OAK TO NINTH AVENUE PROJECT

Draft Environmental Impact Report

State Clearinghouse No. 2004062013

Prepared for:

City of Oakland, CEDA

August 2005

ESA

Notice of Completion (Appendix C)

For US Mail: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044
For Hand Delivery: 1400 Tenth Street, Sacramento, CA 95814 (916) 445-0613

SCH# 2004062013

Project Title: Oak to Ninth Mixed Use Development

Lead Agency: City of Oakland Community and Economic Devel. Agency — Contact Person: Margaret Stanzione
Street Address: 250 Frank H. Ogawa Plaza, Suite 3315 — Phone: (510) 238-4932
City: Oakland — Zip Code: 94612 — County: Alameda County

Project Location

County: Alameda County — City/Nearest Community: Oakland
Cross Streets: Fallon/ Embarcadero and 10th Ave/Embarcadero — Zip Code: 94607; 94606 — Total Acres: 64
Assessor's Parcel No. 0000-0430-001-02; Portion of 0000-0430-001-04; 0000-0460-003; 0000-0460-004; 0000-0465-002; Portions of 0000-0470-002 — Section: — Twp: — Range: — Base:

Within 2 Miles: State Hwy #: I-880 — Waterways: SF Bay, Oakland Estuary
Airports: — Railways: Yes — Schools: Yes

Document Type

CEQA: [ ] NOP [ ] Early Cons [ ] Neg Dec [ ] MitNeg Dec [x] Draft EIR [ ] Supplemental/Subsequent [ ] EIR (Prior SCH No.) [ ] Other:

NEPA: [ ] NOI [ ] EA [ ] Draft EIS [ ] FONSI

Other: [ ] Joint Document [ ] Final Document [ ] Other

Local Action Type

[ ] General Plan Update
[x] General Plan Amendment
[ ] General Plan Element
[ ] Community Plan
[ ] Specific Plan
[ ] Master Plan
[x] Planned Unit Development
[x] Site Plan
[x] Rezone
[ ] Prezone
[ ] Use Permit
[x] Land Division (Subdivision, Parcel Map, Tract Map, etc.)
[ ] Annexation
[x] Redevelopment
[ ] Coastal Permit
[x] Other Final Design Review; Tree Removal Permit, Creek Protection Permit

Development Type

[x] Residential: *Units* 3,100 *Acres* 28
[ ] Office: *Sq. ft.* *Acres* *Employees*
[x] Commercial: *Sq. ft.* 200,000 *Acres* *Employees*
[ ] Industrial: *Sq. ft.* *Acres* *Employees*
[ ] Educational:
[x] Recreational: Public Open Space
[ ] Water Facilities: *Type* MGD
[ ] Transportation: *Type*
[ ] Mining: *Mineral*
[ ] Power: *Type* *Watts*
[ ] Waste Treatment: *Type*
[ ] Hazardous Waste: *Type*
[ ] Other

Total Acres (approx.) 64

Funding (approx.) **Federal $** — **State $** — *Total $*

Project Issues Discussed in Document

[x] Aesthetic/Visual
[ ] Agricultural Land
[x] Air Quality
[x] Archaeological/Historical
[ ] Coastal Zone
[x] Drainage/Absorption
[x] Economic/Jobs
[ ] Fiscal
[x] Flood Plain/Flooding
[ ] Forest Land/Fire Hazard
[x] Geologic/Seismic
[ ] Minerals
[x] Noise
[x] Population/Housing Balance
[x] Public Services/Facilities
[x] Recreation/Parks
[x] Schools/Universities
[ ] Septic Systems
[x] Sewer Capacity
[x] Soil Erosion/Compaction/Grading
[x] Solid Waste
[x] Toxic/Hazardous
[x] Traffic/Circulation
[ ] Vegetation
[x] Water Quality
[x] Water Supply/Groundwater
[x] Wetland/Riparian
[x] Wildlife
[x] Growth Inducing
[x] Land Use
[x] Cumulative Effects
[x] Other: Indirect Physical Impacts due to Retail and Housing Development

Present Land Use/Zoning/General Plan Designation: Industrial Land Uses; M-40 Heavy Industrial Zone and S-2 Civic Center Zone / S-4 Design Review Combining Zone; Planned Waterfront Development (PWD) General Plan Designation.

Project Description

The project would construct approximately 3,100 residential dwelling units (a mix of flats, townhomes, and lofts) on 13 development parcels. Approximately 200,000 square feet of ground-floor retail/commercial space would be distributed throughout each of the 13 development parcels and would be designed to provide a variety of active retail, restaurant, service, and small office uses to support the new residential neighborhood and serve visitors to the site. Approximately 28.4 acres (or 44 percent) of the site would be developed with parks and open spaces, including and existing 7.7-acre park (Estuary Park). The project would demolish a maximum of 165,000 square feet of the existing 180,000 square-foot Ninth Avenue Terminal building (an historic resources) to create the largest (9.7 acres) of a series of interconnected parks and waterfront space. The project would retain a minimum of 15,000 square feet of the Terminal's Bulkhead Building envisioned to contain a variety of uses consistent with the Tidelands Trust. A continuous public pedestrian trail and Class I bicycle facility along the entirety of the project's waterfront would also be created as a segment of the Bay Trail. The majority of existing uses and structures on the project site would be removed or demolished.

Suggested Distribution

☒ Air Resources Board
☒ Caltrans District #4
☒ Caltrans Planning
☒ Fish & Game Region #3
☒ Housing & Community Development
☒ Native American Heritage Commission
☒ Office of Historic Preservation
☒ Regional WQCB #2
☒ S.F. Bay Conservation & Development
☒ State Lands Commission
☒ SWRCB: Water Quality
☒ Toxic Substances Control, Department of
☒ Water Resources, Department of

Public Review Period

Starting Date: September 1, 2005 Ending Date: October 24, 2005

Lead Agency:

City of Oakland
Community & Economic Development Agency – Planning
250 Grank Ogawa Plaza, Suite 3315
City/State/Zip: Oakland, CA 94612
Contact: Margaret Stanzione
Phone: (510) 238-4932
mstanzione@oaklandnet.com

Project Applicant:

Oakland Harbor Partners
4670 Willow Road, Suite 200
City/State/Zip: Pleasanton, CA 94588
Phone: (925) 463-1122

Signature of Lead Agency Representative [signature] Date: 8/31/05

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TABLE OF CONTENTS

Oak to Ninth Avenue Project

Draft Environmental Impact Report

Page

LIST OF TABLES

Page

LIST OF TABLES (cont.)

Page

LIST OF TABLES (cont.)

LIST OF FIGURES

Page

LIST OF FIGURES (cont.)

Page

LIST OF FIGURES (cont.)

CHAPTER I
Introduction

A. Environmental Review

The project sponsor, Oakland Harbor Partners, LLC, (a partnership between Signature Properties and Reynolds & Brown) has submitted an environmental review application to the City of Oakland for the redevelopment of an approximately 64.2-acre[1] project site along the Oakland Estuary and the Embarcadero, east[2] of Jack London Square and south of Interstate 880 (I-880) along the city of Oakland's southern boundary. Estuary Park, the southern portion of Lake Merritt Channel, Clinton Basin, and the Ninth Avenue Terminal are included in the project site, but approximately six acres of privately held property on two sites along and east of 5th Avenue are not included. The project is referred to throughout this document as the "Oak to Ninth Avenue Project" or "the project."

The proposed project would redevelop the project site, an underused maritime and industrial area on the Oakland Estuary, into a mixed-used neighborhood containing approximately 3,100 residential dwelling units on 13 development parcels; approximately 200,000 square feet of active ground-floor retail uses; approximately 28.4 acres of new and improved parks and open space; and renovation of Clinton Basin Marina and Fifth Avenue Marina.

Subsequent to receiving the application for environmental review, the City decided to prepare an environmental impact report (EIR) for the Oak to Ninth Avenue Project.

Consistent with the California Environmental Quality Act (CEQA), this EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of a proposed project, to recommend mitigation measures to lessen or eliminate adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR is reviewed and considered by the City prior to the ultimate decision to approve, disapprove, or modify the proposed project.

Among the EIR's key purposes is to identify mitigation measures or alternatives that would substantially lessen or avoid significant adverse environmental effects.

The EIR includes an Initial Study Checklist that identified environmental issues that are addressed in the EIR and environmental issues that could be excluded from further analysis. This Draft EIR

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1 The total after-project land area would total 64.2 acres, including pile-supported pier area and excluding approximately 11.4 acres of water surface for marina facilities.

2 For purposes of this EIR and following Oakland convention, the hills are to the north; therefore, the Estuary and the Embarcadero run east-west, and 10th Avenue and streets parallel to it run north-south.

addresses topics where the project could result in a potentially significant impact and therefore required further study. The Initial Study also documents those issues that would clearly result in less than significant impacts. On May 28, 2004, the City sent a Notice of Preparation (NOP) to governmental agencies and organizations and persons interested in the project. The NOP is included in this EIR as Appendix A. The NOP requested that agencies with regulatory authority over any aspect of the project describe that authority and identify the relevant environmental issues that should be addressed in the EIR. Interested members of the public were also invited to comment. This Draft EIR addresses those responses to the NOP that involved environmental issues associated with the project site and proposed project. A summary of comments is also provided in Appendix B. Copies of responses to the NOP are available for review at all locations where the Draft EIR is available for review (please refer to the Notice of Availability for specific locations).

The Draft EIR is available for public review for the period identified on the notice that is inside the front cover of the document, during which time written comments on the Draft EIR may be submitted to the City of Oakland Community and Economic Development Agency, Planning Division, at the address indicated on the notice. Responses to all comments received on the environmental analysis in the Draft EIR and submitted within the specified review period will be prepared and included in the Final EIR.

B. Organization of the Draft EIR

The *Summary* (Chapter II) of this EIR contains a summary of the document and allows the reader to easily reference the analysis of potentially significant effects, proposed mitigation measures, residual environmental impacts after mitigation, if any, and alternatives to the project that reduce or avoid significant effects on the environment. Table II-1, Summary of Environmental Impacts and Mitigation Measures, is provided at the end of Chapter II. Detailed analysis of these issues is contained in the main body of the document.

The *Project Description* (Chapter III) describes the project location, a description of the project, the objectives of the project, the anticipated phasing of the project, a list of the City’s required project approvals, and other agencies that must consider aspects of the project.

Environmental Setting, Impacts, and Mitigation Measures (Chapter IV) contains a discussion of the setting (existing conditions and regulatory framework), the environmental impacts (including cumulative impacts) that could result from the project, and the mitigation measures that would reduce or eliminate the identified adverse impacts. As appropriate and relevant, activities on each development parcel and phase have been assessed for potential impacts during and after construction. Also where appropriate and relevant, potential impacts are identified throughout this EIR by development parcel and/or phase, and measures are identified accordingly. The criteria used to assess the significance of adverse environmental effects are identified, and the significance of the impact both prior to and following mitigation is reported.

Alternatives (Chapter V) evaluates a range of alternatives to the proposed project. These following alternatives are included: Alternative 1A: No Project (required by CEQA); Alternative 1B: No

Project/Estuary Policy Plan (required by CEQA); Alternative 2: Enhanced Open Space/Partial Preservation; and Alternative 3: Reduced Development / Preservation. A Full Preservation Sub-Alternative is also included.

Impact Overview (Chapter VI) describes the significant, unavoidable impacts and cumulative impacts identified in Chapter IV and describes the project's potential for inducing growth.

Report Preparation (Chapter VII) identifies the authors of the EIR. Persons and documents consulted during preparation of the EIR are listed at the end of each analysis section (Sections IV.A, through IV.M).

The NOP and Initial Study, as well as supporting background documents and technical information for the impact analyses, are presented in Appendices A through K. All reference documents listed at the end of each analysis section (throughout Chapter IV) are available for review by the public at the City of Oakland Community and Economic Development Agency, Planning and Zoning Division, under reference Case Number ER04-0009.

CHAPTER II
Summary

A. Project Description

The project sponsor, Oakland Harbor Partners, LLC,[1] proposes to redevelop the 64.2-acre[2] project site located along the Oakland Estuary and the Embarcadero, east[3] of Jack London Square, and south of Interstate 880 (I-880). Estuary Park, the southern portion of Lake Merritt Channel, Clinton Basin, and the Ninth Avenue Terminal are part of the project site, but approximately six acres of privately-held property on two sites along and east of 5th Avenue are not included.

The project would convert an underutilized, maritime and industrial area into a mixed-use neighborhood with residential, retail/commercial, open space, and marina uses. The majority of existing uses and structures on the project site would be removed or demolished. Approximately 28.4 acres (or 44 percent) of the site would be developed with parks and open spaces, including the existing Estuary Park and Jack London Aquatic Center.

The project would consist of approximately 3,100 residential dwelling units (a mix of flats, townhomes, and lofts) on 13 development parcels. Approximately 200,000 square feet of ground-floor retail/commercial space would be distributed throughout each of the 13 development parcels and would be designed to provide a variety of active retail, restaurant, service, and small office uses to support the new residential neighborhood and serve visitors to the site.

The project would demolish a maximum of 165,000 square feet of the existing 180,000 square-foot Ninth Avenue Terminal building and a portion of its existing wharf to create the largest (9.7 acres) of a series of interconnected parks and waterfront space. The project would retain a minimum of 15,000 square feet of the Terminal's Bulkhead Building envisioned to contain a variety of uses consistent with the Tidelands Trust. A continuous public pedestrian trail and Class I bicycle facility along the entirety of the project's waterfront would also be created as a segment of the Bay Trail.

Building heights would range from six to eight stories (up to 86 feet) in height, with highrise tower elements of up to 24 stories (240 feet) on certain parcels. A variant to the project allows

1 Oakland Harbor Partners is a joint venture between Signature Properties, Inc., and Reynolds & Brown.
2 The total land area of the project site after implementation would total 64.2 acres, including pile-supported pier areas and excluding approximately 11.4 acres of water surface for marina facilities.
3 For purposes of the EIR and following Oakland convention, the hills are to the north; therefore, the Estuary and the Embarcadero run east-west, and 5th Avenue and streets perpendicular to it run north-south.

consideration of increased maximum building heights from 86 feet to 120 feet on certain development parcels.

The project would rebuild and expand the existing Fifth Avenue Marina and Clinton Basin Marina, which would entail dredging activities and straightening the existing undulating and unprotected condition of Clinton Basin's shoreline. The project would improve the existing shoreline along the project site with varying treatments, including marsh habitats, and riprap, and bulkhead walls. Site remediation would also occur as part of the project.

The project would provide a total of approximately 3,534 onsite parking spaces to meet City Code parking requirements and parking demand.[4]

The "Planned Waterfront Development-1" Estuary Plan land use classification exists on nearly the entire project site, except Estuary Park and the Jack London Aquatic Center which is designated as Park, Open Space, and Promenades. East of Lake Merritt Channel, the project site is within the M-40 Heavy Industrial Zone. West of the channel, Estuary Park and the Jack London Aquatic Center are within the S-2 Civic Center Zone / S-4 Design Review Combining Zone. The project would not be consistent with the existing land use classification or the existing zoning and would require a General Plan Amendment and Rezoning to accommodate the proposed densities and residential uses.

The project would be remediated and developed in eight phases over a period of approximately 11 years: 2007 to 2018.

B. Environmental Impacts and Mitigation Measures

Potentially significant environmental impacts of the project are summarized in Table II-1 at the end of this chapter. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation (significant and unavoidable); significant impacts that could be mitigated to a less than significant level (significant but mitigable); and impacts that would not be significant (less than significant) Beneficial effects that would result from the project are also listed. For each significant impact, the table includes a summary of mitigation measure(s) and an indication of level of significance after implementation of mitigation measures. A complete discussion of each impact and associated mitigation measure is provided in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures.

4 An additional approximately 450 spaces would be available primarily for use by park and marina users: approximately 75 spaces in surface parking lots in the proposed open space areas, and approximately 375 on-street parking spaces. These spaces would not count toward satisfying parking demand or City Code-required parking.

C. Alternatives

Alternative 1A: No Project

With the No Project Alternative, redevelopment of the 64.2-acre Oak to Ninth project site as proposed by the project would not occur. Consistent with recent-year trends on the site, there would be no substantial change to existing Port of Oakland (property owner) tenant occupancies or existing facilities, infrastructure, or site conditions.

Alternative 1B: No Project / Estuary Policy Plan

The No Project / Estuary Policy Plan Alternative is included in the EIR to provide a comparison of the project to an alternative that further considers the objectives and policies of the Estuary Policy Plan and what could be reasonably developed on the site.[5] Key elements of this alternative include:

- Demolition of the Ninth Avenue Terminal.
- Approximately 41.5 acres of parks and open space (66 percent of project site, adjusted for comparison with the proposed project).
- Approximately 102,900 square feet of existing space in Fifth Avenue Point retained with some intensification and infill expansion anticipated, including approximately 35,000 square feet of additional artisan studio space for work-live and work-only uses.
- About 5,500 square feet of new restaurant and marina-related uses on the west side Clinton Basin.
- New development is anticipated east of Clinton Basin and would include: 30,000 square feet of restaurant and retail uses, a smaller, 250-room hotel, a larger, 400-room hotel with a 50,000 square feet conference facility, and 70,000 square feet for educational, cultural, and recreational facilities/uses, such as a museum, community recreation center, gallery space, and/or other uses.

Alternative 2: Enhanced Open Space / Partial Ninth Avenue Terminal Preservation and Adaptive Reuse

The Enhanced Open Space / Partial Ninth Avenue Terminal Preservation Alternative is included in the EIR to allow a comparison of the project to a scenario with increased open space acreage on the site, and additional preservation of a portion of the Ninth Avenue Terminal building. Key elements of this alternative include:

[5] The perspective portion of **Figure V-1** is referenced from page 89 of the Estuary Policy Plan, Figure III-11, Oak to 9th Bird's-eye Perspective.

- Approximately 40.6 acres of parks and open space (approximately 41.5 acres), with a new major park that is substantially larger than that proposed by the project and for each of the alternatives.

- Preservation and adaptive reuse of the 1920s portion of the Ninth Avenue Terminal building and partial removal of its associated wharf structure. The retained 1920s portion Terminal would contain approximately 88,000 square feet of community use –educational, cultural, and/or recreational activities. Most of the 1950s portion of the Terminal building would be demolished, except the alternative could include maintaining aspects of the 1950s roof trusses. Future uses in the retained Terminal would be consistent with the Tidelands Trust designation that currently exists on the project site.

- Approximately 1,800 residential units, 95,000 square feet of commercial retail/restaurant. New residential buildings with ground-floor retail/commercial uses would be developed adjacent to Fifth Avenue Point.

- Realigned Embarcadero to curve through the eastern part of the site, separating new park area from the clustered residential development parcels.

Alternative 3: Reduced Development / Ninth Avenue Terminal Preservation

The Reduced Development / Ninth Avenue Terminal Preservation Alternative is included in the EIR to allow consideration of a reduced development scenario that could be developed on the site, and comparison of this scenario to the project. Key elements of this alternative include:

- Preservation and adaptive reuse of the entire Ninth Avenue Terminal, except for partial removal of its associated wharf structure to accommodate new public open space.

- Uses in the retained Terminal building would contain a conference facility (about 50,000 sq. ft.), and a potential mix of educational, cultural, and/or recreational uses (70,000 sq. ft.), totaling 120,000 square feet of community use.[6] Future uses in the retained Terminal would be consistent with the Tidelands Trust designation that currently exists on the project site.

- Approximately 39.9 total acres of parks and open space (63 percent of project site).

- Approximately 540 residential units, 10,000 square feet of retail/restaurant use.

Sub-Alternative: Full Ninth Avenue Terminal Preservation and Adaptive Reuse

The Ninth Avenue Terminal Preservation Full Preservation Sub-Alternative would retain and adaptively reuse the Ninth Avenue Terminal and related wharf structure to avoid the significant and unavoidable impacts (project and cumulative) that would occur with the project. This

[6] Proposed uses are consistent with those envisioned in the Estuary Policy Plan and assumed in Alternative 1B.

alternative is considered a stand-alone alternative that could be combined with the proposed project and other alternatives. Full preservation of the Ninth Avenue Terminal is addressed in this Sub-Alternative only and is not addressed elsewhere in the EIR. Future uses in the retained Terminal would be consistent with the Tidelands Trust designation that currently exists on the project site.

Environmentally Superior Alternative

The No Project alternative (Alternative 1A) would avoid all significant unavoidable and significant impacts associated with the project and each of the other alternatives, and therefore would be the environmentally superior alternative. However, as required by CEQA, a second alternative shall be identified when the "no project" alternative emerges as the Environmentally Superior Alternative (CEQA *Guidelines*, Section 15126.6(e)). In this case, the Reduced Development / Preservation (Alternative 3) with the Full Preservation Sub-Alternative would therefore be considered environmentally superior since it would avoid (or reduce to the greatest extent) several significant and unavoidable impacts that would occur with the project. The No Project / Estuary Plan (Alternative 1B) is also considered a "no project" alternative, but is evaluated as a development alternative.)

The Environmentally Superior Reduced Development / Preservation Alternative would:

- Avoid two of the three significant and unavoidable project impacts at area intersections under Buildout (2025) (Impact B.2).

- Avoid four of the six significant and unavoidable project impacts resulting from the project's contribution to cumulatively significant impacts at local intersections in 2025 (Impact B.3).

- Avoid the project's significant and unavoidable impact on regional air emissions (PM-10) in cumulative conditions (2025) (Impact C.7).

- Reduce (or avoid with Full Preservation Sub-Alternative) the significant and unavoidable impacts that would occur with the project in terms of demolition of a historic resource (Impact E.3, Impact E.4, and Impact E.8).

- Have less adverse effect on Fifth Avenue Point in terms of new, incompatible land uses and change in environment (Impact A.1 and Impact A.3).

It is recognized, however, that Alternative 3 would meet to a much lesser degree the project objectives to 1) provide a range of needed housing opportunities, 2) help address the existing jobs/housing imbalance, and 3) provide housing with access to alternative modes of transportation, each of which is consistent with policies in the General Plan LUTE, the Estuary Policy Plan, and the Housing Element.

D. Areas of Controversy

Areas of controversy regarding the project that are known to the City of Oakland are listed below. These areas of controversy were identified based on comments received from public agencies and members of the public in response to the Notice of Preparation (NOP) of this EIR, as well as input received during a series of public meetings (conducted separate from the formal environmental review process) on the proposed project.[7] All issues raised that pertain to potential environmental impacts of the project and that are appropriate for inclusion in the EIR pursuant to CEQA, are summarized in Appendix B.

Areas of controversy include, but are not limited to, the following:

- Consistency with the *Estuary Policy Plan*
- Preservation of the Ninth Avenue Terminal
- Amount of open space proposed by the project
- Appropriateness of scale and density of development
- Social and economic impacts
- Visual access of new open spaces and the Oakland Estuary
- Site accessibility and connections to surrounding areas
- Relationship to Fifth Avenue Point
- Wetland habitat impacts
- Consistency with the Public Trust

[7] Copies of NOP comment letters and minutes of the Public Scoping Meeting held June 16, 2004, and copies of the *Oak Street to Ninth Avenue Waterfront Project Summary Report – Small Group Interviews and Public Meetings*, May 2005, are available for review at the City of Oakland Community and Economic Development Agency.

TABLE II-1

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Significant and Unavoidable Impacts *(Significant, with Mitigation, or not in Lead Agency's Control)*		
B. Transportation, Circulation, and Parking		
B.1b: The LOS F conditions at the signalized intersection of *5th Street and Broadway*, which would prevail during the PM peak hour under 2010 baseline conditions, would worsen with the addition of traffic generated by Phase 1 of the project. The project-generated increases in vehicle delay on a critical movement would exceed the four-second threshold of significance.	No feasible mitigation measures are available that would fully improve operations at 5th Street and Broadway to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue. The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).	**Significant and Unavoidable**
B.1c: The signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by Phase 1 of the project.	B.1c: Optimize the traffic signal timing at the signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	This project impact would be **significant and unavoidable** because it is not certain that the measure could be implemented (because the City of Oakland, as lead agency, could not implement Measure B.1c without the approval of Caltrans. However, in the event that Mitigation Measure B.1c could be implemented, the impact would be less than significant.
B.1e: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and I-880 Northbound Off-Ramp – 6th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant, during the PM peak hour.	B.1e: Install traffic signals at the unsignalized intersection of *Embarcadero and I-880 Northbound Off- Ramp – 6th Avenue*. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the	This project impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.1e without the approval of Caltrans. However, in the event that Mitigation Measure B.1e could be implemented, the impact would be less than significant.

