 mg/kg
TPH	Nondetect to 19,000 mg/kg
Oil and Grease	Nondetect to 21,000 mg/kg
Cadmium	Nondetect to 35 mg/kg
Total Chromium	6 to 5,700 mg/kg
Chromium VI	Nondetect to 23 mg/kg
Copper	7 to 49 mg/kg
Lead	44 to 6,700 mg/kg
Mercury	Nondetect to 13 mg/kg
Nickel	6.9 to 3,500 mg/kg
Zinc	25 to 8,000 mg/kg

The deed restriction includes the following restrictions, which run with the land:

- Prohibited Uses: Residential land use, hospital, school for students under 21 years of age, and day care center.
- Soil Management: No excavation, grading, removal, trenching, filling, earth movement, or mining without a Soil Management Plan and a Health and Safety Plan approved by the DTSC. In addition, any contaminated soil brought to the surface must be managed in accordance with applicable State and federal law. Also, the site owner must provide DTSC with written notice at least 14 days prior to any building, filling, grading, or excavation “in the Capped project site”.
- Prohibited Activities: Activities which will disturb the cap (excavation, grading, removing, trenching, filling, earth movement, or mining) are prohibited without prior review and approval from the DTSC. Also, the cap shall not be altered without approval from the DTSC. In addition, the DTSC must be notified within ten days of any cap damage or repair.

Note that, as evidenced by the legal description included as Exhibit A of the Deed Restriction, the Deed Restriction applies only to the southwest portion of the project site (formerly designated Operable Unit Nos. 1 and 2), which comprised approximately 53 acres of the approximately 110-acre PPMT project site. This roughly corresponds to the gray area denoted as Existing Lighting on Figure 3-10 (see Chapter 3, Project Description). There are no activities or uses proposed by this project that would conflict with the deed restriction.

¹⁶ California Department of Toxic Substances Control, *Covenant to Restrict Use of Project Site, Environmental Restriction, Port of Richmond Shipyard No. 3 Scrap Area Site, Point Potrero Marine Terminal, 1312 Canal Boulevard, Richmond, California*, Deed Restriction Recorded at Contra Costa County Recorder Office, June 29, 2006.

In September 2006, this DTSC certified the successful completion of “all appropriate removal/remedial actions” for Operable Unit Nos. 1, 2, and 3, with the provision that ongoing operation and maintenance (O&M) and monitoring activities be conducted.¹⁷

A work plan was submitted to the RWQCB in April 2007 on behalf of the City of Richmond for a former UST site on the PPMT parcel.¹⁸ This work plan includes background information which indicates that perhaps two underground storage tanks (USTs) were removed in December 1998 just west or southwest of the Auto Warehousing Company entrance security gate at the south end of Canal Boulevard. Soil and groundwater samples collected during UST removal activities apparently showed up to 270 mg/kg and 570,000 µg/l, respectively, of TPH-D. Based on these results, the San Francisco Bay Regional Water Quality Control Board issued a letter to the City of Richmond on September 8, 2006 requesting the submittal of an investigative work plan for this UST site. The work plan proposes the drilling and sampling of four investigative borings adjacent to the former USTs. Soil borings would be completed to approximately 10 feet in depth, and soil and grab groundwater samples from the borings would be analyzed for TPH-G, TPH-D, and BTEX constituents. The work plan was approved by the RWQCB on May 21, 2007, with provisions that: (1) soil and grab groundwater samples from the borings be analyzed for TPH-Kerosene, TPH-G, TPH-D, BTEX, and Oxygenates; and (2) detected hydrocarbon concentrations in the grab groundwater samples be compared with hydrocarbon concentrations in existing BP/ ARCO wells MW-3(U) and MW-5(U), which are located on the project site but are associated with the BP/ ARCO site located immediately east from the historic cafeteria building on the PPMT site. The approval letter requested that results of the investigation be submitted to the RWQCB by August 31, 2007. Although sampling was conducted on September 7, 2007 and the results showed no detectable concentrations of hydrocarbons, the January 22, 2008 investigation report provided to the REA by the Port of Richmond is not yet listed on the State Water Board’s Geotracker database as required.

Regulatory Listings for Project Site

The Phase I ESA conducted by Gribi Associates in January 2008 included reviewing a radius site profile for the project site area from Environmental Data Resources, Inc. (EDR). The EDR radius site profile included a review of the following regulatory lists:

Federal Lists

¹⁷ California Department of Toxic Substances Control, *Remedial Action Certification, Port of Richmond, Operable Units 1,2, and 3, Shipyard No. 3, 1312 Canal Boulevard, Richmond, Contra Costa County, California, September 21, 2006.*

¹⁸ RPM, Inc., *Work Plan for Environmental Investigation, Port of Richmond, 1301 Canal Boulevard, Richmond, California, April 30, 2007.*

- NPL (Superfund): National Priorities List (Superfund)
- CERCLIS/CERCLIS-NFRAP: Comprehensive Environmental Response, Compensation, and Liability Information System
- RCRA CORRACTS List: Resources Conservation and Recovery Act Corrective Action Report
- RCRA TSD Facilities List: RCRA Treatment, Storage, and Disposal Facilities List
- RCRA Large Generators List: RCRA Hazardous Waste Generators, greater than 1,000 kilograms of hazardous waste
- RCRA Small Generators List: RCRA Hazardous Waste Generators, between 100 kilograms and 1,000 kilograms of hazardous waste
- ERNS List: Emergency Response Notification System
- HMIRS List: Hazardous Materials Incident Report System
- US Eng/Inst Controls List: Engineering/Institutional Controls Sites List
- US DOD and FUDS List: Department of Defense and Formerly Used Defense Sites
- US Brownfields List: Brownfields Sites
- UMTRA List: Uranium Mill Tailings Remedial Action Sites
- ODI List: Open Dump Inventory Sites
- TRIS List: Toxic Release Inventory System
- TSCA List: Toxic Substances Control Act
- FTTs List: FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act) and TSCA Tracking System
- SSTs List: Section 7 of the Federal Insecticide, Fungicide, & Rodenticide Act
- ICIS List: Integrated Compliance Information System
- PADS List: PCB Activity Database System
- MLTS List: Material Licensing Tracking System
- MINES List: Mines Master Index File
- FINDS List: Facility Index System/Facility Registry System
- RAATS List: RCRA Administrative Action Tracking System

State and Regional Lists

- CALSITES List: Hazardous Substance Release Sites, Replaced by ENVIROSTOR List in 1995
- BEP List: Hazardous Substance Cleanup Bond Act Funds
- SCH List: School Property Evaluation Program
- Toxic Pits List: Toxic Pits Cleanup Act Sites
- Landfills List: Solid Waste Landfills
- CA WDS List: Waste Discharge System
- WMUDS/SWAT Lists: Waste Management Unit
- Cortese List: Cortese Hazardous Waste & Substances Sites List
- SWRCY List: Recycler Database
- LUST List: Leaking Underground Storage Tanks List

- FID List: Facility Inventory Database, Historical listing of active and inactive underground storage tank (UST) locations
- SLIC List: Spills, Leaks, Investigations and Cleanup List
- UST List: Active Underground Storage Tank (UST) Facilities
- HIST UST List: Historical listing of underground storage tank (UST) sites
- AST List: Above-ground Petroleum Storage Tank Facilities
- SWEEPS UST: Historical listing of underground storage tank (UST) sites
- CHMIRS List: California Hazardous Material Incident Report System
- NOTIFY 65 List: Proposition 65 Notification Records
- DEED List: DTSC sites with deed/land use restrictions
- VCP List: DTSC sites in the Voluntary Cleanup Program
- CLEANERS List: A list of drycleaner related facilities
- RESPONSE List: DTSC high-priority release sites with ongoing remediation
- HAZNET List: DTSC Hazardous Waste Manifests List
- EMI List: Emissions Inventory Data, from California Air Resources Board
- ENVIROSTOR: DTSC Site Mitigation and Brownfields Reuse Program sites
- Tribal Lands Lists: US Tribal Lands administered release sites

All listings for the project site are for the PPMT site; there are no obvious listings for the BNSF Automotive Facility or for the railroad lead track alignment between the PPMT and the BNSF Automotive facility. Our review of these project site listings indicates the following.

- The Port of Richmond, at 1312 Canal Boulevard, is identified on the BEP list. This California Bond Expenditure Plan listing refers to the investigation and remediation of metals-, hydrocarbons-, and asbestos-impacted soil on the southwest end of the project site. Activities related to this site are summarized earlier in this chapter. This site has been adequately remediated via capping. In addition, a deed restriction has been recorded for this portion of the project site, and long-term monitoring and reporting is being conducted. As previously noted, the proposed project would not conflict with any of the provisions of the deed restriction.
- The Richmond Shipyard No. 3, at 1310 Canal Boulevard, is identified on the FID list and the SWEEPS UST list. These listings appear to refer to former shipyard USTs, which were removed in 1987, as discussed previously. This UST site was granted regulatory closure by the San Francisco Bay RWQCB in March 1993.
- The current site tenant, Auto Warehousing Company at 1311 Canal Boulevard, is identified on the HAZNET list. This listing refers to the lawful, manifested offsite disposal of hazardous waste, and does not, by itself, indicate hazardous waste releases that would adversely affect environmental conditions on the project site.
- The Pasha Group, a previous site tenant at 1301 and 1311 Canal Boulevard, is identified on the RCRA Small Quantity Generators list, the FINDS list, the Cortese list, the LUST list, the FID list, the HIST UST list, the SWEEPS UST list, the HAZNET list, and the EMI list. The FINDS, Cortese, LUST, FID, HIST UST, and SWEEPS UST listings refer to the operation of USTs, and the RCRA Small

Quantity Generators, HAZNET, and EMI listings refer to the lawful generation and offsite disposal of hazardous waste. The only open issue related to these listings is a LUST listing for the 1301 Canal Boulevard site address, related to two former USTs on the site, previously discussed. According to Mr. Norman Chan of the Port of Richmond, a soil boring investigation for this open UST site apparently showed minimal hydrocarbon impacts.¹⁹ This site has not yet been granted regulatory closure from the San Francisco Bay Regional Water Quality Control Board.

- There are several ERNs, HMIRS, and CHMIRS listings for site addresses. These refer to reported hazardous waste incidents. The Environmental Assessor's review of these listing reports indicates that most of the listings refer to hazardous materials (primarily fuels and oils) spills directly to the Bay, and that none of these listings would appear to result in a significant hazardous waste release to the project site itself.
- Many of the listings refer to hazardous waste storage and use by Port of Richmond current and past PPMT tenants, including Crowley Marine, Marine Spill Response Company, Richmond Drydock Company, Levin Metals, Marin Tug & Barge, C & W Diving, and Foss Maritime. the REA concluded that these listings do not, by themselves, indicate significant hazardous waste releases on the project site

In summary, there is only one onsite listing (the LUST listing for the Pasha Group site at 1301 Canal Boulevard) which has not yet been granted regulatory closure. Results of a soil boring investigation for this open UST site revealed minimal hydrocarbon impacts. Other listings for current and former site tenants on the south portion of the project site do not specifically indicate hazardous waste releases, are not open cases, and no regulatory closure is required for the listings. However, the sheer number and variety of these listings do indicate a long history of hazardous waste use and handling by a wide variety of site tenants, and would tend to increase the possibility of unknown or unreported releases which could have adversely affected environmental conditions on the project site.

Regulatory Listings and File Information for Adjacent Sites

The primary offsite concerns identified by the Phase I ESA include those related to chemical and bulk fuel terminals located immediately east of Canal Boulevard. These current and past facilities include BP Castrol Terminal at 801 Wharf Street, Brenntag Pacific at 860 Wharf Street, Bay Area Chemical Co. at 860 Wharf Street, Unitank Terminal at 1001 Canal Boulevard, Kinder Morgan Terminal at 1140 Canal Boulevard, ConocoPhillips Terminal at 1300 Canal Boulevard, and BP/ARCO Richmond Terminal at 1306 Canal Boulevard. Many of these terminals have been operating since the 1960s. Given the number of current and past fuel and chemical bulk terminals and transportation facilities and activities, it is possible that fuel and chemical releases occurred in the past which have contaminated soil and groundwater on the project site. Specific areas of the project site where these impacts

¹⁹ Norman Chan, Port Administrator, Port of Richmond, personal communication, January 3, 2008.

would be most expected include: (1) the north end of the PPMT parcel, which lies directly west of the current BP/ARCO and ConocoPhillips bulk fuel terminals; and (2) the south and southeast sides of the BNSF Automotive Facility, which are located adjacent to the current Brenntag Pacific facility and the BP Castrol bulk terminal.

The BP/ARCO Terminal, located at the northeast edge of the PPMT parcel, has identified free product releases on the northwest edge of the terminal, just east of the railroad tracks and east of the former Kaiser Shipyard cafeteria building.²⁰ Also, groundwater wells on and immediately east of the railroad tracks near the southwest edge of the BP/ARCO terminal have historically shown both gasoline- and diesel-range groundwater hydrocarbon impacts (groundwater is present at about 5 feet in depth in these wells). These impacts could have resulted from historic truck or railroad spills, or from below-ground product piping leaks.

In addition, a pipeline leak on the Upper Terminal at the BP/ARCO facility, immediately adjacent to the former cafeteria building, contaminated subsurface soils in an expected upgradient (west) groundwater flow direction, from the project site.²¹ Also, below ground high-pressure petroleum product pipelines operated by BP and Kinder Morgan run along Canal Boulevard and may have resulted in fuel releases in the past which could have adversely affected environmental conditions on the project site. The radius site profile reviewed in the Phase I ESA included several offsite listings in close proximity to the project site. Most of these (Great Western Chemical, Bay Terminal, Castrol Terminal, ConocoPhillips Terminal, BP/ARCO Terminal, Unocal Terminal, Tosco Terminal, and Kinder Morgan Terminal) are located on the expected downgradient (east) side of the project site.

There is one expected upgradient site, variously identified as W. G. Thompson, Inc., Celanese Chemical Company, PPG/GATX, Lux Chemical Company, and Unitank Terminal at 999 and 1001 Canal Boulevard. This site is located in an expected upgradient groundwater flow direction from the railroad tracks portion of the project site, between the PPMT and the BNSF Automotive Facility. A review of other site listings in the site vicinity indicates no other nearby sites which would be expected to have significantly impacted environmental conditions on the project site.

²⁰ SECOR International Inc., *Quarterly Groundwater Monitoring and Remediation Report, Second Quarter 2007, BP Richmond Terminal No. 16T*, July 26, 2007.

²¹ SECOR International Inc., *Summary of Fuel Releases, BP Terminal No. 16T*, September 17, 2007.

12.3 STANDARDS OF SIGNIFICANCE

Significance criteria were derived from Section 15064 and Appendix G of the *CEQA Guidelines*. Impacts related to hazards and hazardous materials would be considered significant if the project were to:

- create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment;
- create a significant hazard to the public or environment through exposure to hazardous materials present in soils, surface water, ground water, and/or building materials as a result of historical land uses in the project vicinity;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within $\frac{1}{4}$ mile of an existing or proposed school;
- be located on or adjacent to a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would result in a safety hazard for people residing or working in the area;
- impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan; or
- result in an increased risk of exposure to wildland or urban fire hazards.

12.4 IMPACTS AND MITIGATION MEASURES

CONSTRUCTION IMPACTS

Impact 12-1

Development of the proposed project could potentially expose construction workers and future site workers to hazardous concentrations of contaminants from soils and groundwater at the site. (LTSWM)

Site development would include excavation of shallow soils and, perhaps, groundwater. The areas of excavation where particular concerns exist include: (1) the proposed rail facility, located on the northeast side of the PPMT adjacent to the BP/ARCO terminal, where significant soil excavation and removal may be required; (2) the Canal Boulevard realignment area at the south end of the former Kaiser Shipyard cafeteria building, where significant soil excavation may be required, and where BP/ARCO underground pipelines cross the project site; and (3) any other railroad-related excavation areas on the BNSF Automotive Facility and on the railroad tracks connecting the PPMT and BNSF parcels. Project grading and excavation in these areas may expose construction workers to residual petroleum hydrocarbons in shallow soils and groundwater. In addition, although the project site has been investigated during previous phases of environmental investigation,

given the long industrial history of the site, there may be a potential for areas of previously undiscovered contamination, or subsurface hazards, such as underground storage tanks, which could be discovered during development activities. This would be a ***potentially significant impact***. Implementation of the following mitigation measure would reduce the impact to a ***less-than-significant*** level:

Mitigation Measure 12-1

Prior to issuance of a grading permit, the project sponsor shall conduct soil and groundwater sampling to the depth of maximum anticipated excavation in areas where grading and trench excavation are planned. Soil and groundwater samples shall be analyzed for fuel hydrocarbons and metals (including arsenic). The purpose of these sampling activities would be to: (1) characterize soil to determine appropriate disposition of excavated soil (onsite reuse versus offsite disposal); and (2) assess potential contaminant risk to workers, the public, and other receptors both during and after project construction. Based on sampling results, a site-specific Soil Management Plan (SMP) and Health and Safety Plan (HASP) shall be prepared prior to conducting all invasive activities, such as excavation, dewatering, grading, and utility installation. At a minimum, the HASP shall include health and safety provisions for monitoring exposure to construction workers and the general public; provide procedures to be undertaken in the event that previously unreported contamination or subsurface hazards are discovered; incorporate construction safety measures for excavation activities; establish procedures for the safe storage and use of hazardous materials at the project site, if necessary; provide emergency response procedures; and designate personnel responsible for implementation of the HASP.

Impact 12-2

Improper use or transport of hazardous materials during construction activities during development could result in releases adversely affecting construction workers and the general public. (LTSWM)

Construction activities proposed by the project may involve the use and transport of hazardous materials. These materials could include contaminated soils and groundwater, fuels, oils, and other chemicals used during construction. Removal/relocation and transportation of hazardous materials could result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This would be a ***potentially significant impact***. Implementation of the following mitigation measure would reduce the impact to a ***less-than-significant*** level:

Mitigation Measure 12-2

The HASP and SMP required by Mitigation Measure 12-1 and the Storm Water Pollution Prevention Plan (SWPPP) required by Mitigation Measure 11-1 for project construction shall include provisions to minimize potential construction-related contamination, particularly from wind-borne dust and stormwater runoff, and shall include emergency procedures for accidental hazardous material releases. Use, storage, disposal, and transport of hazardous materials during construction activities shall be performed in accordance with existing local, State, and federal hazardous materials regulations.

Impact 12-3

Construction-related activities adjacent to utilities and buried high-pressure petroleum pipelines could result in hazardous working conditions and hazardous substance releases. (LTSWM)

Construction-related activities for the planned project are limited primarily to the northeast side of the PPMT facility. Specific areas of construction include the PPMT rail terminal, the Canal Boulevard realignment area, the Bay Trail segment alignment, and proposed landscaping on the north side of the former Kaiser Shipyard cafeteria building. Buried petroleum product pipelines operated by BP and Kinder Morgan are present adjacent to the cafeteria building, and could be affected during construction of the PPMT rail terminal and realignment of the site roadway. Possible construction-related accidents and disruption of utilities could result in worker accidents and hazardous substance releases. This would be a *potentially significant impact*. Implementation of the following mitigation measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 12-3

The project applicant shall submit accurate mapping of all known existing underground utilities and high-pressure pipelines with its application for a grading permit. Permit conditions for the grading permit to be issued by the City of Richmond Prior to construction shall require that standard procedures for safeguarding utilities be implemented. These procedures shall include, at a minimum: (1) marking all excavation areas with white paint; and (2) notifying Underground Services Alert (USA), which, in turn, will notify area municipal and private utility companies. In addition, any potentially affected petroleum product pipelines shall be located visually by potholing. This potholing shall be performed by hand excavation and shall only be conducted with the appropriate pipeline representative present. In addition, prior to the initiation of construction activities, pipeline and utility operators shall be provided an opportunity to review final construction plans and drawings and identify any additional necessary provisions that may be appropriate for the protection of affected pipelines and utilities, and these provisions shall be implemented by the project sponsor and/or the construction contractor(s).

Impact 12-4

Development of the proposed project could result in handling of hazardous materials, substances, or wastes within one-quarter mile of an existing school. (LTSWM)

Washington Elementary School is located approximately 800 feet west-northwest from the BNSF Automotive Facility and more than 1 mile northwest from the planned PPMT rail facility. Project grading and excavation in the BNSF Automotive Facility may uncover residual petroleum hydrocarbons in shallow soils and groundwater in this area of the site. In addition, given the long industrial history of the site, there may be a potential for areas of previously undiscovered contamination, or subsurface hazards, such as underground storage tanks, which could be discovered during development activities. Although there is no evidence of significant past releases at the BNSF Automotive Facility, exposure of

contaminated soils and/or groundwater in proximity to a school could result in a *potentially significant adverse impact*. Implementation of the following mitigation measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 12-4

Same as Mitigation Measure 12-2.

OPERATIONAL IMPACTS

Impact 12-5

Operation of the Honda Port of Entry could result in accidental spills or releases of hazardous materials to the environment, which could, in turn, create a significant hazard to the public or the environment. (LTS)

Operation of the Honda automobile importing and distribution facility would result in an approximate doubling in the number of automobiles processed at the PPMT facility. This would result in an increased risk of accidental hazardous materials (gasoline, motor oil, and hydraulic fluids) spills and releases from new automobiles and from trucks and railroad car carriers. The greatest risk would be posed by gasoline, which is volatile, explosive, and contains carcinogenic components. However, the automobiles are currently and would continue to be shipped with a minimal volume (1 to 1-1/2 gallons) of gasoline. During the Phase I ESA site inspection, the Environmental Assessor noted no evidence of significant accidental spills related to current automobile importing and distribution operations, and identified no reported history of spills. The PPMT manager also asserted that no spills have occurred at the facility during his tenure at the facility, which began in 2004.²² Given the significant distance the automobiles have been transported (in the existing cases of imported Glovis vehicles and domestic Honda vehicles) or will be transported (in the case of proposed Honda imports) from their factory of origin, there is no reasonable expectation that spills of significance (i.e. which could significantly impact public health or the environment) would occur during the proposed Honda operations. Based on a review of AWC's current and proposed safety procedures and hazardous spill response plans, the REA concluded that the potential for hazardous spills is quite remote and, in the unlikely event a spill occurred, the volume that could be spilled—and therefore the potential scope of impact—would be minimal. Accordingly, the increased risk of accidental releases of hazardous materials from the proposed Honda operations would be a *less-than-significant impact*.

Mitigation Measure 12-5

None required.

²² Marek Bocian, Terminal Manager, Auto Warehousing Co., personal communication, June 12, 2008.

Impact 12-6

Operation of the proposed Honda Port of Entry project would result in increased activity and vehicle movement, which could, in turn, result in increased accidents and safety hazards for MTC and AWC workers. (LTS)

Implementation of the proposed project would result in an approximate doubling of the number of automobiles processed at the PPMT facility. This would result in an increased risk of automobile accidents and ancillary workplace accidents. Because cars will no longer be driven on Canal Boulevard, but rather will be loaded onto rail cars within the PPMT facility, these potential risks would be limited to site workers, and the existing risk to the public along Canal Boulevard would be eliminated. In addition, both MTC and AWC train and monitor their employees in accordance with acceptable worker safety guidelines and statutes. There have been no collisions between vehicles and no personal injury accidents during the past four years that the facility has been under the direction of the current manager.²³ For the preceding reasons, the increased potential for vehicle accidents and other worker safety hazards would constitute a *less-than-significant impact*.

Mitigation Measure 12-6

None required.

Impact 12-7

Operation of the proposed PPMT rail terminal, which would involve multiple closely-spaced rail spurs and could result in significant weight loading due to multiple lines of railcars, could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products, which could, in turn, create a significant hazard to the public or the environment. (LTSWM)

The proposed rail terminal would include seven loading tracks extending approximately 1,300 feet southeast from the former Kaiser Shipyard entrance gate, located near the former Kaiser cafeteria building. The BP and Kinder Morgan underground pipelines extend as far south as the pipeline easement just south of the former cafeteria building. It is possible that weight loading due to multiple lines of railcars on the multiple rail spurs could compromise the integrity of the underground BP and Kinder Morgan pipelines, resulting in releases of petroleum products from the pipelines. This would be a *potentially significant impact*. Implementation of the following mitigation measure would reduce the impact to a *less-than-significant* level:

Mitigation Measure 12-7

Prior to construction of the PPMT rail terminal, an engineering evaluation shall be performed, with the results to be confirmed and approved by the City of Richmond Engineering Division. During this engineering phase, weight loading as related to the

²³ Marek Bocian, Terminal Manager, Auto Warehousing Co., personal communication, February 29, 2008.

underground pipeline and all other buried utilities shall be evaluated, and any measures recommended to ensure pipeline integrity and safety shall be implemented by the project sponsor prior to construction of the new lead track and rail yard.