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	streets). Signal installation shall meet City of Oakland and Caltrans design standards.	
B.2a: The signalized intersection of *Atlantic Avenue and Webster Street* would degrade from LOS E to LOS F during the AM peak hour with the addition of traffic generated by buildout of the project.	B.2a: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *Atlantic Avenue and Webster Street*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	This project impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2a without the approval of the City of Alameda). However, in the event that Mitigation Measure B.2a could be implemented, the impact would be less than significant.
B.2c: The LOS F conditions at the signalized intersection of *5th Street and Broadway*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen with the addition of traffic generated by buildout of the project. The project-generated increases in vehicle delay would exceed the two-second threshold of significance.	No feasible mitigation measures are available that would fully improve its operations to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue. The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).	**Significant and Unavoidable**
B.2d: The signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project.	B.2d: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	This project impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2d without the approval of Caltrans. However, in the event that Mitigation Measure B.2d could be implemented, the impact would be less than significant.

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
B.2e: The signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* would degrade from LOS E to LOS F during the AM peak hour with the addition of traffic generated by buildout of the project, and the LOS F conditions that, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project.	No feasible mitigation measures are available. The 2010 analysis concluded that the impact from Phase 1 development could be mitigated through optimization of signal timing (see Mitigation Measure B.1c). However, with the additional growth in background traffic and the growth in project traffic that would occur from 2010 to 2025, this retiming could not fully mitigate the impact from Project Buildout. Given the constrained right-of-way at this location, the addition of turn lanes or other similar improvements would not be feasible.	**Significant and Unavoidable**
B.2h: The LOS F conditions at the signalized intersection of *Lakeshore Avenue and MacArthur Boulevard*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than four seconds) with the addition of traffic generated by buildout of the project.	No feasible mitigation measures are available. Assessment of possible mitigation measures indicates that optimization of signal timing at this intersection would reduce average vehicle delays by about 15 seconds, but would not fully mitigate the project's impact. Other improvements, such as additional turn lanes, do not appear feasible given the constrained right-of-way at the intersection.	**Significant and Unavoidable**
B.2l: Traffic generated by buildout of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and I-880 Southbound On-Ramp – 10th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour.	B.2l: Install traffic signals at the unsignalized intersection of Embarcadero and I-880 Southbound On- Ramp – 10th Avenue. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes. Signal installation shall meet City of Oakland and Caltrans design standards.	This project impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2l without the approval of Caltrans. However, in the event that Mitigation Measure B.2l could be implemented, the impact would be less than significant.
B.3a: Traffic generated by buildout of the project would contribute at least five percent of the cumulative traffic increases at the signalized intersection of *Atlantic Avenue and Webster Street* in Alameda during the AM and PM peak hours, as measured by the difference between existing and cumulative (with project) conditions.	B.3a: Implement Mitigation Measure B.2a (optimize traffic signal timing).	This cumulative impact would be **significant and unavoidable**, both because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2a without the approval of the City of Alameda), and because even though the increased

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
		average delay for the above-described mitigated condition would be less than the threshold of significance established by the City of Oakland, implementation of Mitigation Measure B.2a would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.
B.3c: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th Street and Broadway* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	No feasible mitigation measures are available that would fully improve its operations to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue. The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).	**Significant and Unavoidable**
B.3d: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3d: Implement Mitigation Measure B.2d (optimize traffic signal timing).	This cumulative impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2d without the approval of Caltrans. However, in the event that Mitigation Measure B.2d could be implemented, the impact would be less than significant.
B.3e: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* during the AM and PM peak hours, as measured by the difference between	No feasible mitigation measures are available. The 2010 analysis concluded that the impact from Phase 1 development could be mitigated through optimization of signal timing (see Mitigation Measure B.1c). However, with the additional growth in background traffic and the growth in project traffic that would	**Significant and Unavoidable**

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
existing and cumulative (with project) conditions.	occur from 2010 to 2025, this retiming could not fully mitigate the impact from Project Buildout. Given the constrained right-of-way at this location, the addition of turn lanes or other similar improvements would not be feasible.	
B.3f: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of Lakeshore Avenue and Foothill Boulevard during the AM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3f: Implement Mitigation Measure B.2g (optimize traffic signal timing).	This cumulative impact would be **significant and unavoidable** because even though the increased average delay for the above-described mitigated condition would be less than the threshold of significance established by the City of Oakland, implementation of Mitigation Measure B.2g would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.
B.3g: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of Lakeshore Avenue and MacArthur Boulevard during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	No feasible mitigation measures are available. Assessment of possible mitigation measures indicates that optimization of signal timing at this intersection would reduce delays, but would not fully mitigate the project's impact. Other improvements (to achieve an acceptable LOS D or better condition), such as additional turn lanes, are not feasible because there is not sufficient right-of-way available for additional lanes at the intersection.	Significant and Unavoidable
B.3k: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and I-880 Southbound On-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3k: Implement Mitigation Measure B.2l (install traffic signals).	This cumulative impact would be **significant and unavoidable** because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2l without the approval of Caltrans. However, in the event that Mitigation Measure B.2l could be implemented, the impact would be less than significant.
B.3m: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *14th Avenue and 7th/East 12th Streets (Southbound)* during the PM peak hour, as measured by the difference between existing and	B.3m: Implement Mitigation Measure B.2n (optimize traffic signal timing).	This cumulative impact would be **significant and unavoidable** because even though the average delay for the above-described mitigated condition would be lower than under the No Project condition, implementation of Mitigation Measure B.2n

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
cumulative (with project) conditions.		would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.
B.9: The project would contribute to 2025 changes to traffic conditions on the regional and local roadways.	Direct mitigation of the project's significant impact on the freeway segment is not feasible. Factors that limit the mitigation of impacts include constrained right-of-way, no regional or local traffic impact fee mechanism to collect and disperse funds for roadways improvements, and the inherent difficulties with widening the freeways, such as the need to widen over crossings and structures adjacent to the freeway.	**Significant and Unavoidable**
C. Air Quality and Meteorological Conditions.		
C.7: The project together with anticipated future cumulative development in Oakland and the Bay Area in general would contribute to regional air pollution.	C.7: To reduce the significance of the operational impacts of the project, the project sponsor shall, as feasible and practical, implement a combination of the following mitigation measures:	With implementation of the above mitigation measures, the cumulative air quality impact would be **significant and unavoidable**. Based on the effectiveness of these measures as determined by the BAAQMD, the above mitigation measures would reduce the operational impacts of the project by reducing motor vehicle trips by the project by 15 to 20 percent (BAAQMD, 2004). However, no feasible mitigation is available to reduce the residual impact to a less than significant level.
E. Cultural Resources		
E.3: The project would result in the substantial demolition of the Ninth Avenue Terminal, which is an historic resource as defined in CEQA Guidelines Section 15064.5.	E.3a: Photograph the affected historic resource through large-format, black and white photographs meeting the Photographic Specifications of the Historic American Building Survey (HABS). The documentary photographs would be archived locally at the Oakland History Room (OHR) of the Oakland Public Library along with a copy on archival paper of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the Ninth Avenue Terminal. Digital copies of the photographs would be forwarded to the Oakland Cultural Heritage Survey. Even with extensive documentation, however, the demolition of a substantial portion of the building would result in the permanent	**Significant and Unavoidable**

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	loss of the historic resource that is associated with Oakland's history.	
	E.3b: Although the historic resource would no longer retain its historic significance, adaptive use and rehabilitation of the Bulkhead Building would comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The current concept depicts a design that appears to comply, although their conceptual nature precludes the ability to reach an informed conclusion. The project sponsor would be subject to submitting more detailed designs, including, but not limited to, proposed window treatments, materials palette, awnings, signage, and interior configurations for review. For the latter, particular attention would be paid to the significance of the interior's "Expansive, unimpeded space with exposed trusses," and the statement "A key feature of the transit shed is its expansive interior with exposed trusses." In addition, the first story of the existing office in the Bulkhead Building, mentioned in Attachment 2 of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the Ninth Avenue Terminal, would be retained and rehabilitated. The review should be conducted by a professional meeting the standards for Historic Architecture or Historic Preservation Planning as set forth in the Secretary of the Interior's Professional Qualification Standards, 1997 Proposed Changes (not adopted). The results of the review should be forwarded to the Secretary of the Landmarks Preservation Advisory Board, City of Oakland, for final approval.	**Significant and Unavoidable**
E.4: The project would substantially alter the wharf structure supporting the Ninth Avenue Terminal and surrounding areas, which is an historic resource, as defined in CEQA Guidelines Section 15064.5.	(See E.3a and E.3b.)	**Significant and Unavoidable**
E.5: The project would construct a new mixed-use, multi-story development within approximately 100 feet of the remaining Bulkhead Building which may not be architecturally compatible with this structure as a potential future Oakland City Landmark.		**Significant and Unavoidable**

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
G. Noise		
G.1: Project construction activities would intermittently and temporarily generate noise levels above existing levels in the project vicinity. Project construction noise levels could exceed City of Oakland standards and cause disturbances in noise-sensitive areas, such as residential areas.	G.1a: The project applicant shall require construction contractors to limit standard construction activities as required by the City of Oakland Building Services Division. Such activities are generally limited to between 7:00 AM and 7:00 PM Monday through Friday, with pile driving and/or other extreme noise-generating activities (greater than 90 dBA) limited to between 8:00 AM and 4:00 PM Monday through Friday, with no extreme noise generating activity permitted between 12:30 PM and 1:30 PM. No construction activities shall be allowed on weekends, except that interior construction shall be permitted after buildings are enclosed, without prior authorization of the Building Services Division, and no extreme noise-generating activities shall be allowed on weekends and holidays. G.1b: To reduce daytime noise impacts due to construction, the project applicant shall require construction contractors to implement the following measures: • Equipment and trucks used for project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible). • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible. • Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent	**Significant and Unavoidable**

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	feasible. • If feasible, the noisiest phases of construction (such as pile driving) shall be limited to less than 10 days at a time to comply with the local noise ordinance. G.1c: To further mitigate pile driving and/or other extreme noise-generating construction impacts, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the City of Oakland Building Services Division to ensure that maximum feasible noise attenuation will be achieved. G.1d: Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the City Building Services Division a list of measures to respond to and track complaints pertaining to construction noise.	
G.4: The project would locate noise-sensitive multifamily residential uses and public parks in a noise environment where noise levels are above what is considered “normally acceptable” according to the City of Oakland General Plan Noise Element. (Potentially Significant)		**Significant and Unavoidable**
Significant Impacts *(Reduced to Less Than Significant, with Mitigation)*		
A. Land Use, Plans, and Policies		
A.1: The project would develop new and different uses and buildings immediately adjacent to and surrounding Fifth Avenue Point and may result in the physical division of an existing community.	A.1: The project applicant shall incorporate into the project site plan design elements that 1) address the relationship (setback, height and upper-story stepbacks, etc.) of new buildings located adjacent to Fifth Avenue Point to minimize the physical division of the outparcels from the existing Oak-to-Ninth District; 2) provide safe, direct, and well-designed pedestrian and bicycle access between the outparcels and the new public open spaces, trails, and marina uses on the project site; 3) provide appropriate landscaping and/or other feature(s) to provide	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	appropriate buffering between the outparcels and the project site, where necessary and feasible. The proposed Planned Waterfront Zoning District (PWD-1) regulations discussed in Impact A.2 shall incorporate, as appropriate, specific design standards to address the aforementioned elements in areas abutting Fifth Avenue Point.	
A.2: The project would not be consistent with the current existing Estuary Plan land use classification and zoning districts for the project site.	A.2a: The project sponsor shall apply for and obtain City approval for a General Plan Amendment to the Planned Waterfront Development-1 land use classification in the Estuary Policy Plan to 1) include residential as a permitted land use, 2) incorporate the density, FAR, and the other land use and development standards (as appropriate to include in the General Plan) outlined in the proposed Planned Water Development-1 Zone-1, and 3) explicitly state the intended treatment of the Ninth Avenue Terminal. If approved, the General Plan Amendment would eliminate the project's inconsistency with the Estuary Policy Plan.	Less than Significant
	A.2b: The project sponsor shall apply for and obtain City approval for an amendment to the Oakland Planning Code to add the "Planned Waterfront Zoning District" (PWD-1) and associated regulations, and to amend the Oakland General Plan and Zoning Map to apply the PWD-1 District to the geographic area of the project site. The project would be required to adhere to the PWD-1 District district regulations, development standards, design guidelines, and other requirements, including allowable uses, requirements for open space, streets, building heights, maximum densities, maximum commercial space, and parking. If approved, the change in zoning from the existing industrial (M-40 Zone) and special (S-2/S-4 Zone) districts to the PWD-1 District district would eliminate the project's inconsistencies with the existing zoning as well as any zoning inconsistency with the General Plan.	
A.3: The project would introduce new land uses, and residential densities, and large building masses, forms, and significant height to the project site. The project may likely increase noise, light and glare, and traffic, and that may reduce or eliminate existing views from public vantage points. As a result, the project would result in a substantial change in	A.3a: The project sponsor shall implement all mitigation measures identified throughout this EIR to address the significant physical impacts associated with the environmental changes that would occur as a result of the project, reducing each impact to less than significant, where feasible.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
existing environment and existing land uses.	A.3b: The project sponsor shall implement the specific regulations and standards of the proposed Planned Waterfront Zoning District (consistent with Mitigation Measures A.1 and A.2b), if approved. To specifically address the physical impacts resulting from the change in land use and environment in proximity to Fifth Avenue Point and adjacent residential development, the project shall adhere to the regulations and standards for allowable uses, open space, streets, setbacks, building heights and upper-story stepbacks, maximum densities, maximum commercial space, pedestrian and bicycle access, and landscaping and buffering.	
B. Transportation, Circulation, and Parking		
B.1: Traffic generated by Phase 1 of the project would affect traffic levels of service at local intersections in the project vicinity in 2010.		
B.1a: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and Oak Street*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant.	B.1a: Install traffic signals at the unsignalized intersection of Embarcadero and Oak Street. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.	Less than Significant
B.1d: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and 5th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour.	B.1d: Install traffic signals at the unsignalized intersection of *Embarcadero and 5th Avenue*. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.	
B.2: Traffic generated by buildout of the project would affect traffic levels of service at local intersections in the project vicinity in 2025.		
B.2b: Traffic generated by buildout of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and Broadway*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour.	B.2b: Install traffic signals at the unsignalized intersection of *Embarcadero and Broadway*. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.	Less than Significant
B.2f: The LOS F conditions at the signalized intersection of *West Grand Avenue and Harrison Street*, which would prevail during the AM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project.	B.2f: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *West Grand Avenue and Harrison Street*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.2g: The LOS E conditions at the signalized intersection of *Lakeshore Avenue and Foothill Boulevard*, which would prevail during the AM peak hour under 2025 baseline conditions, would worsen (an increase in the total intersection average vehicle delay of more than four seconds) with the addition of traffic generated by buildout of the project.	B.2g: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Lakeshore Avenue and Foothill Boulevard*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.2i: The LOS E conditions at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than six seconds) with	B.2i: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
the addition of traffic generated by buildout of the project.	approaches, and coordination with signal phasing and timing of adjacent intersections.	
B.2j: The LOS F conditions at the intersection of *Embarcadero and 5th Avenue*, which would prevail during the PM peak hour under 2025 baseline unsignalized conditions, would continue under traffic signal control (installed by 2010 [see Mitigation Measure B.1d]) with the addition of traffic generated by buildout of the project.	B.2j: Widen Embarcadero to provide two through travel lanes in each direction along the project site frontage (i.e., from north of 4th Avenue to 9th Avenue), with separate left-turn lanes provided at the intersections, and provide appropriate lane configurations on the streets that intersect Embarcadero within the above-cited limits.	Less than Significant
B.2k: The intersection of *Embarcadero and I-880 Northbound Off-Ramp* (to be signalized by 2010 [see Mitigation Measure B.1e]) would degrade from LOS B to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project.	B.2k: Implement Mitigation Measure B.2j.	Less than Significant
B.2m: The signalized intersection of *5th Avenue and 7th/8th Streets* would degrade from LOS D to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project.	B.2m: Optimize the traffic signal timing for the PM peak period at the signalized intersection of 5th Avenue and 7th/8th Streets. Additionally, the westbound and eastbound (5th Avenue) approaches of the intersection would be restriped within the current paved approach, and on-street parking spaces adjacent to the intersection would be removed, to provide separate left-turn, through, and through/right-turn lanes. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.2n: The signalized intersection of *14th Avenue and 7th/12th Streets (Southbound)* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project.	B.2n: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *14th Avenue and 7th/12th Streets (Southbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.2o: The signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)* would degrade from LOS D to LOS E during the AM peak hour with the addition of traffic generated by buildout of the project.	B.2o: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
B.2p: The LOS F conditions at the signalized intersection of *Foothill Boulevard and 14th Avenue (Eastbound)*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project.	B.2p: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Foothill Boulevard and 14th Avenue (Eastbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.2q: The LOS E conditions at the signalized intersection of *16th Street and 23rd Avenue*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than six seconds) with the addition of traffic generated by buildout of the project.	B.2q: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *16th Street and 23rd Avenue*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.	Less than Significant
B.3: Traffic generated by buildout of the project would contribute to cumulatively significant impacts at local intersections in the project vicinity in 2025.		
B.3b: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and Broadway* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3b: Implement Mitigation Measure B.2b (install traffic signals).	Less than Significant
B.3h: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3h: Implement Mitigation Measure B.2i (optimize traffic signal timing).	Less than Significant
B.3i: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and 5th Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3i: Implement Mitigation Measure B.2j (widen Embarcadero).	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
B.3j: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and I-880 Northbound Off-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3j: Implement Mitigation Measure B.2j (widen Embarcadero).	Less than Significant
B.3l: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th Avenue and 7th/8th Streets* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3l: Implement Mitigation Measure B.2m (optimize traffic signal timing).	Less than Significant
B.3n: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3n: Implement Mitigation Measure B.2o (optimize traffic signal timing).	Less than Significant
B.3o: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *16th Street and 23rd Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions.	B.3o: Implement Mitigation Measure B.2q (optimize traffic signal timing).	Less than Significant
B.4: The project would generate demand for alternative transportation service for the area.	B.4a: The project applicant shall redesign the project site plan to include transit facilities, including bus turnouts on the Embarcadero at a minimum, to ensure that bus service could be accommodated if agreement with AC Transit were to be met to extend service to the project site. Additional facilities would include bus stops within the project, or even a dedicated transit center at which public buses and/or private shuttles could stop. B.4b: The project applicant shall operate a private shuttle service to complement AC Transit service that might be extended to the project site. The shuttle service shall have an adequate number of shuttle stops located onsite, and shall operate on a frequency sufficient to attract use of the service by project residents and employees.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
B.7: The project would increase the potential for conflicts among different traffic streams.	B.7: The project applicant shall redesign the site plan as follows: • Reconfigure the intersections of Embarcadero/7th Avenue and Embarcadero/9th Avenue intersection for right-in/right-out movements only (to ensure proper spacing between signalized intersections). • Install a traffic signal at the intersection of Embarcadero and 8th Avenue. • Install signal interconnect on Embarcadero between 5th and 10th Avenues to allow for coordination of traffic signals along Embarcadero (to minimize queuing [back-ups] on Embarcadero). • The design of pedestrian facilities including sidewalks, crosswalks, and curb ramps shall comply with ADA standards and other applicable legislation.	Less than Significant
B.10: Project construction would temporarily affect traffic flow and circulation, parking, and pedestrian safety.	B.10: Prior to the issuance of each building permit, the project applicant and construction contractor shall meet with the Traffic Engineering and Parking Division of the Oakland Public Works Agency and other appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the City Traffic Engineering Division. The plan shall include at least the following items and requirements: • A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. In addition, the information shall include a construction staging plan for any right-of-way used on the Embarcadero, including sidewalk and lane intrusions and/or closures.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur. • Location of construction staging areas for materials, equipment, and vehicles (must be located on the project site). • Identification of haul routes for movement of construction vehicles that would minimize impacts on vehicular and pedestrian traffic, circulation and safety; and provision for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the project applicant. • Temporary construction fences to contain debris and material and to secure the site. • Provisions for removal of trash generated by project construction activity. • A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. • Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected.	
C. Air Quality and Meteorological Conditions		
C.1: Activities associated with demolition, site preparation and construction would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions.	C.1a: During construction, the project sponsor shall require the construction contractor to implement the following measures required as part of BAAQMD's basic and enhanced dust control procedures required for sites larger than four acres (aggregate): Basic Control Measures – The following controls should be implemented at all construction sites: • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	feet of freeboard. • Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. • Sweep daily (with water sweepers) all paved access roads, parking areas and staging area at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. Enhanced Control Measures – The following measures shall be implemented during project construction because the site is greater than four acres in area: • All “Basic” control measures listed above. • Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more). • Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers 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. • Replant vegetation in disturbed areas as quickly as possible. The following control measures shall be implemented during project construction because the site is large in area and located near sensitive receptors: • Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site. • Install wind breaks, or plant trees/ vegetative wind breaks at windward side(s) of construction areas.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour. • Limit the area subject to excavation, grading and other construction activity at any one time. C.1b: Demolition and disposal of any asbestos containing building material would be in accordance with the procedures specified by Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of BAAQMD's regulations. *Rideshare Measures* C.7a: Encourage all tenants (commercial and residential) at the site to implement carpool/ vanpool programs (e.g., carpool, ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, guaranteed ride home program, etc.). Distribute information about the Alameda County Congestion Management Agency's Guaranteed Ride Home Program to tenants of the building to facilitate alternative transportation modes. As part of the program, a person who uses an alternate mode of travel, including transit or a carpool, is provided with free taxi service in the case of unexpected circumstances. These circumstances might include unscheduled overtime or a family illness or emergency. C.7b: Encourage commercial tenants to implement employee rideshare incentive programs providing cash payments or pre-paid fare media such as transit passes or coupons. *Transit Measures* C.7c: Construct transit facilities, such as bus turnouts/bus bulbs, benches, shelters, etc., as determined appropriate by AC Transit, consistent with Transit Mitigation Measure B.4a. C.7d: Encourage commercial tenants to meet standard, minimum employee ridesharing requirements or to provide incentives to encourage employees to rideshare. C.7e: Encourage commercial tenants to implement a parking cash-out program for employees (e.g., non-driving employees receive transportation allowance equivalent to the value of subsidized parking).	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	Shuttle Measures	
	C.7f: The project applicant shall operate a private shuttle service between the project site and nearby activity centers and transit nodes (e.g., Lake Merritt BART station) with an adequate number of shuttle stops located onsite, and on a frequency sufficient to attract use of the service by project residents and employees.	
	Bicycle and Pedestrian Measures	
	C.7g: Provide bicycle lanes and/or paths, connected to the community-wide network.	
	C.7h: Provide secure, weather-protected bicycle parking for employees.	
	C.7i: Provide direct, safe, attractive pedestrian and bicycle access to transit stops and adjacent development.	
	C.7j: Provide adequate street lighting within the street right of way immediately adjacent to and within the project site.	
	C.7k: Provide secure short-term bicycle parking for retail customers and other non-commute trips.	
D. Hydrology and Water Quality		
D.1: Project construction would involve activities (excavation, soil stockpiling, boring and pile driving, grading, and dredging, etc.) that would generate loose, erodable soils that, if not properly managed, could violate any water quality standards or waste discharge requirements; result in substantial erosion or siltation; create or constitute substantial polluted runoff; or otherwise substantially degrade water quality.	D.1: The project sponsor shall comply with all NPDES requirements, RWQCB General Construction Permit requirements, and all City regulations and Creek Protection Permits requirements.	Less than Significant
D.2: Project construction activities would include dredging in Clinton Basin, which could require disturbance, removal, and disposal of contaminated sediment that may result in adverse impacts to aquatic organisms and water quality.	D.2: The project sponsor shall obtain and comply with all water quality certification and requirements required for dredging activities, which shall include a Section 404 permit process pursuant to the Army Corps of Engineers (Corps) and pursuant to the oversight, permitting, and approval of the Dredged Material Management Office (DMMO).	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
D.5: Site development under the project would involve new landscaping and open lawns. If not properly handled, chemicals used to establish and maintain landscaping and open lawn areas, such as pesticides and fertilizers, could flow into the waterways and result in water quality impacts to the Oakland Estuary, and eventually San Francisco Bay.	D.5: The project sponsor shall prepare a landscape management plan (LMP) for all public open spaces that includes, but is not necessarily limited to, a description of application, storage, and safety measures involving the use of pesticides and fertilizers. The LMP shall include but not be limited to the following: • Transportation and storage: Pesticides and fertilizers shall be transported and stored as per state and federal guidelines. They shall be stored in designated bermed areas onsite. • Pesticide Application: Pesticides and fertilizers shall be handled and applied according to the procedures set by the manufacturer. The LMP shall address methods to optimize and reduce the use of pesticides and fertilizers and present strategies to incorporate environmentally-safe (organic) pest and growth enhancement materials. These strategies shall address eventually eliminating the use of chemicals such as diazinon that harm water quality. The RWQCB has found that the pesticides have a reasonable potential to cause or contribute to exceedances of water quality standards. Therefore, the NPDES permit requires the City of Oakland (as a permittee) to address pesticides. The project sponsor shall adhere to the Diazinon Pollutant Reduction Plan or the Pesticide Plan submitted by the ACCWP to the RWQCB. The goals of the Pesticide Plan and of its resulting implementing actions are to reduce or substitute pesticide use (especially diazinon use) with less toxic alternatives (ACCWP, 2003). • The Plan shall identify pesticide and fertilizer application schedules. • Container Disposal: The contractor shall dispose of empty containers carefully. The containers shall never be disposed at locations that would contaminate natural waterways. The LMP and its recommendations for use, control, and eventual reduction of nonorganic pesticide and fertilizer use shall be approved by the City prior to installing the landscape	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	and shall be implemented throughout the life of the project.	
D.6: The project sponsor could deplete groundwater supplies or interfere with groundwater recharge and cause contamination of surface.	D.6: The project sponsor shall comply with NPDES permit requirements by the RWQCB for dewatering activities.	Less than Significant
E. Cultural Resources		
E.1: Construction of the project could cause substantial adverse changes to the significance of currently unknown cultural resources at the site, potentially including an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or CEQA Section 21083.2(g), or the disturbance of any human remains, including those interred outside of formal cemeteries.	E.1a: Pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project proponent and/or lead agency shall consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation, with the ultimate determination to be made by the County. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards. In considering any suggested mitigation proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, County Planning Staff shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is carried out. E.1b: In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and follow the	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.	
E.2: The project may adversely affect unidentified paleontological resources at the site.	E.2: The project sponsor shall notify a qualified paleontologist of unanticipated discoveries, who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in Section 15064.5 of the CEQA Guidelines. In the event of an unanticipated discovery of a breas, true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 2004)). The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The paleontologist shall submit the excavation plan to the City for review and approval.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
F. Geology, Soils, and Seismicity		
F.1: In the event of a major earthquake in the region, seismic ground shaking could potentially injure people and cause collapse or structural damage to proposed structures.	F.1: A site-specific, design level geotechnical investigation for each site area (which is typical for any large development project) shall be required as part of this project. Each investigation shall include an analysis of expected ground motions at the site from known active faults. The analyses shall be in accordance with applicable City ordinances and policies and consistent with the most recent version of the California Building Code ,which requires structural design that can accommodate ground accelerations expected from known active faults. In addition, the investigations shall determine final design parameters for the walls, foundations, foundation slabs, and surrounding related improvements (utilities, roadways, parking lots and sidewalks). The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer and geotechnical engineer shall be included in the final design. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the project design phase, shall be incorporated in the project. The final seismic considerations for the site shall be submitted to and approved of by the City of Oakland Building Services Division prior to the commencement of the project.	Less than Significant
F.2: In the event of a major earthquake in the region, seismic ground shaking could potentially expose people and property to liquefaction and earthquake-induced settlement.	F.2: Prepare an updated site specific, design level geotechnical investigation for each building site to consider the particular project designs and provide site specific engineering recommendations for mitigation of liquefiable soils. Liquefiable soils under the conditions described in the geotechnical report shall be mitigated using various proven methods to reduce the risk of liquefaction. Liquefaction mitigation measures include subsurface soil improvement, deep foundations, structural slabs, and soil cover. Site improvement methods to address potential liquefaction include dynamic compaction, compaction grouting, jet grouting, and vibroflotation can significantly reduce the risk of liquefaction. Deep foundations extending below the liquefiable layers can be designed to support structures despite the occurrence of liquefaction. Structural slabs are designed to span across areas of non-support, such as in the case of liquefaction or settlement. The presence of a sufficiently thick, engineered fill layer over liquefiable soil can reduce the potential for damage at the ground surface due to liquefaction	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	by helping to bridge across isolated liquefaction zones. Other methods of mitigating potential liquefaction hazards suggested in the *California Geological Survey's (CGS) Geology Guidelines for Evaluating and Mitigating Seismic Hazards* (CGS Special Publication 117, 1997) include edge containment structures (berms, dikes sea walls, retaining structures, compacted soil zones), removal or treatment of liquefiable soils, modification of site geometry, lowering the groundwater table, in-situ ground densification, deep foundations, reinforced shallow foundations, and structural design that can accommodate predicted displacements (CDMG, 1997). These measures shall be evaluated during the site specific geotechnical investigation and the most effective, practical and economical methods should become part of the project. Prior to incorporation into the project, geotechnical engineering recommendations regarding the mitigation and reduction of liquefaction for each site shall be reviewed for compliance with the CGS Geology Guidelines. The purpose of these guidelines is to protect the public safety from seismic effects such as liquefaction.	
F.3: Development at the project site could be subjected to settlement.	F.3: As with standard geotechnical practices, site specific geotechnical investigations and reports would be required in order to obtain permits from the City of Oakland. Such geotechnical investigations and reports prepared for the project site shall include generally accepted and appropriate engineering techniques for determining the susceptibility of the project site to settlement and reducing its effects. Where settlement and/or differential settlement is predicted, mitigation measures such as lightweight fill, geofoam, surcharging, wick drains, deep foundations, structural slabs, hinged slabs, flexible utility connections, and utility hangers could be used. These measures shall be evaluated and the most effective, feasible, and economical measures shall be recommended. Engineering recommendations shall be included in the project engineering and design plans. All construction activities and design criteria shall comply with applicable codes and requirements of the 1997 UBC with California additions (Title 22), and applicable City construction and grading ordinances.	Less than Significant
F.4: Development at the project area may include use of dredged material as fill which would be subject to settlement	F.4: Any dredged material used for fill will have to undergo an appropriate process of consolidation and stabilization to render	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
and subsidence.	it suitable for the support of engineered fill. A geotechnical investigation and report will be required in order to obtain permits from the City of Oakland in addition to the Dredged Material Management Office permitting requirements. The geotechnical investigations and reports prepared for the project site shall include generally accepted and appropriate engineering techniques for determining the susceptibility of the project specific site to settlement and reducing its effects. Engineering recommendations shall be included in the project engineering and design plans. The use of dredged materials as fill shall be limited to open space areas.	
F.5: Construction activities at the project area could loosen and expose surface soils. If this were to occur over the long term, exposed soils could erode by wind or rain causing potential loss of topsoil. In addition, shoreline areas exposed to wave action could be subject to erosion and loss of topsoil.	F.5: Consistent with Mitigation Measure D.1 (which addresses construction-related water quality impacts), the project sponsor shall comply with all applicable NPDES requirements, RWQCB General Construction Permit requirements, and all City regulations, including Creek Protection Permits, as detailed in Mitigation D.1.	Less than Significant
G. Noise		
G.2: Noise from project-generated traffic and other operational noise sources, such as mechanical equipment and truck loading/unloading, could exceed City of Oakland Noise Ordinance standards and disturb project occupants and nearby residents.	G.2: The project applicant shall incorporate the following design features into the final site plans: • Building equipment (e.g., HVAC units) shall be located away from nearby residences, on building rooftops, and properly shielded within an enclosure that effectively blocks the line of sight of the source from receivers in order to meet City of Oakland Noise Ordinance standards. • Truck delivery areas shall be located as far from adjacent residences as possible. To the extent feasible, project buildings shall be located so that they block noise related to truck deliveries and waste collection from residential or other sensitive receptors.	Less than Significant
G.3: The project would locate noise-sensitive multifamily residential uses in a noise environment where noise levels are above what is considered “normally acceptable” according to the City of Oakland General Plan Noise Element.	G.3: To comply with the requirements of Title 24 and achieve an interior noise level of less than 45 dBA, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls) shall be incorporated into project building design. Final recommendations for sound-rated assemblies will depend on the specific building designs and layout of buildings on the	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	site and shall be determined during the design phase. (Oak to 9th Residential Development, Oakland, California, Environmental Noise Assessment by Charles M. Salter Associates, Inc., November 2002. Table 4 of the Salter Associates document lists conceptual window and wall Sound Transmission Class (STC) ratings for different noise environments and gives an estimate of the STC requirements needed to meet interior noise criteria.)	
H. Hazardous Materials		
H.1: Disturbance and release of contaminated soil during remediation, demolition and construction phases of the project, or transportation of excavated material, contaminated groundwater or dredged sediment could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling.	H.1a: The applicant shall retain a qualified environmental consulting firm to prepare a cleanup plan for the contaminated soil and groundwater which would be based on a comprehensive remedial investigation report for the project area. This plan shall be approved by the appropriate regulatory agencies which may include but not be limited to the DTSC and the RWQCB. The plan shall also include the preparation of a health and safety plan to protect the workers and the public during all remediation and construction activities proposed. Following agency approval of the plan, remediation and removal work shall be conducted according to all applicable OSHA worker safety regulations. Remediation activities at the site may include, without limitation, closure or removal of subsurface structures, excavation and disposal of contaminated materials, natural and enhanced bioremediation of soil and groundwater, restoration and improvement of shoreline structures, limited dredging of sediments, and institutional and engineering controls to prevent exposure to and migration of contaminated materials. Throughout the course of remediation and construction activities, the handling, transport, and storage of any hazardous waste or potentially hazardous waste shall be conducted appropriate to all local and state agency protocols. H.1b: Prior to offsite disposal, the project applicant shall adequately profile excavated soils to establish the proper classification of the soils for hazardous or non-hazardous waste disposal. The soils shall be handled, stored and transported according to all applicable regulations for the appropriate classification. H.1c: Soil generated by construction activities shall be	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	stockpiled onsite and sampled prior to reuse or disposal at an appropriate facility. Any reuse of soils shall be conducted by prior approval from the appropriate state oversight agency. H.1d: Groundwater generated during construction dewatering shall be contained and transported offsite for disposal at an appropriate facility, or treated, if necessary, prior to discharge into the sanitary sewer to levels acceptable to the East Bay Municipal Utilities District. H.1.e: Prior to dredging any materials from the Clinton Basin, the project applicant shall retain a qualified environmental consulting firm to prepare a Sampling and Analysis Plan (SAP) as described by the Corps of Engineers (PN 99-4). The SAP shall be approved by the Dredged Material Management Office (DMMO) and shall include a proposal for a disposal location and a disposal alternatives analysis. Following agency approval of the plan, sediment removal work shall be conducted in accordance with all applicable OSHA worker safety regulations. In addition, the handling, transport, and storage of any hazardous waste or potentially hazardous waste shall be conducted consistent with all local and state agency protocols.	
H.2: Disturbance and release of hazardous structural and building components (i.e. asbestos, lead, PCBs, USTs, and ASTs) during demolition and construction phases of the project or transport of these materials could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling.	H.2a: A pre-demolition ACM survey shall be performed by a state-certified asbestos consultant prior to demolition of any of the structures located on the project site. The survey shall include sampling and analysis of suspected ACMs. Abatement of known or suspected ACMs shall occur prior to demolition or construction activities that would disturb those materials. Pursuant to an asbestos abatement plan developed by a state-certified asbestos consultant and approved by the City, all ACMs shall be removed and appropriately disposed of by a state certified asbestos contractor. H.2b: The project applicant shall implement a lead-based paint abatement plan, prepared by a qualified consultant, which shall include the following components: • A pre-demolition LBP survey for all structures proposed for demolition at the project site. The survey shall include	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	sampling and identification of suspected materials containing LBP. • Development of an abatement specification plan which shall be based on survey work and detail proposed abatement work areas and procedures. • A site Health and Safety Plan. • Containment of all abatement work areas to prohibit offsite migration of paint chip debris. • Removal of all peeling and stratified lead-based paint on building surfaces and on non-building surfaces to the degree necessary to safely and properly complete demolition activities per the recommendations of the survey. The demolition contractor shall be identified as responsible for properly containing and disposing of intact lead-based paint on all equipment to be cut and/or removed during the demolition. • Appropriately remove paint chips by vacuum or other approved method. • Collection, segregation, and profiling waste for disposal determination. • Appropriate disposal of all hazardous and non-hazardous waste. H.2c: A pre-demolition PCB survey shall be performed prior to demolition of any of the structures located on the project site. The survey shall include sampling and identification of suspected PCBs. Abatement of known or suspected PCBs shall occur prior to demolition or construction activities that would disturb those materials. In the event that electrical equipment or other PCB-containing materials are identified prior to demolition activities they shall be removed, and shall be disposed of by a licensed transportation and disposal contractor at an appropriate hazardous waste facility.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	H.2d: When known or previously unidentified USTs are encountered during construction, construction in the immediate area shall cease until the UST is removed with oversight from the City of Oakland Fire Department Hazardous Materials Unit or other applicable oversight agency. If there is any indication that the tank has leaked, then the lead agency shall direct any appropriate remediation measures. Removal of the UST shall include, to the extent deemed necessary by the lead agency, over-excavation and disposal of any impacted soil that may be associated with such tanks to a degree satisfactory to the oversight agency.	
H.3: Hazardous materials used onsite during construction activities (i.e., solvents) could be released to the environment through improper handling or storage.	H.3: The use of construction best management practices shall be implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following: • Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction; • Avoid overtopping construction equipment fuel gas tanks; • During routine maintenance of construction equipment, properly contain and remove grease and oils. • Properly dispose of discarded containers of fuels and other chemicals.	Less than Significant
I. Biological Resources / Wetlands		
I.2: Construction activities required for the project would result in a substantial adverse effect on potentially jurisdictional wetlands or waters of the U.S. under the jurisdiction of the Corps, waters of the state under the jurisdiction of the Regional Water Quality Control Board (RWQCB), and wetlands under the jurisdiction of BCDC jurisdiction.	I.2a: *Corps-Verified Wetland Delineation*. A preliminary identification of potentially jurisdictional areas was conducted in 2004 (LSA, 2004), and the project sponsor submitted the draft potentially jurisdictional wetland delineation to the Corps in July 2005. The project sponsor shall obtain Corps verification of the preliminary identification of jurisdictional areas prior to submitting permit applications. A verified wetland delineation would be required prior to the submittal of regulatory permit applications.	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	Mitigation Measure I.2b: *Wetland Avoidance*. Section 404 first requires that projects avoid or minimize adverse effects on jurisdictional waters to the extent practicable. To the extent feasible, the final project design shall minimize effects on wetlands and other waters in accordance with Section 404 of the Clean Water Act. Areas that are avoided shall be subject to Best Management Practices (BMPs), as described in Mitigation Measure I.2.d below. Such measures shall include installation of silt fencing, straw wattles or other appropriate erosion and sediment control methods or devices. Equipment used for the removal of debris and concrete rip-rap along the estuary edge will be operated from land using backhoes and cranes. Construction operations along Clinton Basin and Shoreline Park shall be barge-mounted or shall involve water-based equipment such as scows, derrick barges and tugs. Additionally, the existing restoration project at the southwest end of Clinton Basin, implemented by the Port of Oakland, shall be protected during construction activities. The extent of this area shall be clearly marked by a qualified biologist prior to the start of any grading or construction activities and a buffer zone established. All construction personnel working in the vicinity of the restoration area shall be informed of its location and buffer zone. I.2c: Obtain Regulatory Permits and other Agency Approvals. Prior to the start of construction activities for the project, the project applicant shall obtain all required permit approvals from the Corps, the RWQCB, BCDC, and all other agencies with permitting responsibilities for construction activities within jurisdictional waters of other jurisdiction areas. Permit approvals and certifications shall include, but not be limited to Section 404/Section 10 permits from the Corps, Section 401 Water Quality Certification from the RWQCB, and BCDC permit. *Section 404 / Section 10 Permits.* Permit approval from the Corps shall be obtained for the placement of dredge or fill material in waters of the U.S., if any within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act. Construction along the estuary edge below MHW elevation will be considered dredging by the Corps and will require a Section	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	10 permit. In addition, dredging of Clinton Basin will also require a Section 10 permit. *Section 401 Water Quality Certification*. Approval of Water Quality Certification (WQC) and/or Waste Discharge Requirements (WDRs) shall be obtained from the RWQCB for work within jurisdictional waters. Preparation of the Section 401 Water Quality Certification applications will require an application and supporting materials including construction techniques, areas of impact, and project schedule. *BCDC Permit*. Permit approval from BCDC placing solid material, pilings floating structures boat docks, or other fill and/or dredging or other extraction of material from the Bay and the 100-foot shoreline band inland from mean high tide line along the length of the project site. Activities would include dredging for rebuilding the marina in Clinton Basin, and replacing the 5th Avenue marina with a new marina that will contain approximately 170 boat slips. The proposed project will include the removal of approximately 33,780 square feet of solid Bay fill as part of the shoreline design and the placement of 74,110 square feet of solid Bay fill for the creation of a village green at Clinton Basin. The project also includes the removal of approximately 129,920 square feet of pile-supported fill with the removal of a portion of the Ninth Avenue Terminal wharf. Additionally, floating fill will be required to create the two proposed marinas. The project will be required to comply with all BCDC permit conditions that typically include requirements to construct, guarantee and maintain public access to the bay, specified construction methods to assure safety or to protect water quality, and mitigation requirements to offset the adverse environmental impacts the project. I.2d: *Best Management Practices (BMP*s). The project applicant shall implement standard BMPs to maintain water quality and control erosion and sedimentation during construction, as required by compliance with the General National Pollution Discharge Elimination System (NPDES) Permit for Construction Activities and established by Mitigation Measure D.1 to address impacts on water quality. Mitigation measures would include, but would not be limited to, installing silt fencing along the	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	edges of the project site to protect estuarine waters, locating fueling stations located away from potential jurisdictional features, and isolating construction work areas from the identified jurisdictional features. The project applicant shall also implement, BMPs to avoid impacts onwater quality resulting from dredging activities within the Bay, and that as identified in the *Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region* (LTMS) (Corps, 2001). These BMPs include: silt fencing and gunderbooms or other appropriate methods for keeping dredged materials from leaving the project site.	
	I.2e: *Compensatory Mitigation.* The project applicant shall provide compensatory mitigation for temporary impacts to, and permanent loss of, waters of the U.S., including wetlands, as required by regulatory permits issued by the Corps, RWQCB, and BCDC. Measures shall include, but not be limited to 1) onsite mitigation through wetland creation or enhancement, 2) development of a Mitigation and Monitoring Plan, and 3) additional wetland creation or enhancement or offsite mitigation:	
I.3: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on fisheries resources in the Oakland Inner Harbor.	I.3a*: Protection of Fish and Migrating Salmonids*. The project applicant shall implement measures for protection of salmonids and Pacific herring during dredging projects and for indirect impacts on the San Francisco Bay "Essential Fish Habitat" (EFH) that are identified in the Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region (LTMS) (Corps, 2001).	Less than Significant
I.4: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on nesting habitat for breeding raptors and passerine birds, including Cooper's hawk.	I.4a*: Timing of Construction.* To the extent feasible, construction activities shall be conducted outside the breeding season for birds and raptors (August 1-January 30) Trees and shrubs that could provide potential nesting habitat may be removed during this period to avoid future nesting within the project site.	Less than Significant
	I.4b: *Preconstruction Surveys. If seasonal avoidance is infeasible, the following measures* shall be required to avoid potential adverse effects on nesting special-status raptors and other nesting birds:	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	• A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction activities. Preconstruction surveys should occur no later than two weeks prior to the start of construction activities. • If active nests of raptors or other bird species are found during preconstruction surveys, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of these buffer zones and types of construction shall be determined in consultation with the CDFG and shall be based on existing noise and human disturbance levels at the project site. • If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees, shrubs, and buildings that have been determined to be unoccupied by special-status birds or that are located more than 500 feet from active nests may be removed.	
I.5: The project could have a substantial adverse effect, either directly or through habitat modifications, on special-status nesting and roosting bats.	I.5: Before demolition of abandoned or underused buildings on the project site, such as the Ninth Avenue Terminal building, a qualified biologist who is familiar with bat biology and who is able to recognize signs of bats using abandoned buildings shall conduct pre-demolition building surveys in order to adequately make a determination on the presence of bat nurseries. If abandoned or underused buildings slated for destruction are being used by bats as nursery sites, demolition shall be postponed until young are reared and able to forage on their own. This determination shall be made by a qualified biologist specializing in bat biology. If bats are found to be roosting in abandoned or underused buildings on the project site, the bats shall be actively relocated to a temporary roosting structure (preferably onsite) during	Less than Significant