Impact 12-8

The presence of State-listed hazardous materials sites on and adjacent to the PPMT could result in the exposure of construction workers, facility workers, and workers at adjacent industrial sites to hazardous materials, creating a safety hazard to such workers. (LTS)

One previous project site tenant, Pasha Group at 1301 and 1311 Canal Boulevard, is included on the Cortese List of hazardous materials sites compiled pursuant to Government Code Section 65962.5. In addition, several adjacent site tenants are included on the Cortese List. The Pasha Group is identified on several regulatory site listings, which fall into two general categories: (1) those listings which refer to the lawful storage and use of hazardous materials and wastes; and (2) sites which include the operation of fuel underground storage tanks (USTs). Relative to the past lawful storage and use of hazardous materials and wastes, there are no listed violations and no known environmental releases associated with these activities. Relative to the past operation of fuel USTs, the project site previously included two UST locations. At one of the locations, all of the USTs were removed in 1987 and soil and groundwater samples showed no significant hydrocarbon impacts. The second former UST location, which is located northwest of the AWC entry gate, is still an open leaking UST (LUST) release site with the RWQCB. According to Mr. Norman Chan of the Port of Richmond, a soil boring investigation for this open UST release site showed minimal hydrocarbon impacts. Although the site has not yet been granted regulatory closure from the RWQCB and contaminated soil and groundwater may still be present on the site, contaminant levels are expected to be within regulatory limits, and would not be expected to pose a significant environmental or safety risk associated with the proposed project.

The Phase I ESA also identified several offsite regulatory site listings (Great Western Chemical, Bay Terminal, Castrol Terminal, ConocoPhillips Terminal, BP/ARCO Terminal, Unocal Terminal, Tosco Terminal, and Kinder Morgan Terminal) in close proximity to the project site. However, these sites are located in an expected downgradient (easterly) groundwater flow direction and would not be expected to significantly affect the project site. It is possible that transportation (trucks, railroad, and pipeline) activities associated with these adjacent sites could adversely impact site workers; however, the Phase I ESA did not identify widespread spills or compliance issues associated with these facilities. While there is still a potential for hazardous materials sites to have previously contaminated soil and/or groundwater at the site to a significant degree, implementation of Mitigation Measure 12-1 during construction would identify potential contamination and require appropriate remediation prior to the commencement of project operations. Potential

exposure pathways of any unidentified contamination would remain sealed. Therefore, the presence on and near the PPMT site of listed hazardous materials sites and the associated risk they could pose to the environment and to human health and safety would be a *less-than-significant impact*.

Mitigation Measure 12-8

None required.

CUMULATIVE IMPACTS

The project development could, in conjunction with other planned City of Richmond development projects, result in increased risk of accidental releases of hazardous substance and wastes. The City of Richmond lists approximately ten major planned development projects currently being reviewed by the City, with the closest of these being Seacliff Marina, located adjacent to the southwest side of the project site.²⁴ Development of the Honda Port of Entry project in combination with the other pending projects has the potential to increase the risk for accidental release of hazardous materials. Each of the development projects under review would require evaluation for potential threats to public safety, including those associated with transport/use/disposal of hazardous materials, accidental release of hazardous materials into the environment, hazards to sensitive receptors (including schools), listed hazardous material sites, aircraft-related hazards, emergency response, and wildland fire hazards. Because hazardous materials and risk of upset conditions are largely site-specific, this evaluation would occur on a case-by-case basis for each individual project affected, in conjunction with development proposals on these properties. Further, each related project would be required to follow local, State, and federal laws regarding hazardous materials and other hazards. Therefore, with full compliance with local, State, and federal laws pertaining to hazards and hazardous materials, cumulative impacts would be less than significant.

²⁴ City of Richmond website: <http://www.ci.richmond.ca.us/index.asp?NID=1401>.

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13. VISUAL QUALITY

13.1 INTRODUCTION

Visual quality is a measure of a site's aesthetic value. This chapter describes the existing visual character of the proposed project site and analyzes the effects the proposed facilities would have on the existing visual quality of the site.

The evaluation of a visual impact is affected by the social relationship of the impact. For example, a visual change to the environment may be considered significant when viewed from a public gathering place, such as a public park or beach. That same visual change could be considered less than significant when viewed from a longer distance by motorists on a highway. It is therefore necessary to consider the context in which the change in the visual environment would be viewed, including the length of time of exposure.

The context in which a visual change occurs is also an important consideration in the evaluation of visual impacts. For example, constructing a high-rise office building in the heart of an urban downtown containing other similar structures creates a very different visual effect than if the same building were constructed in the middle of a cornfield; the context is a primary determinant of its visual compatibility. Similarly, construction of a residential development in a context of similar surrounding development cannot be seen to create the same kind of visual incompatibility that would occur if the development were placed in the context of a natural and undeveloped environment.

It is clear from the above discussion that the many elements of visual quality are subjective in nature. It is therefore difficult, if not impossible, to perform an objective analysis of visual impacts. An attempt has been made to utilize some of the concepts discussed above as a rational basis for the conclusions reached in this chapter. The analysis also attempts to take a middle-of-the-road position that represents the visual sensibilities of the average person, recognizing the difficulty of this and that there would inevitably be persons who disagree with the conclusions. Whenever possible, quantifiable measures of visual impact have been utilized.

The visual analysis presented in this chapter is based on a field reconnaissance of the project site and vicinity conducted under both daylight conditions and nighttime

conditions on January 16, 2008, during which visual conditions of the project area were inventoried. In addition, several follow-up visits were subsequently made. The field reconnaissance included a photographic survey to aid in evaluating the visual character of the project site and to assess potential impacts of the proposed project. Measurements of lighting under various working light conditions were also performed. On- and off-site visual impacts that would be associated with the proposed Honda Port of Entry project are described in this chapter, illustrated through the use of visual simulations, and evaluated for significance in accordance with the standards of significance defined below.

13.2 SETTING

VISUAL CONTEXT OF THE SITE

General Characteristics

The site is a well-developed industrial port, which is fully paved and leveled and features little, if any, natural vegetation. The vast majority of the site is asphalt-paved parking area with painted parking stalls and feeder roads. The site is enclosed by an 8-foot-high cyclone security fence topped with concertina wire, and is surrounded by an access road with similar paving which runs the entire western border of the site edge to the historic graving docks on the south end of the site. The eastern edge of the site has a handful of existing buildings and structures that are described below. The project area extends as a panhandle north along Canal Boulevard, and includes the BNSF yard near the corner of Canal Boulevard and Cutting Boulevard, which is of a similar appearance. Figures 3-2 and 3-3 provide aerial views (plan view and oblique, respectively) of the PPMT and the surrounding areas (see Chapter 3, Project Description).

At the southeast corner of the site, there is a collection of existing buildings dating back to the site's use as the Kaiser Shipyard No. 3, constructed during WWII. These historic buildings are described in Section 3-5, and are depicted on Figure 3-4. Buildings 4 and 5 are of similar appearance and industrial design. Both are simple square-edged structures with grey metal siding and uniform rows of windows. Building 24 is a monolithic gray concrete structure with few, if any, windows or architectural embellishments. The area surrounding buildings 4, 5, and 24 is completely paved with asphalt and concrete.

West of Buildings 4 and 5 there are two smaller structures, including a car wash, and a fuel island, and north of buildings 4 and 5 is the guard shack at the PPMT entrance. Approximately 10 feet tall and around 120 square feet, it matches the industrial style of the other facility buildings, but is of newer construction. Further north, in the panhandle of the site, there are additional historic buildings that are not part of the PPMT operations.

The historic cafeteria, pictured on Figure 3–5(b), as well as the historic entry gate and the historic first aid building, are wood structures that are not part of the PPMT operations and are not a part of the Honda Port of Entry project. They are of similar design and appearance as the rest of the buildings, but are considerably smaller.

The eastern edge of the site abuts the western edge of the Santa Fe Channel. Along the channel the site has approximately 1,500 feet of flat berth where auto-carrying ships dock to unload into the existing PPMT site. The southern portion of the berth is in visually deteriorated condition, segments of the bull rail are missing, and pavement is cracked in some locations.

At the northern end of the site, the BNSF yard consists of a large parking area similar in appearance to the main portion of the PPMT site, but includes a dual parallel rail line for loading autos onto rail cars. The BNSF Yard is pictured on Figure 3–6(b).

Car carrying ships, shown on Figure 3–6(a), measuring approximately 600 feet long and 100 feet wide with 70 feet of freeboard, dock at the eastern edge of the site to unload their cargo of automobiles.¹ Ships are docked at the PPMT an average of 75 times per year for an average of 8 hours per call, resulting in an estimated 12 hours per week of berth. Chapter 3, Section 3.5 provides additional details on existing ship operations.

Views from the Project Site

The site encompasses approximately 110 acres in an irregularly-shaped parcel. Because of its size, shape, and neighboring topography, views from the site can vary depending on vantage point. While an assessment of views from the project site follows, it must be noted that the proposal would keep the maritime industrial use and not introduce new residents to the site. Views from the site (as opposed to *of* the site) are therefore a secondary consideration, at best.

Three view areas encompass the PPMT: the Main Site, divided into western and eastern sections, and the Panhandle/BNSF Yard. The Main Site consists of the area within the historic entrance gate, with the area west of the historic graving docks possessing significantly different views than the area to the east. Finally, the Panhandle/BNSF Yard is the area along Canal Boulevard that is north of the entrance gate, illustrated on figures 3–1, 3–2, and 3–7.

¹ “Freeboard” is a ship’s height above the waterline when loaded.

Main Site – Western Section

To the north of the western section of the main site a steep hillside rises steeply to 327 feet. Partially bare, and partially covered in natural low-lying grasses and shrubs, the hillside also holds an existing tank farm owned by BP/ARCO, which is in full view of the project area, and surrounding areas. Beyond the first hill rises the Miller/Knox Regional Shoreline, characterized by low grasses, shrubs, and coastal trees, and other vegetation. Along the hills west of the BP tank farm lies the Seacliff development of single-family detached homes. A hillside row of 12 homes and one public park overlook the western edge of the PPMT site, as shown on Figure 4-2(a) (see Chapter 4, Land Use and Planning). The homes are reminiscent of a Cape Cod style, and stand three stories tall, with wooden decks extruding from the main level. The small pocket park, located on Seacliff Place, is referenced in the remainder of this chapter as Seacliff Park.

To the west of the Seacliff homes, downhill near sea level, there is an approximately 5-acre open area with seasonal pools and natural grasses. The view beyond that is of the Brickyard Cove marina and residential development. Sandpiper spit, a string of 2 to 3 story detached luxury homes built over the water, extends out into the bay (Figure 4-3).

The site enjoys extensive views of the entire northern section of San Francisco Bay, including Mt. Tamalpais, Marin County, the Golden Gate Bridge, San Francisco, Alcatraz Island, Angel Island, Brooks Island, the Oakland-San Francisco Bay Bridge, downtown Oakland, and the Oakland, Berkeley, and Richmond hills.

Main Site – Eastern Section

Views north of the eastern section of the main site consist mainly of the Port of Richmond and associated facilities, all of industrial appearance, belonging to BR/ARCO, Conoco/Phillips, Kinder-Morgan, and National Gypsum. These facilities are mostly paved, with various industrial buildings, storage tanks, and parking (Figure 4-4(a)). These sites contain little to no natural vegetation, and are of a style consistent with the PPMT. The coastal grasses and shrubs of the eastern hillside of the Miller/Knox Regional Shoreline are visible as well.

To the east across the Santa Fe Channel, the Ford Assembly Building, now a mixed-use residential/commercial structure still being built out, is visible, along with two small bayside parks, and the Marina Bay residential development. In general the project area is bordered on the east by industrial facilities, but some residential areas are visible further in the distance.

Panhandle and BNSF Yard

Along the panhandle area of the site, the views to the west are of the Miller/Knox Regional Shoreline. The hillside west of Seacliff Drive and Canal Boulevard is part of an abandoned mining operation, and has a prominent bare excavated slope running parallel to the panhandle. The slope has been stabilized against further erosion and is void of natural vegetation. The surrounding area contains spotty natural shrubs and coastal vegetation.

To the east, the view is of the Santa Fe Channel and the Port of Richmond with its various industrial facilities, including storage tanks, lighting rigs, loading docks, associated buildings and parking areas. There are approximately six or more large-ship berths in the Port, in addition to the five graving docks that are located outside of the PPMT, at the south end of the point. At any given time, there may be one to six additional large ships in Port, plus the four or five vessels that are stored in the graving docks.

The BNSF yard makes up the northern tip of the project area. The views from this area are identical to the Panhandle views described above, but also include views of the Tech Center II located across Canal Boulevard (Figure 4-4(b)). Tech Center II is a business-park style development of 1-2 stories with minor landscaping and parking bordering it. The BNSF yard also includes views of the City of Richmond wastewater treatment plant sitting at the base of the Miller/Knox Regional Shoreline. The wastewater treatment plant contains multiple large tanks and pools, as well as some support buildings all of which are of an industrial style.

Most of the areas surrounding the Panhandle and BNSF yard, as well as the areas across the channel from the main site, are of an appearance typical to industrial uses, and similar to that of the main site of the PPMT.

Off-site Views of the Project Site

Main Site

Public Views

Due to its size, shoreline location, and low elevation, the main portion of the PPMT is visible from many surrounding public areas. The following is an inventory of public view corridors that include the PPMT and would be most sensitive to any visual impacts resulting from the project proposal.

From Seacliff Park, located uphill from the PPMT's western section, the view includes the entire main site, including berth areas and historic buildings, as well as the neighboring graving docks. From this location, the PPMT makes up a small segment of the overall

view of the northern San Francisco Bay. Figure 13–1(a) shows the view of the western edge of the PPMT from Seacliff Park. The views of the PPMT from the public roads in the Seacliff area are obscured in many places by the row of 12 homes that line the edge of the hillside, providing only fleeting glimpses of narrow views of the project area. Some portions of Seacliff Drive, the main thoroughfare into Brickyard Cove, have views of the PPMT similar to those on Seacliff Place, but from a lower elevation (see Figure 13–1(b)), allowing only partial views of the western half of the site mostly dominated by the taller structures and ships. Only the very southern end of the proposed rail yard area is visible from the Seacliff development, but even this area is not visible from lower elevations, or from Seacliff Drive. However, when train cars are situated on the proposed rails, those cars at the southern end may be partially visible, albeit at a significant distance.

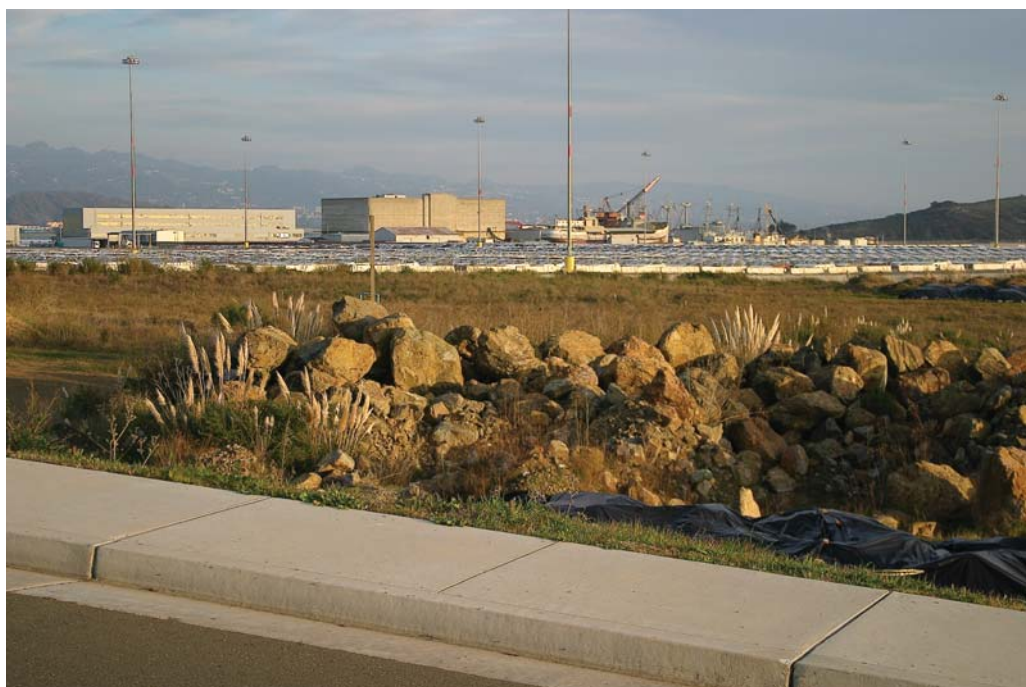
From lower-lying areas of Brickyard Cove and associated roads, the view is limited. Nighttime lighting is still visible, as is a portion of the project area, any ships docked at the site, and some historical buildings, but much of the view in the direction of the PPMT is obscured by intervening terrain.

The southern tip of the Miller/Knox Regional Shoreline has various views encompassing the entire PPMT and nearby facilities. While little used by hikers and visitors in comparison to the western shoreline, the occasional visitor would observe views similar to those of Seacliff Park, but including the proposed rail extension. The view of the PPMT from Miller/Knox Regional Shoreline is only a part of the blanket of industrial facilities that make up the Port, with other views from the park including the historic graving docks, the Santa Fe Channel, the BP/ARCO tank farm, and the Conoco/Phillips facilities, all of which share an industrial appearance similar to the PPMT.

Views from sailing vessels on the Bay and from Brooks Island must also be considered as public views, as the waterways of the Bay are open to public use. The PPMT is surrounded on the west, south, and east by public Bay waters, making the entirety of the main site visible from a variety of vantage points. From the Bay and Brooks Island, the site appears as a large, flat, paved industrial facility with buildings 4, 5, 24, the ship berths, the smaller support buildings, and the proposed rail expansion site visible. The expansive storage lot and high-mast lighting towers are visible in the western half of the site with the vehicles in temporary storage filling the lot to varying degrees, depending on inventory. The long, gray concrete ship's berths comprise most of the eastern shoreline. When the car-carrying ships are in port, the view from the water of the eastern shoreline is dominated by their considerable size. Along the shoreline to the northeast, the neighboring industrial facilities that line the Santa Fe Channel and Canal Boulevard block channel views of the PPMT main site. On the water to the west of the PPMT, hills rising



a) The main PPMT site, as viewed from the hillside residential development immediately to the west of the site.



b) The PPMT, as viewed from Seacliff Drive, west of the site, near sea level.

Figure 13-1

Views of the PPMT from the Seacliff Neighborhood

Source: Douglas Herring & Associates

north of the project area define the edge of residential development, with few industrial uses visible on the shoreline to the west. At the southernmost shoreline of the point, the historic graving docks line the waters edge. Though not part of the PPMT, the large ships stored in the historic graving docks obscure some views of the project site when viewed from the immediate area.

To the east, industrial sites line most of the Santa Fe Channel; however, a few non-industrial sensitive receptor public sites with views of the project area lie to the east. The Ford Assembly Building, a mixed-use commercial/industrial/live/work structure, and Sheridan Point Park are located 0.25 miles to the east, and Vincent Park in the Marina Bay development is 0.71 miles to the east. Figure 13-2(a) shows the PPMT as viewed from Point Sheridan, and Figure 13-2(b) shows the same view from Vincent Park. When viewed from these points, much of the PPMT is surrounded to the north by industrial facilities containing various squared off utility and portable style buildings, paved parking lots, storage tanks, and little to no natural vegetation or landscaping. When docked at the PPMT berths, the length and height of the large car-carrying ships obscure some of the site from Marina Bay, as Figure 13-2(b) illustrates.

Private Views

In the Marina Bay development east of the project site, eight homes line the eastern boundary of Vincent Park at a distance of approximately 0.75 miles; some of these homes have direct but partial views of the PPMT, while intervening terrain and/or trees largely or completely obscure the views from half of the homes. Thus, these views are much more limited, and seen from a greater distance, than the view depicted on Figure 13-2(b). Averaging 1 mile to the east of the PPMT, the views from most of the other 117 homes in the Harbor View area of Marina Bay are obscured by the eight homes lining Vincent Park, and have little to no view of the PPMT. Roughly a dozen of the homes situated on the southern shoreline have limited, oblique views of the southern portion of the PPMT. Such views are primarily only available from projecting second-story bay windows or, in a few cases, corner/side windows that face toward the project site. The site is nearly a mile away from these homes and comprises a very small fraction of the Bay views available from the homes. The rest of the Marina Bay development sits approximately 0.25 miles northeast of Harbor View, and has no direct view of the PPMT.

The 12 homes along Seacliff Place lie less than 200 feet northwest of the PPMT and have views similar to those from Seacliff Park (Figure 13-1(a)). The proposed PPMT rail yard and additional high-mast lighting would be located approximately 1,500 feet east of these nearest homes. The majority of the 136 other homes which comprise the rest of the either have no views of the PPMT, or have very limited and more distant views.



a) Sunset view of the PPMT from Sheridan Point Park, one-quarter mile to the east of the site.



b) The PPMT site, as viewed from Vincent Park, approximately 0.7 miles east of the site.
A car-carrying ship delivering new autos from Korea is docked at Berth 7.

Figure 13-2

Views of the PPMT from the Neighboring Parks

Source: Douglas Herring & Associates

On private Sandpiper Spit, located on the water west of the PPMT, the six easternmost homes have views of the southern portion of the PPMT similar to the cliffside homes along Seacliff Place, but at a distance of approximately 1,200 feet, and from a significantly lower elevation of 5 feet above sea level. Due to Sandpiper Spit's southern location, these homes have views in the direction of the proposed rail yard site, the entire ship berth, and any ships that may be docked there, but as a result of the lower elevations, these views are limited to taller structures, and high-mast lighting towers; there is no overhead "bird's eye" view of the site surface from this location, and the proposed rail yard would not be visible. The berths and the rail yard site are on the opposite end of the PPMT, approximately 3,600 feet away and 5 to 10 feet higher in elevation. Historic buildings 4, 5, and 24 along with the various support buildings are included in this view, as well as the historic graving docks.

The private views from the Brickyard Cove development are identical to the public views of that area discussed above, with much of the view of the PPMT obscured by hills and the 12 Seacliff Place homes.

Panhandle and BNSF Yard

Public and Private Views

Viewed from the waterways and docking marinas of the Santa Fe Channel, the BNSF Automotive Terminal is visible as a large asphalt-paved parking lot with intersecting rail lines and a small number of squared-off single-story utility or warehouse-style buildings with little natural vegetation. Industrial facilities surround the yard to the south and east (BP Castrol), the west (wastewater treatment plant), and across Harbor Channel.

Non-industrial public and private properties with views of the BNSF facility include the Miller/Knox Regional Shoreline, the homes along East Richmond Avenue and Nevada Avenue, Tech Center II, the Canal Industrial Park, and the San Pablo Yacht Club. These properties have full view of the large parking storage lot, the two parallel rail lines and the industrial buildings on the property. Tech Center II is surrounded by 3- to 6-foot-tall hedges and taller trees, which obscure much of the BNSF Yard, allowing for only intermittent views of the site. Likewise, much of the San Pablo Yacht Club views are obstructed by wood slats and covering on the chain link perimeter fence. Views from the industrial properties to the southeast are blocked by the BP/Castrol storage tank facility that occupies a portion of the shoreline immediately east of the site.

NIGHTTIME LIGHTING

Characteristics of Light Measurement and Perception

The perception of light impacts on a public or private view is an inherently difficult topic to quantify. Unlike pollutants such as tailpipe emissions, light may have a beneficial or positive impact in some views, and a negative impact in others. Furthermore, personal preferences and necessities can play a major role in determining one's opinion on light impact. In this section, discussion will be presented regarding established types of lighting impacts followed by an inventory of the existing light levels of the PPMT, using quantifiable data whenever possible.