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
	demolition activities. In addition, permanent bat roosting structures ("bat boxes") shall be created in order to properly mitigate the effects of a loss of roosting structure. The design of the bat boxes shall conform to the specifications appropriate to the species of bats found on the project site and vicinity, and shall be approved by a qualified bat biologist knowledgeable in the design of bat boxes. The bat boxes shall conform to the architectural design of the project buildings to reduce the visibility and obtrusiveness of the boxes and to avoid vandalism or disturbance to bat colonies.	
Less Than Significant, and as noted, Beneficial or No Impacts *(No Mitigation Required)*		
B. Transportation, Circulation, and Parking		
B.5: The project would create demand for bicycle parking.	None Required.	
B.6: The project would increase the potential for pedestrian safety conflicts.	None Required.	
B.8: The project would contribute to 2010 changes to traffic conditions on the regional and local roadways.	None Required.	
C. Air Quality and Meteorological Conditions		
C.2: The project would result in an increase in regional ROG, NOx, and PM emissions due to project-related traffic.	None Required.	
C.3: Project traffic would increase localized carbon monoxide concentrations at intersections in the project vicinity.	None Required.	
C.4: Operation of project facilities would produce objectionable odors that would affect a substantial number of people.	None Required.	
C.5: Construction and operation of the project would expose existing sensitive receptors in the project vicinity and planned multifamily residential land uses associated with the project to	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
health risks from diesel emissions.		
C.6: The proposed project could result in hazardous wind conditions.	None Required.	
C.8: The proposed project could result in cumulative hazardous wind conditions.	None Required	
D. Hydrology and Water Quality		
D.3: Development of the project would result in a substantial decrease in impervious area. The project would implement post-construction BMPs to increase stormwater infiltration; to treat and direct stormwater runoff or discharge into a stormwater system and the estuary; and to prevent illicit discharge. Therefore, the project would not violate regulatory water quality standards or waste requirements.	None Required / Beneficial Effect.	
D.4: Project operation would involve increased use of the marinas at the project site. As required by the RWQCB, the project design would incorporate post construction BMPs to treat stormwater and control discharge of wastes from the vessels used at the marinas. Therefore, the project would not violate water quality standards or waste discharge requirements.	None Required.	
D.7: The project would not result in flooding due to its proximity to a 100-year flood hazard area, or expose people or property to other substantial risks related to flooding, seiche, tsunami, or mudflow.	None Required.	
D.8: The project would result in a net decrease in impervious surfaces and would reconfigure and stabilize the shoreline along the project site, thereby decreasing the volume of stormwater runoff. Therefore the project would not increase runoff and result in substantial flooding on or offsite, or exceed the capacity of the existing stormwater drainage system.	None Required / Beneficial Effect.	
D.9: The increased construction activity and new development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would not result in cumulative impacts with respect to hydrology and water quality.	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
E. Cultural Resources		
E.6: The project would demolish the remaining buildings on the project site	None Required.	
E.7: The project would construct a new mixed-use, multi-story development, diminishing the industrial character of the project site and vicinity, and altering the existing setting of the Fifth Avenue Point neighborhood.	None Required.	
F. Geology, Soils, and Seismicity		
F.6: The project would not expose people or structures to substantial risk or hazards as a result of 1) expansive soils, or 2) conditions that would potentially result in landslides or 3) surface fault rupture.	None Required.	
F.7: The project would not create substantial risks to life or property as a result of being located above a well, pit, swamp, mound, tank vault, or unmarked sewer line; above landfills for which there is no approved closure and post-closure plan, or unknown fill soils; or soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	None Required.	
F.8: The development proposed as part of the project, when combined with other reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity.	None Required.	
G. Noise		
G.5: The proposed project, together with anticipated future development in Oakland, could result in long-term traffic increases that could cumulatively increase noise levels.	None Required.	
H. Hazardous Materials		
H.4: Project operations would generate and involve the handling of general commercial/retail and household hazardous waste in small quantities, and therefore would not cause an adverse effect on the environment.	None Required.	
H.5: The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances,	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
or waste within one-quarter mile of an existing or proposed school.		
H.6: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	None Required.	
H.7: Development proposed as part of the project, when combined with other foreseeable development in the vicinity, would not result in cumulative hazardous materials impacts.	None Required.	
I. Biological Resources / Wetlands		
I.1: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on special-status mammal species, specifically the Pacific harbor seal.	None Required.	
I.6: Increased lighting and shading associated with the new project buildings could have a substantial adverse effect, either directly or through habitat modifications, on biological resources.	None Required.	
I.7: The removal of any protected trees identified within the project site would be conducted in compliance with the City of Oakland's Tree Preservation and Removal Ordinance.	None Required.	
I8: Construction activity and new development resulting from the project, in conjunction with other foreseeable development in the city and along its shoreline, could result in impacts on wetlands, other waters of the U.S., and special-status species.	None Required.	
J. Population, Housing, and Employment		
J.1: The project would not displace substantial numbers of existing housing units; nor would the project displace substantial numbers of people, necessitating construction of replacement housing.	None Required / No Impact.	
J.2: The project would displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities, or resulting in substantial increases in distances traveled.	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
J.3: The project would not induce substantial population growth directly by proposing new housing, or indirectly through infrastructure improvements.	None Required.	
J.4: The project would not induce substantial population growth in a manner not contemplated in the General Plan, with infrastructure requirements not previously considered or analyzed.	None Required.	
J.5: The project would not induce substantial population growth as a result of business and employment growth proposed in the project.	None Required.	
(Non-CEQA) Potential for new retail development to cause ripple effects of store closures and long-term vacancies that result in physical deterioration and urban decay	N/A	
(Non-CEQA) Potential for housing market effects to lead to displacement or physical deterioration of housing or neighborhoods	N/A	
K. Visual Quality and Shadow		
K.1: The project would construct new buildings that would be taller and have more bulk than existing buildings in the area along pedestrian and vehicular routes and adjacent to the Oakland Estuary, and would substantially demolish the Ninth Avenue Terminal building. This would substantially, but not adversely, alter the existing visual character and quality of the project area.	None Required / Beneficial Effect.	
K.2: The project would construct new buildings that would be taller and have more bulk than existing nearby buildings which would result in changes to views from nearby public viewpoints, but that would not adversely affect scenic vistas of which the project site is a part.	None Required.	
K.3: The project would increase the amount of light and glare emitted from the project site but would not result in substantial adverse effects to day or nighttime views.	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
K.4: The project would create additional shadow on adjacent areas west and north of the project site, however, the project would not cast shadow on historic resources (retained Ninth Avenue Terminal Bulkhead Building), would not introduce landscaping conflicting with the California Public Resource Code; would not cast shadow on buildings using passive solar heat, solar collectors for hot water heating, or photovoltaic solar collectors; and would not cast shadow that impairs the use of any public or quasi-public park, lawn, garden, or open space.	None Required.	
K.5 The project would require approval of a general plan amendment and rezoning (among other discretionary approvals), but would be consistent with the policies and regulations addressing the provision of adequate light to appropriate uses.	None Required.	
L. Public Services and Recreation Facilities		
L.1: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for police protection services.	None Required.	
L.2: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for fire protection and emergency medical services and facilities.	None Required.	
L.3: The students generated by the project would not require new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives at local public schools.	None Required.	
L.4: The project would create new parks, and the increased population resulting from the project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, nor would the project include recreational facilities or require the construction or expansion of recreational facilities that	None Required / Beneficial Effect	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
might have an adverse physical effect on the environment.		
L.5: The project would increase the on-site resident population and increase the demand for library services; however, the increase in demand for such services would not result in the need to construct or expand libraries that might have an adverse physical effect on the environment.	None Required.	
L.6: The increased population and density resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in a cumulative increase in the demand for public services and parks. However, the project's contribution to such impacts would not be cumulatively considerable.	None Required.	
M. Utilities and Service Systems		
M.1: The project would not exceed water supplies available to serve the project from existing entitlements and resources and require or result in the construction of water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	None Required.	
M.2: The project's projected wastewater demand would not result in the city of Oakland exceeding its citywide allocation under the Wet Weather Program or East Bay Municipal Utility District's (EBMUD) capacity to serve the project's projected demand in addition to its existing commitments within its service area.	None Required.	
M.3: The project would not require or result in construction of new offsite stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	None Required.	
M.4: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and therefore the project would not require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects. The project would not impede the City of Oakland's ability to meet the waste diversion requirements of the California Integrated Waste Management Act or the	None Required.	

TABLE II-1 (CONTINUED)

SUMMARY OF IMPACTS AND MITIGATION MEASURES FOR THE OAK TO NINTH REDEVELOPMENT PROJECT

Environmental Impact	Mitigation Measures	Level of Significance after Mitigation
Alameda County Waste Reduction and Recycling Initiative, nor cause the City to violate other applicable federal, state, or local statutes and regulations related to solid waste.		
M.5: The project would not violate applicable federal, state, or local statutes and regulations relating to energy standards. The project would not result in a determination by the energy provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments, nor require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.	None Required.	
M.6: The increased development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in increased demand for utilities and service systems. However, the project's contribution to such impacts would not be cumulatively considerable.	None Required.	

CHAPTER III
Project Description

A. Project Location and Characteristics

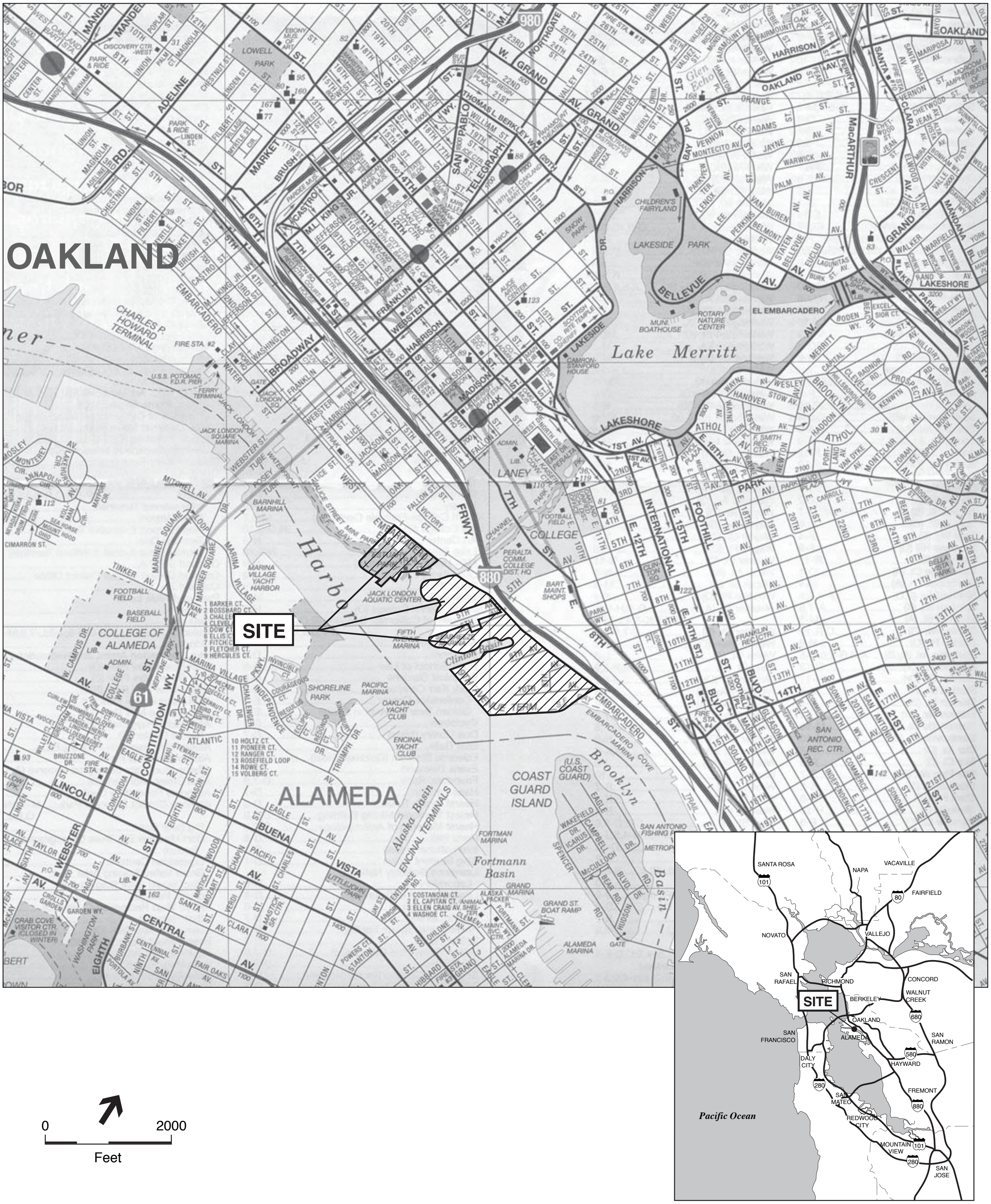
Project Location

The approximately 64.2-acre[1] Oak to Ninth Avenue Project site exists along the Oakland Estuary[2] and the Embarcadero, east[3] of Jack London Square, and south of Interstate 880 (I-880) (**Figures III-1 and III-2**) along the city of Oakland's southern boundary. Estuary Park, the southern portion of Lake Merritt Channel (or "the channel"), Clinton Basin, and the Ninth Avenue Terminal are included in the project site, but approximately six acres of privately-held parcels along 5th Avenue are not included.[4]

The site lies partially within the city of Oakland's Chinatown/Central Planning District. The General Plan land use designation for the majority of the project site is Mixed Use Waterfront/Estuary Plan Area as established by the General Plan Land Use and Transportation Element (LUTE). The remainder of the site is designated Urban Open Space and extends along the entire shoreline[5] of the project site. The *Estuary Policy Plan*, which was later adopted as part of the General Plan, assigns a land use designation of Planned Waterfront Development-1 (PWD-1) for nearly the entire project site, except Estuary Park and the Jack London Aquatic Center which is designated as Park, Open Space, and Promenades.

East of the channel, the project site is within the M-40 Heavy Industrial Zone. West of the channel, Estuary Park and the Jack London Aquatic Center are within the S-2 Civic Center Zone / S-4 Design Review Combining Zone.

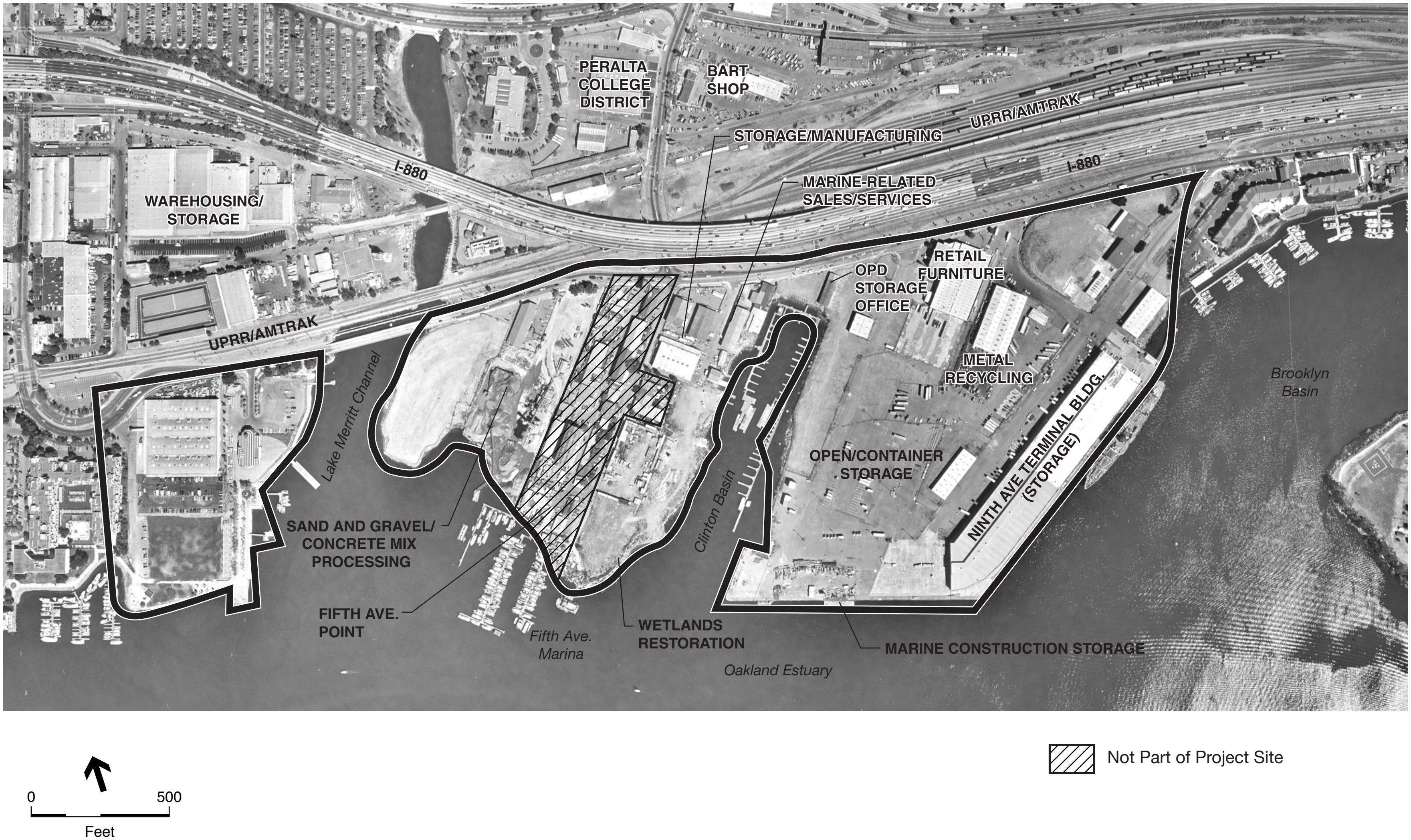
1 The total project site after implementation would consist of 64.2 acres of land area, including pile-supported pier area and excluding approximately 11.4 acres of water surface for marina facilities.
2 The estuary connects with the east side of San Francisco Bay approximately three miles from the site.
3 For purposes of the EIR and following Oakland convention, the hills are to the north; therefore, the Estuary and the Embarcadero run east-west, and 5th Avenue and streets perpendicular to it run north-south.
4 Approximately 6.0-acre Silviera-owned property west of 5th Avenue and approximately 28,000 square-foot Schultz-owned parcel east of 5th Avenue.
5 Except where noted in reference to a regulatory agency's definition (e.g., BCDC, Army Corp of Engineers), "shoreline" is considered generally the area between the top of bank (or pier) to mean low tide, which would be established as part of the project development.



SOURCE: Environmental Science Associates

Oak to Ninth Avenue . 202622

Figure III-1
Location Map



SOURCE: Environmental Science Associates

Oak to Ninth Avenue . 202622

Figure III-2
Project Site Aerial and Existing Uses

Portions of the project site are governed by the *Central City East Redevelopment Plan* (east of Lake Merritt Channel) and the *Central District Urban Renewal Plan* (west of Lake Merritt Channel). The project site also includes Oakland Estuary waterfront areas covered by the *San Francisco Bay Trail Plan*.

The existing land area within the project site boundaries (Embarcadero, Oakland Estuary, Brooklyn Basin, and Fallon Street) is approximately 68.1 acres, including 5.9 acres of pile-supported pier structure adjacent to the Ninth Avenue Terminal building. After implementation of the Oak to Ninth Project, the site would consist of approximately 64.2 acres of land area, resulting from demolishing part of the existing pile-supported pier structure associated with the Ninth Avenue Terminal and changes in land area resulting from shoreline alterations in Clinton Basin. There is also approximately 11.4 acres of water surface (existing marina facilities) that is part of the project site, but that is not considered in the 64.2 acres of land area typically referenced throughout this document.

The project site consists of Alameda County Assessor's Parcels Numbers 0000-0430-001-02, portion of 0000-0430-001-04, 0000-0460-003, 0000-0460-004, 0000-0465-002, and a portion of 0000-0470-002.

Vicinity Land Uses

The project site is located among a variety of uses that include important Oakland transportation corridors and freeway interchanges, maritime-based recreation and commercial activities, public parks, offices, a community college, warehouses, restaurants, apartments and lofts, and retail operations. The Oakland Estuary, to the south, is currently used by the Port of Oakland, the U.S. Coast Guard, recreational boat owners, several college and high school rowing teams, and commercial vessels. Downtown Oakland and Oakland Chinatown are located approximately two miles northwest of the project area. The San Antonio District, located north of I-880, contains various residential types and densities and a range of commercial uses along the major east-west corridors of International Boulevard and East 12th Street.

To the north, the Embarcadero runs immediately adjacent and parallel to I-880 and the Amtrak and Union Pacific Railroad west of 5th Avenue. Further north, beyond I-880, significant land uses include the continuation of the Union Pacific Railroad east of 5th Avenue, Peralta Community College District facilities and Laney College Campus, Bay Area Rapid Transit (BART) maintenance shop facilities, and the San Antonio District.

To the south of the project site, across the Oakland Estuary, is the city of Alameda Coast Guard Island[6] is immediately southeast.

East of the project site are hotel and marine-related retail uses along the Embarcadero and marina facilities along Brooklyn Basin.

6 Coast Guard Island is a 68-acre man-made island within the city limits of Alameda and is only accessible from the city of Oakland. Facilities at the Island support the U.S. Coast Guard's operations along the West Coast.

To the west lie the Portobello and The Landing residential condominium developments; commercial warehouses, a television broadcasting storage facility, and commercial, residential, and live-work uses in the Jack London District approximately one mile to the west. The Oakland/San Francisco Ferry stations in Oakland and Alameda are each located approximately 1.0 to 1.5 miles to the west, and the Oakland Amtrak train station near Jack London Square is about 0.75 mile west along the Embarcadero. The nearest Bay Area Rapid Transit (BART) station is Lake Merritt Station, nearly 1.0 mile to the northwest.

Existing Site Access

The Embarcadero runs east-west, generally from 23rd Avenue to Market Street and provides direct access to the project site. In addition, 5th Avenue extends in a north-south direction from the waterfront to East 18th Street and also provides direct access to the site.

The Embarcadero crosses Broadway in the Jack London Square area; 5th Avenue intersects an I-880 off-ramp. The nearest southbound I-880 on-ramp is at 10th Avenue and the Embarcadero, and the nearest northbound I-880 on-ramp is at 6th and Jackson Streets. Southbound and northbound I-880 off-ramps nearest to the project site are located at Oak Street, on 5th and 6th Streets, respectively.

Existing Project Site Land Use

The Port of Oakland currently owns the project site and leases it to a variety of commercial and industrial tenants. A large portion of the site was formerly used as the Port of Oakland's break bulk facility (dismantling of incoming and outgoing bulk cargo) and is now used primarily as a storage and industrial-site as depicted in the aerial photograph of the area (**Figure III-2**). Existing land uses and activities on the site are also identified in **Figure III-2**.

The Ninth Avenue Terminal building is an approximately 180,000 square-foot structure located at the easternmost portion of the site, between 9th and 10th Avenues. Other major uses in the eastern portion of the site include a 44,000 square-foot retail furniture store, a metal recycling facility, marine-related repair and storage, and outdoor storage of shipping containers**.**

Major uses in the central portion of the site, between Clinton Basin and Lake Merritt Channel, include a mix of manufacturing and outdoor storage uses, and a sand and gravel processing operation that manufactures concrete mix. Two sites within this central part of the project area are privately-owned parcels that are not part of the proposed development project: a 27,000 square-foot parcel between 5th and 6th Avenues (Schultz properties), and the western portion of Fifth Avenue Point, the nearly six-acre area along and somewhat west of 5th Avenue that includes a work-live artist community and a mix of industrial and commercial uses (Silviera properties)**.** These properties are referred to throughout the EIR as Fifth Avenue Point, or "outparcels." This area also includes the Clinton Basin Wetland Restoration and Enhancement Project, a Port of Oakland project that covers approximately two-thirds of an acre on the west shore of the mouth of

Clinton Basin (discussed below). This Port of Oakland project was designed to improve the habitat value for shore birds, gulls, ducks, and other avian life that frequent the area.

Estuary Park and Jack London Aquatic Center and an East Bay Municipal Utility District (EBMUD) dechlorinization facility are located immediately west of Lake Merritt Channel and within the project site. Estuary Park is an approximately 7.7-acre[7] City park that includes the Jack London Aquatic Center. The lawn area/playing field (excluding the Aquatic Center and existing seating and parking lot) is nearly 3.5 acres, with a depth of approximately 300 to 400 feet from the south shoreline. This park currently provides picnic facilities, public restroom facilities, a fishing and observation pier, a boat launch, surface parking, and playing fields that are used by local soccer and other leagues, and/or for special events. A nearly 80,000 square-foot wholesale grocery warehouse is located at the western edge of the project site, immediately north of Estuary Park, at Fallon Street and the Embarcadero.

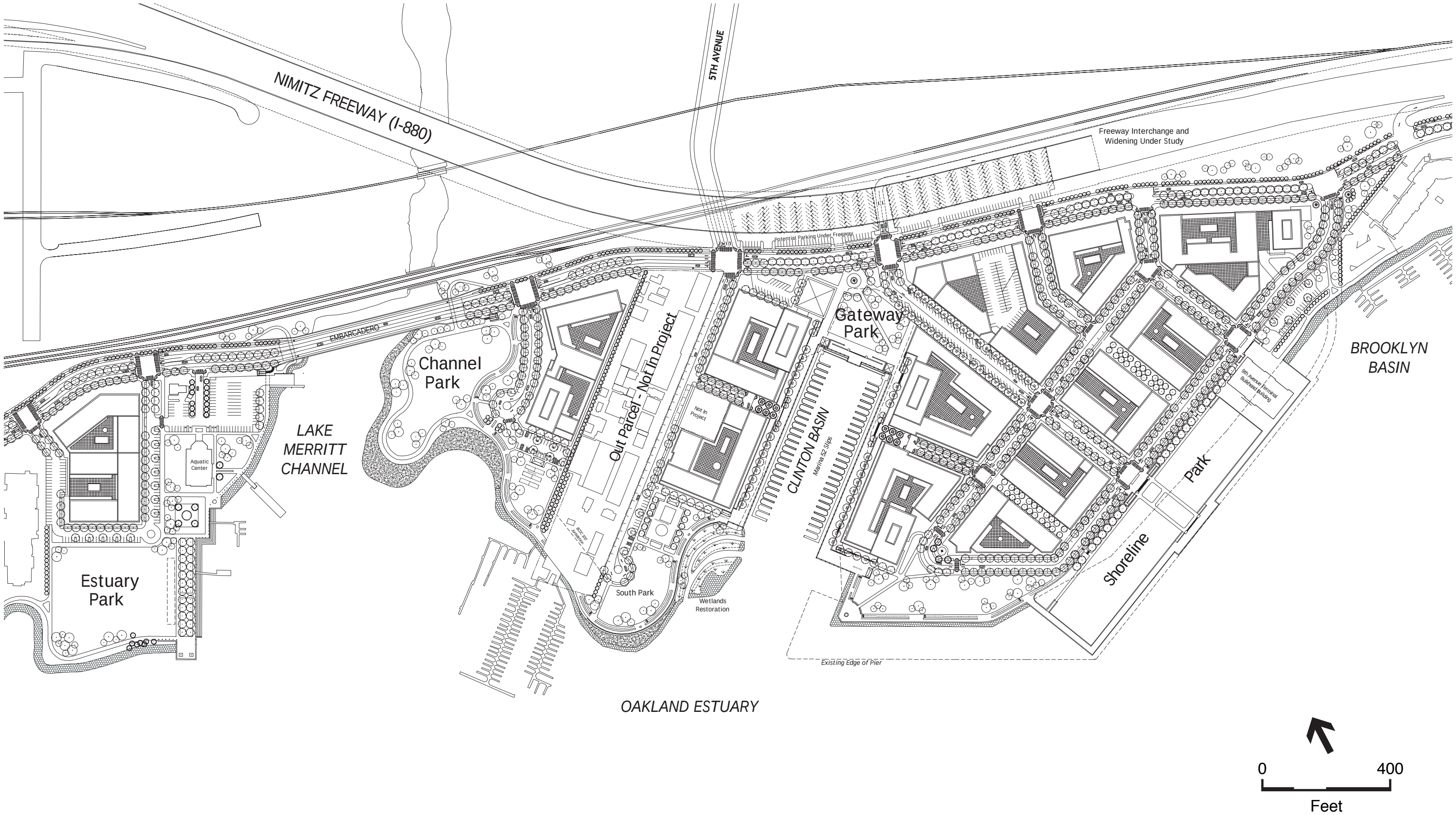
Lake Merritt Channel passes through the project site and connects to the Oakland Estuary at Estuary Park. Navigation along the channel is prohibited and is obstructed by the Embarcadero (which passes over the channel) and the railroad tracks further north. Water in the channel is regulated by a series of gates along the channel and is also subject to tidal flows. Although unauthorized access to the waterfront occurs along the channel and the estuary, there are currently no points of authorized public access along the shores of the channel or the estuary from the project site, except via the boat launch ramp and piers at Estuary Park and the Jack London Aquatic Center.