A brief discussion of light measurement is necessary to understand the results of any measurements. Two measures of lighting are addressed in this chapter: illuminance, and luminance. Illuminance is the amount of light falling *on* an object, and is the most commonly used practical measure of lighting. In an office, a lighting designer would examine illumination levels to ensure proper visibility for the workers. Likewise, at the PPMT, high-mast lighting is installed to provide a set amount of illumination to the site. Light levels observable by the human eye cover an enormous range, with an average sunny day measuring 128,000 times the amount of illumination as a moonlit night. In the case of nighttime lighting, even a doubling of illuminance may not represent what some would consider a noticeable effect on lighting. This is demonstrated by the fact that typical parking lot lighting can vary by a factor of 4 or more.

Light illumination is measured in most cases by foot-candles (FC), with 1 FC equivalent to the amount of light emitted from a one-candela source falling on a surface exactly 1 foot away.² Table 13-1 shows common illumination conditions and their corresponding FC readings for reference.

Luminance, another measure of light, is the intensity of light emitted from a source. Picturing a flashlight shining on a wall in the dark, luminance can be thought of as the intensity of the bulb, while illumination would be the measure of light incident upon the wall. Luminance is stated in candela steradians per square meter ($\text{cd} \cdot \text{sr} / \text{m}^2$).

² Candela is the SI base unit measurement of luminous intensity, or power emitted in a particular direction.

Table 13–1
Illumination Readings For Reference

Illumination	Foot-candle (FC) (approximate)
Moonless night	.0001
Quarter moon	.001
Full moon on a clear night	.025
Candle at 1 foot distance	1
Lighted US Highway at night	1.5
Family living room	5
Office Hallway	20
Brightly lit office	40
Sunlight on an average day (min.)	3200
Sunlight on an average day (max.)	10000

Sources: Wikipedia. *Lux Explanation*, February 2008
(<http://en.wikipedia.org/wiki/Lux>).
Illuminating Engineering Society, *Lighting Handbook*, 2000.
Oregon Department of Transportation, *Traffic Lighting Design Manual*,
January, 2003.

Lighting Impacts

The National Lighting Product Information Project (NLPIP) at Rensselaer Polytechnic Institute divides lighting impacts into three categories: *sky glow*, *light glare*, and *light trespass*³

Sky Glow and Local Glow

Sky glow is described by the NLPIP as “(l)ight that is either emitted directly upward by luminaires or reflected from the ground which is scattered by dust and gas molecules in the atmosphere, producing a luminous background.”⁴ In other terms, it is the glow that one observes over metropolitan areas which obscures views of the stars and creates a luminous nighttime sky.

³ National Lighting Product Information Program – Lighting Research Project, *Lighting Answers*, March 2003 revised February 2007.
<http://www.lrc.rpi.edu/programs/nlpip/lightinganswers/lightpollution/abstract.asp>

⁴ *Ibid.*

Sky glow is generally considered in larger, region-wide terms, tends to affect astronomers and casual star observers most, and is a cumulative result of all lighting in a region. An individual source's impact, when added to the hundreds of thousands, if not millions, of light sources in the region, is immeasurable. Instead, standards are developed for light fixtures to minimize or eliminate upwardly directed light. "Full-cutoff" luminaries, employed in the existing lighting at the PPMT, meet strict qualifications for light direction. Zero light is emitted directly upwards, and less than 10 percent of the total light output is emitted in the 10° below horizon, thus eliminating light emitted directly into the night sky.⁵ Some light is reflected upwards into the sky by the ground and vehicles below; however, this is not avoidable by any type of lighting, and is generally a fraction of total light output and not of a significant amount requiring further examination in the present analysis.

On a local scale, an effect similar to sky glow may occur. Best described as "local glow," it does not obscure the view of the sky as a whole, but rather, can serve as an interruption of a more terrestrial view, and would occur in a direction specific to the lighting source. In the case of the existing lighting at the PPMT, the local glow impact occurs on views in the direction of the source. When viewed at night, local glow would be observed in the "halo" or "cone" of light visible around the site, which would inhibit views of areas in the same direction, but at a further distance, as the light source. In foggy weather, the light source would be weaker but more diffused, covering a larger area.

The impact of local glow can be characterized as a view distraction, the result of the intensity of the foreground project lighting being greater, to some degree, than the intensity of the background view. In this case, a quantifiable ratio of the light from a source in a particular direction (foreground) versus the light in the same direction without the source (background) will be most relevant.

A photometric meter with a hemispherical diffuser was employed for the following measurements. The hemispherical diffuser returns a measurement for an entire scene covering 180 degrees in the direction measured. The meter returns an exposure value (EV) for a given sensitivity (ISO/ASA value), which can be converted to candela*steradians per meter squared, a measure of luminance, using the formula: $EV = \log_2 (ES/C)$, where E = luminance (cd/m²), S = ISO/ASA sensitivity, and C = meter calibration constant of 320. In order to better interpret the complicated measure of

⁵ Horizon, in this case, refers to the imaginary plane that is defined by the lower edge of the light fixture lens and runs perpendicular to the direction of lighting.

luminance, a ratio of lighting will be used for comparison between various lighting situations.

Light Glare

Light glare is defined by the NLPPI as the “sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in visual performance and visibility.”⁶ The most common example of light glare is the headlights of an oncoming car, which can blind or discomfort a driver. Light glare occurs when the light source itself (the bulb) is exposed to view.

Light Trespass

The most relevant lighting impact for this project, light trespass occurs when spill light illuminates an area where it is not wanted, usually on a neighboring property or public area. This is a common problem on industrial/residential borders. Light trespass is measured in foot-candle (FC) readings taken at the vertical plane of the boundary between two areas. At the PPMT, the most sensitive locations to light trespass are the homes and public park along Seacliff Place.

Light trespass must be considered in context. Many sources have recommended comparing the amount of light falling into an area against the amount of light emitting out of the same area, creating an external-to-internal ratio. This serves an excellent purpose of comparing desired (or existing) light against any external light trespass, and controls for any variations in photometric equipment. To measure illumination, a standard SLR camera was focused upon a sheet of white paper facing directly towards the PPMT. The camera then returned an aperture and shutter speed for the appropriate exposure, which was converted to foot-candles using the following formula: $N^2/t=L*S/K$, or $L=K*N^2/S*t$, where K=meter constant of 12.5, N=aperture, S=ISO/ASA, and t=shutter speed in seconds.

Existing Light Levels at the PPMT

Lighting on the Property

The western half of the PPMT main site is currently lit with 16 100-foot-high light towers with varying quantities of fixtures, each of which emit approximately 140,000 lumens.⁷ Of

⁶ National Lighting Product Information Program, Lighting Research Project, *Lighting Answers*, March 2003, revised February 2007.

⁷ A lumen is a measure of total light output in a given angle or beam. A 1 candela source outputs 4π lumens total. Lumens also serve as the basis for foot-candles, with 1 FC = 1 lumen per square foot.

the existing towers, six have nine light fixtures, five have six light fixtures, and five have three light fixtures. The fixtures on the towers are full-cutoff luminaires, which minimize glare and emit zero lighting upward into the sky. Under nighttime Operations mode, all 16 towers are on with a total of 13.86 million lumens, with light levels ranging between 2.0 FC and 10.7 FC, with an average illumination of 4.19 FC. Figure 13-3 shows the existing lighting, as well as the proposed lighting. An illumination level of 4.19 FC is equivalent to normal family room lighting (5 FC), while 2.0 FC is equivalent to two candles at a distance of 1 foot, sufficient for reading vehicle VIN numbers and distinguishing paint color.

Nighttime Operations mode lighting occurs approximately one night per week, and usually lasts until 2:00 a.m., when Security mode lighting is then implemented.^{8,9} On occasion, such as an emergency or a security breach, Operational mode lighting may be used past 2:00 a.m. The actual frequency of nighttime Operations mode may be significantly less under current conditions; however, to provide a conservative analysis of the proposed project's potential lighting impacts, a higher frequency of occurrence has been assumed.¹⁰ The proposed lighting schedule would continue to utilize Operations mode lighting in the existing lighting area approximately one night per week, while the proposed lighting area would be illuminated under Operations mode at an expected frequency of four nights per week.

Under Security mode lighting, illustrated on Figure 13-4, only seven towers (a combination of six-light and three-light fixtures) around the perimeter are used, reducing total light output to 4.620 million lumens, a reduction of 67 percent. This lighting mode leaves the boundary lit at full intensity, with the interior area considerably darker, lit only by the outer ring of lights. Security mode lighting is utilized anytime Operations mode lighting has ceased. Operations mode lighting is the most intense lighting utilized, and thus will be the focus for impact measurement.

The eastern half of the PPMT closest to the ship berths is currently lit only with 8 to 12 fixtures mounted on both sides of the historic buildings. None of these fixtures are of the intensity or size of the existing high-mast lighting. The panhandle area is lit solely by streetlights at this time. The proposal does not include any changes in lighting in the BNSF Yard; therefore, discussion of lighting conditions in that area is not provided in this chapter.

⁸ Site Lighting Design Summary.

⁹ Ari Niemi, Construction Manager, TransDevelopment Group, personal communication, March 17, 2008.

¹⁰ Marek Bocian, Terminal Manager, Auto Warehousing Corporation, personal communication, February 28, 2008.

Light Levels Adjacent to the Property

Due to its proximity to the PPMT, the public Seacliff Park was identified as the most sensitive public site for lighting impacts. While the Marina Bay development lies 0.75 miles east of the PPMT, Seacliff Park immediately borders the PPMT, which is present in the foreground of a significant portion of views from the park. Therefore, all local glow impacts were measured from Seacliff Park. This park is immediately adjacent to the closest residences overlooking the site; light levels at this location are therefore also representative of nighttime lighting from the PPMT as experienced at these private residences. Light readings were taken on January 16, 2008 using the methodology previously described. Readings were taken under Operations mode and Security mode. Further readings were taken with all PPMT lights off to establish a baseline. Readings for light emitted from Seacliff Park were taken February 10, 2008.¹¹ The scene luminance results established by these readings are shown in Table 13–2; the light trespass results are presented later in this chapter.

Local Glow Levels

The ratios presented in Table 13–2 represent a ratio of foreground lighting (from the PPMT) versus background (or view) lighting, derived by subtracting the measured background levels from the measured PPMT lighting. The higher the ratio, the more “obstructive” the PPMT lighting is to views of the surrounding hills and shoreline.

Table 13–2
Scene Luminance at Seacliff Park

Lighting Mode	Ratio PPMT:Background
Operations mode	5.49:1
Security mode	4.29:1

Source: Douglas Herring & Associates, Readings taken 1/16/08

From the residences along the boundary between Seacliff and the PPMT, the PPMT appears as a strong foreground light that does not necessarily obscure views beyond it, but does have some distractive impact on those views. The two photographs shown on

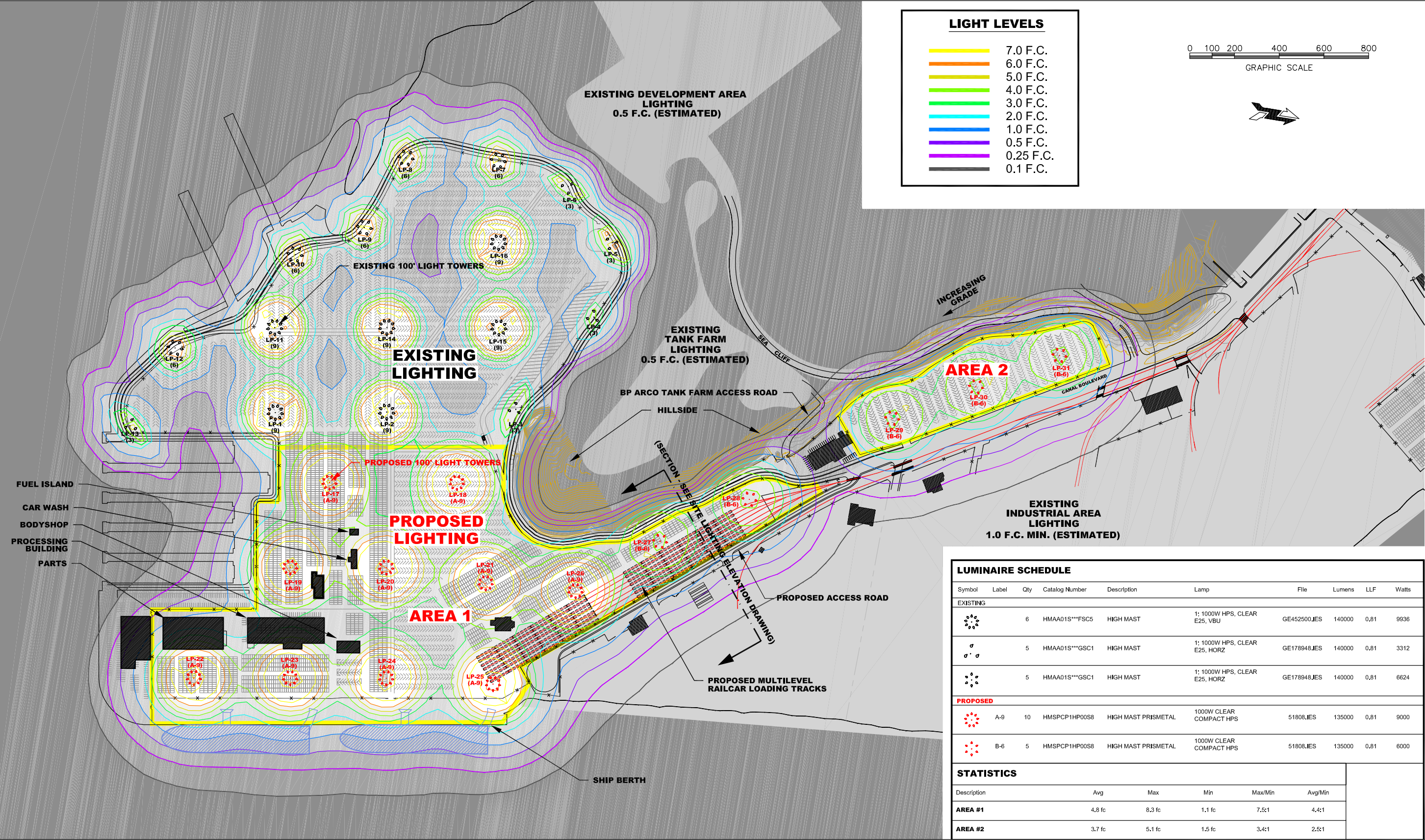


Figure 13-3

Existing and Proposed Operational Lighting Levels

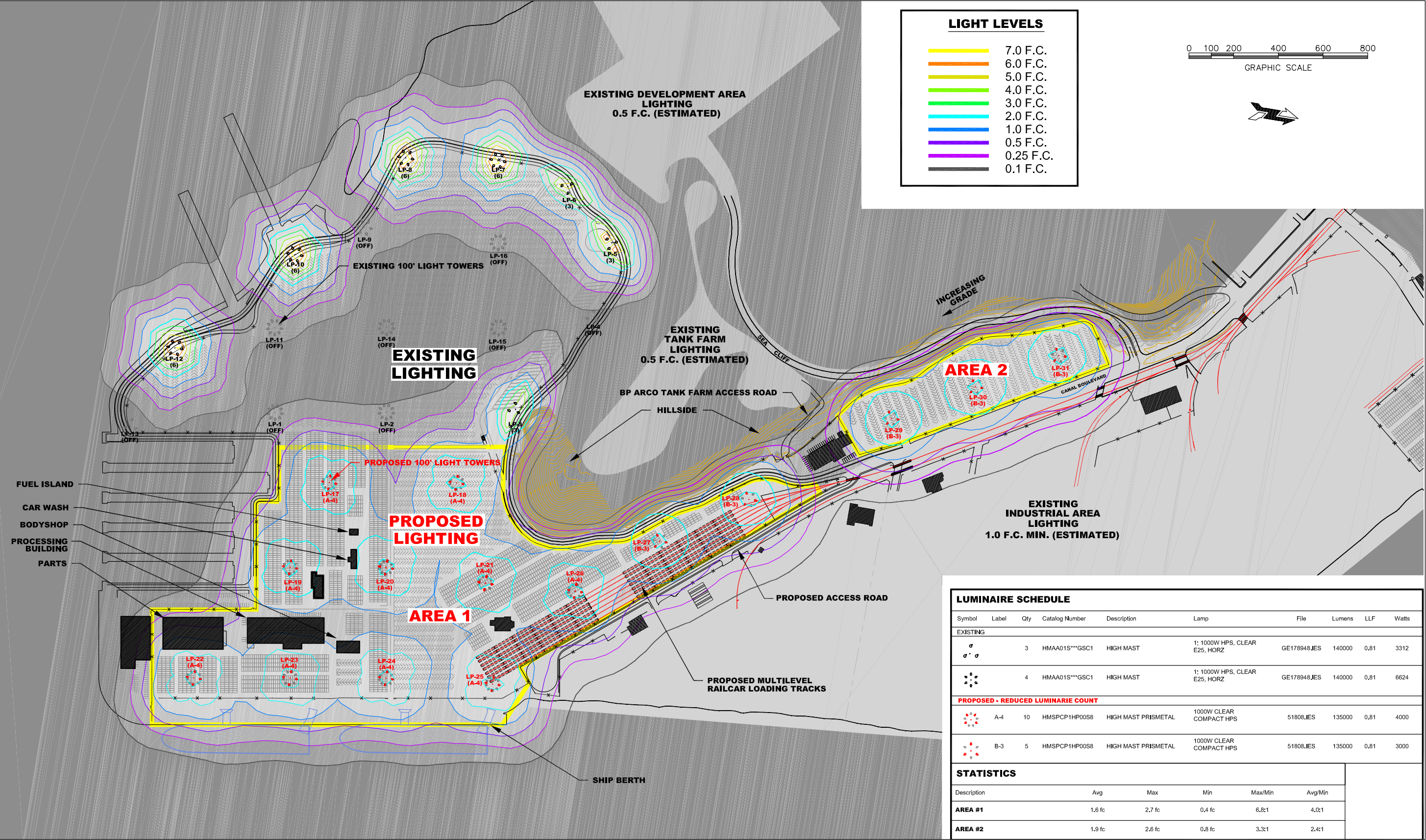


Figure 13-4
Existing and Proposed Security Lighting Levels

Figure 13–5 illustrate the view from Seacliff Park under existing Operations and Security lighting modes, respectively. Note the visibility of the City of Oakland skyline in the background. Table 13–2 shows approximately 5.5 times the amount of light illumination from the PPMT as from the rest of the scene or view. It is evident that the existing local glow of the PPMT does not obscure distant vistas, but rather is simply a distraction from them.

Light Glare Levels

Light glare occurs when a lighting source is presented in view of a subject. The luminaires utilized at the PPMT are full-cutoff IES Type IV, and are designed for perimeter applications. However, light glare currently occurs in many locations on the site, as well as on neighboring industrial properties, Seacliff Park, and residences on Seacliff Place. Direct exposure to the bulb occurs only when viewed from the illumination area, and only from directly underneath. As a result of the intensity of the light source reflecting within the cutoff apparatus, some light glare is produced when viewed from altitudes below the lighting horizon created by the fixtures (i.e., less than 100 feet above the ground surface of the tower base), which the photos in Figure 13–5 demonstrate.

Distance and altitude are both attenuating factors in the intensity of glare observed; the further an observer is, the less glare impact is experienced. Likewise, the higher an observer is, the less glare is visible, as the fixture cutoff is designed to minimize light emission closer to the lighting horizon. Figure 13–6 shows the luminance of the fixtures at the outer reaches of the illumination area. At 1,086 feet, candlepower is quite limited, especially in comparison to other types of lighting, such as the “Large Predator” type lights which are common in retail parking lots and other public places.¹²

At an elevation of 45 feet, Seacliff Park is subject to an observable level of glare, especially from the fixtures closest to the PPMT boundary. Though not as severe as viewing the bulb itself from underneath the fixture, some minor discomfort may occur to a sensitive viewer when looking directly at the light source. Fixtures located further from Seacliff Park and closer to the proposed project area present far less glare than those closer to the boundary, illustrating the minimizing effect of distance and angle on observed glare. The distance between the Seacliff development and the PPMT lighting reduces the intensity significantly, and observations have shown that the glare is not disabling or harmful to the viewer.

¹² This diagram shows specifications for the proposed lighting; existing lighting is of similar specifications and design.



a) Nighttime operations-mode lighting of the PPMT as viewed from the Seacliff neighborhood.



b) Nighttime security-mode lighting of the PPMT as viewed from the Seacliff neighborhood.

Figure 13-5

Views of Nighttime Lighting of the PPMT from the West

Source: Douglas Herring & Associates

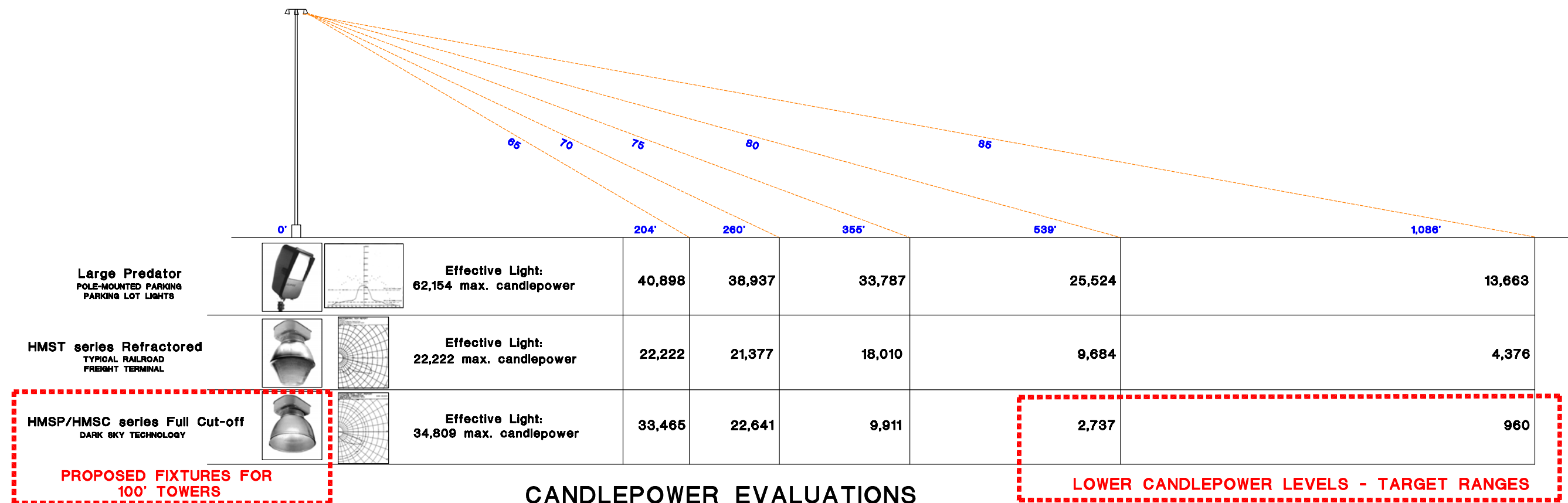
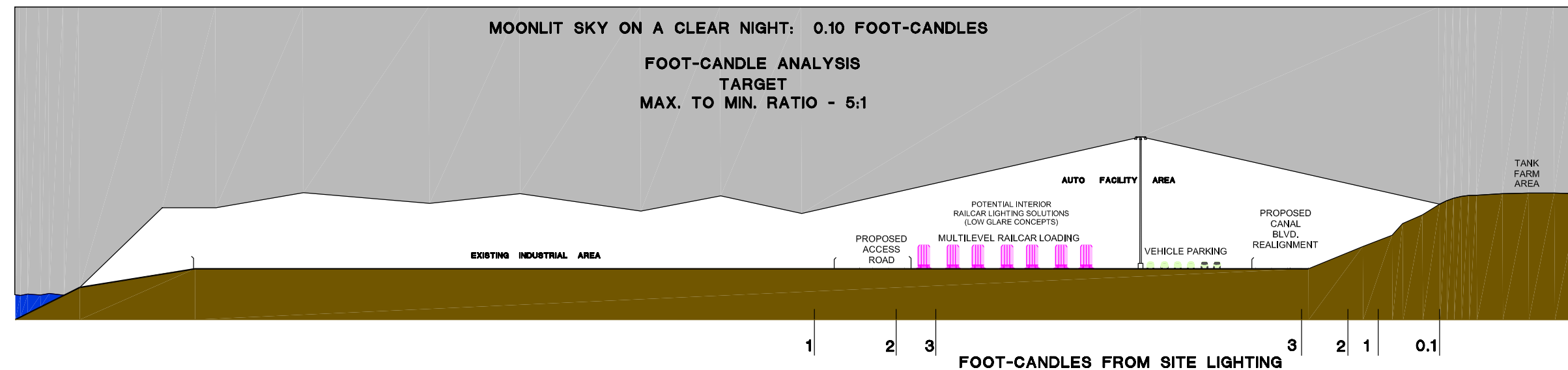


Figure 13-6

Conceptual Site Lighting Elevation, Operational Mode

Source: TransDevelopment Group

Light Trespass Levels

The City of Richmond does not have an established threshold for light trespass. The Institution of Lighting Engineers (ILE) has established limits for lighting trespass for four different types of areas. Established in the UK in 1924, the ILE represents 2,200 lighting engineers and consultants whose key purpose is to establish excellence in all forms of lighting. ILE standards establish a limit of 0.182 FC for any lights on past 11 p.m. in residential areas near commercial or industrial zones.¹³ "Visual Professional 2.0" was utilized to calculate the amount of illumination for the surrounding area resulting from the PPMT high-mast lighting. This modeling software computes illumination levels on an imputed topographic surface based on data files specific to each light fixture, its position, and its direction. Local readings were recorded and calculated at the vertical boundary between Seacliff Park and the PPMT utilizing the methodology described above under Lighting Impacts, Sky Glow and Local Glow.