Two existing marinas are located within the project area: Clinton Basin Marina which is owned by the Port of Oakland but that is currently closed, and the Fifth Avenue Marina at the foot of 5th Avenue and that is owned by the Port of Oakland and leased to a private party. A U-shaped wood and concrete decking and walkway is tucked into Clinton Basin and provides approximately 35 boat slips of varying size. Similarly, approximately 60 boat slips are available at the Fifth Avenue Marina.

Project Characteristics

The project sponsor, Oakland Harbor Partners, LLC,[8] proposes to redevelop the project site from an underused, maritime and industrial area on the Oakland Estuary into a mixed-use neighborhood with residential, retail/commercial, open space, and marina uses. The majority of existing commercial and industrial uses and structures on the project site would be removed or demolished to accommodate the project. Of the approximately 64.2 acres of land that would make up the project site after implementation, about 25.3 acres (or 39 percent) would be developed ,as illustrated in **Figure III-3**, with a mix of residential and commercial uses. Approximately 28.4 acres (or 44 percent) of the project site would be developed with new or

7 Based on the 2005 project site survey prepared by BKF Engineers for Oak to Ninth Project.
8 Oakland Harbor Partners is a joint venture between Signature Properties, Inc., and Reynolds & Brown.



SOURCE: ROMA Design Group

Oak to Ninth Avenue . 202622

Figure III-3
Proposed Illustrative Development Plan

improved parks and open spaces (including pile-supported pier areas), with the remaining 10.5 acres of the site (17 percent) used for new roads and infrastructure.

Proposed Residential and Retail Uses

The project would consist of approximately 3,100 residential dwelling units on 13 development parcels that are designated by letters A through H and J though N (**Figure-III-4** and **Table III-1**). Units would include a mix of flats, townhomes, and lofts, ranging from studios to three bedrooms. Some units would be ground-floor residences with street-level entrances. It is anticipated that the project would provide for-sale units and rental units. The proposed development shown in **Table III-1** would result in an overall average density of approximately 125 dwelling units per net acre and nearly 50 dwelling units per gross acre.[9]

The project would include up to approximately 200,000 square feet of ground-floor retail/commercial space that would be distributed throughout each of the 13 development parcels (**Table III-2** and **Figure III-4**). These spaces would be designed to provide a variety of active retail, restaurant, service, and small office uses to support the new residential neighborhood and serve visitors to the site. These retail uses would generally be focused along the new main road that extends from the Embarcadero at 6th Avenue and the new Gateway Park (the main project entrance east of Lake Merritt Channel), and along Clinton Basin and its improved marina.

Retail spaces along the main street would be designed to accommodate neighborhood-serving uses such as a grocery store, specialty food tenants, and retail shops, among other types of uses. Ground floor uses along other streets could include, among other uses, restaurants, small local-serving retail shops, galleries, and small offices. The ground floor spaces along Clinton Basin would be designed to create an active urban waterfront along the new marina and could include water-oriented retail spaces and restaurant uses, as well as marina-related offices. **Table III-2** shows the distribution of retail uses throughout the project site.

Proposed Building Massing and Height

The proposed building massing throughout the development would be varied to create a distinctive architectural profile when viewed from distant vantage points. The project proposes a mix of medium-height buildings from six to eight stories (up to 86 feet) in height, and five of these medium-height buildings would include highrise tower elements of up to 24 stories (240 feet) Around Clinton Basin, a building stepback would be required at heights above 65 feet (**Table III-3** and in **Figure III-5**). Each of the project buildings would require a pile-supported foundation system.

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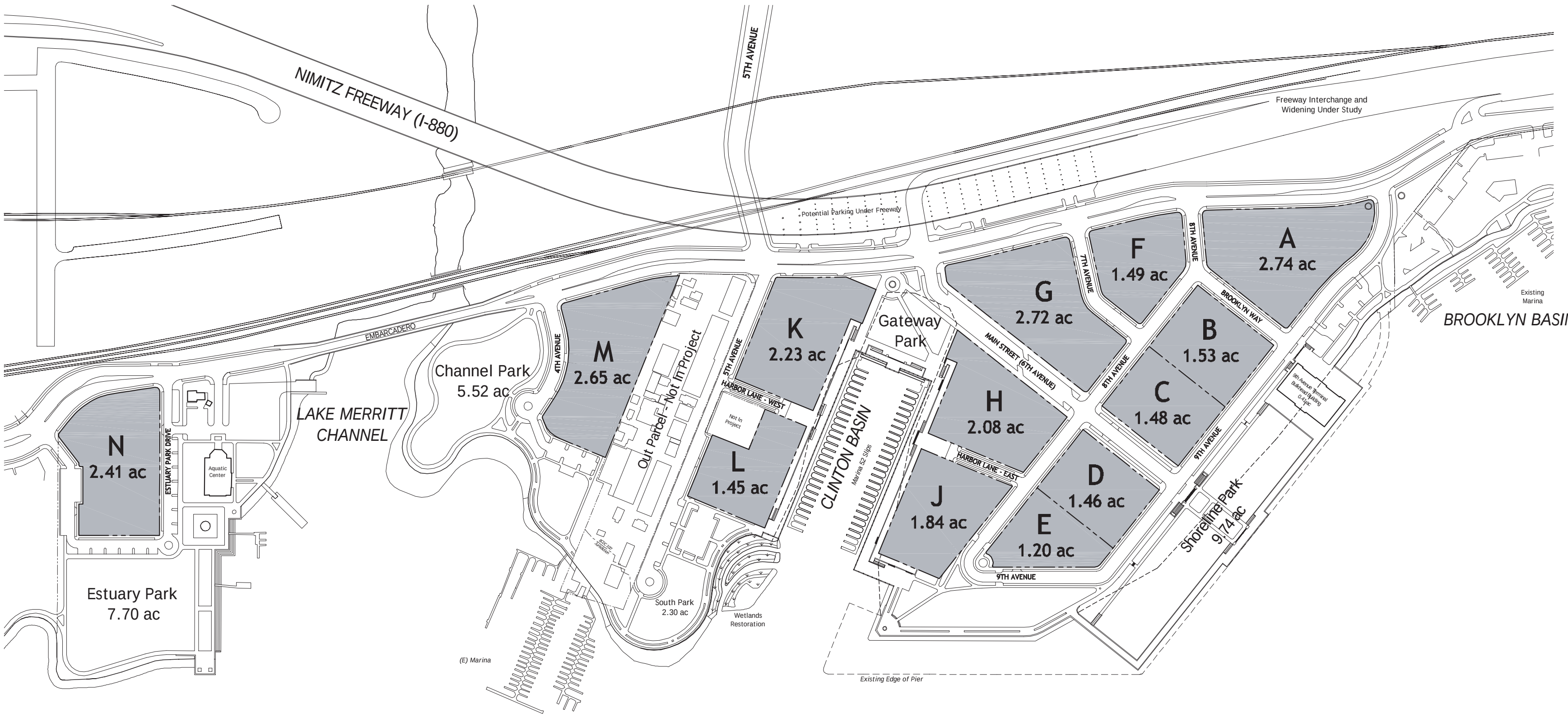
9 3,100 dwelling units divided by 25.3 acres of development area (excluding open space of rights-of-way) equals approximately 125 units per net acre (122.5 du/ac). 3,100 dwelling units divided by 64.2 acres of total site area equals approximately 50 dwelling units per gross acre (49.8 du/ac).



Illustrative Development Program					
Parcel	Acreage (ac)	Ground Level Non-Residential Area	Total Units	Units/ Net Acre	Parking
A	2.74	10,000	375	137	375
B	1.53	6,000	160	105	160
C	1.48	6,000	160	108	160
D	1.46	6,000	160	110	160
E	1.2	8,000	86	72	86
F	1.49	5,000	164	110	164
G	2.72	42,000	280	103	514
H	2.08	35,000	335	161	435
J	1.84	12,000	292	159	392
K	2.23	17,000	310	139	310
L	1.45	15,000	144	99	144
M	2.65	5,000	334	126	334
N	2.41	15,000	300	124	300
9th. Ave Terminal		18,000			0
Total	25.28	200,000	3100	120*	3534

* This represents an average net density

SOURCE: ROMA Design Group

Figure III-4
Proposed Development Program and Parcelization Plan

TABLE III-1

PROPOSED ILLUSTRATIVE RESIDENTIAL DEVELOPMENT PROGRAM

Parcel	Approximate Building Pad Acreage	# of Units[a]	Minimum Onsite Residential Parking Spaces[b]
A	2.7	375	375
B	1.5	160	160
C	1.5	160	160
D	1.5	160	160
E	1.2	86	86
F	1.5	164	164
G	2.7	280	280
H	2.1	335	335
J	1.8	292	292
K	2.2	310	310
L	1.5	144	144
M	2.7	334	334
N	2.4	300	300
TOTAL:	**25.3**	**3,100**	**3,100**

[a] The proposed Planned Waterfront Development Zoning District (PWD-1) (discussed below) would allow flexibility in the maximum number of dwelling units that could be developed on a particular building pad or parcel, however, the total maximum number of dwelling units (or net density) in the project could not be exceeded.
[b] Minimum 1.0 space per dwelling unit.

SOURCE: Oakland Harbor Partners, 2005.

Project Variant with Increased Building Height

An Increased Building Height Variant to the project allows consideration of increased maximum building heights on Parcels B, C, D, E, and H, as shown in **Table III-4** and **Figure III-6**. The variant would increase only the building podium heights by 34 feet (from 86 feet to 120 feet maximum). The maximum height of the overall structure (including the highrise towers) would remain 240 feet). All other project characteristics described in this chapter and throughout the EIR also would remain unchanged, including the total number of dwelling units on the project site. The potential view and shadow impacts of the project variant are analyzed in this EIR.

Proposed Parking

The project would provide a total of approximately 3,534 onsite parking spaces to meet City Code parking requirements and parking demand. As shown in **Table III-5**, about 3,500 of the total spaces would be provided in enclosed parking structures to serve residential and retail/commercial uses, and an additional 34 spaces would serve marina uses. Each parcel would

TABLE III-2

PROPOSED ILLUSTRATIVE RETAIL DEVELOPMENT PROGRAM

Parcel	Retail Square Footage / Marina Slips	Required Minimum Parking Spaces[a]
A	10,000	
B	6,000	
C	6,000	
D	6,000	
E	8,000	
F	5,000	
G	42,000	
H	35,000	
J	12,000	
K	17,000	
L	15,000	
M	5,000	
N	15,000	
Terminal Bulkhead Building[b]	18,000[c]	
Marinas	170 slips	
TOTAL RETAIL:	**200,000 sq. ft.**	**400 spaces**
TOTAL MARINAS:	**170 slips**	**34 spaces**

[a] Minimum 1.0 space per 500 square feet of retail/commercial space required per the proposed Planned Waterfront Zoning District (PWD-1). The required 434 parking spaces for retail/commercial and marina uses would be concentrated on Parcels G, H, and K.
[b] Uses consistent with the Tidelands Trust.
[c] Approximately 18,000 square feet of Tidelands Trust uses are assumed for purposes of this EIR analysis. However, the project would retain a minimum of 15,000 square feet of the Terminal Bulkhead Building.

SOURCE: Oakland Harbor Partners, 2005.

contain the parking required to serve its residential uses. Retail/commercial parking for the entire project would be concentrated on Parcels G, H, and K.

The proposed number of parking spaces is based on minimum parking ratios of 1.0 covered space per residential dwelling unit, 1.0 space per 1,000 square feet of retail/commercial use, and 1.0 space per five marina slips.

In addition, approximately 450 spaces would be available primarily for use by park and marina users: approximately 75 spaces in surface parking lots in the proposed open space areas, and approximately 375 on-street parking spaces. However, as discussed in detail in Section IV.B,

TABLE III-3

PROPOSED APPROXIMATE HEIGHT RANGE DISTRIBUTION

Parcel	Building Height Range	High-Rise Tower Component
A	65 to 86 ft.	240 ft.
B	65 to 86 ft.	-
C	65 to 86 ft.	-
D	65 to 86 ft.	-
E	65 to 86 ft.	-
F	65 to 86 ft.	-
G	65 to 86 ft.	100 ft.
H	65 to 86 ft.	240 ft.
J	65 to 86 ft. [a]	240 ft.
K	65 to 86 ft. [a]	240 ft.
L	65 to 86 ft. [a]	-
M	65 to 86 ft.	240 ft.
N	65 to 86 ft.	-

[a] 65-foot height stepback is proposed around Clinton Basin for all or part of the Basin-fronting facades.

SOURCE: Oakland Harbor Partners, 2005.

Transportation, Circulation, and Parking, these spaces are not considered when evaluating how the project satisfies City Code-required parking or parking demand.

A number of parking control and management techniques would be incorporated into the project site plan and operations with a goal to preserve parking spaces for retail uses and ensure that there is adequate parking for all commercial uses. The project would also provide onsite bicycle parking spaces at a level determined by the City and in a manner consistent with City practices (or updated, adopted standards) at the time of project construction.

Proposed Parks, Open Space and Trails

A mix of active and passive parks and open spaces[10] covering approximately 44 percent[11] of the project site would be integrated into the project. This includes approximately 20.7 acres of new and permanent public open space (not including existing Estuary Park and Jack London Aquatic

10 Consistent with the Open Space, Conservation, and Recreation Element (OSCAR) of the General Plan, "parks and open space" shall include the defined unpaved areas, as well as associated facilities, trails, and parking areas, as with Estuary Park and Jack London Aquatic Center.

11 44 percent includes the existing 7.7-acre Estuary Park and Jack London Aquatic Center. With these existing facilities and associated site area included, a total of 28.4 acres of open space would exist on the project site, which would result in approximately 37 percent of the project site as open space.

SOURCE: ROMA Design Group

Figure III-5
Proposed Maximum Height Distribution

TABLE III-4

PROPOSED APPROXIMATE HEIGHT RANGE DISTRIBUTION

INCREASED BUILDING HEIGHT VARIANT

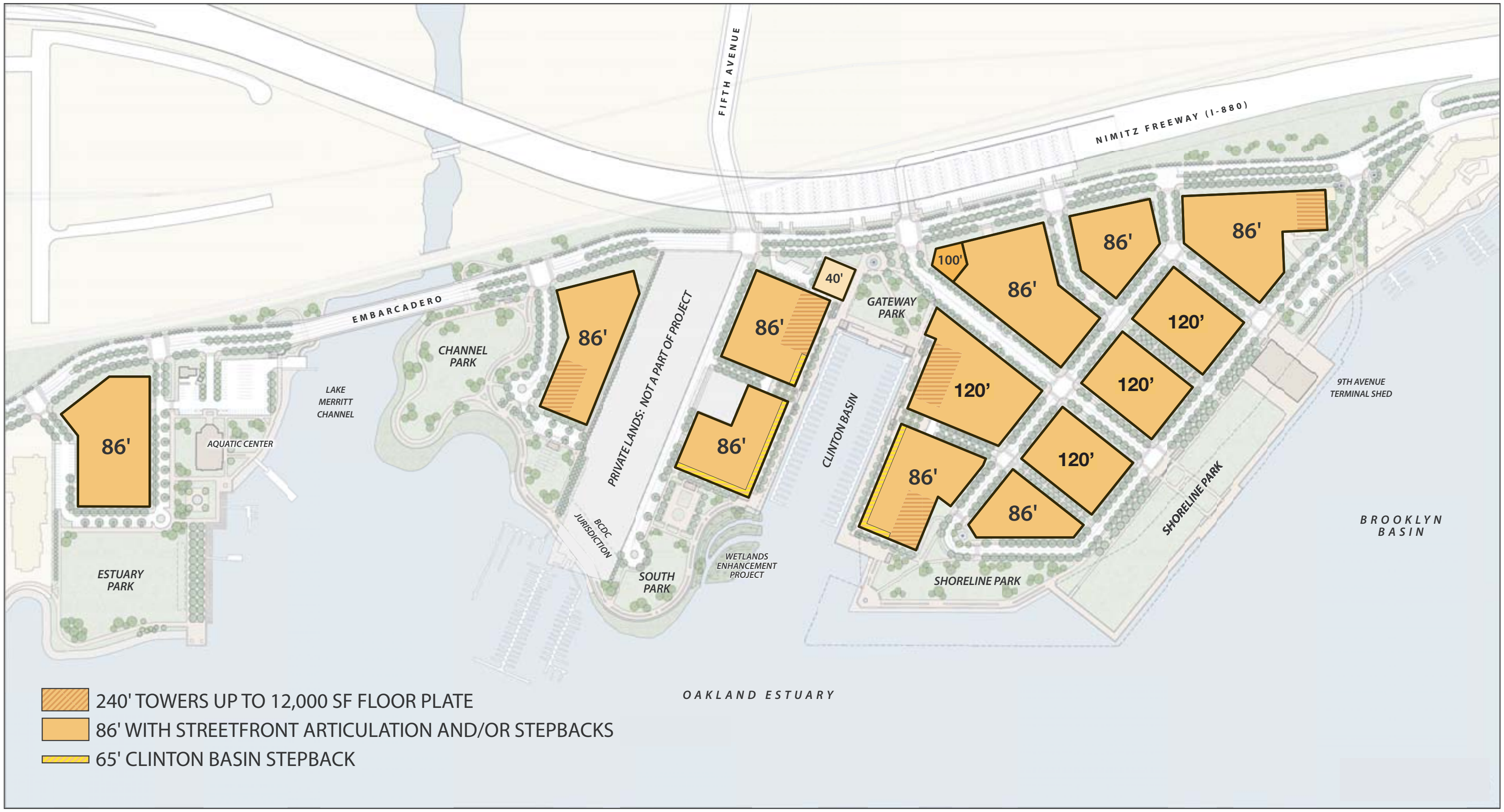
Parcel	Building Height Range	High-Rise Tower Component
A	65 to 86 ft.	240 ft.
B	65 to 120 ft.	-
C	65 to 120 ft.	-
D	65 to 120 ft.	-
E	65 to 120 ft.	-
F	65 to 86 ft.	-
G	65 to 86 ft.	100 ft.
H	65 to 120 ft.	240 ft.
J	65 to 86 ft. [a]	240 ft.
K	65 to 86 ft. [a]	240 ft.
L	65 to 86 ft. [a b]	-
M	65 to 86 ft.	240 ft.
N	65 to 86 ft.	-

[a] 65-foot height stepback is proposed around Clinton Basin for all or part of the Basin-fronting facades.

SOURCE: Oakland Harbor Partners, 2005.

Center) that would be designed as a series of interconnected parks and waterfront spaces to provide a variety of recreational opportunities. Potential uses include informal green spaces for passive recreation, playgrounds, picnic areas, and gardens. These improvements would include the continuous public pedestrian trail and Class I bicycle facility along the entirety of the project's waterfront, linking an existing Bay Trail segment that currently ends at Estuary Park to Brooklyn Basin (**Figure III-7**) where the trail currently continues east to the Martin Luther King Regional Shoreline and beyond. The trail would also follow both sides of Lake Merritt Channel, crossing east-west over Lake Merritt Channel Bridge (over the Embarcadero), allow for extension for future City projects aimed at improved connections between Lake Merritt and the estuary. The trail would accommodate pedestrians and bicycles and a variety of users within a maximum 40-foot-wide right-of-way along the waterfront of the project site..

Project landscaping is shown in **Figure III-3** and **Figure III-7** for illustrative purposes only. The project sponsor would be required to prepare and submit to the City a detailed landscape plan indicating specific type, size, and location of vegetation proposed throughout the project site and particularly within open spaces, public streets, and near the water's edge.



* Building height range of 65 to 120 feet proposed on Parcels B, C, D, and H under the Increased Height project variant.

SOURCE: ROMA Design Group

Oak to Ninth Avenue . 202622

Figure III-6
Increased Height Project Variant–
Proposed Maximum Height Distribution

TABLE III-5

PROPOSED ONSITE PARKING SUPPLY

Parking	Ratio	Minimum Parking Spaces
Covered Residential Parking	1 space per unit	3,100
Covered Parking for Retail/Commercial Use	1 space per 500 sq.ft. of floor area	400
Covered Parking for Marina Use	1 space per five marina slips	34
TOTAL		**3,534**

SOURCE: Oakland Harbor Partners, 2005.

The project would demolish a maximum of approximately 165,000 square feet of the existing Ninth Avenue Terminal building and a portion of its existing wharf. In its place, Shoreline Park would be constructed, a new 9.7-acre open space along the waterfront. Approximately 90,000 square feet (about 50 percent) of the Terminal building (located closest to the Embarcadero) was built in the late 1920s, and the remainder (located closest to the estuary) was built in the 1950s. The project would retain a minimum of 15,000 square feetof the 1920s portion of the Terminal's original Bulkhead Building (the northern part of the Terminal used for front-of-house operations).