Local readings, shown in Table 13-3, establish the light level at the vertical boundary between Seacliff Park and the PPMT to be 0.0455 FC, which is consistent with modeling results depicted on Figure 13-3, showing the maximum illumination along the boundary of the PPMT during Operations mode lighting to be between 0.1 FC and 0.25 FC. A background lighting measurement was also taken in order to establish a lighting baseline for Seacliff Park. With all PPMT lights off, an illumination reading of 0.0151 FC was recorded. Adjusting the original 0.0455 FC reading for background illumination, the light trespass illumination attributable to the PPMT is 0.0341 FC, which is slightly brighter than full moonlight (0.025 FC). Current Operations mode lighting therefore does not exceed the ILE threshold for light trespass.

In order to best interpret and provide a context for the lighting conditions at Seacliff Park, a ratio was calculated comparing nighttime lighting emitted from the park versus lighting emitted from the PPMT at the same vertical boundary plane. Utilizing a reading of 0.5 FC from the park, the vast majority of which is emitted from a single streetlight post located in the center of the park, ratios show a factor of 16.44:1, meaning the lighting in Seacliff Park is 16 times as illuminant as the lighting from the PPMT at the boundary under Operations mode lighting. The ratio increases to 26.32:1 under Security mode lighting. Assuming the park lighting emits an acceptable amount of illumination, even the most intense lighting at the PPMT results in only a fraction of the acceptable illumination. Therefore, current Operations mode lighting does not create a significant amount of light trespass.

¹³ Institution of Lighting Engineers (ILE), *Guidance Notes for the Reduction of Light Pollution*. 2000.

Table 13–3
Light Trespass at Seacliff Park

Lighting Mode	Total Illumination from PPMT direction (foot–candles)	Illumination from PPMT (foot–candles)	Ratio of Seacliff Park Lighting (0.5 FC) to PPMT lighting
Operations mode	0.0455	.0304	16.44:1
Security mode	0.0341	.019	26.32:1
Off (background)	0.0151	n/a	n/a

Source: Douglas Herring & Associates, Readings taken 1/16/08 and 2/10/08

Off–Site Views of the Project Site at Night

Under nighttime lighting conditions, the PPMT is visible from many areas in the region. From higher elevations and further distances during the day, the PPMT appears as a flat, paved area amidst other industrial facilities in the Port. Likewise, at night, the lighting of the PPMT blends with the similar lighting of the rest of the Port. The historic graving docks to the south, as well as the BP/Arco, Conoco/Phillips, Kinder Morgan, National Gypsum, and BP Castrol to the north along the panhandle all exhibit similar nighttime lighting. Under both Operations mode and Security mode lighting, the PPMT lighting blends with its industrial neighbors as part of a blanket of nighttime lighting at the Port.

Figure 13–7(a) shows the PPMT from the Marina Bay development’s Vincent Park under full Operations lighting mode. From this point, the current lighting does not interfere substantially with any views, and the effect is further reduced under Security lighting mode. As shown by Figure 13–7(b), the nighttime lighting of the Richmond Marina, also photographed from Vincent Park, contributes a greater amount of nighttime light pollution in the vicinity of the Marina Bay development than the PPMT. It should be noted that Vincent Park, from which the views shown on Figure 13–7 were photographed, is closed to the public at night.

CITY OF RICHMOND ZONING ORDINANCE

Section 15.04.840.040 of the City of Richmond Zoning Ordinance establishes standards regarding light glare that are relevant to the proposed project.



a) Nighttime operations-mode lighting of the PPMT as viewed from Vincent Park.



b) Nighttime lighting of Richmond Marina, as viewed from Vincent Park at same focal length.

Figure 13-7

Views of Nighttime Lighting of the PPMT from the East

Source: Douglas Herring & Associates

15.04.840.040 Lighting and Glare Standards. *All lighting, reflective surfaces or any other sources of illumination shall be utilized in a manner which produces no glare on public streets or on any other parcel. Lights shall be shielded at lot lines so as not to be directly visible from an adjoining residential district.*

All proposed and existing lights are full-cutoff type, which utilize hoods and refractors to limit direct exposure to the lighting source. While some public areas, such as Seacliff Park, may incur some residual glare from the cutoff fixtures, it is not disabling or significantly discomforting. This is a preexisting condition and would not be increased significantly by the proposed project. Potential glare impacts of the project are addressed in Section 13.4, Impacts and Mitigation Measures.

13.3 STANDARDS OF SIGNIFICANCE

Appendix G of the *CEQA Guidelines* identifies a number of significant environmental impacts related to aesthetics, including:

- creation of a substantial adverse effect on a scenic vista;
- substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway;
- substantial degradation of the existing visual character or quality of the site and its surroundings; or
- creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.¹⁴

These standards of significance are adopted for use in this EIR.

13.4 IMPACTS AND MITIGATION MEASURES

In assessing the significance of the impacts in this chapter, it is important to acknowledge that visual preferences are a subjective matter, and there are no objective black-and-white criteria for assessing visual impacts. While there may be a high degree of agreement on certain aesthetic questions, opinions will vary widely on others. Each person is entitled to his or her opinion, but in the present case, an opinion must be rendered that represents a reasonable position that's as close as possible to a consensus. In assessing the visual impacts of the proposed project, the City of Richmond has carefully applied the standards of significance outlined above and has attempted to use and document a rational basis for the conclusions presented herein. The existing visual context of the site has also been used as an important reference point for the determinations of significance.

¹⁴ Governor's Office of Planning and Research, *CEQA Guidelines*, Appendix G, Section I, revised July 27, 2007.

CONSTRUCTION IMPACTS

Impact 13-1

Construction of rail lines, installation of high-mast lighting, and repair of berth 6C would introduce heavy construction equipment into public and private views. (LTS)

Heavy construction equipment would be required at both the main site and the panhandle/BNSF yard for asphalt and track removal; excavation and grading; import and export of fill materials; paving of new surfaces; and installation of new rail track, ship berth bull rail and mooring bollards, high-mast lighting, and landscaping; and other tasks associated with the proposal. The site itself, as well as the surrounding areas, all employ industrial and heavy-duty equipment regularly. The historic graving docks frequently have visible lifting equipment as well. The presence of additional heavy equipment on the site would be short-term in duration and would be aesthetically consistent with the industrial context of the site and surrounding Port areas; therefore, this impact would be *less than significant*.

Mitigation Measure 13-1

None required.

AESTHETIC IMPACTS

Impact 13-2

Implementation of the project would increase the amount of auto-carrying ships that would dock at the project site, sometimes resulting in two ships docking simultaneously, which would create a visual interruption along the southern Harbor Channel waterfront. (LTS)

The proposal would add approximately 11.5 hours of berthing per week,¹⁵ and would create occasions when two ships would be docked at the same time. While the ships are of a large size, the context of the area, including the surrounding Port, Santa Fe Channel, and graving docks provides for many ship berths, with ships of similar size docking further within Harbor Channel. The visual intrusion of two ships docked simultaneously would occur at most once a week; many weeks the Honda and Glovis ships would dock on different days. The degradation of visual quality would only be incremental and, given the existing maritime/industrial character of the area, would not be substantial. This would therefore be a *less-than-significant impact*.

¹⁵ The proposed project would generate up to 75 additional ship calls per year, with an average of 8 hours per call. This would result in about 600 hours of additional berthing per year, or 11.5 hours per week on average.

Mitigation Measure 13-2

None required.

Impact 13-3

The proposed extension of multiple rail lines into the PPMT and additional rail lines at the BNSF Yard would be visible from surrounding public and private areas. (LTS)

The proposed project would include construction of a rail yard in the northeastern portion of the PPMT, with seven parallel loading tracks 1,300 feet in length. The proposed rail yard area is currently parked with vehicles on a regular basis as part of the existing Glovis operations. Although the proposed rail tracks would be flush with the ground and would have no inherent visual impact, when occupied by rail cars, the cars, roughly 18 feet in height, would be readily visible from offsite locations with a direct line of sight to the rail yard area. As viewed from Canal Boulevard, the rail cars would be visually consistent and compatible with the industrial nature of the Port area. From the residential areas to the west of the PPMT, although they would be noticeable from some locations, they would be sufficiently distant that they would not substantially alter existing views of the area. From the Seacliff development and the hills of the Miller/Knox Regional Shoreline, the BP/ARCO Tank Farm and adjacent terrain would block much of the view of the proposed rail lines. In addition, as viewed from greater heights, the rail cars, when present, would not punctuate the visual horizon.

The project would also include construction of six additional parallel tracks at the BNSF Automotive Terminal. These tracks would be immediately adjacent to two existing loading tracks that are in regular use. As viewed from offsite locations at ground level, the visual changes resulting from the additional loading tracks would be essentially imperceptible. From higher elevations, the additional tracks would be noticeable when occupied, but with negligible adverse visual impact given the existing context of the site.

From all vantage points, the proposed rail lines at both the PPMT and BNSF facility would appear consistent and compatible with the industrial nature of the site. For this reason and the reasons discussed above, the visual effect of the proposed new rail lines would be a *less-than-significant impact*.

Mitigation Measure 13-3

None required.

LIGHTING IMPACTS

Lighting impacts can vary greatly depending on the type and specifications of the lighting fixtures used. Cutoff angle, and mounting height can also affect the amount and type of impacts that would be observed. Details on the proposed fixtures are provided below; full specifications for the proposed fixtures, model HMSPCP1HP00S8 can be found at <http://www.holophane.com/products/Family.asp?Brand=HLP&Family=HMSP&ProductType=Outdoor&Category=Infrastructure&SubCategory=High-Mast>.

Type of proposed fixtures

The fixtures proposed to be utilized in the lighting area are a high-pressure sodium (HPS) type which produce a slightly pink-orange light similar to the fixtures currently installed in the existing lighting area. The light covers a broad spectrum compared to low-pressure sodium (frequently used in streetlights), which allows for more color visibility to the human eye. High-pressure sodium produces approximately 100–150 lumens per watt, a measure of lighting efficiency, which compares favorably to most fixtures including household halogens (around 14 lumens per watt) and industrial Mercury Vapor (around 55 lumens per watt).¹⁶ HPS is less efficient than low-pressure sodium (LPS), but allows for greater color visibility.

Cutoff type and mounting height

The fixtures are equipped with IES type IV full-cutoff shields which are designed to allow zero light projected directly upwards, and would limit light emission at 10 degrees below horizontal to 10 percent of total output, an industry standard to minimize glare and maximize illumination in the appropriate areas. For comparison purposes, Figure 13–6 shows the intensity of 3 different types of fixtures at different viewing angles. The “Large Predator” type commonly found in commercial parking lots emits a considerably higher intensity at peripheral angles than the proposed fixtures. In addition to full-cutoff fixtures, a high mounting height was chosen in order to allow for proper focusing of the light beam. At higher elevations, 100 feet in this case, light may be more focused in a downward beam, as the height allows for controlled light diffusion. As an alternative, bringing the light fixtures lower would require either a wider beam angle to cover the area or more fixtures. Both alternative approaches would increase the amount of glare visible from offsite locations.

¹⁶ Lumens-per-watt rating calculated from manufacturers’ specifications on lighting products.

By utilizing modern fixtures, the proposed lighting would serve to illuminate the project area with a minimum amount of glare and light trespass on neighboring receptors. Regardless, the following impacts are analyzed in further detail:

Impact 13-4

The proposed addition of 15 100-foot-high light towers would increase light glare in the surrounding areas. (LTS)

Proposed additional lighting in the eastern part of the PPMT and panhandle would result in light glare, caused by direct lighting or visual exposure to a bare light source. There are no residential receptors in the vicinity of the proposed new lighting. Light glare in the western portion of the PPMT is a preexisting condition; the project would not alter or add to the existing fixtures, and no increase in frequency of use or intensity is proposed. All proposed additional lighting would occur at a distance of 1,400 feet or more from the nearest residential receptor, a distance which minimizes any glare impacts. Figure 13-6 shows a comparison of lighting types and corresponding candlepower emission at given distances. As demonstrated by the candlepower evaluations listed in the figure, the light output from the proposed fixtures at a distance of 1,086 feet from the supporting tower would be less than 3 percent of the output of the fixtures at a distance of 204 feet from the tower. When adding in the additional light attenuation due to increased distance from the source, as well as increased elevation in the case of the residences in the Seacliff neighborhood, the amount of incident light and associated glare affecting residential receptors west of the PPMT would be negligible. Furthermore, there would be no increase in the existing intensity of light trespass at residential properties from the proposed new light towers. This would therefore be considered a *less-than-significant impact*.

Mitigation Measure 13-4

None required.

Impact 13-5

The proposed addition of 15 100-foot-high light towers could contribute to sky glow in the region. (LTS)

The proposed addition of 15 high-mast light towers to the eastern part of the PPMT, including the panhandle, could potentially contribute to sky glow above the City of Richmond. However, because the project would employ “dark sky” technology using full cutoff fixtures, as described above, no light would be emitted above the fixtures. Therefore, the project would have a *less-than-significant* impact on regional sky glow.

Mitigation Measure 13-5

None required.

Impact 13-6

The proposed addition of 15 100-foot-high light towers would contribute to local glow, which would provide a distraction to nighttime views from public and private areas in the Seacliff and Brickyard Cove neighborhoods. (LTS)

Due to their proximity, Seacliff residents immediately adjacent to the western edge of the PPMT, including any nighttime users of Seacliff Park, would be the most sensitive visual receptors for the proposed new light towers. A limited number of residents in Brickyard Cove would have more distant views of the proposed new lighting. The additional lighting in the eastern part of the PPMT would result in an increase in local glow by increasing the foreground lighting of views to the south and east from Seacliff Park and other nearby areas.

Under proposed Operations mode lighting, the lumen output would increase 117 percent in comparison with the existing Operations mode lighting; however, the proposed lighting would occur in the areas furthest from the Seacliff development, from which only 9 of the proposed 15 high-mast lighting towers would be visible. Taking into account only the nine visible towers, the proposed project would result in an approximately 79 percent visual increase of current lighting levels, with all of the increase occurring at a minimum distance of 1,400 feet from the nearest residence, which would minimize its impact and cause the glow to blend with surrounding existing lighting. It should be emphasized that this does not represent an increase in the amount of incident light intensity at the residential receptors; there would be no increase in light trespass at these residences as a result of operations of the new light towers, as noted in the discussion of Impact 13-4. Operations mode lighting is expected to be utilized approximately four nights per week in the proposed section, and would remain at 1 night per week in the existing section. Operations mode usually lasts until 2:00 am.

The significantly less intense Security mode lighting would occur the other three nights per week on average, and every night after Operations mode has ceased. Under existing conditions, Security mode lighting creates a 4.29:1 ratio of foreground-to-background lighting. The proposed new lighting would operate differently than the existing lighting under Security mode. Instead of turning off the interior towers, half of the individual fixtures mounted on each tower would be extinguished, thereby reducing total light output by 50 percent. Thus, all new towers would remain lit under Security mode, but at 50-percent output. Security lighting in the existing lighting area would continue

unchanged under the proposed project. Similar to Operations mode lighting, 9 of the 15 proposed high-mast towers are visible to the residences and public spaces of the Seacliff development. The effective net increase in Security mode lighting from existing to proposed would be a total of 118 percent.

Figure 13-6 shows the falloff of intensity of light for the proposed fixtures, as well as for other commonly used lighting fixtures. Given that the distance between the proposed lighting and the nearest non-industrial receptor is at least 1,400 feet, the observed intensity of the proposed lights will be minimal for even the most affected location, as discussed in more detail in Impact 13-4.

Figure 13-8 shows a comparison of the clear nighttime view from Seacliff Park previously shown on Figure 13-5(a) with a visual simulation of the same view with the addition of the proposed additional lighting. Computer modeling was used to simulate the proposed project on the image of existing conditions. As shown by the simulation, the primary effect of the new towers as viewed from Seacliff would be to extend existing lighting further toward the eastern horizon and to increase the nighttime visibility of the historic buildings on the eastern portion of the PPMT; foreground lighting would be unaffected. Figure 13-8 shows that the effect of the new towers as viewed from residential receptors would be incremental and limited in extent. As shown by the visual simulation, the projected intensity of lighting would be minimized by distance to the nearest receptor. Therefore, the proposed additional lighting would not constitute a substantial source of new light that would adversely affect nighttime views. Therefore, this would be considered a *less-than-significant impact*.

Mitigation Measure 13-6

None required.

CUMULATIVE IMPACTS

The proposed project would occur within a patchwork of similar industrial parcels of various types of use, all of which are consistent with the appearance of the project proposal. As a whole, the entire Port area is well established and forms the core use of the land in the area. The addition of rail lines in the PPMT and the expansion of rail lines in the BNSF yard would incrementally increase the already industrial appearance of the area, but would present no significant impacts upon observers. It is not expected that the proposed project would result in any further development or visual impacts not already addressed in this chapter.



a) Nighttime operations-mode lighting of the PPMT as viewed from the Seacliff neighborhood.



b) The same view as above with the simulated effect of the proposed new light towers.

Figure 13-8

Existing and Simulated Future View of Nighttime Lighting of the PPMT

Source: Douglas Herring & Associates

A 300-unit condominium development (Seacliff Marina) is currently proposed for the currently undeveloped flat grassland area immediately northwest of the PPMT, and other residential projects are proposed further to the west and east along the south Richmond shoreline. These projects would cumulatively increase the amount of development visible along the shoreline, and their individual and cumulative impacts would be subject to separate review under CEQA. However, because the proposed project would not add substantial new visible development, and the new intermittent visibility of rail cars on the site would be consistent with the industrial character of the Port of Richmond properties, the project's contribution to adverse visual changes would not be cumulatively considerable. From all viewing areas, the aesthetic changes from the proposed project would be incremental and consistent with existing uses. In addition, the project would not eliminate any of the currently limited open or natural space, and would not compound or increase other visual quality impacts when combined with the development of the Seacliff Marina or other nearby projects. The project's cumulative visual impacts would therefore be less than significant.

Lighting Impacts

From distant areas such as the Richmond and Berkeley hills and across the Bay, the additional lighting could be visible, depending on vantage point and distance, but would not be substantially different from current conditions. The proposed lighting would be in addition to extensive existing lighting in the Port area, and would just incrementally increase the number of point light sources visible. When combined with anticipated increases in lighting resulting from further expected development in the area, the proposal's addition to the cumulative blanket of lighting that would be observable from distant areas would be incremental and less than significant.

From closer locations, such as vessels on the water adjacent to the PPMT and immediate residential areas, a combination of proposed development, subsequent lighting and the proposed lighting would result in a significant amount of illumination. For industrial and shipping vessels, the increase in light would be normal, and would serve to improve visibility and security under working conditions. For private boaters, the cumulative lighting could impede privacy or illuminate areas in unwanted ways. However, given the proximity to heavy industrial uses, the expectation of lighting, and the rare frequency of nighttime boaters spending extended amount of time in the immediate adjacent area, this cumulative impact would not be considered significant.

For residential areas close to the PPMT, the total amount of lighting observed, specifically glare and glow, would be significant. However, as most of the observed lighting is already existing, and the project proposal would introduce new lighting only at distances

over 1,400 feet from the nearest residential receptor, the cumulative impact on residential receptors would be incremental and would not constitute a significant cumulative impact.

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14. UTILITIES

14.1 INTRODUCTION

This chapter evaluates potential impacts on utilities, including water service, wastewater treatment service, storm drainage, and solid waste disposal. Potential impacts on public services, including law enforcement services, fire protection services, parks and recreation, and schools, were evaluated in the Initial Study (see Appendix A), which concluded that these impacts would be less than significant. The issue of public services was therefore screened from further consideration in this EIR.

Significance criteria were derived from Section 15064 and Appendix G of the *CEQA Guidelines*. Impacts to utilities would be considered significant if the project were to:

- substantially degrade the quality of the environment;
- achieve short-term environmental goals to the disadvantage of long-term environmental goals; or
- have environmental effects that are individually limited but cumulatively considerable.

In addition, for purposes of this analysis, a project would be determined to have significant adverse effects if it were to:

- exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements;
- result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or

- fail to comply with federal, State, and local statutes and regulations related to solid waste.

14.2 WASTEWATER SERVICE

ENVIRONMENTAL SETTING

Wastewater collection and treatment service are provided to the project site by the Richmond Sanitary District (RSD), which serves roughly half of the City of Richmond, with Stege Sanitation District and West County Wastewater District serving the remainder of the City. RSD's service area encompasses portions of central and western Richmond.

Wastewater Collection

Wastewater is collected by a network of underground sanitary sewer lines and conveyed to the City of Richmond's wastewater treatment plant, located at 601 Canal Boulevard, approximately one-half mile northwest of the project site. A lift station located at the Port of Richmond pumps sewage to the treatment plant via a sewer main located in Canal Boulevard, which ranges in size from 18 to 24 inches. This main is in good condition and has adequate capacity to serve the proposed project.¹

Wastewater Treatment

The City's wastewater treatment plant is operated by Veolia Water, a private company. The dry-weather capacity of this facility is 16 million gallons of wastewater per day (mgd), while current dry-weather flows range from 8 to 12 mgd.²

Treated effluent from City's wastewater treatment plant, together with treated effluent from the West County Wastewater District Treatment Plant (WCWDTP), is disposed of via a shared deep-water outfall into Potrero Reach, west of the project site. The WCWDTP is located about 3 miles north of the City's wastewater treatment plant, at the western terminus of Parr Boulevard in unincorporated Contra Costa County.

The City's wastewater treatment plant is permitted by the San Francisco Bay Regional Water Quality Control Board (RWQCB), which establishes Waste Discharge Requirements (WDRs) regulating effluent discharges to protect water quality of surface and groundwater resources. There are currently no ongoing violations or chronic problems with wastewater treatment, and the City is generally in compliance with its operating permit. However, the City of Richmond is currently subject to a consent decree resulting from a previous lawsuit

¹ Mary Phelps, Wastewater Project Manager, Engineering Division, City of Richmond, personal communication, June 10, 2008.

² Ryan Johnson, Collection Manager, Veolia Water, Richmond, personal communication, February 22, 2008..

regarding the sewage collection system.³ The decree requires the City to make capital upgrades costing \$20 million over five years to increase collection capacity and reduce infiltration and inflow to the collection system.⁴

IMPACTS AND MITIGATION MEASURES

In addition, as discussed in the project description, there are currently about 80 employees working on the Glovis operations; with the proposed project, an additional 120 employees would be added to process Honda vehicles. There are also typically 10 visitors and vendors to the site on a daily basis. With the project, it is conservatively assumed that the number of daily visitors and deliveries would double to 20 per day. Under current operations, when a ship is in port, approximately 60 longshoremen are brought in for the day to unload the ship. With the proposed project, there would be times when two ships could be in port at the same time (one unloading Glovis vehicles and the other unloading Hondas). Thus, the number of longshoremen would be doubled to 120 workers during these periods. In total, the project would add up to 190 persons to the site (120 employees, 10 visitors and vendors, and 60 longshoremen), resulting in a combined total (existing and proposed) of 270 persons on the site on days when two ships are in port, 210 persons when one ship is in port, and 150 persons on the days when no ships are in port. These peak daytime operations could occur any day Monday through Saturday, year round.

Construction Impacts

Impact 14-1

The project could generate additional wastewater during construction, adding to the volume conveyed to the City's wastewater treatment plant by the existing sewer main in Canal Boulevard and increasing treatment demand at the City's wastewater treatment plant. (LTS)

As discussed in the project description under "Logistics of Construction," an average of 40 construction workers would be employed each day during project construction, with approximately half working at the PPMT and half working at the BNSF facility. Throughout construction operations, portable chemical toilets, which do not result in increased flows in the wastewater collection system and generate minimal incremental demand on the wastewater treatment plant, would be provided for workers. —Therefore, with the occasional exception when a construction supervisor might utilize existing plumbed restroom facilities on the site while conferring with PPMT management, there would be no expected increase in demand on the wastewater collection system during

³ Mary Phelps, Wastewater Project Manager, Engineering Division, City of Richmond, personal communication, June 27, 2008.

⁴ Ryan Johnson, Collection Manager, Veolia Water, Richmond, personal communication, April 1, 2008

construction. As noted in the Setting discussion, there is substantial excess capacity at the treatment plant, which could readily accommodate the incremental increase in demand for the treatment of chemical toilet waste. As discussed in Impact 14-2, below, there is greater potential for impacts to the City's wastewater system during project operations. However, the increased demand—both project-specific and cumulative—for wastewater collection and treatment capacity during project construction –would be a *less than significant impact*.

Mitigation Measure 14-1

None required.

Operational Impacts

Impact 14-2

Operation of the proposed project would generate additional wastewater, adding to the volume conveyed to the City's wastewater treatment plant by the existing sewer main in Canal Boulevard. (LTSWM)

Based on a very conservative demand estimate of 80 gallons per day per employee, the project could generate up to 15,200 gallons per day (gpd) of additional wastewater demand. While the existing sewer main in Canal Boulevard appears to have adequate capacity to serve the additional wastewater that would be generated by the 190 project employees, unknown breaks in the line or restrictions on capacity could result in uncontrolled releases of untreated sewage or disruptions of a functioning sewer system at the PPMT. Furthermore, prior to project approval, the City would require submittal of an engineering study evaluating and documenting that there is sufficient capacity in the local network of sewer lines to accommodate the increased effluent flow from the project. Although this would be a *potentially significant impact* of project operation on wastewater collection capacity, –implementation of the following mitigation would reduce the impact to a *less-than-significant level*.

Mitigation Measure 14-2

Prior to issuance of a building permit, the project sponsor shall prepare an engineering study evaluating and documenting that there is sufficient capacity in the local network of sewer lines to accommodate the increased effluent flow from the project and that they are in good condition. The engineering study shall be submitted to the City of Richmond Engineering Division for review and approval. If inadequacies in the onsite collection system are identified, the project applicant shall be responsible for any necessary repairs or upgrades prior to the commencement of proposed project operations.

Impact 14-3**Operation of the proposed project would generate additional wastewater, adding to the volume requiring treatment at the City's wastewater treatment plant. (LTS)**

As discussed above in Environmental Setting, Wastewater Treatment, the City's wastewater treatment plant has dry weather capacity of 16 mgd, while current dry weather flows range from 8 to 12 mgd. Based on a very conservative demand estimate of 80 gallons per day per employee, the project could generate up to 15,200 gallons per day (gpd) of additional demand which would represent 0.13 to 0.19 percent of existing flows and 0.095 percent of existing capacity. Thus, the treatment plant has sufficient capacity to treat the small volume of additional wastewater that would be generated by the 190 project employees. The impact of project operation on wastewater treatment capacity, both project-specific and cumulative, would therefore be a *less-than-significant impact*.

Mitigation Measure 14-3

None required.

14.3 WATER SERVICE

ENVIRONMENTAL SETTING

Regional Water Supplies

Municipal water supply in the project area is provided by the East Bay Municipal Utility District (EBMUD), which is responsible for both water supply and water distribution to end users. EBMUD, created in 1923, supplies water to approximately 1.3 million people within a 331-square-mile area extending from Crockett on the north, San Lorenzo on the south, Walnut Creek to the east, and San Francisco Bay to the west, including all of the City of Richmond.⁵

The EBMUD water supply system collects, transmits, treats, and distributes water from its primary water source, the Mokelumne River in the Sierra Nevada. The water supply system consists of a network of reservoirs, aqueducts, water treatment plants, pumping plants, and distribution facilities. Untreated water is transported westward from the Pardee Reservoir in the Sierra Nevada through aqueducts to East Bay treatment plants and terminal reservoirs. The District operates five terminal reservoirs in the East Bay, which assist in regulating EBMUD's Mokelumne River supply over the course of the year, augment the

⁵ East Bay Municipal Utility District, Water Resources Planning Division, *Urban Water Management Plan 2005*, November 2005.

Mokelumne water supply with local runoff, and provide emergency sources of supply during extended drought or water supply facility outage.

Since the 1920s, EBMUD's primary source of water has been the Mokelumne River. During drought periods, the Mokelumne River can no longer meet EBMUD's projected customer demand, even with 25 percent rationing imposed on total customer demand under EBMUD policy.⁶ EBMUD's water supply showed signs of stress during the 1976–77 and 1987–92 droughts. EBMUD's Sierra water supply is expected to be reduced as demands on the Mokelumne River increase from the growing needs in Amador, Calaveras, and San Joaquin counties and from entities with water rights senior to those of EBMUD. The availability of municipal water will also be reduced as EBMUD meets its commitment to protect the river environment by providing in-stream flow releases to improve fishery conditions in the lower Mokelumne River, and increases in customer demand beyond that which can be offset by conservation and recycled water programs will further constrain supply. The District's secondary source of water is runoff from local watersheds at EBMUD terminal reservoirs in the East Bay. In dry years, evaporation and other reservoir losses can exceed supply from local runoff.

Since 1970, despite an addition of 78,000 new water service accounts (a 26 percent increase), the total customer demand in the EBMUD service area has remained the same. A number of factors have contributed to the reduction in water use from the amount of water use that would otherwise be anticipated including: water restrictions imposed during the 1976–77 and 1987–92 droughts; EBMUD's conservation activities; customer conservation efforts; economic shifts toward lower-water-using service industries; and legislative changes including new plumbing efficiency standards, landscape ordinances, and the 1992 Federal Energy Policy Act.

EBMUD's current water demand projections are based on a study conducted in 2000, entitled *Districtwide Update of Water Demand Projections* (2000 Demand Study), which uses a land use-based method to forecast water demands.⁷ The methodology developed water use factors for each land use category from historical consumption data, and applied the factors to the various land use categories and future changes in land use categories. Future land uses were obtained from adopted general and specific plans of the jurisdictions within EBMUD's service area.

⁶ East Bay Municipal Utility District, EBMUD Policy 9.03, Resolution No. 33175–99, November 9, 1999.

⁷ East Bay Municipal Utility District, *Districtwide Update of Water Demand Projections*, May 2000.

The 2000 Demand Study forecasts a customer demand of 281 million gallons per day (mgd) for the year 2030, which is then adjusted to take into account projected savings to be achieved through EBMUD's conservation and recycled water programs. Assuming that the projected savings of 35 mgd can be achieved through conservation efforts and the projected savings of 14 mgd can be achieved through recycled water programs, the adjusted 2030 planning level of demand forecast is 232 mgd (rising from a year 2004 consumption of 224 mgd). The projected available supply, in a normal water year, is sufficient to meet the adjusted year 2030 demand. During a dry water year, or the first year of a multi-year drought, a deficiency of 5 percent of demand is projected, which would require rationing to reduce demand by 5 percent. In the second year of multiple dry water years, a deficiency, and corresponding need for rationing, of up to 25 percent is projected. In the third year of multiple dry water years, EBMUD customers could experience deficiencies of up to 56 percent, and rationing during the third year of a three-year drought would approach 68 percent by 2020. In response, EBMUD has undertaken the Freeport Regional Water Project (FRWP) with the Sacramento County Water Agency (SCWA) and the City of Sacramento, a regional water supply project which would enable delivery of water, diverted from the Sacramento River near the town of Freeport, to EBMUD customers during dry years. With completion of the FRWP, anticipated at the end of 2009, forecasted potential supply deficiencies range from about 26 percent increasing to about 37 percent by 2030 during the third year of a drought.

Water Supply Assessment

Senate Bill 610 (Chapter 643, Statutes of 2001) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires detailed information regarding water availability, in the form of a Water Supply Assessment (WSA), to be provided to the city and county decision-makers, and included in the administrative record, prior to approval of specified large development projects. Under SB 610, water assessments must be furnished to local governments for inclusion in any environmental documentation for certain projects subject to the California Environmental Quality Act. The lead agency for the project is responsible for preparing the assessment, or initiating the request for preparation to the relevant water supplier. Size thresholds were established for different types of development projects requiring a WSA, with the thresholds set at levels determined to be equivalent to the water demand from 500 new single-family homes. The threshold established for industrial projects is defined as any project that would employ more than 1,000 persons. The project would generate approximately 190 new employees, well below this threshold. Accordingly, preparation of a WSA was not required for the proposed project.

Local Distribution

The project site is located within the Central Pressure Zone, and is connected to EBMUD's regional distribution system via a 12-inch water main in Canal Boulevard.

CONSERVATION PROGRAMS AND POLICIES

EBMUD

A variety of water conservation programs for non-residential users are offered by EBMUD, including free water surveys, water-saving device distribution, technical consultations, plan review, cost-benefit analyses, and financial incentives. These programs are summarized below. EBMUD requests that developers of new projects consult with the District's Water Conservation Division to identify appropriate water conservation measures.⁸

EBMUD's Commercial, Industrial, and Institutional (CII) surveys are designed to help businesses and institutional customers use water more efficiently. The CII surveys consist of a free on-site visit by staff, accompanied by a technical consultant for specific expertise as needed. Staff and consultants work with facility managers to identify opportunities for upgrading existing water systems. Free irrigation audits evaluate current and past water use, and provide recommendations for increasing water use efficiency. Financial incentives for non-residential customers include customized individual customer rebates, free water-efficient device giveaways, and fixed rebates for water efficient products. Through the Irrigation Rebate Program, customers may qualify for a rebate of 50 to 100 percent of the cost of installing water-efficient irrigation equipment. Finally, EBMUD distributes free water-efficient devices such as low-flow showerheads, faucet aerators, high efficiency hose nozzles, "water brooms," and low-volume toilet valve retrofit kits.

Richmond General Plan

The following *Richmond General Plan* Open Space and Conservation Element goal and policy are relevant to water use and conservation:

Goal OSC-J	Reduce the need to import water and the environmental damage caused by water importation.
Policy OSC-J.2	Support all reasonable measures that would encourage reduced per capita water use. (See related Community Facilities Element Policy CF-H.1)

The following Community Facilities Element goal and policies are relevant to water use and conservation:

⁸ Bill McGowan, Associate Civil Engineer, East Bay Municipal Utility District, personal communication, February 22, 2008.

Goal CF-H	Provide and maintain a level of public infrastructure facilities that adequately serves the present and future needs of the community. (Same as Growth Management Element Goal GM-C)
Policy CF-H.1	Coordinate with the East Bay Municipal Utility District (EBMUD) to ensure an adequate water system for existing and future residents and to maintain adequate water reserves. (See related Open Space and Conservation Element Policy OSC-J.2)
Policy CF-H.3	Encourage effective water conservation practices by residents and businesses, including household conservation and use of drought-resistant landscaping and reclaimed wastewater.

IMPACTS AND MIGITATION MEASURES

Project Demand

During project construction, water consumption would increase due to drinking water and restroom use by the approximately 40 construction workers, as well as water used for construction purposes. During project operation, water consumption would increase due to drinking water and restroom use by the 190 project employees (discussed in Section 14.2, above), and irrigation of landscaping associated with the planned Bay Trail segment. Although the trail is not technically part of the proposed project, because the proposed landscaping would be on PPMT property, would function as a visual amenity to the project, and would be maintained by the project sponsor, the effects of landscape irrigation are included in this analysis on water consumption. The planned trailhead parking lot that would be developed adjacent to the historic cafeteria would be enhanced with aesthetic landscaping consisting of drought-tolerant plants, with a water-efficient drip irrigation system.⁹ Although not part of current trail plans, a previous plan included a landscaped buffer along the trail.

Construction Impacts

Impact 14-4

During construction, the proposed project would result in an increased demand for water for drinking, restroom and/or construction purposes. (LTS)

As discussed above under Project Demand, the project would involve an average of approximately 40 construction workers. Consumption of water for restroom use would not be substantial because portable chemical toilets would be provided for project construction workers throughout the construction period. With the exception of dust suppression, use of substantial amounts of water is not anticipated for the types of construction involved in the

⁹ Randy Anderson, Principal, LandPeople, personal communication, January 30, 2008.

proposed project. An estimated one to three 1,500-gallon watering trucks per day would be used for dust suppression, which would consume 1,500 to 4,500 gpd during the approximately seven-month construction period. This volume of temporary construction water use would be miniscule relative to the available water supply and existing demand within the EBMUD service area. In any case, this growth in water demand is accounted for in the Urban Water Management Plan.¹⁰ For these reasons, the project-specific and cumulative water demand impact of project construction would be *less than significant*.

Mitigation Measure 14-4

None required.

OPERATIONAL IMPACTS

As discussed in Project Demand, above, the project would involve an additional 190 employees and landscaping at the historic cafeteria building.

Impact 14-5

During operation, the proposed project would result in an increased demand for water for employee drinking water and restroom use, and landscape irrigation. (LTSWM)

Consumption of drinking water and restroom use by the additional project employees and irrigation of –landscaping would increase water demand at the project site by approximately 85 gallons per day per employee, or 16,150 gpd for the 190 employees of the proposed project.¹¹ Project landscaping would consist of a limited area of drought-tolerant plants near the trailhead parking lot, served by a water-efficient drip irrigation system using an estimated 33 gallons per day.¹² Total operational water use would be approximately 16,183 gallons per day. . This growth in water demand is relative to the available supply and is accounted for in the Urban Water Management Plan.¹³ As discussed in Conservation Programs and Policies, above, a variety of water conservation programs for non-residential users are offered by EBMUD. Compliance with EBMUD regulations will ensure that the project avoids wasteful use, and that adequate water is available to serve the proposed project. Nonetheless, implementation of the project would result in an increase in

¹⁰ Bill McGowan, *op. cit.*

¹¹ For industrial and commercial uses, wastewater generation is approximately 95 percent of water use. Therefore, project water consumption would be approximately 85 gpd, based on wastewater generation of 80 gpd per employee (see Impact 14—4, above). Source: Arthur C. Nelson, *System Development Charges for Water, Wastewater and Stormwater Facilities*, 1995, page 119.

¹² The drip irrigation system would consist of an estimated 100 one-gallon-per-hour drippers, irrigating every third day, resulting in water consumption of approximately 33 gpd.

¹³ Bill McGowan, *op. cit.*

consumption of water on an ongoing basis. The proposed project, in combination with other approved and proposed residential and non-residential projects in the City of Richmond, would contribute to a cumulative demand for water supply. While, as discussed above, the UWMP accounts for future growth in the EBMUD service area, the demand projections assume important savings through conservation and recycled water programs. Failure to incorporate adequate water conservation in the project could therefore result in a *potentially significant impact*. Implementation of Mitigation Measure 14-6, which stipulates measures to prevent inefficient use of water, would reduce both the project-specific and the cumulative operational water demand impact to a *less-than-significant level*.

Mitigation Measure 14-5

- a) *Prior to construction, the applicant shall consult with the Water Conservation Division of the East Bay Municipal Utility District (EBMUD), to determine appropriate water conservation devices and procedures for the project. The applicant shall implement all feasible water conservation measures called for by EBMUD.*
- b) *All project landscaping shall consist of drought-tolerant plants.*
- c) *Irrigation for all project landscaping shall incorporate water-efficient landscaping measures, in accordance with City and EBMUD guidelines, such as onsite capture and reuse of rainwater and/ or irrigation systems that monitor and respond to soil moisture, operate during hours when evaporation is low, and employ drip and mist irrigation.*
- d) *Water-conserving plumbing fixtures shall be installed in restroom facilities serving the proposed project.*

14.4 STORM DRAINAGE

ENVIRONMENTAL SETTING

The PPMT portion of the project site is almost entirely covered with impervious pavement and buildings. The site is served by a network of storm drains leading to two outfall structures which discharge into the Richmond Inner Harbor of San Francisco Bay. A storm drain runs roughly eastward from the western portion of the PPMT and discharges into the Harbor Channel through an outfall structure near the north end of Berth 7. This east-west storm drain is 30 inches in diameter for a short distance between the western end of the PPMT and a junction with a 12-inch drain from the north. Between this junction and the middle of the PPMT, the east-west drain is 42 inches in size. Near the middle of the site, at a four-way junction, a short 18-inch storm drain joins the east-west drain from the north, and a 54-inch drain continues southward to discharge into the Richmond Inner Harbor through an outfall structure located to the west of the graving docks (basins 1-5). Between the four-way junction and the outfall near the north end of Berth 7 mentioned above, the east-west drain is 48 inches in diameter. This east-west drain is joined a short distance before the outfall by a drain extending southward through the parking area adjacent to

Berth 7. Near the southern outfall (west of the graving docks) of the 54-inch north-south drain mentioned above, drains serving areas to the east and west join the 54-inch drain.

With the exception of a drainage ditch running along Canal Boulevard, the BNSF Automotive Facility is entirely developed with pavement, rail tracks, and two buildings. The BNSF facility is served by a storm drain running southward along Canal Boulevard, which joins the 48-inch east-west drain mentioned above at a point south of the main gate to the PPMT.

All of these storm drains are currently functioning adequately, and no problems with drainage of the project site have been observed.¹⁴ There are no known deteriorated lines or storm drains in need of repair. Refer to Chapter 11, Hydrology and Water Quality, Section 11.4, Regulatory Framework, for information on stormwater capture and treatment requirements applicable to the proposed project.

IMPACTS AND MITIGATION MEASURES

Construction Impacts

Construction of the project would involve a small increase in impervious surfaces at the site as the project is constructed, and a corresponding increase in stormwater runoff to the storm drain system. These impacts would be similar to the impacts of project operation, which are discussed below. Potential stormwater impacts related to increased flow and adverse effects on water quality during and after construction are addressed in Chapter 11, Hydrology and Water Quality.

Operational Impacts

Impact 14-6

The project would increase the area of impervious surfaces at the site, with a corresponding increase in stormwater runoff. (LTSWM)

The project would not alter the extent of impervious surfaces at the BNSF Automotive Facility; the proposed rail improvements would all occur within a currently paved area. At the PPMT, construction of project components, including most of the rail yard area, would involve placing new impervious surfaces on areas that are currently covered with impervious surfaces. The planned San Francisco Bay Trail segment would also be constructed entirely on existing asphalt pavement. Although the majority of the proposed rail yard area is currently paved with asphalt, an unpaved strip east of the PPMT driveway—about 550 feet long and ranging between about 10 and 20 feet in width—would

¹⁴ Norman Chan, Port Administrator, Port of Richmond, personal communication, February 13, 2008.

be paved over to accommodate the rail yard. This would result in the creation of approximately 9,625 square feet of new impervious surfaces on the PPMT site, which would cause an incremental increase in the amount of stormwater runoff from the site. With an increase of about 0.2 percent in impervious surfaces on the PPMT site, an increase in stormwater runoff of approximately 0.2 percent would be expected. The storm drain network at the site is in good condition, as discussed above, and the system has sufficient capacity to accommodate the additional runoff generated by the proposed project.¹⁵ Furthermore, the additional runoff would enter the storm drain system at points near the outfalls; thus, the extent of the affected storm drains would be quite short in length. However, as discussed in Impact 11-2 (Chapter 11, Hydrology and Water Quality), the project's creation of replacement impervious surfaces would render it subject to the Contra Costa Clean Water Program's (CCCWP) C.3 stormwater treatment requirements (see Chapter 11 for additional information). The CCCWP generally considers projects that would exceed the C.3 requirements to have potentially significant impacts on water quality and stormwater flow rates and volumes unless mitigated through satisfactory implementation of the C.3 stormwater treatment and flow control requirements.¹⁶ Accordingly, the increased stormwater flows from the project would have a *potentially significant impact* on the stormwater collection system. Implementation of the Mitigation Measure 14-6 would reduce the impact to a *less-than-significant* level. The effects of increased stormwater runoff on water quality are discussed in Chapter 11, Hydrology and Water Quality.

Mitigation Measure 14-6

Same as Mitigation Measure 11-2.

14.5 SOLID WASTE DISPOSAL ENVIRONMENTAL SETTING

Solid waste collection service for the project area is provided by Richmond Sanitary Service (RSS), which has a franchise agreement with the City of Richmond. RSS provides commercial bin service for businesses, and roll-off box service for industrial operations, construction projects, etc. There is a solid waste container located in the dry dock area for use by the Port and its tenants, and a container for AWC located at the corner of the processing building (Building 4), near the body shop (Building 5). Both containers are emptied once a week.

¹⁵ Norman Chan, *op. cit.*

¹⁶ Contra Costa Clean Water Program, *Stormwater C.3 Guidebook*, Third Edition, October 2006.

The collected recyclables and solid waste are hauled to the Golden Bear Waste Recycling Center, a transfer station and materials recovery facility located in west Richmond at the western terminus of Parr Boulevard, approximately 3 miles north of the project site. Recoverable materials are sorted and processed for shipment to secondary materials markets, and the remaining solid waste is loaded into long-haul trucks for transfer to the Potrero Hills Landfill for disposal.

The Potrero Hills Landfill is located in Solano County, approximately 30 miles northeast of the project site. The landfill is owned and operated by Potrero Hills Landfill, Inc., a private firm. This Class III landfill has a leachate collection system which conforms to California Regional Water Quality Control Board requirements.¹⁷

The Potrero Hills Landfill is permitted to receive up to 4,330 tons per day (TPD) of nonhazardous solid waste, including construction debris, and, as of January 1, 2006, had a remaining capacity of 8,200,000 cubic yards.¹⁸ As of that year, this was estimated to provide waste disposal capacity to current users, including the City of Richmond, until 2013 or 2015.¹⁹ Although a proposed expansion that would provide an additional 61.6 million cubic yards of capacity, or approximately 30 to 35 years of additional landfill life, was approved in 2005, the approval was challenged and the court directed the landfill to address several issues of concern, including draw-down on surrounding private wells.²⁰ These issues have all been addressed in a recirculated EIR, and the Contra Costa County Board of Supervisors certified the EIR and approved the expansion on June 10, 2008.²¹ Construction of the expansion area is expected to commence in 2009 or 2010 and will be completed well before exhaustion of the currently permitted disposal areas.²² Alternative solid waste disposal options are also available to the City of Richmond. One possibility is the Keller Canyon Landfill, located in central Contra Costa County. As of November 2004, the landfill had remaining capacity of approximately 75,018,280 cubic yards.²³ There would therefore be

¹⁷ Jim Dunbar, General Manager, Potrero Hills Landfill, Inc., personal communication, June 4, 2008.

¹⁸ California Integrated Waste Management Board, Solid Waste Information System, <http://www.ciwmb.ca.gov/SWIS/detail.asp?PG=DET&SITESCH=48-AA-0075&OUT=HTML>, accessed February 25, 2008.