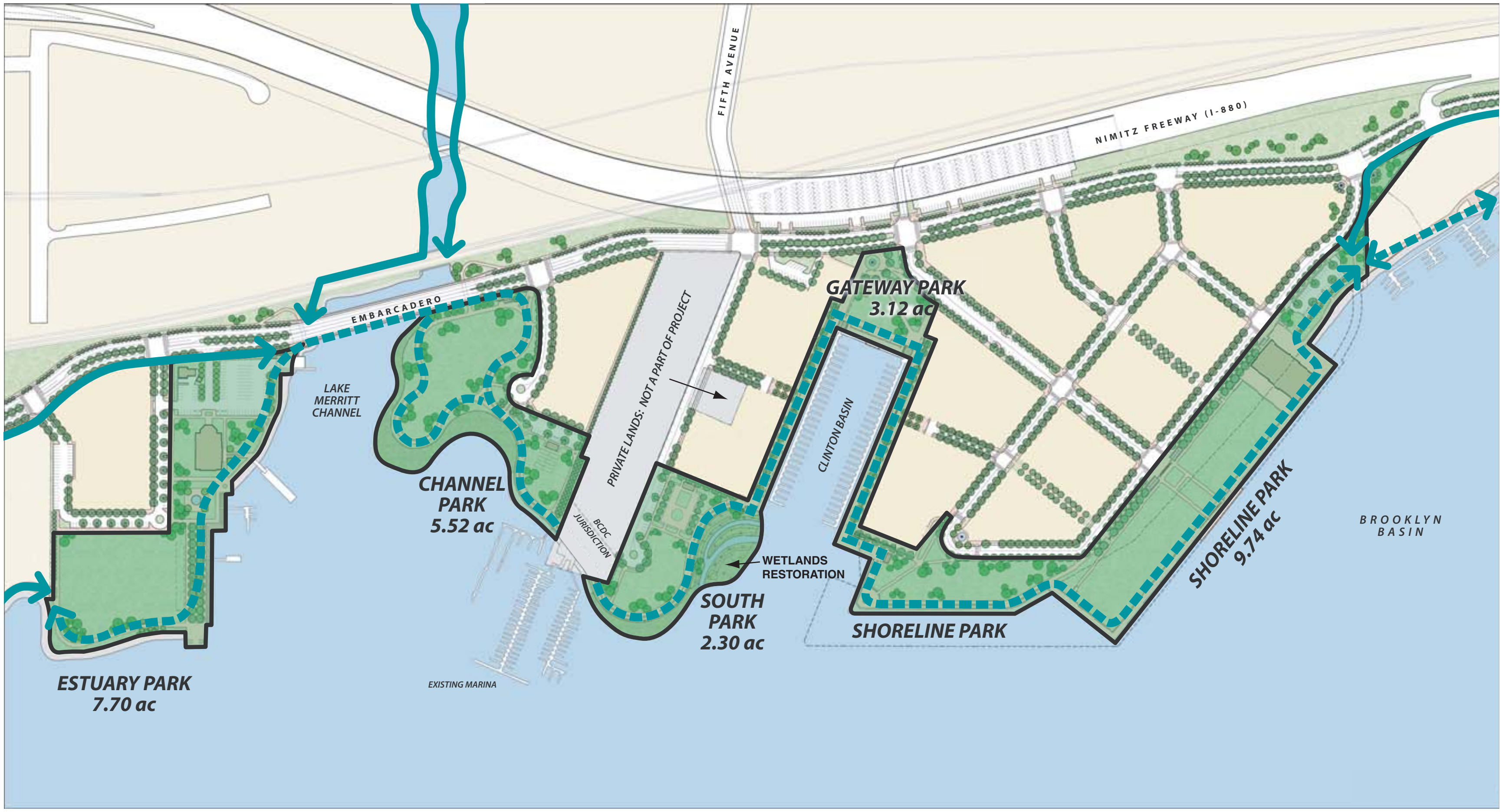
Shoreline Park / Ninth Avenue Terminal Bulkhead Building

The retained Bulkhead Building would sit at the northernmost end of Shoreline Park, which would extend south of the Bulkhead Building. New uses in the Bulkhead Building would include uses consistent with the Tidelands Trust.

In addition, a portion of the pile-supported wharf south and west of the Terminal building would be removed, and the remaining wharf area (and footprint of the demolished part of the Terminal) would be used as open space and a landscaped waterfront plaza for public enjoyment. Shoreline Park would include an open green lawn approximately 600 feet along the shoreline (measured north-south from the Bulkhead Building to the new south pier edge), and approximately 150 to 225 feet wide (measured from the new east pier edge on the south to the new public street (9th Avenue). Shoreline Park would also include the new waterfront bicycle path and jogging trail that would be part of the Bay Trail.

Gateway Park and Quay / Clinton Basin

Gateway Park would be sited at the main entry to the project, immediately north of Clinton Basin. This 3.1-acre open space lawn area would provide a more urbanized, park-like experience adjacent to marina activity and new retail space. The quay, a retaining wall-like edge treatment



Total Parks and Open Space:
28.38 ac (44 percent of Project Site)

Proposed Trails

Existing/Planned Trails

0 400
Feet

SOURCE: Oakland Harbor Partners

Oak to Ninth Avenue . 202622

Figure III-7
Proposed Shoreline Parks Network

and a 55-foot wide hardscape promenade around Clinton Basin, would be located around the rebuilt marina and connect to the Bay Trail.

Channel Park and South Park

Channel Park and South Park would provide a total of approximately eight acres of new open space. Channel Park (approximately 5.5 acres) would be located on the east side of Lake Merritt Channel, and South Park (approximately 2.3 acres) would be located west of the improved Clinton Basin and marina and adjacent to the Port of Oakland wetland restoration project (discussed below). Channel Park would have a maximum depth of approximately 600 feet from the shoreline, and South Park would have a depth of approximately 400 feet from the shoreline.

Estuary Park and Jack London Aquatic Center

The project would improve the existing Estuary Park through re-vegetation of the approximately 3.5-acre lawn/play field, shoreline protection (discussed below), and extending the waterfront Bay Trail that would edge the park and Lake Merritt Channel. The project would not change the existing picnic table/seating area pavilion and waterfront access facilities adjacent to the park and the Aquatic Center (boating and fishing docks and boat launch), and no new structures are proposed..

Clinton Basin Wetland Restoration and Enhancement Project

In addition to new and permanent open space areas, the project would maintain the existing Clinton Basin Wetland Restoration and Enhancement Project wetland restoration area at the west shore at the mouth of Clinton Basin (**Figure III-6**). No changes are proposed to this resource as part of the project.

Ownership, Maintenance, and Operations

The Port or the City would own the open spaces proposed by the project. The City would be responsible for 1) approving the improvements installed in the project open space, 2) programming the allowable uses within the project open space, and 3) granting/permitting activities within the open spaces, however, all uses within open spaces would be limited to uses that are consistent with the Tidelands Trust.

The project sponsor will be responsible for installing the improvements within the project open space and providing for the maintenance of the project open space in a manner that meets or exceeds minimum standards provided by the City. Maintenance by the project sponsor may be accomplished through the establishment of 1) a project homeowners' association, 2) (in conjunction with the City) a Community Facilities District or Community Services District, or 3) other mechanism approved by the City.

The project sponsor is not proposing to hold events (such as concerts or festivals) at the project site. However, it is possible that in the future, upon further review and approval by the City of

Oakland, entities could sponsor such organized events at the new public open spaces created by the project.

Proposed Marinas, Shoreline Improvements, and Water-Orientation

The project would rebuild the existing Clinton Basin Marina, increasing the number of boat slips from 35 to approximately 52 slips that would line the new sheet pile (retaining wall-like) edge of the Basin, which would be straighten and protected compared to its existing undulating and unprotected condition. The Quay, the 55-foot wide hardscape promenade around Clinton Basin, would be developed and lined with marine-related retail/restaurant uses and marina support facilities. The Fifth Avenue Marina would be expanded from the existing estimated 60 boat slips for a total of approximately 118 slips on a series of walkways and berths away from the shoreline, and accessed from the southernmost area of Channel Park.[12] Both marinas would make available short-term, transient, and long-term slips to accommodate a range of boat types and sizes. No fueling stations would be included in the marina operations.

The project would also improve the existing shoreline along the project site.[13] Shoreline improvements and specific treatments would vary along the project site and include the removal of existing debris, re-grading of banks, creation and improvement of marsh habitats, and varying types of slope protection with rocks (riprap) and bulkhead walls. The proposed improvements would enhance water-oriented activities in this area by facilitating greater and improved public access to the estuary with enhanced parks, open spaces, trails along the waterfront. There would especially be improved public opportunities for recreational sailing, rowing, canoeing, and kayaking.

Proposed Streets and Public Access

Internal Circulation

As depicted in the project's illustrative site plan (**Figure III-3**), existing streets within the project site would be removed, and new internal streets would be created. New streets would be constructed to City roadway standards and offered for dedication to the City of Oakland, except for 5th Avenue which would be accessible to the public with approval of a public access easement but may not be constructed to City roadway standards. The proposed street layout would complement the open space system by providing convenient vehicular access and providing continuous public pedestrian and bicycle linkages to the waterfront. The layout of the streets would lead to the water and open space areas, and each street would be landscaped and provide on-street parking for convenient use by the public.

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[13] See Footnote 3.

Access to the Project Site

The Embarcadero along the project site would be improved and widened into a parkway that would be significantly landscaped to provide a distinctive northern edge to the project and provide some level of screening of the adjacent above-grade portion of I-880. The project proposes up to eight intersections along the Embarcadero to improve access to the waterfront and to allow for safe and efficient circulation to and from the project site. The continuation of 5th Avenue, currently the only through connection from north of the Embarcadero (due to the existence of the Union Pacific railroad tracks and I-880) would be improved to become one of the main entrances to the central portion of the development. The improvements and new intersections to the project would be coordinated with Caltrans' criteria for future I-880 improvements and upgrades that may affect the Embarcadero near the project site.

The site would also be accessed from its estuary frontage, and based on currently-adopted City plans and projects that will create new waterway and pedestrian connections between Lake Merritt and the estuary, the project site would be accessible from the north via Lake Merritt Channel once such future projects are implemented. Existing waterfront pedestrian paths are available from the west (from Jack London Square, east to Estuary Park) and the east (from Embarcadero Cove, west to Brooklyn Basin).

Site Remediation, Utility Improvements, and Dredging

The soils and groundwater of the project site have varying levels of contamination due to previous onsite and offsite manufacturing and industrial activities. Existing contaminants include volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), metals, and petroleum hydrocarbons and gasoline, diesel, and motor oil. The project sponsor would prepare and implement a phased remediation process for cleanup of the site to appropriate levels, pursuant to the review, approval, and oversight of various regulatory agencies (identified below) and a single lead oversight agency, the California Department of Toxic Substances Control (DTSC).

The California Department of Toxic Substances Control (DTSC) is anticipated to serve as the lead oversight agency pursuant to California Health & Safety Code 25395.60 *et seq*., the California Land Reuse and Revitalization Act (CLRRA). Under CLRRA, the project sponsor would enter into a contractual agreement with DTSC to complete an environmental assessment of the property and to clean up the site in accordance with all applicable laws and regulations. Cleanup at the site is likely to include closure or removal of existing subsurface structures, such as tanks; excavation and disposal of contaminated materials; natural or enhanced bioremediation of soil and groundwater; restoration and improvement of shoreline structures; dredging of sediments; and institutional and engineering controls to prevent exposure to and migration of contaminated materials.

Under CLRRA, the environmental assessment must include: 1) characterization of the hazardous materials released or threatened to be released at or from the site; 2) available information about the site; 3) a risk assessment, if appropriate, that evaluates the risk posed by any hazardous materials released or threatened to be released at or from the site; 4) information regarding "reasonably anticipated foreseeable uses of the site based on current and projected land use and zoning designations"; and 5) if the release has impacted groundwater, "reasonable characterization of underlying groundwater," including present and anticipated beneficial uses of the water.

For cleanup, CLRRA requires that the project proponent submit to the lead agency and agree to implement a response plan to clean up the property. The response plan must include: 1) identification of the releases or threatened releases at the site; 2) documentation that the plan is based on adequate characterization of the site; 3) identification of the response plan's objectives and the proposed remedy; 4) identification of the current and reasonably anticipated future land use of the site, including confirmation regarding such projections city or county in which the site is located; 5) a description of activities that will be used to control any endangerment that may occur during the response action; 6) a description of any land use control that is part of the response action; 7) a description of wastes other than hazardous materials at the site and how such wastes will be managed during the response action; 8) provisions for the removal of containment vessels and other sources of contamination, including soil and free product, that cause an unreasonable risk; 9) provisions for the agency to require further response actions based on the discovery of hazardous materials that pose an unreasonable risk to human health or the environment during the response action or subsequent development of the site; and 10) any other information required by the lead agency. Prior to approval by the lead agency or implementation by the project proponent, CLRRA further requires that, the response plan be subject to meaningful public notice and comment to permit the community and other state and local agencies to obtain information about and express their views regarding the proposed cleanup.

Public utility easements and infrastructure for water, sanitary sewer, stormwater drainage, gas, and electricity exist on or near the project site. The project would upgrade onsite utilities and utilities along the project frontage on the Embarcadero to current design standards. Specifically, the existing "looped" system of EBMUD water line that serves the project is expected to accommodate the project's anticipated water demand. Water mains (designed and supplied by EBMUD) would be installed to serve the development and, each project building would have service connections for residential water service, commercial water service, fire service, and irrigation. The project may be required to construct sanitary sewer facilities offsite as to not exceed the capacity of the local sub-basin during wet weather conditions. The project would install new storm drains throughout the project area to allow discharge to the Oakland Estuary. New storm drains would connect to the existing storm drain mains on the Embarcadero (east of 5th Avenue) and on the southern extension of Fallon Street, and would be designed to accommodate drainage from the Embarcadero.

In addition, the project would require dredging to provide adequate water depth for the marina berthing area in Clinton Basin and for shoreline improvements around Clinton Basin. Dredging would occur at a design water depth of -8 feet mean lower low water (MLLW) and involve about 20,000 cubic yards of dredged material.

Proposed Planned Waterfront Zoning District Standards and Regulations

The project sponsor proposes a new zoning district and associated standards: the "Planned Waterfront Zoning District" (PWD-1). The intent of the proposed PWD-1 District would be to establish specific regulations to facilitate the development of an integrated mixed-use, residential, public and private open space, and commercial community on the project site. The PWD-1 District regulations would establish 1) land use regulations, such as allowable and prohibited activities; 2) development standards, such as maximum density levels, height restrictions, requirements for building frontage, public open space and the Bay Trail, parking/loading, and signage; and 3) design guidelines defining parameters for architectural character, building massing and articulation, exterior features, lighting, materials and colors, and landscape areas. The proposed rezoning of the project site to the PWD-1 District would not apply to portions of the Oak-to-Ninth District[14] (defined in the Estuary Policy Plan) north of the Embarcadero or within the outparcels not included as part of the project site, Fifth Avenue Point). (The proposed PWD-1 District and associated draft standards, are discussed in detail in Section IV.A, Land Use, Plans, and Policies.)

Project Phasing

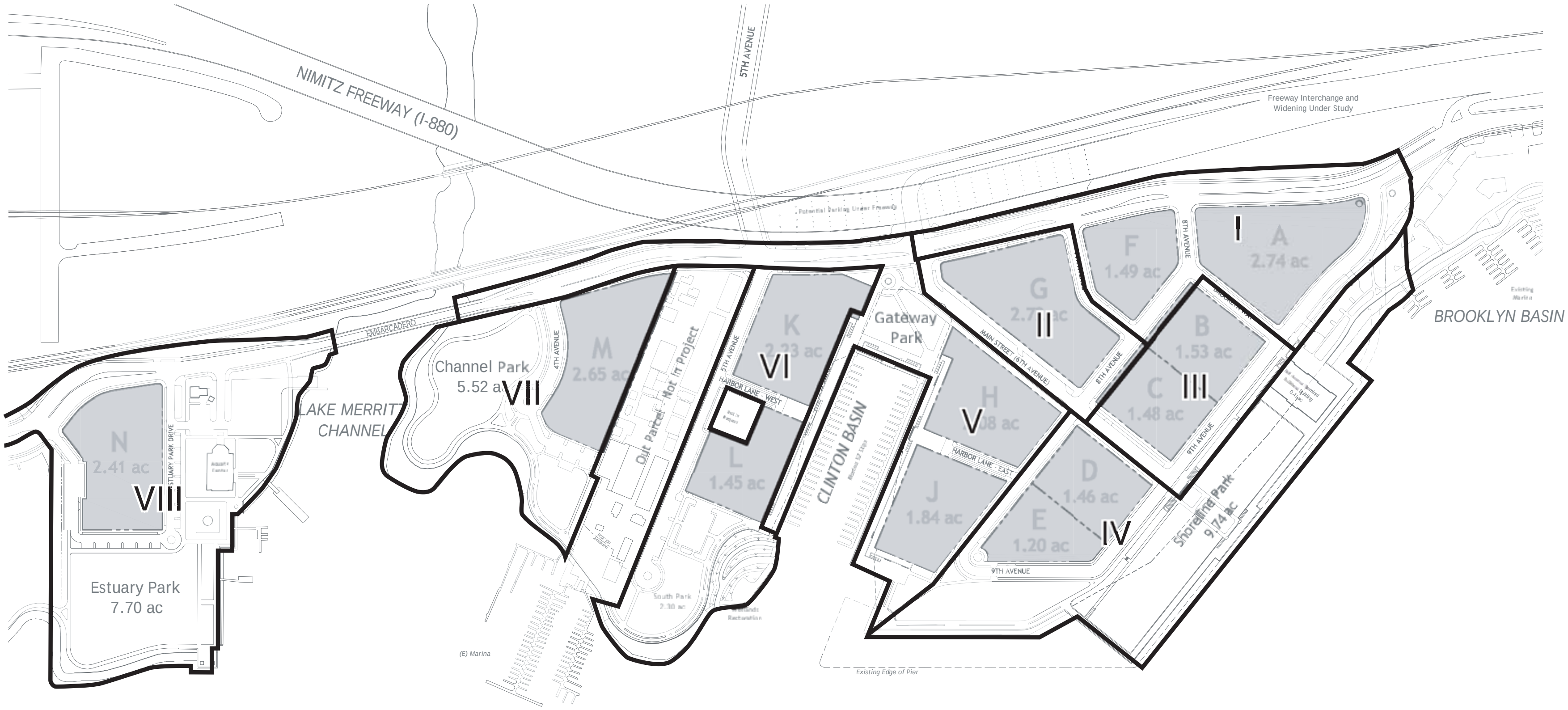
The project would be remediated and developed in phases over a period of approximately 11 years. It is anticipated that construction activities would occur in four major phases with one to two sub-phases each, for a total of eight total phases. It is anticipated that the project would start construction in 2007 and be completed in approximately 2018. Approximately one-third of the project in terms of land area (and 37 percent in terms of dwelling units) would be completed at 2010 (Phases I through III), with the remaining two-thirds (or 63 percent of the dwelling units) completed after 2010.

Generally, the project site would be developed from east to west (as depicted in **Figure III-8**) as follows (years shown generally encompass site preparation to building occupancy):

- **Phases I through III** (2007 to 2010) - Approximately 1,139 units and 69,000 square feet of retail/commercial: Parcels A, B, C, F, and G; and project street rights-of-way. Estimated demolition: Approximately 88,000 sq. ft. of manufacturing, storage, retail, and service uses.

- **Phases IV and V** (2008 to 2014) - Approximately 1,473 units and 79,000 square feet of retail/commercial: Parcels D, E, H, and J; Clinton Basin and Quay; and project street rights-of-way. Shoreline Park would be developed by 2012, and Gateway Park would be developed by 2014, as would the Bay Trail segment from Brooklyn Basin to Clinton Basin.

[14] The Oak-to-Ninth District is defined in the Estuary Policy Plan as approximately 120 acres south of I-880, generally from Oak Street to the Ninth Avenue Terminal. The land area of the Oak to Ninth Project site after implementation of the project would be approximately 64.2 acres located south of the Embarcadero only.



	Development Areas (ac.)	Retail Areas (sq. ft.)	Total Units
I	4.2	15,000	539
II	2.7	42,000	280
III	3.0	12,000	320
IV	2.7	14,000	244
V	3.9	47,000	627
VI	3.7	32,000	454
VII	2.7	5,000	334
VIII	2.4	15,000	300
Total	**25.3**	**200,000**	**3,100**

SOURCE: ROMA Design Group

Oak to Ninth Avenue . 202622

Figure III-8
Proposed Phasing Plan

Estimated demolition: Approximately 165,000 square feet of the Ninth Avenue Terminal building (minimum 15,000 sq. ft. Bulkhead Building retained) and removal of storage, marine construction, and training uses.

- **Phases VI and VII** (2009 to 2017) - Approximately 798 units and 37,000 square feet of retail: Parcels K, L, and M; and project street rights-of-way. South Park would be developed by 2015, and Channel Park would be developed by 2017, as would the Bay Trail segment east of Clinton Basin. Estimated demolition: Approximately 46,000 square feet of marine, storage, service, manufacturing, and industrial uses.

- **Phase VIII** (2011 to 2018) - Approximately 300 units and 15,000 square feet of retail/commercial: Parcel N and project street rights-of-way. Improvements (re-vegetation) of Estuary Park and the adjacent Bay Trail segment would occur by 2018. Estimated demolition: Approximately 78,400 square feet of wholesale grocery use.

B. Project Objectives

The primary Project Objectives include providing to the Bay Area and the city of Oakland a revitalized accessible waterfront with open spaces for public use and a range of needed housing opportunities.

Supporting Project Objectives include the following:

- Redevelop the project site into a mixed-use development that provides the public greater access to the Oakland Estuary shoreline.

- Provide a mixture of dwelling sizes and types, including rental and for-sale units, to accommodate a range of potential residents.

- Provide a range of commercial uses that meet both visitor- and neighborhood-serving goals by providing goods and services to the region, the city, and the local community.

- Ensure an active street frontage by developing a combination of street-level townhouses, ground-floor retail, and a continuous theme of public walkways and open space throughout the project site.

- Provide additional housing, particularly on existing underutilized land as encouraged by Housing Element policies of the General Plan, to help meet existing housing needs and help alleviate the current jobs/housing imbalance for the region.

- Develop housing in close proximity to abundant transit opportunities, including BART, Amtrak, the San Francisco Bay Regional Ferry, and AC Transit.

- Remediate existing contamination in soil and groundwater at the site, in accordance with applicable regulator standards and consistent with the proposed future uses.

- Redevelop and remediate an underutilized and environmentally challenged site to allow it to be used for its highest and best use for the community.
- Enhance the appearance of an existing urban infill property to improve the streetscape and visual quality of this important site and redevelop a currently underutilized site.
- Provide a significant amount of open space and water-oriented activities accessible to the general public to encourage the public to interact with the Oakland Estuary both visually and recreationally.
- Provide a vital connection to local and regional waterfront trail systems, as well as both physical and visual linkages between the waterfront and inland communities.
- Develop a project that is economically feasible in terms of residential density, building massing, parking, public open space, infrastructure, and other amenities.
- Design and develop public facilities (streets, sidewalks, lighting, parks, open space, etc.) that can be maintained and operated in a sustainable and cost-effective manner.
- Accomplish project objectives in a manner that maximizes the use of private funding sources and minimizes the use of public funds.
- Provide an economically feasible, integrated, and cohesive redevelopment project that includes timely phasing and construction of infrastructure improvements.
- Generate significant, new permanent and construction jobs and the ability to attract capital investment into Oakland.
- Provide infill development in furtherance of Smart Growth principles.
- Provide new permanent and accessible open space areas and extend pedestrian walkways along the estuary in order to meet the passive recreational needs of local residents and visitors, and to complement the existing and proposed surrounding urban fabric while enhancing the waterfront access experience for visitors and employees to the area.
- Develop a project that will generate significant property tax increment to be used in the Central City East Redevelopment Plan Area and Central District Urban Redevelopment Plan Area, and additional tax revenues to the City of Oakland.

C. Discretionary Actions and Other Planning Considerations

As discussed in Chapter I, the City of Oakland is the Lead Agency responsible for preparation of this EIR (pursuant to CEQA Guidelines Section 15051). This EIR is intended to be used for all required discretionary actions for the project. The project requires discretionary actions by both the Planning Commission and the City Council. In addition, the project will require review and approval by a number of other public and quasi-public agencies and jurisdictions that have authority over specific aspects of the project. These other agencies may also consider this EIR in their review and decision-making processes. The discretionary actions and other considerations and approvals anticipated to be required for the project include the following, without limitation (A detailed description and discussion of each action is included in EIR Section IV.A, Land Use, Plans and Policies):

City of Oakland

- **General Plan Amendment** (Oakland Planning Code Chapter 17.01) **-** The project would require a General Plan Amendment to the *Estuary Policy Plan*, a component of the Oakland General Plan. An amendment would modify the existing Planned Waterfront Development-1 (PWD-1) land use classification (which is unique to the Oak-to-Ninth District and the project site) to allow the residential land uses and densities proposed by the project. An amendment may also change the Parks, Open Space and Promenades land use classification on Estuary Park and part of the Jack London Aquatic Center to allow a single land use classification over the entire project site. Additional amendments to the *Estuary Policy Plan* may address the intended treatment of the Ninth Avenue Terminal. The Planning Commission would be required to review the General Plan Amendment and forward its recommendation to the City Council for final decision.

- **Redevelopment Plan Amendments -** The project would require amendments to the *Central City East Redevelopment Plan* and possibly the *Central District Urban Renewal Plan* to incorporate the proposed land use changes and maintain the consistency of these Redevelopment Plans with the Oakland General Plan. The Redevelopment Plan Amendments would require approval by the Oakland Redevelopment Agency and City Council.