¹⁹ City of Richmond, *General Plan Update Issues and Opportunities Paper #2: Public Infrastructure Facilities (Draft)*, May 2006.

²⁰ Richard Covington, Site Manager, Potrero Hills Landfill, personal communication, May 16, 2008.

²¹ Jim Dunbar, General Manager, Potrero Hills Landfill, personal communication, June 27, 2008.

²² Richard Covington, *op. cit.*

²³ California Integrated Waste Management Board, Solid Waste Information System, <http://www.ciwmb.ca.gov/SWIS/detail.asp?VW=SWISNO&OUT=HTML&SWIS1=07&SWIS2=AA&SWIS3=0032>, accessed June 5, 2008.

more than sufficient permitted disposal capacity to accommodate the project's minimal solid waste that would be generated by project operations.

IMPACTS AND MITIGATION MEASURES

Construction Impacts

Impact 14-7

Construction debris generated by the proposed project could result in a substantial amount of recyclable materials being unnecessarily disposed of at the landfill serving the site, incrementally reducing the remaining life of the landfill. When combined with the construction debris generated by other future development projects in the City and County, this would be a significant project-specific and cumulative impact. (LTSWM)

The proposed project would not involve construction of any structures, but would include new railroad tracks at the proposed PPMT rail yard, new lead track, a new, relocated entrance road, "shag roads", additional paving of portions of the site, fencing, new lighting, and ship berth improvements. While the existing asphalt pavement that would be removed from the rail yard areas would be ground up on site and used as road bed for the new track, construction of these project components would generate construction waste that could include wood, paper, cardboard, rock, steel, concrete, rubber, plastic, foam, and other recyclable or reusable materials. When construction debris is buried in landfills, it can contribute to leaching of hazardous materials. For example, preservatives of wood can result in the leaching of copper, chromium, and arsenic into the environment. However, it is noted that the Potrero Hill Landfill incorporates facilities to minimize such leachate, contain it on site, and collect it for safe disposal.

As discussed in Chapter 3, Project Description, Logistics of Construction, approximately 42,750 cubic yards of soil and other fill would be hauled away from the PPMT and BNSF sites, to be utilized for local projects requiring fill material, or to be disposed of at an appropriate landfill. Construction of the proposed project would not result in any other substantial quantities of solid waste.²⁴ The asphalt removed during construction would be ground up on site and used as road bed for the new track. Most construction materials (wood ties, fasteners, etc.) would be delivered to the site as individual piles rather than packaged. Railroad spikes would be delivered in heavy-duty metal "kegs" (buckets), which would be returned to the manufacturer for reuse. Weld kits for the rail, and light luminaires (housings) for the project lighting, would be delivered in cardboard boxes that would be recycled rather than disposed at a landfill. Rails removed from the project site, and any other scrap steel, would be sold as scrap rather than disposed at a landfill. Most if not all

²⁴ Ari Niemi, Development Construction Manager, TransDevelopment Group, personal communication, June 5, 2008.

railroad ties removed from the site would be re-used offsite. However, a small amount of miscellaneous waste, including possibly some railroad ties, would be generated by construction, estimated at three 5-cubic-yard containers.

Thus, total solid waste generated by the construction of the proposed project is estimated at up to approximately 42,765 cubic yards. This would be small in comparison to the total quantities disposed at the landfill on a daily basis; however, landfill disposal capacity is a diminishing resource that is difficult and expensive to expand or develop at new sites. While projections of growth in solid waste disposal at the Potrero Hills Landfill account for future waste generated in the City of Richmond, project-generated construction waste would contribute to the exhaustion of the capacity of the landfill. As discussed above, capacity at this landfill is limited and the proposed expansion has not yet been approved. Furthermore, the City of Richmond, along with all other jurisdictions in California, is legally obligated to divert 50 percent of the waste stream from disposal. Therefore, project-generated construction waste, in combination with other projects in the vicinity, such as the proposed reuse of the historic structures at the project site, would contribute to a *potentially significant cumulative impact*. Implementation of Mitigation Measure 14-8 would reduce both the project-specific and the cumulative impacts of project construction to a *less-than-significant level*:

Mitigation Measure 14-7

- a) *The project sponsor shall divert at least 50 percent by weight of all demolition and construction waste other than asphalt waste from landfill disposal, and shall provide a summary report of the diversion to the City. Prior to the initiation of project construction, the project sponsor shall prepare a recycling plan to cover all phases of project construction, including demolition. The recycling plan shall identify a strategy for handling all waste materials that will be generated during construction in order to achieve diversion of at least 50 percent by weight of all demolition and construction waste other than asphalt waste from landfill disposal.*
- b) *The project sponsor shall divert 100 percent of asphalt waste from landfill disposal.*

OPERATIONAL IMPACTS

Impact 14-8

Operation of the project could result in a substantial amount of recyclable materials being unnecessarily disposed of at the landfill serving the site, incrementally reducing the remaining life of the landfill. When combined with the operational waste generated by other future development projects in the City and County, this would be a significant project-specific and cumulative impact.. (LTSWM)

As discussed under Environmental Setting, above, solid waste generated at the project site is currently collected and disposed by Richmond Sanitary Service (RSS). Solid waste is collected on the site in a roll-off container and stored prior to regular collection by RSS; the

existing roll-off container has adequate capacity to accommodate the project's projected increase in solid waste.²⁵ As discussed in Chapter 3, Project Description, Processing of Autos, no processing operations would be performed on the imported Honda vehicles; thus, no associated solid waste would be generated. Solid waste generated by an additional 190 employees would be limited to typical office employee waste, conservatively estimated at a maximum combined total of 236 pounds per day.²⁶ (This is deemed a conservative estimate because it is presumed that workers loading and unloading automobiles would generate less solid waste than a typical office worker.) This would be miniscule in comparison to the total quantities disposed of at Potrero Hills Landfill on a daily basis (an average of 2,115 tons per day, not including recyclables and compostables),²⁷ and the landfill could readily accommodate this additional solid waste generated by the project.²⁸ However, landfill disposal capacity is a diminishing resource that is difficult and expensive to expand or develop at new sites. Therefore, project-generated operational waste, in combination with other projects in the vicinity such as the proposed reuse of the historic structures at the project site, would contribute to a *significant, adverse project and cumulative impact* on regional landfill capacity. Implementation of Mitigation Measure 14-9 would reduce both the project-specific and the cumulative impacts of project operation to a *less-than-significant* level.—

Mitigation Measure 14-8

The project sponsor shall divert at least 50 percent by weight of all operational waste from landfill disposal, and shall provide a summary report of the diversion to the City. Prior to the initiation of project operation, the project sponsor shall prepare a recycling plan, which shall identify a strategy for handling all waste materials that will be generated during operation in order to achieve diversion of at least 50 percent by weight of all operational waste from landfill disposal.

CUMULATIVE IMPACTS

As discussed above in Section 14.2, Wastewater Service, the project's contribution to impacts on wastewater collection and treatment capacity would be less than cumulatively considerable. As discussed above in Section 14.3, Water Service, implementation of

²⁵ Bill Robbins, Principal, TransDevelopment Group, personal communication, December 21, 2007.

²⁶ Office employees generate 1.24 pounds per employee per day. Source: California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Commercial Establishments, <http://www.ciwmb.ca.gov/Wastechar/WasteGenRates/Commercial.htm>, viewed June 3, 2008.

²⁷ Solano County, *Draft Environmental Impact Report for the Potrero Hills Landfill Expansion Project*, SCH #2003032112, prepared for Solano County by EDAW, November 24, 2003. The reported daily tonnage was not revised in the *Recirculated Draft Environmental Impact Report for the Potrero Hills Landfill Expansion Project* subsequently prepared for the County by EDAW | AECOM, published on December 21, 2007.

²⁸ Jim Dunbar, General Manager, Potrero Hills Landfill, personal communication, June 27, 2008.

Mitigation Measure 14-6, which identifies water conservation measures, would reduce the cumulative water demand impact of the proposed project to a less-than-significant level. As discussed in Section 14.4, Storm Drainage, the project's contribution to impacts on storm drainage would be less than cumulatively considerable. Implementation of Mitigation Measures 14-8 and 14-9, which identify construction and operational waste recovery measures, would reduce the cumulative solid waste impact of the proposed project to a less-than-significant level. The impact of operation of the project on solid waste would be less than cumulatively considerable.

In summary, the proposed project would not cause any significant cumulative impacts to utilities.

15. ALTERNATIVES TO THE PROPOSED PROJECT

15.1 INTRODUCTION

The purpose of the alternatives analysis in an EIR is to describe a range of reasonable alternatives to the project, or to the project location, that could feasibly attain most of the objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and to evaluate the comparative merits of the alternatives.¹

An EIR is also required to focus the discussion of alternatives on those that could reduce to a less-than-significant level or eliminate any significant adverse environmental effects of the project, even if those alternatives may be more costly or could otherwise impede to some degree the attainment of the project objectives.² The range of alternatives considered must include those that offer substantial environmental advantages over the project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors.

SELECTION OF ALTERNATIVES

The *CEQA Guidelines* suggest that an EIR briefly describe the rationale for selecting the alternatives to be discussed, identify any alternatives that were considered by the lead agency but were rejected as infeasible, and briefly explain the reasons underlying the lead agency's determination.³

The alternatives addressed in this EIR were selected in consideration of one or more of the following factors:

- the extent to which the alternative would accomplish most of the basic goals and objectives of the project (see Chapter 3, Project Description);
- the extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project;
- the feasibility of the alternative, taking into account consistency with the General Plan and other relevant factors, including economic feasibility;
- the appropriateness of the alternative in contributing to a reasonable range of alternatives necessary to permit a reasoned choice; and

¹ *CEQA Guidelines*, Section 15126.6 (a).

² *CEQA Guidelines*, Section 15126.6 (b).

³ *CEQA Guidelines*, Section 15126.6 (c).

- the CEQA requirement to consider a No-Project Alternative⁴ and, if the No-Project Alternative is the environmentally superior alternative, the requirement to identify an environmentally superior alternative among the other alternatives.

In consideration of these factors, three alternatives were selected for evaluation in the Honda Port of Entry EIR. These alternatives were developed to avoid one or more significant impacts of the project as proposed while still attempting to meet most of the primary project objectives.

In pursuing the proposed Honda Port of Entry project, the Applicant has the following objectives:

- To provide competitive, operationally efficient and environmentally responsible vehicle Port of Entry operations for Honda at the Port Of Richmond's Point Potrero facilities.
- To establish a modern and operationally effective rail loading capability within the Port, and eliminate the current requirement for shuttling vehicles along Canal Boulevard to the current rail loading facility located at Canal and Cutting Boulevards.

In supporting the application for the proposed Honda Port of Entry project, the City and the Port of Richmond have the following objectives:

- To improve rail operations between the BNSF Richmond Yard and all rail served industries within the Canal Boulevard industrial corridor, through reductions in peak-hour blockages at grade crossings, and the effective management of diesel particulate emissions through the use of environmentally efficient locomotives and improved rail operational practices.
- To promote long-term industrial distribution opportunities within the Port of Richmond, which enhance the Port's financial condition and support community goals of environmentally responsible economic development.
- To pursue the goals of City Council resolution 100-07, approved on September 11, 2007, making it public policy to maximize economic benefit from underutilized real estate assets in the Port of Richmond.

Significant, unavoidable impacts have been identified for the proposed project associated with air quality emissions and noise from the loading of the car carriers (24/7) in a new location that is much closer to the Seacliff at Point Richmond residences. The recommended alternatives to the project focus on avoiding or reducing these impacts for the following reasons: (1) the other impacts of the project are generally not considerable; (2) most of the other impacts of the project can be reduced to less-than-significant levels through the implementation of identified mitigation measures; and (3) due to the nature of the project, there are no feasible alternative locations to evaluate. Therefore, the following alternatives are recommended for evaluation in this EIR:

⁴ CEQA Guidelines, Section 15126.6 (e).

- No-Project Alternative
- Modified Operations Alternative 1
- Modified Operations Alternative 2

Each of these alternatives is described and evaluated below in Section 15.2.

Alternatives Considered But Rejected

Notably absent from the selected alternatives is an alternative project site. *CEQA Guidelines* Section 15126.6(f)(2) specifically addresses the requirements for consideration of alternate locations. A key question is whether any of the significant impacts of the proposed project would be avoided or substantially lessened by putting the proposed project at another location. If another location would not avoid or substantially lessen the environmental impacts associated with the proposed project location, or if the alternate location would result in one or more significant adverse environmental effects in addition to those caused at the proposed location, then such alternate location may be rejected from further analysis in the EIR. Another primary consideration of an alternative site location is whether it is feasible and would obtain most of the basic project objectives. The *CEQA Guidelines* specifically note that there may be no feasible alternative locations for some types of projects, such as a project that is governed by the location of natural resources critical to the project.

A critical component of the proposed Honda Port of Entry project is an international port that can accommodate large ocean-going ships. Within the City and Port of Richmond, there are no viable alternative locations for the project. From a practical standpoint, any alternative location would have to be located at an existing port on or adjacent to San Francisco Bay, and would require convenient and suitable access to rail and regional freeway transportation. The ports of Benicia and Stockton were both evaluated as possible alternative sites, but were rejected from further consideration due to significant flaws. The Port of Benicia was eliminated as an alternative because it does not have an additional ship berth to accommodate the anticipated ship traffic, lacks contiguous terminal facilities and has no potential for the development of such facilities, and provides exclusive rail service by the Union Pacific Railroad (UPRR), while Honda's rail transport throughout the western and midwestern United States has been performed by the Burlington Northern Santa Fe Railroad (BNSF) for the past 20 years. There is also a limited clearance at the Carquinez Bridge, which would preclude the passage of certain pure car carrier ships.

Although the Port of Stockton offers ample land for auto processing and temporary storage, and also provides dual rail carrier (BNSF and UPRR) service, car-carrier ships would require an additional 11 hours of one-way steaming time up the Sacramento River to reach

this port in comparison with the Port of Richmond. There is also a limited clearance at the Carquinez Bridge which would preclude the passage of certain pure car carrier ships. Furthermore, with the Bay Area as the primary destination for new Hondas imported into Northern California, locating Honda's Port of Entry at the Port of Stockton would require the backward transportation of tens of thousands of vehicles each year to the Bay Area by truck. Finally, utilization of the Port of Stockton as an alternative project location would require construction of a new ship berth as well as construction of the entire terminal facility. The areas that could be developed with an automotive terminal would be on Rough and Ready Island, which was previously occupied by the U.S. military, and would consequently require the remediation of contaminated soils before development could occur.

The applicant's representatives have previously explored the possibility of developing operations at the Port of Oakland and the Port of San Francisco without being able to identify a viable development opportunity at either of those locations.⁵ UPRR is the serving rail carrier at the Port of San Francisco, and the railroad does not operate multi-level car-carrying rail cars in the San Francisco service area. There is also a rail tunnel leading to the Port that does not have sufficient vertical clearance to accommodate multi-level rail cars, which would essentially preclude viable rail shipment of imported autos from this location. The Port of Oakland lacks a suitable ship berth in close proximity to a developable industrial parcel. In addition, the Port of Oakland is primarily a container port facility utilizing intermodal transportation, and development of an automotive marine terminal would require a shift in the Port's focus. While such development is not entirely infeasible, it would require approximately \$100–125 million, far above the cost to develop the proposed project at the existing PPMT facilities.

Based on the preceding considerations, the City of Richmond has determined that no feasible alternative locations are available for the proposed project. It should also be noted that an alternative port site would not meet the applicant's primary project of developing Port of Entry operations for Honda at the Port Of Richmond's Point Potrero facilities.

The alternatives evaluated in this EIR also do not include an alternative that entails development of a cargo container facility at the PPMT, despite this being a goal established in the San Francisco Bay Conservation and Development Commission's *San Francisco Bay Area Seaport Plan*. For one thing, a primary objective of the project is the expansion of the existing automotive importing and processing activities at PPMT. As noted in the *Port of Richmond Strategic Business Plan* (see the discussion of the Seaport Plan's Marine Terminal

⁵ Bill Robbins, Principal, TransDevelopment Group, personal communication, April 22, 2008.

Policies in Chapter 4, Land Use and Planning), the proposed project site already enjoys an advantage in the specialty niche of automotive cargo, given its experience, knowledge, and economies of scale in this area. The *Port of Richmond Strategic Business Plan* further notes that continued use of Point Potrero as an automotive marine terminal utilizes the site with a light industrial use that is more compatible with adjoining residential development than substantially more industrial cargo container operations. Moving the project to another location would lose the efficiencies and greater land use compatibility that exist at the proposed site. In addition, due to the strong competitive advantage held by the Ports of Oakland, Los Angeles, and Long Beach in the container cargo industry, the Strategic Business Plan concluded that the Port of Richmond would be disadvantaged in attempting to develop a cargo container facility at the PPMT.

EVALUATION OF ALTERNATIVES

In the following section each of the three selected alternatives is defined and described. A discussion of the potential impacts of each alternative is provided, broken down by environmental resource issue. Consistent with the requirements of CEQA, this discussion is focused on a relative comparison with the impacts of the proposed project. To simplify this comparison, a matrix summarizing the impact comparisons is presented at the end of the section.

In both the summary matrix as well as the topical discussions under each alternative, the following letter rankings are employed to compare the impacts of each alternative to the impacts of the proposed project:

- L = Less impact than the project
- E = Equal or similar impacts as the project
- G = Greater impact than the project

In the more detailed discussions by resource issue, the letter ranking is placed in parentheses at the end of the issue headings. For example, in the following first case, the (L) added to the heading for the Land Use and Planning discussion of the No-Project Alternative indicates that, taken as a whole, the land use and planning impacts of the alternative would have less overall impact than the land use and planning impacts of the proposed project.

The information on the three alternatives presented in this chapter is sufficient to provide the decision makers with an understanding of the environmental effects of a range of reasonable alternatives to the project and to allow a meaningful evaluation and comparison of the alternatives to the proposed project.

15.2 ALTERNATIVES EVALUATED IN THIS EIR

NO-PROJECT ALTERNATIVE

Under the No-Project Alternative, the PPMT would continue operations consistent with current operations. The PPMT would continue to process Hyundai and Kia cars imported from Korea by ship. Following processing and any necessary repairs, the imported cars would be shuttled approximately 1 mile north on Canal Boulevard by AWC employees to the Burlington Northern Santa Fe (BNSF) Rail Road automotive terminal located at the corner of Canal Boulevard and Cutting Boulevard, where they would be loaded onto rail cars and shipped to destination markets elsewhere in the U.S. They would also be distributed around northern California and the San Francisco Bay Area directly on car carrier trucks. Honda automobiles would continue to be imported via the Port of San Diego.

The No-Project Alternative would not achieve any of the project objectives listed above for the Applicant and the City and Port of Richmond. The No-Projective Alternative would not:

- Provide competitive, operationally efficient and environmentally responsible vehicle Port of Entry operations for Honda at the Port Of Richmond's Point Potrero facilities.
- Establish a modern and operationally effective rail loading capability within the Port, and eliminate the current requirement for shuttling vehicles along Canal Boulevard to the current rail loading facility located at Canal and Cutting Boulevards.
- Improve rail operations between the BNSF Richmond Yard and all rail-served industries within the Canal Boulevard industrial corridor, through reductions in peak-hour blockages at grade crossings, and the effective management of diesel particulate emissions through the use of environmentally efficient locomotives and improved rail operational practices.
- Promote long-term industrial distribution opportunities within the Port of Richmond, which enhance the Port's financial condition and support community goals of environmentally responsible economic development.
- Pursue the goals of City Council resolution 100-07, approved on September 11, 2007, making it public policy to maximize economic benefit from underutilized real estate assets in the Port of Richmond.

The comparative impacts of this alternative would include the following:

Land Use and Planning—(L)

A significant and unavoidable land use impact identified for the proposed project would be reduced, but would still occur under the No-Project Alternative. This impact is due to the

project's inconsistency with *Richmond General Plan* policies requiring compliance with adopted air quality standards and protection of the public from the adverse health effects of air pollution. As discussed in detail in Chapter 6, Air Quality, the air emissions from project operations would exceed the Bay Area Air Quality Management District's (BAAQMD) significance thresholds. Although mitigation has been identified to reduce the impact on regional air quality, implementation of the mitigation would not be sufficient to reduce the project's air emissions to within the BAAQMD thresholds. The impact has therefore been identified as significant and unavoidable. The No-Project Alternative would not avoid this impact because, as detailed in Chapter 6, Air Quality, existing daily and annual emissions of nitrogen oxides (NO_x) from the PPMT already exceed BAAQMD's thresholds. However, the increase in emissions that would occur with implementation of the proposed project would not occur under this alternative.

A significant and unavoidable land use impact would result from the proposed project's inconsistency with *Richmond Coastline Plan* Public Access Policy 1, which calls for permanently guaranteed access to the shoreline. This impact would also occur under the No-Project Alternative. Although both the proposed project and the No-Project Alternative would accommodate and facilitate construction of a planned segment of the San Francisco Bay Trail, which would provide public access to the Bay shoreline adjacent to the PPMT, the Port of Richmond is legally precluded from providing a binding guarantee of permanent access. Mitigation Measure 4-2 has been included which requires that, "The Port of Richmond shall maintain permanent public access to the shoreline and historic sites on the PPMT to the greatest extent feasible while complying with federal security regulations." This situation currently exists on the site and would apply equally to the No-Project Alternative.

Since one of the proposed project's significant and unavoidable impacts would be reduced in scope by the No-Project Alternative, this alternative would have somewhat reduced land use/planning impact in comparison with the proposed project.

Traffic—(L)

All of the project's construction and operational impacts on traffic would be eliminated under the No-Project Alternative. Staging of construction equipment and materials, construction parking, lane closures, and slow-moving construction trucks all have the potential to disrupt traffic on Canal Boulevard and create potential traffic hazards during construction. Implementation of a mitigation measure requiring the preparation and implementation of a construction management/traffic control plan would ensure that the impact would be less than significant.

The No-Project Alternative would avoid the project impact from increasing the number of large trucks and other vehicles traveling at speed through the unsignalized intersection of Canal Boulevard and Seaciff Drive, which provides inadequate stopping sight distance and inadequate intersection sight distance. Although this is an existing condition, the additional project traffic would substantially exacerbate the safety hazard at this intersection by increasing the number of motorists exposed to potential accidents between autos and large car-carrier trucks. Implementation of a mitigation measure requiring that improvements be made to improve the vehicle sight-distance would reduce the impact to a less-than-significant level. The anticipated parking demand by PPMT employees, longshoremen, visitors, and the public would exceed the parking supply proposed by the project. A mitigation measure would reduce this parking impact by requiring that the Project Sponsor to demonstrate on the final site plan the provision of the number of spaces required by the City.

The No-Project Alternative would eliminate the significant project impact of blocking properties from accessing Canal Boulevard. Switching and other train operations between the proposed PPMT rail yard and the BNSF Automotive Terminal would temporarily block access to industrial properties east of Canal Boulevard, which would not occur under the No-Project Alternative. However, trains currently traveling between the BNSF Automotive Terminal and the Richmond Rail Yard and utilizing the at-grade crossings at Canal, West Cutting, and South Garrard boulevards would continue to temporarily block access to residential and other properties located south of these crossings. This could result in the inability of emergency vehicles to access these properties during fires, medical emergencies, or other types of emergencies. Thus, a similar (existing) impact to the project's impact related to blocking emergency access would also occur under the No-Project Alternative, but at different locations and affecting different types of land use. Implementation of a mitigation measure requiring the preparation and implementation of an Emergency Response Plan would reduce the impact to a less-than-significant level.

On balance, the traffic impacts of the No-Project Alternative would be less than those of the proposed project.

Air Quality—(L)

All of the project's construction air emissions would be eliminated under the No-Project Alternative. The No-Project Alternative would also eliminate all the emissions related to the potential import of up to 75 ships per year from Honda, including cruise, tugboat, hotelling, car carrier trucks, and additional employee vehicle emissions. Operational emissions would be similar or the same as existing emissions from the Glovis operations. The project and cumulative significant unavoidable impacts from increases in NO_x would be

avoided. However, it should be noted that existing Glovis operations already exceed the BAAQMD's thresholds of significance for NO_x.