- **Rezoning and Zoning Code Amendment** (Oakland Planning Code Chapter 17.144) **-** To allow the proposed land uses and densities, the project would require a Rezoning of the project site to change the existing M-40 Heavy Industrial Zone the channel and S-2 Civic Center/S-4 Design Review Combining Zone (Estuary Park and Jack London Aquatic Center) to a new Planned Waterfront Zoning District (PWD-1) (discussed above and in Section IV.A). The Oakland Planning Code would be amended to add the new PWD-1 District and its associated regulations), and the Oakland General Plan and Zoning Map would be amended to apply the PWD-1 District to the geographic area of the project site.

- **Preliminary Development Plan and Final Development Plan** (Proposed Planned Waterfront Zoning District Regulations, generally consistent with existing Oakland Planning Code Chapter 17.140) **-** The large scale of the project and its need for phased development and public improvements require that the project prepare and obtain approval of an overall Preliminary Development Plan (PDP) for the entire project, in addition to one or more Final Development Plans (FDP) / Final Design Reviews, that together would cover all of the new development within the project area. The PDP and the FDP / Final Design Review would require approval by the City Planning Commission.

- **Vesting Tentative and Final Maps** (Oakland Municipal Code Title 16) - The project sponsor is requesting approval of a Vesting Tentative Map and Final Map, which would include consideration of the dedication of public lands (new public streets) to the City. The Vesting Tentative Map would require approval by the City Planning Commission, and the Final Vesting Map would require approval by the City Council

- **Development Agreement** (Oakland Planning Code Chapter 17.138) - The project sponsor and the City would enter into a Development Agreement (DA) that would 1) provide for a vested entitlement period, 2) specify requirements for phasing of project development, 3) stipulate what City regulations will apply throughout the term of the DA with respect to the project, and 4) establish other commitments**.** The City Planning Commission would review the DA and forward its recommendation to the City Council for a final decision.

- **Tree Removal Permit** (Oakland Municipal Code Chapter 12.36) - Pursuant to the City's Protected Trees Ordinance, the project sponsor would be required to obtain an approved Tree Removal Permit prior to removal of (or construction activity in close proximity to) a Protected Tree, as defined in Oakland Municipal Code Section 12.36.020. Tree permits would require approval by the Oakland Public Works Agency. All tree planting plans would require approval by the Tree Services Section of the Office of Parks and Recreation.

- **Creek Protection Permit** (Oakland Municipal Code Chapter 13.16) - The project would require City approval of a Creek Protection Permit for work proposed adjacent to the Oakland Estuary and/or along the Lake Merritt Channel.

- **Encroachment Permits** (Oakland Municipal Code Chapter 12.08) – The project would required City approval of encroachment permits (non-discretionary) to work within various public rights of way for accommodate the development of improvements, etc.).

- **Demolition Permits** (Oakland Municipal Code Chapter 15.36) – The project would require City approval of demolition permits to demolish exiting buildings and structures on the project site, including the majority of the Ninth Avenue Terminal (subject to required findings).

- **Other Various Building Permits** (Oakland Municipal Code Title 15) - The project would require City approval of all other permits required for project construction on the project site.

Other Agencies and Considerations

A detailed description and discussion of each action and agency/jurisdiction is included in EIR Section IV.A, Land Use, Plans and Policies, as well as within the relevant topical analysis sections in Chapter IV. Environmental Setting, Impacts, and Mitigation Measures.

- **Port of Oakland** (Oakland City Charter, Article VII) **-** The project would be subject to approval by the Port of Oakland for various real estate transaction components of the project.

- **California State Lands Commission (Tidelands Trust)** – The property comprising the project site is subject to the Tidelands Trust. Portions of the Tidelands Trust lands are granted lands granted to the City pursuant to legislative grants from the State of California. Other portions of the Tidelands Trust lands have been acquired by the Port with public trust funds derived from Port operations. The Port manages the Tidelands Trust lands by virtue of the Charter of the City of Oakland. The State Lands Commission has oversight of all Tidelands Trust property in California.

  The project proposes development of portions of the Project Lands for residential housing. Among other matters, the Commission asserts that residential housing is not a use to which the Project Granted Lands may be put. The Oak to 9th avenue District Exchange Act, SB 1622, authorizes sale of certain Project After-Acquired Lands. SB 1622 also authorizes the Commission and the Port to enter into an exchange agreement meeting the requirements of the legislation to effectuate the exchange and sale. The City's approval of the project will be conditioned upon subsequent compliance with the provisions of SB 1622.

- **San Francisco Bay Conservation and Development Commission (BCDC) -** The project would be subject to review by the San Francisco Bay Conservation and Development Commission (BCDC), a state agency. The project would be required to obtain BCDC permits and approvals for all development proposed within the Agency's jurisdiction, including filling, dredging, and shoreline alteration.

- **California Department of Toxic Substances Control (DTSC) -** The California Department of Toxic Substances Control (DTSC) would have lead oversight responsibility for investigation and remediation of hazardous materials at the site, including approval of the proposed remediation plan. DTSC would coordinate with the California State Water Resources Control Board (discussed below) on site clean-up requirements and processes. In coordination with the U.S. Army Corps of Engineers (discussed below), DTSC would also provide oversight of dredging activities.

- **California State Water Resources Control Board – San Francisco Region (RWQCB) -** The project would require various San Francisco Regional Water Quality Control Board (RWQCB) reviews and approvals regarding storm water discharge, and in coordination with BCDC and the Army Corps (discussed below), the dredging of Clinton Basin. The RWQCB would also participate in the process for investigation and remediation of hazardous materials at the site.

- **Alameda County Environmental Health Department -** The Alameda County Department of Environmental Health would participate in the process for investigation and remediation of hazardous materials at the site.

- **The United States Army Corp of Engineers (Corps) -** The project would involve navigable U.S. waters and therefore would require U.S. Army Corps of Engineers' review and approval of permits for all proposed shoreline work and the dredging of Clinton Basin.

- **The United States Fish and Wildlife Service (USFWS) -** The project would be subject to U.S. Fish and Wildlife review and permitting related to potential impacts of the project (proposed shoreline activities and alterations) on federally listed threatened or endangered species protected under the Federal Endangered Species Act (FESA).

- **California Department of Fish and Game (CDFG) -** The project would be subject to Department of Fish and Game review and permitting related to potential impacts of the project (proposed shoreline activities and alterations) on species protected under the California Endangered Species Act (CESA).

- **Bay Area Air Quality Management District (BAAQMD) -** The project would be subject to applicable regulations of the BAAQMD, such as construction emission reduction measures that are imposed by the City.

- **East Bay Municipal Utility District (EBMUD) -** The project would require EBMUD review and approvals regarding water and sewer service, capacities, and facilities.

- **Alameda County Airport Land Use Commission (ALUC) and Federal Aviation Administration (FAA) –** The project could involve construction of new structures over 200 feet in height and require approval of a General Plan Amendment. Therefore, the project may be subject to review by the Alameda County Airport Land Use Commission and the Federal Aviation Administrative.

- **California Department of Transportation (Caltrans) –** Any improvements or work that would occur within Caltrans right-of-way would require review and approval by Caltrans.

CHAPTER IV

Environmental Setting, Impacts, and Mitigation Measures

Introduction to the Environmental Analysis

The analysis provided in this EIR has been prepared in accordance with CEQA, as amended (Public Resources Code Section 210000, et seq.), and the State CEQA Guidelines.

This chapter contains a discussion of 1) setting (existing baseline conditions and regulatory background), 2) environmental impacts (direct, indirect or secondary, short-term, and cumulative) that could result from the proposed project, and 3) mitigation measures that would reduce or eliminate the adverse impacts that are identified. Throughout the EIR, the analysis addresses the potential impacts of all activities that would result from development of on the entire project site and during all development phase. The analysis considers impacts that would occur during construction and during operation of the project through cumulative year (Buildout 2025). The significance criteria used to assess the significance of adverse environmental effects are identified, and the significance of the impact, both prior to and after implementation of mitigation, is reported.

Significance Thresholds and Classification of Impacts

In accordance with Section 15022(a) of the CEQA Guidelines, the City of Oakland has drafted local CEQA thresholds and criteria of significance guidelines that are consistent with CEQA and the State CEQA Guidelines (City of Oakland, 2004c). The City's thresholds are intended to supplement provisions in the CEQA Guidelines for determining the significance of environmental effects, including Appendix G. As appropriate, state and federal regulations supplement the City's local thresholds and guidelines.

The following level of significance classifications are used throughout this EIR:

- **Significant (S)** – The impact of the project reaches or exceeds the defined threshold of significance. Feasible mitigation measures are identified to reduce the significant impact to a less-than-significant level.

- **Potentially Significant (PS)** – The impact of the project may reach or exceed the defined threshold of significance, however it is not evident that, even in the theoretic worst-case conditions, a significant impact would occur. Feasible mitigation measures are identified to reduce the potentially significant impact to a less-than-significant level.

- **Significant and Unavoidable (SU)** – The impact of the project reaches or exceeds the defined threshold of significance. No feasible mitigation measure is available to reduce the significant impact to a less-than-significant level; *or* implementation of a feasible mitigation measure by the Lead Agency (City of Oakland) can not occur without approval of another jurisdiction, such as the City of Alameda or Caltrans. In the latter case, feasible mitigation measures are identified to reduce the significant impact to a less-than-significant level, and the significant unavoidable classification is noted.

- **Less than Significant (LTS) –** The effects of the project do not reach or exceed the defined threshold of significance. Generally, no mitigation measures are required or identified.

- **Beneficial Impact (B)** – The impact of the project would improve the environment, regardless of the defined threshold of significance. Generally, no mitigation measures are required or identified.

- **No Impact (N) –** No noticeable adverse effect on the environmental would occur.

Designation of Impacts and Mitigation Measures

All impacts in this chapter of the EIR are identified using an alpha-numeric designation that corresponds to the letter of the EIR section assigned to the environmental topic (as denoted in the Table of Contents for this EIR), followed by a number that indicates the sequence in which the impact statement occurs within the section. For example, "Impact G.2" is the second impact identified in Section IV.G, Noise. All impact statements are in bold text.

Mitigation measures are numbered to correspond with the impact that it addresses. Where there are multiple measures to address the same impact, each is indicated by a lower-case letter. For example "Mitigation Measure G.2c" is the third component (c) of the second mitigation (2) identified to address noise (Section G). Generally, all mitigation measure statements are in bold text, although in cases where there is extensive detailed text that is part of the mitigation measure, all text may not be bolded (for example, mitigation measures related to traffic impacts, permitting requirements for water quality and biological resources impacts).

2010 Interim Project

A 2010 interim year project has been established specifically to assess the traffic, air quality, and noise impacts for the portion of the project that would be completed by 2010. Where appropriate and relevant within these sections of the EIR, potential impacts are specifically identified for the 2010 project, and mitigation measures are identified accordingly. Otherwise, impacts and mitigations are identified as of 2025 Buildout. **Table IV-1** shows the development program of the

2010 interim year project, and the most conservative analysis is used and assumes that site preparation of parcels not indicated in **Table IV-1** would likely be underway by 2010:

TABLE IV-1

ILLUSTRATIVE 2010 INTERIM YEAR PROGRAM

Parcel	Approximate Building Pad Acreage	# of Units[a]	Minimum Onsite Residential Parking Spaces[b]	Retail Square Footage	Minimum Retail Parking Spaces[c]
A	2.7	375	375	10,000	
B	1.5	160	160	6,000	
C	1.5	160	160	6,000	
F	1.5	164	164	5,000	
G	2.7	280	280	42,000	
TOTAL	**9.9**	**1,139**	**1,139**	**69,000**	**138**

[a] The proposed Planned Waterfront Development Zoning District (PWD-1) (discussed below) would allow flexibility in the maximum number of dwelling units that could be developed on a particular parcel, such that the total maximum number of dwelling units (or net density) in the project could not be exceeded.
[b] Minimum 1.0 space per dwelling unit.
[c] Minimum 1.0 space per 500 square feet of retail/commercial space required per the proposed Planned Waterfront Zoning District. Retail/commercial parking for the project would be concentrated on Parcels G in the 2010 interim year, Phase 1.
.

SOURCE: Oakland Harbor Partners, 2005.

Cumulative Analysis Context

Pursuant to the requirements of CEQA, this EIR evaluates potential cumulative impacts as well as of project-level impacts (see also Chapter VI). To establish a cumulative context for this analysis, the City of Oakland has developed a detailed update of the Oakland Cumulative Growth Scenario to ensure that those impacts are appropriately considered as part of the cumulative context of future citywide and regional growth and development. The City's updated growth scenario incorporates newly released 2000 Census data, new projections series from the Association of Bay Area Governments (ABAG), and considers foreseeable, future development projects in the area. As detailed in **Appendix D.4**, Hausrath Economics Group (HEG) has compiled a list of proposed, approved, and reasonably foreseeable development projects expected to be completed in Oakland by 2025, the cumulative analysis year. Considering this list, in addition to the projected growth that would occur on the project site as part of the project, HEG developed population, housing, and employment forecasts for 2025 that are used for the cumulative analysis in this EIR.

The numbers in Oakland's updated growth scenario are relatively similar to the ABAG projections currently incorporated into the Alameda County Congestion Management Agency's

(CMA) Travel Model. However, Oakland's updated growth scenario used in the analysis in this EIR provides more specificity about growth and development. (**Table D.4-2** in **Appendix D.4** compares the updated Oakland Cumulative Growth Scenario with the ABAG *Projections 2002*[1] for Oakland and the ABAG projections as incorporated into the Alameda County CMA Travel Model for use in transportation analyses.)

1 ABAG Projections 2002 series provides the basis for the numbers in the CMA model at the time of the analysis for this EIR.

A. Land Use, Plans and Policies

This section describes the existing land uses, adopted General Plan land use classifications, and zoning classifications on and around the project site. This section also describes the applicable plans and policies that guide development in the project area and evaluates the project's consistency with these plans and policies and other existing land use regulations. Following the discussion of the project's relationship to various plans and policies, the section identifies potentially significant land use impacts and, if necessary, appropriate mitigation measures. Pursuant to the City's recent amendment to the Oakland General Plan (City of Oakland, 2005a), as well as Section 15358(b) of the CEQA Guidelines, mitigation measures are proposed only to address *physical* impacts (emphasis added). As clarified by the recent amendment, "the fact that a specific project does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of [CEQA]."

Introduction

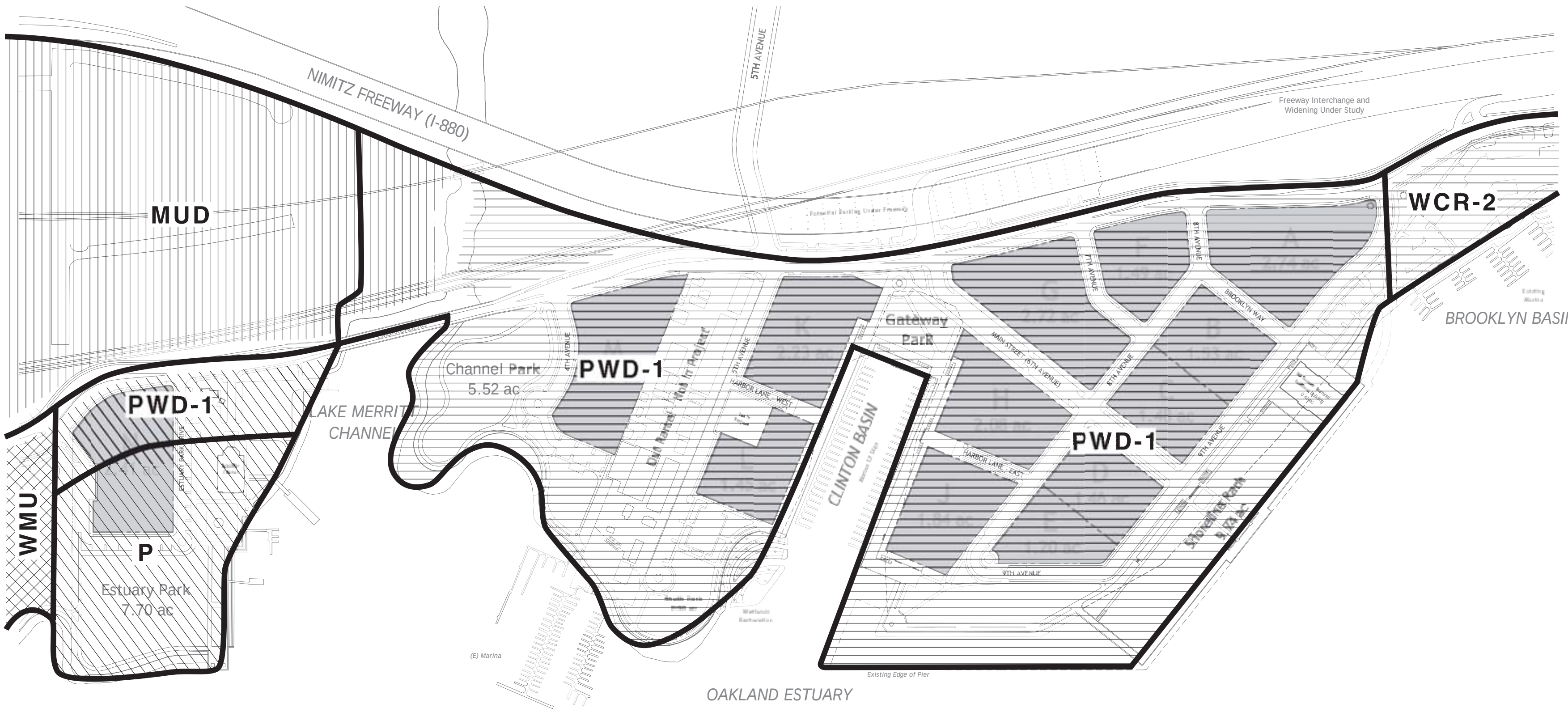
The project site is in the city of Oakland along the Oakland Estuary. According to the City of Oakland's General Plan Land Use and Transportation Element (LUTE), the project site lies within the City's Chinatown/Central Planning Area. The LUTE also indicates that the project site is within the Mixed Use Waterfront/Estuary Plan Area land use classification, with areas along the shoreline[2] designated as Urban Open Space.

The City adopted the *Estuary Policy Plan* (Estuary Plan) as an element of the General Plan to provide additional detail and guidance for development within the Oakland Estuary. The Estuary Plan includes land use classifications and standards for the Oak to Ninth Project area that complement those identified in the LUTE. Generally, the majority of the project site is within the Planned Waterfront Development-1 (PWD-1) Estuary Policy Plan land use classification. Estuary Park and a portion of the Jack London Aquatic Center is designated as Parks, Open Space and Promenades (P).

Under the City's Zoning Regulations, the area east of Lake Merritt Channel is within the M-40 Heavy Industrial Zone, and the area west of the channel is within the S-2 Civic Center Zone / S-4 Design Review Combining Zone.

Figure IV.A-1 delineates the existing Estuary Plan land use classifications and zoning classifications for the Oak-to-Ninth District and surrounding areas.

2 Except where noted in reference to a regulatory agency's definition (e.g., BCDC, Army Corp of Engineers), "shoreline" is considered generally the area between the top of bank (or pier) to mean low tide, which would be established as part of the project development.



Existing Zoning

S-2 Civic Center/S-4 Design Review Combining Zone

M-40 Heavy Industrial Zone

R-80 High Rise Apartment Zone

M-20 Light Industrial/S-4 Design Review Combining Zone

Existing Estuary Policy Plan Land Use Classification

PWD-1	Planned Waterfront Development 1
P	Parks
WCR-2	Waterfront Commercial Recreation 2
WMU	Waterfront Mixed Use
MUD	Mixed Use District

0 400
Feet

SOURCE: City of Oakland General Plan and Zoning Map, 2005

Oak to Ninth Avenue . 202622

Figure IV.A-1
Existing Estuary Policy Plan Land Use Classifications and Zoning Districts for the Project Area

Portions of the project site are governed by the *Central City East Redevelopment Plan* (east of Lake Merritt Channel) and the *Central District Urban Renewal Plan* (west of Lake Merritt Channel). The project site also includes Oakland Estuary waterfront areas covered by the *San Francisco Bay Trail Plan*.

The Port of Oakland currently owns the project site property: approximately 68.1 acres, including 5.9 acres of pile-supported pier adjacent to the Ninth Avenue Terminal building. After implementation of the Oak to Ninth Project, the site would consist of approximately 64.2 acres of land area, resulting from demolishing part of the existing pile-supported pier structure associated with the Ninth Avenue Terminal and changes in land area resulting from shoreline alterations in Clinton Basin. There is also approximately 11.4 acres of water surface (existing marina facilities) that is part of the project site, but that is not considered in the 64.2 acres of land area.

The City of Oakland maintains land use jurisdiction of the project site. Certain areas of the site are currently designated “public trust lands” pursuant to the Tidelands Trust doctrine of the State of California, and are therefore managed “in trust” by the Port of Oakland. Portions of the site along the shoreline are within the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC), which is an agency of the state and has review and permit authority for activities within a shoreline band that consists of all territory located between the shoreline of the Bay and a line 100 feet landward of and parallel with that line.... (BCDC, 2003)[3]
.

As discussed in Chapter III, the City land use approvals that the project sponsor is seeking for the project by the project sponsor include the following, without limitation:

- General Plan Amendment
- Redevelopment Plan Amendments
- Rezoning and Zoning Code Amendment
- Preliminary Development Plan (PDP) and Final Development Plan (FDP) and Final Design Review
- Vesting Tentative and Final Maps
- Development Agreement (DA)
- Tree Removal Permit
- Creek Protection Permit

[3] Generally includes tidelands, which are lands lying between mean high tide and mean low tide, and marshlands lying between mean high tide and five feet above mean sea level.

- Encroachment, Demolition Permits, and other Building Permits

Setting

Site Vicinity Land Uses

As introduced in the previous chapter and depicted in **Figure III-2**, the Oak to Ninth Avenue Project site sits within an historically industrial portion of the Oakland Estuary, wedged between the waterfront and the Embarcadero. In general, the project site is located among major transportation corridors, marine-based recreation, and commercial activities, public parks, offices, a community college, warehouses, restaurants, apartments and lofts, and retail uses. The project site is physically separated from surrounding areas of Oakland by Interstate I-880) I-880, rail lines, and railroad property to the north, and by the waters of the estuary to the east and south. Beyond those separations, surrounding areas include the other parts of the estuary to the west (the Jack London District) and to the east (the San Antonio/Fruitvale Waterfront District), and the San Antonio mixed-use neighborhoods to the north and northeast (above I-880, between Lake Merritt and the channel and Fruitvale and 28th Avenues).

In the immediate project vicinity, to the west are high-density residential condominium uses (Portobello and The Landing) and a television broadcasting facility. To the northwest is a mix of commercial warehouses and storage uses, a neighborhood of industrial buildings converted to live-work and residential lofts, along with new loft housing development. Immediately east is a 132-room hotel and marine-related retail. Further east along the Embarcadero are marina facilities along Brooklyn Basin, a 226-room hotel, a restaurant, and other marine-related retail and services. Major uses to the north, beyond the freeway, the Amtrak and Union Pacific Railroad, and rail yards, are the Peralta Community College District facilities and Laney College Campus, Bay Area Rapid Transit (BART) maintenance shop facilities, and the San Antonio District mixed-use neighborhood. The San Antonio District contains various residential types and densities and a range of commercial uses along the major east-west corridors of International Boulevard and East 12th Street. Downtown Oakland and Oakland Chinatown are approximately two miles northwest of the project area. The Oakland Estuary is currently used by the Port of Oakland, the Coast Guard, recreational boat owners, several college and high school rowing teams, and commercial vessels.