The No-Project Alternative would generally result in less traffic-related air quality emissions than the proposed project. However, compared to the No-Project Alternative, the proposed project would reduce air quality emissions related to shuttling vehicles on Canal Boulevard and it would eliminate air quality emissions from trucking vehicles north from San Diego. Also, compared to the No-Project Alternative, the proposed project would reduce emission from switching operations by using the advanced NREC GENSET Switcher locomotive. For this aspect only (locomotive switching), as shown in Appendix D, Attachment A, Table 9, the proposed project (compared to the No-Project Alternative) would actually reduce hydrocarbon (HC) emissions (by 0.12 tons per year), NO_x emissions (by 2.14 tons per year), and PM emissions (by 0.05 tons per year). Overall, these reductions in the rail switching emissions that would be part of the proposed project would be minor in comparison to the overall emissions increases of the proposed project, as indicated in Tables 6-3 and 6-4 of the Air Quality chapter in this DEIR.

Noise—(L)

All of the project's construction impacts from noise would be eliminated under the No-Project Alternative. The No-Project Alternative would also eliminate noise from new ships and the new rail facility at the PPMT, movement of railcars along Canal Boulevard, and the No-Project Alternative would dramatically reduce noise impacts at the Seacliff at Point Richmond residences from loading car carrier trucks. Under the proposed project the number of car carrier trucks loaded per day at the PPMT would increase from the existing maximum of 6 trucks per day up to a maximum 46 trucks per day. Under the No-Project scenario, like the existing condition, the car carrier trucks would be loaded at PPMT approximately 1,350 feet from the nearest Seacliff at Point Richmond residences, which would result in less noise than the proposed project, which would load car carrier trucks as close as 450 feet from the nearest Seacliff at Point Richmond residences and have a turnaround within 250 feet of the nearest Seacliff at Point Richmond residences.

There are no potentially significant impacts from general area-wide traffic-related noise from the proposed project (see Impact 7-2 in the Traffic chapter of this DEIR). The No-Project Alternative would generally result in less traffic-related noise than the proposed project. However, the proposed project reduce would traffic-related noise on Canal Boulevard from shuttling vehicles and it would eliminate all traffic-related noise from trucking vehicles north from San Diego. The proposed project would also reduce some noise associated with the inefficient switching of railcars at the current BNSF Automotive Facility at the corner of Cutting Boulevard and Canal Boulevard.

Vegetation and Wildlife—(L)

All of the project's construction impacts on biological resources would be eliminated under the No-Project Alternative, including the potentially significant impact from loss of wetlands and sensitive habitats, and potential impacts to protected species. Project construction could result in the placement of fill into federal and/or State jurisdictional wetlands, and also result in direct or indirect impacts to nesting, roosting, or foraging special-status birds and other migratory birds. In addition, project construction could result in indirect effects on special-status and other natural habitats located outside of the PPMT study area. Construction might also require the trimming of native willows and other trees and shrubs rooted, just outside of the work area. Mitigation measures were identified to reduce the impacts to a less-than-significant level. None of these impacts to biological resources would occur under the No-Project Alternative.

Geology and Soils—(L)

The No-Project Alternative would eliminate the potential soil erosion construction impacts identified for the proposed project that would result from site excavation, grading, and soil stockpiling. Although the site is relatively flat and the project area is substantially covered with pavement, there is still potential for uncontrolled construction activities to result in accelerated soil erosion, which could degrade water quality in San Francisco Bay, which is considered to be a potentially significant impact. Compliance with Mitigation Measure 11-1 of the Hydrology and Water Quality section would reduce the impact to a less-than-significant level.

The No-Project Alternative would also eliminate the potentially significant operational impact of hazardous material leaks. Operation of the proposed PPMT rail terminal, which would involve multiple closely-spaced rail spurs, could result in significant transient weight and vibratory loading due to multiple lines of railcars. These loads could result in subsurface settlements that could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products, which could, in turn, create a significant hazard to the public or the environment. A mitigation measure is included to require that an engineering evaluation shall be performed pursuant to City of Richmond permit requirements. During this engineering phase, loading as related to the underground pipeline and all other buried utilities shall be evaluated and any measures recommended to ensure pipeline integrity and safety shall be implemented by the project sponsor prior to construction of the new lead track and rail yard. The mitigation measure would reduce the impact to a less-than-significant level.

In the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the proposed project site due to structural damage of facility structures.

Ground shaking could potentially expose persons and property to seismic-related hazards, including localized liquefaction and seismically-induced settlement. This situation currently exists on the site. With the addition of new guard house structures on the project site, this impact would be equal to or similar to the impacts of the project. Implementation of a mitigation measure requiring that the design level geotechnical investigation evaluate subsurface conditions with respect to potential geologic hazards and provide recommendations to mitigate these hazards as necessary would reduce the impact to a less-than-significant level.

Considered together, the geology and soils impacts of the No-Project Alternative would be somewhat less than those of the proposed project.

Hydrology and Water Quality—(E)

As discussed above under Geology and Soils, the No-Project Alternative would eliminate the potential soil erosion construction impacts identified for the proposed project that would result from site excavation, grading, and soil stockpiling. A mitigation measure requiring the preparation of a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and Stormwater Control Plan (SCP) by the applicant and submitted along with grading permit applications would reduce the impact to a less-than-significant level.

Site preparation, construction, and operations could create or contribute runoff water that could exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The proposed project would include new impervious surfaces that would be associated with construction of the new rail yard. However, the project would not materially increase impervious surfaces and runoff volumes to the existing storm drain system, and the impact would not be significant. The impervious surfaces currently exist on the site and the stormwater runoff impacts of the No-Project Alternative would be comparable to those of the project.

The proposed project's increase in ship traffic would not result in significant hydrology or water quality impacts. Potential construction impacts could be mitigated to a level of insignificance. Therefore, the hydrology and water quality impacts of the No-Project Alternative would be approximately equal to those of the proposed project.

Hazards—(L)

The No-Project Alternative would avoid the potentially significant construction impacts associated with the release of hazardous contaminants. Development of the proposed project could potentially expose construction workers and future site workers to hazardous concentrations of contaminants from soils and groundwater at the site. In addition,

improper use or transport of hazardous materials during construction activities during development could result in releases of pollutants that could adversely affect construction workers and the general public. Construction-related activities adjacent to utilities and buried high-pressure petroleum pipelines could result in hazardous working conditions and hazardous substance releases. A mitigation measure was identified requiring soil and groundwater sampling. Based on sampling results, a site-specific Soil Management Plan (SMP) and Health and Safety Plan (HASP) is required to be prepared prior to conducting all invasive activities, such as excavation, dewatering, grading, and utility installation. In addition, a Storm Water Pollution Prevention Plan (SWPPP) is required. Standard procedures would be used to locate underground pipelines. These mitigation measures would reduce the impact to a less-than-significant level.

The No-Project Alternative would also eliminate the potentially significant operational impact due to significant weight loading of railcars, which could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products. A mitigation measure was added to reduce this impact to a less-than-significant level through requiring an engineering evaluation. During this engineering phase, weight loading as related to the underground pipeline and all other buried utilities would be evaluated and any measures recommended to ensure pipeline integrity and safety must be implemented by the project sponsor prior to construction of the new lead track and rail yard.

Cultural Resources—(L)

The No-Project Alternative would avoid the potentially significant construction impacts associated with potential damage to the historic structures found on-site, potential disturbance of buried cultural resources, and potential disturbance of buried human remains. Mitigation measures have been included requiring avoidance of the historic areas, evaluation of unanticipated archaeological resources encountered, training of personnel, and procedures in the event human remains were uncovered which would reduce these impacts to a less-than-significant level. The No-Project Alternative would also eliminate the potentially significant construction and operational impact of limiting access to or altering the historic setting of the four vacant historic structures within the Rosie the Riveter World War II Home Front National Historical Park. This impact would be reduced to a less-than-significant level through implementation of a mitigation measure requiring that the City of Richmond review plans of new structures proposed in the immediate vicinity of the historic cafeteria and first aid buildings to ensure design compatibility with these historic buildings and maintain these buildings' historic setting

Visual Quality—(E)

The No-Project Alternative would result in the same amount of aesthetic and lighting impacts as exists under the current situation. Current operations mode lighting does not create a significant amount of light trespass. All proposed and existing lights are full-cutoff type, which utilize hoods and refractors to limit direct exposure to the lighting source. While some public areas, such as Seacliff Park, may incur some residual glare from the cutoff fixtures, it is not disabling or significantly discomforting. This is a preexisting condition and would not be increased significantly by the proposed project. Although the project would introduce new lighting to the eastern portion of the PPMT, the new lighting would be located a sufficient distance from residential receptors that it would not substantially alter existing nighttime conditions.

MODIFIED OPERATIONS ALTERNATIVE 1 (MOA-1)

This alternative would modify operations to reduce the noise impact on the Seacliff at Point Richmond residences and to reduce air emissions from the increased number of ships unloading Honda vehicles at the PPMT.

To reduce noise impacts to Seacliff at Point Richmond residences, the truck loading area would not be moved about 900 feet northwest of its current location, instead it would:

- remain in approximately the same location as the existing truck loading area;
- move to the southwest of the current location, no closer to the Seacliff residences; or
- move to what is currently designated as a car storage area north of Building 23.

To reduce air emissions from the project, the MOA-1 would implement the following measures that are consistent with a settlement agreement at the Port of Stockton:

- provide reduced dockage fees for ship operators that use cleaner fuels and cleaner ship engines;
- develop a program to encourage cleaner trucks at the PPMT; and
- impose mandatory idling restrictions on tugboats and trucks at the PPMT.

All other characteristics of this alternative would be the same as described for the proposed project. The comparative impacts of this alternative would include the following:

Land Use and Planning—(L)

The significant and unavoidable land use impact related to the project's inconsistency with *Richmond General Plan* policies requiring compliance with adopted air quality standards and protection of the public from the adverse health effects of air pollution would still occur under the MOA-1, but to a lesser degree. This alternative would reduce the significant air

quality impact, compared to that of the proposed project, but not to a less-than-significant level. The degree of inconsistency with the General Plan policies would accordingly be reduced, but not eliminated by the alternative.

The MOA-1 would result in the same significant land use impact as would occur due to the proposed project's inconsistency with *Richmond Coastline Plan* Public Access Policy 1, which calls for permanently guaranteed access to the shoreline. This situation currently exists on the site and the MOA-1 would not avoid or lessen the impacts.

On balance, the land use/planning impacts of MOA-1 would be slightly reduced in comparison with the proposed project, though not to any substantial degree.

Traffic—(E)

The MOA-1 would result in the same or similar impacts as the proposed project. Construction impacts would remain the same and a mitigation measure was identified to reduce the impact to a less-than-significant level. The mitigation measure would apply to this alternative, as well. Vehicle trip generation under MOA-2 and its effects on the local roadway network would be identical to the proposed project. The MOA-1 and the proposed project would result in an increase in the number of large trucks and other vehicles traveling at speed through the unsignalized intersection of Canal Boulevard and Seacliff Drive, which provides inadequate stopping sight distance and inadequate intersection sight distance. The anticipated parking demand by PPMT employees, longshoremen, visitors, and the public would exceed the parking supply proposed by the project and, it is assumed, by this alternative; there is adequate available space on the site to provide parking to meet anticipated demand under both the project and MOA-1. The MOA-1 would result in the same significant impact as the proposed project of trains periodically blocking emergency access to properties east of Canal Boulevard. Implementation of mitigation measures identified for the project would also apply to this alternative, and would reduce project and MOA-1 impacts to a less-than-significant level.

All of the less-than-significant marine traffic impacts identified for the proposed project would apply equally to MOA-2, and no mitigation would be required.

Air Quality—(L)

All of the project's construction air emissions would be similar or the same under the MOA-1, and the same mitigation measures would be required (see Mitigation Measure 6-1). The MOA-1 would reduce emissions from ships, trucks, and tugboats in comparison with the proposed project. While emission reductions would be expected to increase over time, feasible emission reductions in the short-term from these measures are probably only in the

range of 1–15 percent of the overall increase in NO_x emissions, somewhat dependent upon systemwide regulations that may be adopted by the California Air Resources Board. Since emission reductions greater than 90 percent would be required to reduce the NO_x impact, the project and cumulative NO_x impact for the MOA–1 would remain significant and unavoidable. Most of the measures that reduce NO_x would also provide for reductions in diesel particulate matter and thereby incrementally reduce impacts related to local and regional health. Most of the measures would also provide for reductions in greenhouse gas emissions from ships and trucks.

The MOA–1 would be the same as or similar to the project in reducing, by eliminating the procedure, air pollutant emissions related to shuttling vehicles on Canal Boulevard and in reducing air pollutant emissions from trucking vehicles north from San Diego.

The MOA–1 would be similar to the proposed project by also using the advanced NREC GENSET Switcher locomotive. For this aspect only (locomotive switching), as shown in Appendix D, Attachment A, Table 9, the MOA–1 (like the proposed project) would actually reduce hydrocarbon (HC) emissions (by 0.12 tons per year), NO_x emissions (by 2.14 tons per year), and PM emissions (by 0.05 tons per year). Overall, these reductions in the rail switching emission that would be part of both the MOA–1 and the proposed project are minor in comparison to the overall emissions increases of the proposed project as indicated in Tables 6–3 and 6–4 of the Air Quality Chapter in the Draft EIR.

Considered altogether, the air quality impacts of the MOA–1 would be somewhat reduced in comparison with the proposed project.

Noise—(L)

The construction noise impacts of MOA–1 would be similar to those of the proposed project. The MOA–1 would reduce the impact of operational noise from loading and moving car carrier trucks adjacent to the Seacliff at Point Richmond Residences. Implementation of MOA–1 would require moving the truck loading operations so that they are no closer than they are now to the Seacliff at Point Richmond residences. This would reduce project Impact 7–5 so that it would be a less-than-significant impact. Although mainly an air quality measure, the restrictions on tugboat and truck idling at the PPMT (as part of the MOA–1) would result in an additional minor reduction in noise in the project area when compared to the proposed project.

Vegetation and Wildlife—(E)

The MOA–1 would result in the same or similar construction impacts on biological resources as the proposed project. The potentially significant impacts of loss of wetlands

and sensitive habitats, and potential impacts to protected species would still occur. Project construction would still result in the placement of fill into federal and/or State jurisdictional wetlands, and also could result in impacts to special-status birds and other migratory birds. In addition, project construction could result in indirect effects on habitats located outside of the PPMT study area. Construction might also require the trimming of native willows and other trees and shrubs rooted just outside of the work area. Mitigation measures were identified to reduce the impacts to a less-than-significant level and those mitigation measures would apply to this alternative.

Geology and Soils—(E)

The MOA-1 would result in the same or similar potential soil erosion construction impacts identified for the proposed project that would result from site excavation, grading, and soil stockpiling. The mitigation measure identified for this impact would reduce the impact to a less-than-significant level and would apply equally to the MOA-1. In the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the proposed project site due to structural damage of facility structures. Ground shaking could potentially expose persons and property to seismic-related hazards, including localized liquefaction and seismically-induced settlement. This situation currently exists on the site. The MOA-1 would result in impacts which would be equal to or similar to the impacts of the project and mitigation measures identified for the project would be the same for this alternative.

Hydrology and Water Quality—(E)

The MOA-1 would result in the same or similar site preparation and construction impacts as the proposed project, potentially creating accelerated soil erosion, which could adversely affect downstream water quality. The mitigation identified for the project (i.e., preparation and implementation of a Stormwater Pollution Prevention Plan) would apply equally to MOA-1. This alternative would also have the same operational impact associated with increased stormwater runoff due to the creation of new impervious surfaces that was identified for the project. Although the increase in runoff water could potentially exceed the capacity of the existing stormwater drainage system, due to available capacity in the system and the limited amount of increased runoff that would occur, neither the project nor the MOA-1 would require mitigation for this less-than-significant impact. Other less-than-significant operational impacts identified for the project would also apply equally to this alternative, including potential exposure to tsunamis, potential introduction of pollutants into Bay waters by ships, accidental release of fuel oil into San Francisco Bay or outer coastal waters, increased introduction of toxic anti-fouling paint into the Bay or ocean, and

increased turbidity in the Harbour Channel from berthing ships. No mitigation would be required for these impacts under the project or under the MOA-1.

Hazards—(E)

The MOA-1 would result in the same potentially significant construction impacts associated with the release of hazardous contaminants, as would the proposed project. Mitigation measures were identified to reduce the impacts to a less-than-significant level and those mitigation measures would apply to this alternative. The MOA-1 would result in the same potentially significant operational impact due to weight loading of railcars, which could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products. A mitigation measure was added to reduce this impact to a less-than-significant level through requiring an engineering evaluation and this measure would also apply to MOA-1.

Cultural Resources—(E)

The MOA-1 would result in the same or similar potentially significant construction impacts associated with potential damage to the historic structures found on-site, disturbance of buried cultural resources, and potential disturbance of buried human remains. This alternative would also result in the same potential for significant construction and operational impacts of limiting access to or altering the historic setting of the four vacant historic structures within the Rosie the Riveter World War II Home Front National Historical Park. Mitigation measures reducing the impacts to less-than-significant were identified for the proposed project; these mitigations would also apply to the MOA-1.

Visual Quality—(E)

The MOA-1 would result in the same amount of aesthetic and lighting impacts as exist under current conditions and as would occur with the implementation of the proposed project. Current operations mode lighting does not create a significant amount of light trespass. All proposed and existing lights are full-cutoff type, which utilize hoods and refractors to limit direct exposure to the lighting source. While some public areas, such as Seacliff Park, may incur some residual glare from the cutoff fixtures, it is not disabling or significantly discomforting. This is a pre-existing condition and would not be increased significantly by the proposed project or the MOA-1.

MODIFIED OPERATIONS ALTERNATIVE 2 (MOA-2)

This alternative would be identical to MOA-1 except it also includes a requirement for reducing the use of auxiliary diesel ship engines while the ships importing Honda vehicles are berthed at the PPMT. During the first year of operation of the MOA-2, a minimum of 20

percent of the car carrier ships importing Hondas into the PPMT would be required to limit the use of auxiliary diesel engines to less than 5 hours per visit. Similar to proposed California Air Resources Board (ARB) regulations for container ships, by 2014 no less than 50 percent of the project's car carrier ships would be required to limit the use of auxiliary diesel engines to less than 5 hours per visit. Power could be provided either by grid-based shore power (essentially connecting to the PG&E grid) or by ultra-clean distributed generation. (Proof of concept tests at the Port of Oakland have shown the ability of mobile liquefied natural gas generators to fully power ocean-going vessels while docked at berth or under "hotelling".) The grid-based power would require shore-side plugs for the ships to attach to and retrofits of the ships to be able to use the grid-based power. Grid-based power is a permanent solution for ships that can connect, and eliminates all local emissions from the hotelling ships. Distributed generation is a more flexible system that can be implemented sooner because it is mobile power. The generation systems in design now are mounted on 40-foot-long trailers that can be moved from one location to another. To provide power to a ship at berth, the 40-foot trailer would be positioned shoreside next to the berth.

The comparative impacts of this alternative would include the following:

Land Use and Planning—(L)

The significant and unavoidable land use impact related to the project's inconsistency with *Richmond General Plan* policies requiring compliance with adopted air quality standards and protection of the public from the adverse health effects of air pollution would still occur under the MOA-2, but to a lesser degree. This alternative would reduce the significant air quality impact, compared to that of the proposed project and compared to MOA-1, but not to a less-than-significant level. The degree of inconsistency with the General Plan policies would accordingly be reduced, but not eliminated by the alternative.

The MOA-2 would result in the same significant and unavoidable land use impact as would occur due to the proposed project's inconsistency with *Richmond Coastline Plan* Public Access Policy 1, which calls for permanently guaranteed access to the shoreline. This situation currently exists on the site and the impacts of the MOA-2 would be equal to that of the project, with no mitigation feasible.

Traffic—(E)

The MOA-2 would result in the same or similar impacts as the proposed project and MOA-1. Construction impacts would remain the same and the mitigation measure identified to reduce the project's impact to a less-than-significant level would also apply to this alternative. Vehicle trip generation under MOA-2 and its effects on the local roadway

network would be identical to the proposed project. The MOA-2 and the proposed project would both result in an increase in the number of large trucks and other vehicles traveling at speed through the unsignalized intersection of Canal Boulevard and Seacliff Drive, which provides inadequate stopping sight distance and inadequate intersection sight distance. This alternative would have the same impact as the project related to anticipated parking demand by PPMT employees, longshoremen, visitors, and the public potentially exceeding the parking supply, and the mitigation identified for the project would be the same for this alternative. The MOA-1 would result in the same significant impact as the proposed project of trains periodically blocking emergency access to properties east of Canal Boulevard. Implementation of mitigation measures identified for the project would also apply to this alternative, and would reduce the impacts to a less-than-significant level.

All of the less-than-significant marine traffic impacts identified for the proposed project would apply equally to MOA-2, and no mitigation would be required.

Air Quality—(L)

All of the project's construction air emissions would be similar or the same under the MOA-2, and the same mitigation measures would be required (see Mitigation Measure 6-1). The MOA-2 would reduce emissions from ships, trucks, and tugboats in comparison to the proposed project. The cold-ironing measure has the potential to dramatically reduce hotelling emissions as the measure is phased in at a level to reach 50 percent by 2014. With grid-based power cold-ironing, emissions from the car carrier ship would be eliminated at the site while connected to the grid, except for small ship boilers that may still emit some NO_x. Compared to a day that would have two ships at berth using their auxiliary engines for hotelling, a day with all grid-based power would potentially reduce overall project NO_x emissions on that day from 2,327 pounds to 280 pounds (based on Table 6-3 in Chapter 6). This would be a dramatic 88-percent reduction in NO_x emissions, but the 280 pounds would still substantially exceed the BAAQMD NO_x threshold of 80 pounds per day.

Using distributed generators to replace auxiliary engines for hotelling would result in reductions similar to the grid-based cold ironing. Results from proof of concept tests at the Port of Oakland found a liquefied natural gas distributed generator was able to reduce ship diesel auxiliary engine NO_x emissions by approximately 95 percent. This would be just slightly less than the 100-percent reduction offered by grid-based shore power. Most of the measures that would reduce NO_x would also provide for reductions in diesel particulate matter and thereby incrementally reduce impacts related to local and regional health. Most of the measures would also provide for reductions in greenhouse gas emissions from ships and trucks.

Similar to the proposed project, the MOA-2 would eliminate existing air pollutant emissions related to shuttling Glovis vehicles on Canal Boulevard and would reduce air pollutant emissions from trucking vehicles north from San Diego under current Honda operations.

The MOA-2 would also be similar to the proposed project by using the advanced NREC GENSET Switcher locomotive. For this aspect only (locomotive switching), as shown in Appendix D, Attachment A, Table 9, the MOA-2 (like the proposed project) would actually reduce hydrocarbon (HC) emissions (by 0.12 tons per year), NO_x emissions (by 2.14 tons per year), and PM emissions (by 0.05 tons per year). Overall, these reductions in the rail switching emission that would be part proposed either the MOA-2 or the proposed project are minor in comparison to the overall emissions increases of the proposed project, as indicated in Tables 6-3 and 6-4 of the Air Quality chapter in this DEIR.

Noise—(L)

Similar to MOA-1, the MOA-2 would reduce the impact of noise from loading and moving car carrier trucks at the Seacliff at Point Richmond Residences, and achieve the same incremental noise reduction as a result of restrictions on tugboat and truck idling at the PPMT included as part of the alternative. The requirements for ships to use grid-based power or distributed generation would also result in an additional reduction in noise, which could be minor or substantial depending on the distance of a receptor from the ship berth. Use of grid-based power would result in elimination of noise from auxiliary ship engines. While distributed generation solutions would eliminate noise from auxiliary ship engines, they would still generate noise from the new shore-side generator. However, these noise sources, whether they be idling ship engines or shore-based generators under this alternative, are not expected to adversely affect the nearest residential receptors unless an unusually noisy ship docked at the PPMT (see the discussion of Impact 7-2 in Chapter 7 of this DEIR).

Vegetation and Wildlife—(E)

The MOA-2 would result in the same or similar construction impacts on biological resources as the proposed project. The potentially significant impacts of loss of wetlands and sensitive habitats, and potential impacts to protected species would remain. The impacts of the MOA-2 would be equal to that of the project and MOA-1. Mitigation measures were identified to reduce the project impacts to a less-than-significant level and those mitigation measures would apply to this alternative.

Geology and Soils—(E)

The MOA-2 would result in the same or similar potential soil erosion construction impacts identified for the proposed project and for MOA-1 that would result from site excavation,

grading, and soil stockpiling. The mitigation measure identified would reduce the impact to a less-than-significant level and would apply to both alternatives. In the event of a major earthquake in the region, seismic ground shaking could potentially injure persons at the proposed project site due to structural damage of facility structures. Ground shaking could potentially expose persons and property to seismic-related hazards, including localized liquefaction and seismically-induced settlement. This situation currently exists on the site. The MOA-2 would result in impacts which would be equal to or similar to the impacts of the project and mitigation measures identified for the project would also apply to this alternative.

Hydrology and Water Quality—(E)

As with MOA-1, MOA-2 would result in the same or similar site preparation and construction impacts as the proposed project, potentially creating accelerated soil erosion, which could adversely affect downstream water quality. The mitigation identified for the project (i.e., preparation and implementation of a Stormwater Pollution Prevention Plan) would apply equally to MOA-2. This alternative would also have the same operational impact associated with increased stormwater runoff due to the creation of new impervious surfaces that was identified for the project. Although the increase in runoff water could potentially exceed the capacity of the existing stormwater drainage system, due to available capacity in the system and the limited amount of increased runoff that would occur, neither the project nor the MOA-2 would require mitigation for this less-than-significant impact. Other less-than-significant operational impacts identified for the project would also apply equally to this alternative, including potential exposure to tsunamis, potential introduction of pollutants into Bay waters by ships, accidental release of fuel oil into San Francisco Bay or outer coastal waters, increased introduction of toxic anti-fouling paint into the Bay or ocean, and increased turbidity in the Harbour Channel from berthing ships. No mitigation would be required for these impacts under the project or under this alternative.

Hazards—(E)

The MOA-2 would result in the same potentially significant construction impacts associated with the release of hazardous contaminants as those identified for the proposed project and MOA-1. Mitigation measures were identified to reduce the impacts to a less-than-significant level and those mitigation measures would also apply to this alternative. The MOA-2 would result in the same potentially significant operational impact due to weight loading of railcars, which could compromise underlying BP and Kinder Morgan pipelines and result in pipeline leaks of hazardous petroleum products. A mitigation measure was added to reduce this impact to a less-than-significant level through requiring an engineering evaluation and this measure would also apply to this alternative.

Cultural Resources—(E)

The MOA-2 would result in the same or similar potentially significant construction impacts associated with potential damage to the historic structures found on-site, disturbance of buried cultural resources, and potentially disturb buried human remains. This alternative would also result in the same potential for significant construction and operational impacts of limiting access to or altering the historic setting of the four vacant historic structures within the Rosie the Riveter World War II Home Front National Historical Park. Mitigation measures reducing the impacts to less-than-significant were identified for the proposed project which would also apply to this alternative. MOA-2 would require that a 40-foot trailer be positioned shoreside next to the berth to provide power to a ship at berth. This could potentially increase the operational impact of compatibility to the historic buildings found on the site, but the trailer would not be a permanent structure on the site. Therefore, the impact of the trailer to the historic site and buildings would be similar to that of the proposed project and MOA-1.

Visual Quality—(E)

The MOA-2 would result in the same amount of aesthetic and lighting impacts as exists under the current situation and as would occur with the implementation of the proposed project and MOA-1. Current operations mode lighting does not create a significant amount of light trespass. All proposed and existing lights are full-cutoff type, which utilize hoods and refractors to limit direct exposure to the lighting source. While some public areas, such as Seacliff Park, may incur some residual glare from the cutoff fixtures, it is not disabling or significantly discomforting. This is a preexisting condition and would not be increased significantly by the proposed project or the alternatives. As was discussed in the Visual Quality chapter, the visual intrusion of two ships docked simultaneously, as would occur under the proposed project and the two alternatives, would only result in an incremental and temporary degradation of visual quality that, given the existing maritime/industrial character of the area and the substantial distance from residential receptors, would not be substantial. MOA-2 would require that a 40-foot trailer be positioned shoreside next to the berth to provide power to a ship at berth. This would also be an incremental change to the already maritime/industrial character of the project site, and would likely not be visible to residents living to the west of the PPMT. The introduction of the trailer to the east side of the site would result in a less-than-significant impact, with no mitigation required.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 15-1 provides a summary of the evaluation of the alternatives compared to the proposed project. As discussed earlier in this chapter, there is a CEQA requirement to consider a No-Project Alternative and, if the No-Project Alternative is the environmentally

superior alternative, there is a requirement to identify an environmentally superior alternative among the other alternatives. As shown in Table 15-1, the No-Project Alternative would have reduced impacts in comparison to the proposed project in eight environmental resource areas, including land use and planning; traffic; air quality; noise; vegetation and wildlife; geology and soils; hazards; and cultural resources. Among the project-related impacts that the No-Project Alternative would avoid is a significant and unavoidable impact related to increased air pollutant emissions caused by ships. However, emissions from existing ship operations already exceed BAAQMD standards and are therefore already significant.

In comparison to the proposed project, both Modified Operations Alternatives would have reduced impacts in three resource areas: land use and planning, air quality, and noise. Both alternatives would reduce the impacts on air quality, but not to a less-than-significant level; therefore impacts due to an inconsistency with air quality policies would remain, though reduced in degree. The significant operational noise impact from truck loading would be reduced to a less-than-significant level by both alternatives. MOA-1 and MOA-2 would have impacts equal to those of the proposed project in seven environmental issues areas: traffic; vegetation and wildlife; geology and soils; hydrology and water quality; hazards; cultural resources; and visual quality.

Based on the results shown in Table 15-1, both Modified Operations Alternatives appear to have similar impacts in comparison with the proposed project. However, as discussed above, the air emissions from MOA-2 would be substantially reduced in comparison with MOA-1, and the operational noise impacts of MOA-2 would be somewhat reduced in comparison with MOA-1. Due to these differences, the Modified Operations Alternative-2 would be the environmentally superior alternative.

Table 15-1
Project Alternatives Comparison

EIR Chapter/Project Impact	No-Project Alternative	Modified Operations Alternative 1	Modified Operations Alternative 2
Land Use and Planning	L	L	L
Traffic	L	E	E
Air Quality	L	L	L
Noise	L	L	L
Vegetation and Wildlife	L	E	E
Geology and Soils	L	E	E
Hydrology and Water Quality	E	E	E
Hazards	L	E	E
Cultural Resources	L	E	E
Visual Quality	E	E	E

Source: Douglas Herring & Associates, 2008

L= Less impact than the project
E= Equal or similar impacts as the project
G= Greater impact than the project

16. OTHER CEQA CONSIDERATIONS

16.1 GROWTH-INDUCING IMPACTS

The California Environmental Quality Act (CEQA) requires EIRs to address the growth-inducing impacts of the project. The *CEQA Guidelines* (15126.2(d)) requires that EIRs discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities, so consideration must be given to this impact. Section 15126.2(d) of the *CEQA Guidelines* also calls for EIRs to discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, wither individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The proposed project would essentially entail a continuation and expansion of existing activities and conditions at the PPMT. The primary new construction would consist of a new rail yard adjacent to the large ship berths at the PPMT, which would improve the efficiency of current ship-to-rail operations, eliminating the current car shuttling along Canal Boulevard as well as approximately 20 daily disruptions of traffic on Canal, West Cutting, and South Garrard boulevards from at-grade train crossings. Although implementation of the project would represent approximately a tripling in the volume of new automobiles currently processed at the PPMT, this increase would not be directly growth-inducing. The additional imported Honda vehicles that would be processed at the PPMT are already being imported into the Port of San Diego and transported to northern California by car carrier trucks. Thus, the project would not affect the volume of cars imported into the State, but would improve the efficiency of their delivery and Statewide distribution. Similarly, the domestically-produced Hondas that would be shipped to the PPMT via rail from the Midwest are already being shipped to the BNSF Automotive Terminal, approximately 1 mile to the north of the PPMT. The proposed project would improve the efficiency and reduce the impacts associated with these rail-to-truck operations.

The proposed project would create new jobs and work opportunities, which could be indirectly growth-inducing. The project would create 120 new full-time jobs for AWC employees, and would increase the demand for independent truck drivers. It would also approximately double the demand for longshoremen to unload ships by roughly doubling the number of ship calls to the PPMT. In some cases, this would likely mean providing work for longshoremen at the facility twice a week instead of once a week under current practice. On occasions when two ships berthed simultaneously, twice as many longshoremen (i.e., about 120) would be provided work for that day.

It is assumed that most of the truckers and longshoremen who would meet the increased demand from the project would already be living and working in the region. Therefore, the ship unloading and truck transport operations of the project would not be expected to result in an appreciable increase in residents in the City of Richmond or the greater region. It is also expected that a majority of the 120 new full-time jobs created by the project would be filled by existing residents of the region. While some portion of these new employees could represent new residents moving into the City or the region, the number would not be substantial, and the limited amount of population growth would be included in local and regional population growth forecasts. For these reasons, the growth-inducing impacts of the project would not be significant.

16.2 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Section 15126.2(b) of the *CEQA Guidelines* requires an EIR to describe any unavoidable significant impacts that would occur if the project is implemented. Unavoidable adverse environmental impacts are those which cannot be reduced to a level of insignificance, even with implementation of recommended mitigation measures. If the City of Richmond decides to approve the project, a Statement of Overriding Considerations must be adopted by the Planning Commission for any identified significant and unavoidable impacts, as required by the State *CEQA Guidelines*, Section 15093(b). In deciding to approve a project that would result in one or more significant unavoidable impacts, a lead agency must determine in writing that specific economic, social, technical, or other considerations outweigh the unavoidable adverse environmental effects identified in the EIR, and that such effects may therefore be considered “acceptable.” This Statement of Overriding Considerations must be supported by substantial evidence in the record of the project. This section summarizes the unavoidable significant impacts identified in this EIR that would require the Planning Commission to make a Statement of Overriding Considerations for each impact prior to certifying this EIR and approving the proposed project.

SUMMARY OF UNAVOIDABLE ADVERSE IMPACTS

The air quality analysis conducted during the preparation of this EIR and summarized in Chapter 6 identified a significant and unavoidable project impact on air quality. The proposed project's operation of auto carrier marine vessels, tugs, trains, auto carrier trucks, and employee vehicles would generate emissions of nitrogen oxides (NO_x) that would exceed the Bay Area Air Quality Management District's (BAAQMD) project-specific threshold of significance of 80 pounds per day (Impact 6-2). Even with implementation of all feasible mitigation measures, NO_x emissions would remain well over the BAAQMD threshold, and would therefore remain significant and unavoidable. Since the *BAAQMD CEQA Guidelines* consider a significant project impact on air quality to also be a significant cumulative impact, this project-level impact would also result in a significant, unavoidable cumulative impact.

The planning and policy analysis summarized in Chapter 4, Land Use and Planning, identified a significant and unavoidable project impact related to a conflict with an adopted planning document. The *CEQA Guidelines* indicate that a significant adverse land use and planning impact would result if a project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. The review of the *Richmond General Plan* identified a conflict (Impact 4-1) with Land Use Element Policy OSC-P.1, which states "(O)nly approve projects that will comply with applicable regulations and will not exceed air quality standards." As noted above, the air emissions from project operations would exceed the BAAQMD's air quality standards for NO_x, even with implementation of all feasible mitigation measures. Since this policy was clearly adopted for the purpose of avoiding an environmental effect, the conflict with the policy represents a significant, adverse impact. Because the air quality impact itself is unmitigable, the policy conflict impact would also be a significant and unavoidable impact.

The noise analysis summarized in Chapter 7 identified a significant noise impact on residential receptors in the Seacliff neighborhood from truck loading operations at the proposed relocated truck loading area on the PPMT site (Impact 7-5). Implementation of identified mitigation requiring relocation of the truck loading area to a location more distant from the residences would reduce this impact to a less-than-significant level. However, if relocation of the truck loading area proved infeasible (which does not appear to be the case), the impact would remain significant and unavoidable.

16.3 EFFECTS NOT FOUND TO BE SIGNIFICANT

As required by Section 15143 of the *CEQA Guidelines*, this Draft EIR focuses on expected significant or potentially significant environmental effects. An Initial Study was prepared for this project and is included as Appendix A. The purpose of the Initial Study prepared for the proposed project was to identify issues to be evaluated in this EIR. Effects dismissed in the Initial Study as clearly insignificant and unlikely to occur have not been discussed further in this EIR, unless additional information identified a need to discuss them. Comments received on the Notice of Preparation that helped to further refine the list of environmental issues to be evaluated in this EIR are included in Appendix B.

A summary of resource-specific issues that were eliminated from detailed analysis in this EIR is provided in the Initial Study. Some of the impacts analyzed in this EIR are considered to be less than significant and require no mitigation. Other impacts, (i.e., those which are considered to be significant) can be reduced to a less-than-significant level in most cases with the implementation of the proposed mitigation measures.

All of the impacts analyzed in this EIR, including those considered to be less-than-significant, are summarized in Table 2-1 in Chapter 2, Summary, of this document.

16.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the *CEQA Guidelines* requires an EIR to describe significant irreversible environmental changes that would occur if a proposed project is approved and implemented. The Guidelines further state that:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can also result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.¹

The proposed project would use non-renewable fuel resources during construction to power grading and other construction equipment as well as trucks delivering materials and exporting excess fill. The project would also consume non-renewable fuel resources throughout the life of the project to power the ships, trains, and trucks involved in the transport and distribution of new Honda automobiles. This commitment to the use of non-

¹ Governor's Office of Planning and Research, *CEQA Guidelines*, Section 15126.2(c), as amended July 27, 2007.

renewable fuel resources is common to one or more aspects of most development projects. The depletion of this non-renewable resource is a global problem that cannot be solved or effectively addressed at the level of an individual development project. As society continues to grapple with this problem, it is expected that a shift to alternative energy and transportation technologies will occur society-wide, and that such improvements would be adopted as feasible by the project sponsor.

16.5 CUMULATIVE IMPACTS

The *CEQA Guidelines* (Section 15130(a)) require that an EIR discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. *CEQA Guidelines* Section 15130(b) requires that discussions of cumulative impacts reflect the severity of the impacts and their likelihood of occurrence. The Guidelines note that the cumulative impacts discussion does not need to provide as much detail as is provided in the analysis of project-only impacts and should be guided by the standards of practicality and reasonableness.

Discussions of the cumulative impacts of the proposed project are included in this EIR at the end of each of the impact analysis chapters (Chapters 4 through 14). Please refer to those topical chapters for additional information on cumulative impacts of the proposed project.

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18. LIST OF ACRONYMS USED IN THIS EIR

AB	Assembly Bill
ABAG	Association of Bay Area Governments
A.D.	After Death (of Christ)
ADRP	Archaeological Data Recovery Program
ADT	average daily traffic
AEL	acceptable exposure level
AERMOD	atmospheric dispersion model developed by US EPA
APE	area of potential effect
APN	Assessor's Parcel Number
ASA	American Standards Association
AST	Above-ground Storage Tank
AT	Averaging Period
AWC	Auto Warehousing Company
B	beneficial
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
B.C.E.	Before the Christian Era
BEP	Business Emergency Plan
BEPA	Bald Eagle Protection Act
BMPs	best management practices
BNSF	Burlington Northern Santa Fe Railroad
B.C.	Before Christ
B.P.	Before Present
BTEX	benzene, toluene, ethylbenzene, and xylenes
C	annual average concentration
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association

CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Code
CCCHSD	Contra Costa County Health Services Department
CCCWP	Contra Costa Clean Water Program
CCR	California Code of Regulations
CCTA	Contra Costa Transportation Authority
CDFG	California Department of Fish and Game
cd*sr/m ²	candela steradians per square meter
C.E.	Christian Era
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH ₄	methane
CHMIRS	California Hazardous Material Incident Report System
CII	Commercial, Industrial, and Institutional
CISWICP	Commercial and Industrial Stormwater Inspection and Control Program
CO	carbon monoxide
CO ₂	carbon dioxide
COE	U.S. Army Corps of Engineers
COLREGS	International Regulations for Avoiding Collisions at Sea
CORRACTS	Corrective Action Report
CNDDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CSLC	California State Lands Commission
CTR	California Toxics Rule
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel

dba	A-weighted decibel
DBR	daily breathing rate
DDT	dichloro-diphenyl-trichloroethane
DEIR	Draft Environmental Impact Report
DEM	Digital Elevation Model
DOD	Department of Defense
DPM	diesel particulate matter
DPS	Distinct Population Segment
DRB	Design Review Board
DRO	development review organization
DTSC	California Department of Toxic Substances Control
DWT	dead weight tonnage
DWTL	Deep Water Traffic Lane
EA	Environmental Assessment
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
ED	Exposure Duration
EDR	Environmental Data Resources, Inc.
EEZ	Exclusive Economic Zone
EF	Exposure Frequency
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC2007	Motor Vehicle Emission Factor Model developed by CARB
ERNS	Emergency Response Notification System
ESA	Endangered Species Act (federal)
ESA	Environmental Science Associates
ESA	Environmental Site Assessment
ESAL	Equivalent Single-Axle Load
ESU	Evolutionarily Significant Unit
EV	exposure value
FAR	floor area ratio
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise

FID	Facility Inventory Database
FIFRA	Federal Insecticide, Fungicide, & Rodenticide Act
FINDS	Facility Index System
FIRMS	Flood Insurance Rate Maps
FTTS	FIFRA and TSCA Tracking System
FPR	first point of rest
FRDR	Final Remedial Design Report
FRWP	Freeport Regional Water Project
FS/RAP	Feasibility Study/ Remedial Action Plan
FUDS	Formerly Used Defense Sites
GHG	greenhouse gases
g/hr	grams per hour
gpd	gallons per day
H ₂ O	water vapor
HARP	Hotspot Analysis and Reporting Program
HASP	Health and Safety Plan
HC	hydrocarbons
HCH	hexachlorocyclohexane
HFCs	hydrofluorocarbons
HI	Hazard Index
hp	horsepower
HPAC	Historic Preservation Advisory Committee
HPS	high-pressure sodium
HQ	hazard quotient
HRA	Health Risk Assessment
HSC	Harbor Safety Committee
HMIRS	Hazardous Materials Incident Report System
HVAC	heating/ventilation/air conditioning
ICBO	International Conference of Building Officials
ICIS	Integrated Compliance Information System
ILE	Institution of Lighting Engineers
ILWU	International Longshore and Warehouse Union
IMO	International Maritime Organization
IMP	Integrated Management Practices
ISC3	Industrial Source Complex
ISO	International Organization for Standardization

ITE	Institute of Transportation Engineers
K	Kelvin (degrees of temperature)
L/kg	pounds per kilogram
Lb/hr	pounds per hour
L _{dn}	average day–night 24–hour average sound level
L _{eq}	equivalent sound level
L _{max}	maximum sound level
LOS	Level of Service
LTS	less than significant
LTSWM	less than significant with mitigation
LUST	Leaking Underground Storage Tank
m	meters
MARPOL	International Convention for the Prevention of Pollution from Ships
MBTA	Migratory Bird Treaty Act
MBTRA	Migratory Bird Treaty Reform Act
MCE	maximum credible earthquake
MEC	Miller Environmental Consultants
MEI	maximally exposed individual
mgd	million gallons per day
mg/kg	milligrams per kilogram
MHHW	Mean Higher High Water
MHW	Mean High Water
MISA	Marine Invasive Species Act (
MLW	Mean Low Water
MLLW	Mean Lower Low Water
MLTS	Material Licensing Tracking System
MOL	Mitsui O.S.K. Lines
MMPA	Marine Mammal Protection Act
MMTCO ₂ E	million metric tons of carbon dioxide (CO ₂) equivalent
mph	miles per hour
MSFCMA	Magnuson–Stevens Fishery Conservation and Management Act
m/s	meters per second
msl	(feet above) mean sea level
MSRC	Marine Spill Response Corporation
MRZ	Mineral Resource Zone
MTC	Marine Terminals Corporation

MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCI	National Cancer Institute
NEPA	National Environmental Policy Act
NFRAP	No Further Remedial Action Planned
NHPA	National Historic Preservation Act
NIC	Northwest Information Center
NLPIP	National Lighting Product Information Project
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
N ₂ O	nitrous oxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NREC	National Railway Equipment Company
NRHP	National Register of Historic Places
NTR	National Toxics Rule
O ₃	ozone
O&M	operation and maintenance
ODI	Open Dump Inventory
OEHHA	California Office of Environmental Health and Hazard Assessment
OGV	ocean-going vessels
OHWM	Ordinary High Water Mark
OPR	State Office of Planning and Research
OSHA	Occupation Safety and Health Administration
OSPR	California Office of Oil Spill Preparedness and Response
OSPRA	Oil Spill Prevention and Response Act

PADS	PCB Activity Database System
PAHs	polycyclic aromatic hydrocarbons
Pb	lead
PCBs	polychlorinated biphenyls
PFCs	perfluorocarbons
PHGA	peak horizontal ground acceleration
PM _{2.5}	particulate matter (2.5 microns or less in diameter)
PM ₁₀	particulate matter (10 microns or less in diameter)
PORTS	Physical Oceanographic Real Time System
PPMT	Point Potrero Marine Terminal
ppm	parts per million
ppt	parts per thousand
PRS	Point Richmond Shipyard, Inc.
PS	Pferdestärke (German for “horse strength”)
RAATS	RCRA Administrative Action Tracking System
RAP	Remedial Action Plan
RCRA	Resources Conservation and Recovery Act
RDIP	Remedial Design and Implementation Plan
REA	Registered Environmental Assessor
REL	reference exposure level
RfC	reference dose
RI	Remedial Investigation
RMP	Regional Monitoring Program
RNAs	Regulated Navigation Areas
ROG	reactive organic gases
RPRR	Richmond Pacific Railroad
RSD	Richmond Sanitary District
RSS	Richmond Sanitary Service
RWQCB	Regional Water Quality Control Board
S	significant
SB	Senate Bill
SCP	Stormwater Control Plan
SCWA	Sacramento County Water Agency
SEER	Surveillance, Epidemiology, and End Results
sf	square feet
SF ₆	sulfur hexafluoride

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SI	International System of Units
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations and Cleanup
SLR	single-lens reflex
SMP	Soil Management Plan
SO ₂	sulfur dioxide
SOLAS	Safety of Life at Sea
SPA	Surplus Property Authority
SPRR	Southern Pacific Railroad
SRSSAP	South Richmond Shoreline Special Area Plan
SSTS	Section Seven Tracking System
SWAT	Solid Waste Assessment Test
SWEEPS	Statewide Environmental. Evaluation and Planning. System
SWMP	Stormwater Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWRCY	Solid Waste Recycling
TACs	TACs
TBT	tributyltin
TDS	total dissolved solids
TF	tributyltin-free
TI	Traffic Index
TMDLs	Total Maximum Daily Loads
TPD	tons per day
TPH-D	total petroleum hydrocarbons as diesel
TPH-G	total petroleum hydrocarbons as gasoline
TRAC	Trails for Richmond Action Committee
TRIS	Toxic Release Inventory System
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
TSS	Traffic Separation Scheme
µg/l	micrograms per liter
µg/m ³	micrograms per cubic meter
UBC	Uniform Building Code
UC	University of California
UMTRA	Uranium Mill Tailings Remedial Action

UPRR	Union Pacific Railroad
USDA	United States Department of Agriculture
US EPA	U.S. Environmental Protection Agency
USA	Underground Services Alert
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMC	U.S. Material Commission
UST	underground storage tank
V/C	volume-to-capacity ratio
VCP	Voluntary Cleanup Program
VIN	vehicle identification number
VMT	vehicle miles traveled
VOCs	volatile organic compounds
VTs	Vessel Traffic Service
WCWDTP	West County Wastewater District Treatment Plant
WDRs	Waste Discharge Requirements
WDS	Waste Discharge System
WMUDS	Waste Management Unit Database
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
WWII	World War Two

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