The project site comprises a portion of the Oak-to-Ninth District, which is defined in the Estuary Policy Plan as approximately 120 acres south of I-880, generally from Oak Street to the Ninth Avenue Terminal. After implementation, the Oak to Ninth Project site would be comprised of 64.2 acres south of the Embarcadero.[4] There are privately-owned parcels within the Estuary Policy Plan's Oak-to-Ninth District that are not included in the project site. These include the

[4] The existing land area within the project site boundaries (Embarcadero, Oakland Estuary, Brooklyn Basin, and Fallon Street) is approximately 68.1 acres, including 5.9 acres of pile-supported pier structure adjacent to the Ninth Avenue Terminal building. After implementation, the Oak to Ninth Project site land area would total 64.2 acres, resulting from demolishing part of the existing pile-supported pier structure and changes in land area resulting from shoreline alterations primarily in Clinton Basin.

approximately six-acre Fifth Avenue Point area located generally along and west of 5th Avenue, which is surrounded by the project site. The area includes a mix of work-live uses, industrial uses, artisan workshops, and small businesses occupying older industrial buildings. An approximately 28,000 square-foot mixed-use service building on the east side of 5th Avenue is also excluded from the project site and considered part of Fifth Avenue Point.

Project Site Land Use

The project site and surrounding area developed historically as an industrial and warehousing district oriented to and served by the mainline railroad and the cargo-handling facilities at the Ninth Avenue Terminal. That area of the project site still consists primarily of industrial uses, although the cargo-handling uses have declined.

Specific uses and businesses on the project site include warehouse and wholesale sales (Cash & Carry wholesale grocery); boat building and repair (Golden State Diesel Marine, Thunderbird Properties, Ship Shape Marine, Philbrick Boat Works); equipment and container storage (Telemedia Communications Systems, Inc., KTVU, Oakland Marine Service, Air-Sea Containers, Pacific Rim Transportation), cotton storage (Transmeridian Warehouses, Inc./Ninth Avenue Terminal), a ready-mix concrete plant (Berkeley-Oakland Ready Mix), construction storage (Vortex Marine Construction), metal recycling (Lakeside Non-Ferrous Metals, Inc.), glass fabrication (East Bay Glass Company), longshore personnel training (Pacific Maritime Association), and retail sales (National Furniture Liquidators, Inc.). There is also a small office and storage area for the Oakland Police Department. Overall, the majority of uses on the site are industrial with some related support activities, storage, and marine-related repair and service uses.

Most of the project site is an expansive, paved area used by many of the industrial and storage-related uses east of Clinton Basin that involve trucking. The only substantially unpaved areas are along Lake Merritt Channel (east shore and Estuary Park) and an area west of Clinton Basin that is undeveloped and partially a wetlands restoration project at the mouth of the Basin, which is discussed in greater detail in Section IV.I, Biological Resources. The Clinton Basin Marina, which is currently not in operation, and the Fifth Avenue Marina at the foot of 5th Avenue are also uses within the project site.

City Plans, Policies, and Regulations

Applicable plans and major policies and regulations that pertain to the Oak to Ninth Avenue Project are presented below, followed by a discussion of the project's overall consistency (or inconsistency) with each plan. Several land use plans, policies, and regulations apply to the project site. Consistent with CEQA, every Oakland General Plan policy that *could* apply to the project is not included here, but numerous policies that apply to the project are considered and included in **Appendix F** to this EIR. The policies listed below are General Plan policies that most directly pertain to the project and that emerged as points of controversy during the environmental review and public input process. The discussions of General Plan consistency that follow the list of key policies refer to the specific policies being addressed in italics and references any additional relevant policies that would be listed in **Appendix F.**

The General Plan necessarily contains competing policies. City decision-makers must determine whether, “on balance, the project is consistent (i.e., in general harmony) with the General Plan.” As stated in the introduction to this EIR section, the “the fact that a specific project does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of [CEQA].” (City of Oakland, 2005a).

To the extent that a General Plan policy is also a significance criteria or contains a regulatory threshold which the project must meet (such as park service ratios and certain Historic Preservation Element policies), the project’s consistency with such a policy is addressed in detail in this EIR within the relevant impact discussion in Chapter IV and is summarized here.

City of Oakland General Plan

The Oakland General Plan (“General Plan”) establishes comprehensive, long-term land use policies for the City. Consistent with state law, the General Plan includes the Land Use and Transportation Element (adopted March 24, 1998 and amended June 21, 2005); the *Estuary Policy Plan* (adopted June 8, 1999 as an element of the General Plan); the Historic Preservation Element (adopted March 8, 1994 and amended July 21, 1998); the Open Space, Conservation, and Recreation Element (adopted June 11, 1996); the Safety Element (adopted November 2004); the Housing Element (adopted June 14, 2004); the Noise Element (adopted June 21, 2005); the *Bicycle Master Plan* (adopted July 1999); the *Pedestrian Master Plan* (adopted November 2002 as part of the Land Use and Transportation Element); and the Scenic Highways Element (adopted September 3, 1974).

Land Use and Transportation Element

The City adopted the Land Use and Transportation Element (LUTE) of the General Plan on March 24, 1998. The LUTE identifies policies for utilizing Oakland’s land as change takes place, and sets forth an action program to implement the land use policy through development controls and other strategies. According to the LUTE, the project site lies within the Chinatown/Central Planning Area. The LUTE also identifies three distinct regions of the waterfront: Jack London Square area, Embarcadero Cove area, and the Fruitvale Waterfront, and the project site is within the Embarcadero Cove area (as defined in the LUTE).[5]

As previously mentioned, the LUTE shows the project site within the Mixed Use Waterfront/Estuary Plan Area land use classification, which is intended to “encourage, support, and enhance the transformation of the land adjacent to the shoreline into a vibrant use of mixed use waterfront.” The Estuary Plan was adopted after the LUTE and assigns a different land use classification that is overall consistent with the land use classification assigned by the LUTE.

5 The Embarcadero Cove area defined in the LUTE (p.91) spans from Estuary Park to Dennison Street, which includes the project site. The Embarcadero Cove area defined in the Estuary Policy Plan (p.106) spans from the Ninth Avenue Terminal to Con-Agra (approx. 29th Avenue), which does not include the project site.

The LUTE includes objectives and policies that pertain to five policy areas: Industry and Commerce (I/C), Transportation and Transit-Oriented Development (T), Downtown (D), Waterfront (W), and Neighborhoods (N). Objectives and policies in the LUTE that apply to the project are listed in **Appendix F**, and the major applicable LUTE policies are listed and discussed below:

Key LUTE Transportation and Transit-Oriented Development Policies (T)

"A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The city will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary." *(LUTE Policy Framework: Encouraging Alternative Means of Transportation)*

Key LUTE Waterfront Policies (W)

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

- Develop and encourage mixed use areas along the estuary shoreline, while enhancing and promoting economic opportunities in Oakland which take advantage of the waterfront's unique character to attract public uses and activities. *(Objective W9)*

- Mixed use and residential developments should be sensitive to adjacent properties and designed to enhance the existing and unique characteristics of the waterfront and immediate surroundings. Individual properties should be designed to encourage and provide sufficient public access to the waterfront and designed to avoid the feeling of "gated" or private communities. *(Policy W9.3, Defining Development Characteristics Along the Estuary*)

- Development along the estuary shore should reflect higher intensity mixed use activities and areas at Jack London Square. The balance of development along the estuary should be of lower intensity than at Jack London Square; however, higher density nodes of development may be appropriate at key locations. Access to transportation corridors and transit should be provided. The development intensity should significantly decrease adjacent to Martin Luther King Jr. Regional Shoreline. *(Policy W9.5, Defining Development Intensity Along the Estuary)*

- Public access along the estuary should be facilitated by commercial and active recreational uses. It is important to have physical access to and between uses and activities along the waterfront, particularly along the shoreline. Opportunities for landscaped and signed linkages along Broadway, Webster, Harrison, and Oak Streets, as well as the Lake Merritt Channel, should be developed for (land and water) auto, bicycle, pedestrian, and public transportation. *(Policy W10.6, Specifying Public Access and Linkages*)

- The development intensity of the area should be moderate with lower use intensity and density than Jack London Square; however, nodes of higher intensity development may be appropriate. Access to transportation corridors and transit should be provided. Development intensity should be sensitive to the open feeling of the marina and view opportunities. Overall development of the area must be sensitive to the close proximity of the water's edge. Properties along the shoreline should be planned, developed, and operated with particular sensitivity to public access. *(LUTE Policy W11.3, Defining Embarcadero Cove Development Intensity and Characteristics)*

- Development in this area should be designed to enhance direct access to and along the water's edge, to maximize the waterfront views and vistas, and to make the public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings. *(LUTE Policy W11.6, Defining Embarcadero Cove Design Criteria)*

Key LUTE Neighborhood Policies (N)

- Residential developments should be encouraged to face the street, and orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure. *(LUTE Policy N3.9, Orienting Residential Development*)

- The City will generally be supportive of a mix of projects that provide a variety of housing types, unit sizes, and lot sizes which are available to households with a range of incomes. *(LUTE Policy N6.1, Mixing Housing Types)*

- Direct urban density and mixed use housing development to locate near transit or commercial corridors, transit stations, the Downtown, waterfront, underutilized properties where residential uses do not presently exist but may be appropriate, areas where this type of development already exists and is compatible with desired neighborhood character, and other suitable locations. *(LUTE Objective N8)*

- The height of development in urban residential and other higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development. *(LUTE Policy N8.2, Making Compatible Interfaces between Densities)*

Project Consistency with LUTE Policies

Land Use and Compatibility with Adjacent Uses. The project would transform a currently underutilized industrial site into a mixed-use neighborhood with residential, retail/commercial, open space, and marina uses, promoting most of the applicable LUTE policies. The proposed urban densities and mixed use development would occur on a site that is in proximity to downtown, transit, major transportation corridors, and along the waterfront (O*bjectives N8 and W9).* Approximately 3,100 residential units ranging from studios to three-bedroom multifamily units would be developed to offer new market-range housing opportunities in Oakland *(Policies*

N6.1 and *N3.1*). With approximately 4.7 million[6] new gross square feet (gsf) of development in buildings up to 86 feet tall with five 240-feet highrise elements, the project would be "larger" than Jack London Square[7] with respect to overall development square footage and building mass and heights *(Policies W9.5* and *W11.3)*. In terms of actual intensity of proposed land uses, however, the Oak to Ninth Project would be a mixed-use residential neighborhood with supporting retail/commercial uses, significant parks, open space, and marina activities; Jack London Square would be a mixed-use development with primarily office and water-oriented retail uses, with an approximately 250-room conference hotel and 1,700 new theatre seats. Therefore, while the Oak to Ninth Project would likely be more prominent in terms of physical development, overall use activity, approved development at Jack London Square would likely include more-intensive use activity, particularly for daytime office and evening entertainment uses. The City would evaluate the appropriateness of the "node of higher intensity" proposed by the Oak to Ninth Project, which the LUTE recognizes may be appropriate outside of Jack London Square, and would assess the extent to which the project satisfies LUTE objectives for providing an "open feeling" at the marina, view opportunities, and public access along the shoreline *(Policy W9.5)*.

The design and layout of the project would consider potential effects on adjacent uses. Existing views of the Estuary from public vantage points, as well as from points inside the project site, are nonexistent or limited due to the location of existing buildings, including the Ninth Avenue Terminal. The proposed street alignments coupled with the siting of new buildings of varied heights, would allow for additional and expanded views of open spaces and the Estuary from onsite and offsite locations *(Policy W3.4)*. In particular, buildings around Fifth Avenue Point , which has existing low-rise buildings that include work-live uses, would be relatively lower in height and incorporate design guidelines to specifically address the interface of the project with this outparcel and The Landing condominiums to the west *(Policy N8.2*). Also, where feasible, the proposed site locations and building configurations of the new (taller) buildings and proposed highrise towers are designed to minimize potential adverse effects on solar access and privacy of existing, adjacent residential uses and Fifth Avenue Point(*Policy N3.9).* Highrise towers are not proposed adjacent to these existing areas where people may reside, and proposed development standards and design guidelines would address minimum setbacks, buffering, and architectural treatments where these adjacencies would occur. Overall, new development would not be detrimental to adjacent residential communities (The Landing, Warehouse District, San Antonio), and would in fact remove incompatible trucking-related uses (wholesale grocery) adjacent to The Landing. Although not a residential area, the project also would also enhance Fifth Avenue Point with the new *usable* public open spaces that would occur on its waterfront side and removal of the adjacent sand and gravel manufacturing operation *(Policy W9).* To the extent that the project would pose any adverse environmental impacts on adjacent or nearby communities, these

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[6] Gross square footage is estimated based on a 70 percent gross-to-net efficiency ratio. Therefore the proposed 3.1 million net square feet (nsf) of residential area totals 4.4 million gross square feet (gsf), and the proposed 0.2 million nsf of retail use totals 0.3 million gsf.

[7] As approved in 2004, the Jack London Square Redevelopment Project Phase II would develop approximately 1.2 million net new gross square feet (gsf) of office, retail and restaurant space, hotel, conference/banquet space, theatre, and supermarket uses as well as associated parking. Building heights would range from 58 to 175 feet tall.

physical impacts and mitigation measures to reduce these impacts are identified in the various environmental topic sections in this EIR.

Proposed buildings would be oriented toward the street, with active ground-floor retail/commercial spaces along new public neighborhood streets and active water-related retail/commercial uses near Clinton Basin. Design guidelines would ensure that non-active ground level activities (e.g., parking) are minimized, attractive, and safe (*Policy N3.10).*

Open Space and Access. The project would include a series of interconnected parks and open spaces along the waterfront, and a continuous shoreline public trail within a maximum 40-foot-wide right-of-way. Facilities for pedestrian and bicycles would be developed as a section of the Bay Trail *(Policy W2.*1in **Appendix F***)* that would connect to other areas along the Estuary. (See also *San Francisco Bay Trail Plan,* below.) Proposed as a new neighborhood on a grid of new public streets intersecting with the Embarcadero, the project would encourage public access through the area and toward the waterfront where major new public open spaces would exist. *(Policies W9.3* and *W9.5).* Continuous sidewalks and pedestrian and bicycle linkages from the Embarcadero and throughout the site would also lead to the water and open space areas *(Policies T3.5, T6.3,* and *N7.4* in **Appendix F***).* As a result, opportunities for public access to the waterfront would be increased, and proposed amenities (landscaping lighting, furniture, signage, etc.) and associated commercial/retail uses would increase the appeal and safety of the public outdoor areas for a variety of new users *(Policies W2.10* and *W11.5) (Policies W10.6* and *W11.6* in **Appendix F***).*

Transit. The project is in an area of the Oakland Estuary that currently has limited direct access to modes of transportation other than the automobile. Most of the nearby transit services are concentrated along the Broadway corridor and in Jack London Square. (See also Oakland "Transit First" Policy, below.) The new mixed-use neighborhood of approximately 3,100 residential units, 200,000 square feet of new retail uses, and new public open spaces and marinas would create demand for transit service by project residents, employees, and visitors that does not currently exist. The project would align with the City's strong preference for encouraging the use of alternative transportation modes *(LUTE Policy Framework) (Policy T4.1* in **Appendix F***)*. In addition to the new pedestrian and bicycle access facilities mentioned above, a public shuttle service between the project site and nearby transit hubs, rideshare and transit incentive measures, and bus turnouts/bus bulbs, benches, shelters (in coordination with AC Transit) would be incorporated into the development (Transit and Air Quality mitigation measures). Possible future transit services that the project sponsor is continuing to pursue include an expansion of AC Transit service

Sensitive Habitats. (Discussed under Consistency with Estuary Policy Plan policies, below.)

Estuary Policy Plan (EPP)

The City Council formally adopted the *Estuary Policy Plan* (Estuary Plan) on June 8, 1999, as part of the Oakland General Plan. The Estuary Plan provides objectives and policies for the specific area along the Oakland Estuary, between Adeline Street, I-880, and 66th Avenue. It also provides more specific guidance regarding the three distinct regions of the waterfront that are identified in the LUTE (discussed above) and further delineates the Oakland Estuary into three districts (that generally correspond to the regions identified in the LUTE): the Jack London District, the Oak-to-Ninth Avenue District, and the San Antonio/Fruitvale District.

As shown in **Figure IV.A-1** the majority of the project site (excluding generally Estuary Park and the Jack London Aquatic Center) is within the Planned Waterfront Development (PWD-1) Estuary Plan land use classification. The intent of the PWD-1 is to

> provide for the transformation of maritime and marine industrial uses into a public-oriented waterfront district that encourages significant public access and open space opportunities. Encourage a unique mix of light industrial, manufacturing, artist lofts and workshops, hotel, commercial-recreation, cultural uses, and water-oriented uses that complement the recreational and open space character of the waterfront.

The desired character of the PWD-1 is that

> future development in the area should be primarily public recreational uses…; with primary uses including light industrial, manufacturing, assembly, artists workshops, cultural, work/live studios, offices, neighborhood commercial, and restaurants; and including hotel, conference, restaurants, commercial-recreation, and cultural. Water uses also included.

The PWD-1 permits a maximum floor area ratio (FAR)[8] of 1.0 per private parcel, with a maximum average FAR of 1.0 on all remaining parcels over the entire project site. Maximum density is 30 units per *gross* acre (40 principal units per *net* acre).[9] The PWD-1 also establishes a minimum density of 1,089 square feet of site area per unit. The area of Estuary Park and Jack London Aquatic Center (except within approximately 200 feet of the Embarcadero) is designated within the Parks, Open Space and Promenades classification (P), for which no development standards are provided.

Key Estuary Plan Objectives and Policies

The Estuary Plan provides a set of overall objectives to address Land Use, Shoreline Access and Public Space, and Regional Circulation and Local Street Network. These objectives apply to the 5.5 miles of Oakland Estuary waterfront and align with several LUTE Waterfront policies. All

8 Floor area ratio is the square footage of total building floor area divided by the area of the lot. Floor area means areas of horizontal areas of all floors excluding areas used for parking or loading and related driveways and maneuvering aisles, per Section 17.09.040 of the Oakland Planning Code.

9 Density in gross acres includes all land in the area, including streets and parks. See Guidelines for Determining General Plan Conformity in Oakland, below.

applicable EPP objectives are listed in **Appendix F**, and key objectives that apply to the project are as follows:

- Create greater land use continuity between the Estuary waterfront and adjacent inland districts. *(EPP Land Use Objective 6)*
- Create a clear and continuous system of public access along the estuary shoreline.*(EPP Shoreline Access Objective 1)*
- Punctuate the shoreline promenade with a series of parks and larger open spaces. *(EPP Shoreline Access Objective 2)*
- Emphasize visual corridors and open space links to surrounding inland areas. *(EPP Shoreline Access Objective 3*)
- Enhance natural areas along the shoreline. *(EPP Shoreline Access SA-Objective 5*)
- Establish a continuous waterfront parkway; a safe promenade for pedestrians, bicycles, and slow-moving automobiles. *(EPP Circulation Objective 2)*
- Strengthen local circulation connections between Oakland neighborhoods and the waterfront. *(EPP Circulation Objective 4)*

The Estuary Plan identifies specific policies and implementation measures to guide development within each of the three districts that make up the Oakland Estuary, including the Oak-to-Ninth Avenue District which the Estuary Plan defines as approximately 120 acres south of I-880, generally from Oak Street to the Ninth Avenue Terminal.[10] The 64.2-acre Oak to Ninth Avenue Project site described in this EIR is *within* the Oak-to-Ninth Avenue District and does not include areas north of the Embarcadero or the portions of Fifth Avenue Point generally along 5th Avenue. Estuary Plan policies most pertinent to the project or that are identified as points of controversy are as follows, and the complete Oak-to-Ninth District chapter (including OAK policies), excerpted from the Estuary Plan, is included in **Appendix F**.

- Encourage the preservation and enhancement of wetland areas. *(EPP Policy OAK-1.1)*
- Expand Estuary Park. Encourage aquatic sports within the mouth of Lake Merritt Channel. *(EPP Policy OAK-2.1)*
  – Expand and Rehabilitate Estuary Park.
  – Develop the mouth of Lake Merritt Channel as a protected water space for aquatic sports.
- Create a major new park on the east side of the mouth of the Lake Merritt Channel, at the Estuary. *(EPP Policy OAK-2.2)*

[10] Various maps and text descriptions throughout the Estuary Plan depict varying and generalized boundaries for the “Oak-to-Ninth Avenue” District, however the Oak Street-to-Ninth Avenue Terminal description that is initially stated in Section 1, Background (*Plan Organization*) of the Estuary Plan is used for purposes of this EIR.

- Clinton Basin: Enhance Clinton Basin. *(EPP Policy OAK-2.3)*
- Ninth Avenue Terminal: Establish a large park in the area of the existing Ninth Avenue Terminal to establish a location for large civic events and cultural activities. *(EPP Policy OAK-2.4)*
- Create a system of public open spaces that connects Lake Merritt Channel to the Estuary. *(EPP Policy OAK-3.1)*
- Promote the development of commercial-recreational uses in the vicinity of the Crescent Park and Clinton Basin. *(EPP Policy OAK-4.4)*
- Initiate more specific planning of the entire Oak-to-Ninth District. *(EPP Policy OAK-5)*
- Enhance the Fifth Avenue as the principal pedestrian and vehicular linkage to the public open space surrounding the mouth of the Lake Merritt Channel. *(EPP Policy OAK-8)*
- Improve the Embarcadero east of Oak Street as a multimodal landscaped parkway with bicycle, pedestrian and vehicular facilities. *(EPP Policy OAK-9)*
- Design parking to be convenient and complementary to the public orientation of uses within the area. *(EPP Policy OAK-11)*

Project Consistency with Estuary Plan Policies

Many objectives and policies in the Estuary Plan are addressed by policies in the LUTE and discussed under *Project Consistency with LUTE Policies*, above. Overall, these include the project's consistency with policies that encourage mixed-use development on the waterfront, improved public assess to the shoreline for multiple users (pedestrians, bicycles, etc), expanded parks and large open spaces, opportunities to use alternative modes of transportation (including transit), as well as the preservation and sensitivity of new development to adjacent communities and sensitive environments. As discussed above, the project would be consistent with many LUTE policies, and it would be consistent with most Estuary Plan policies as discussed below.

Open Space and Recreation. The project would provide a total of approximately 20.7 acres of new[11], publicly-accessible open space in the series of new parks and open spaces along the shoreline *(Shoreline Access Objective 2)*. This provision of a "shoreline promenade" is consistent with Estuary Plan policies and involve: 1) the specific creation of a major park on the east side of the mouth of the Lake Merritt Channel *(Policy OAK-2.2)* that will facilitate connections along Lake Merritt Channel *(Policy OAK-3.1);* 2) enhancing Clinton Basin with a rehabilitated marina and perimeter open spaces and improving the Fifth Avenue Marina (*Policies OAK-2.3* and *OAK-4.4)*; and 3) creating a new large open space in the location of Ninth Avenue Terminal (*Policy OAK-2.4)* (discussed below). Also, the project would improve and widen segments of the Embarcadero into a landscaped parkway along the frontage of the project site (*Policy OAK-9).*

[11] Excluding the existing 7.7-acre Estuary Park and Jack London Aquatic Center.

The project proposes public parking along new streets and in proximity to new parks and open space areas *(Policy OAK-11).*

The series of parks that would be created by the project is generally consistent with those envisioned in the Estuary Plan[12] (east shore of Lake Merritt Channel, around and at the entrance of Clinton Basin, Ninth Avenue Terminal area), except that the existing Estuary Park would not be expanded north to the Embarcadero. The Estuary Plan does not prescribe a park and open space program by acreage, however, based on the Estuary Plan illustration (see Footnote 8) and the acreages used to assess parks and recreation impacts in the Estuary Plan EIR, the project would provide less overall open space than was envisioned in the Estuary Plan (or analyzed in its EIR). However, the project is consistent with numerous Estuary Plan objectives and policies that call for new public open space to be created along the Oak-to-Ninth District waterfront.

Wetland and Marsh Habitats. The project would improve shoreline conditions and natural areas for potential habitats along the estuary and the Lake Merritt Channel frontages of the project site (*EPP SA-Objectives 1 and 5*). The Estuary Policy Plan recognizes the opportunity that the project area shoreline presents for wetland and tidelands enhancement and restoration in the effort to improve habitat in Lake Merritt, Lake Merritt Channel, and the estuary. These aims are echoed in the goals, objectives, and policies in the General Plan LUTE and Open Space, Conservation and Recreation (OSCAR) Element, the BCDC *San Francisco Bay Plan* (discussed below), and recommendations identified in the *Baylands Ecosystem Habitat Goals* report (Goals Project, 1999). Natural characteristics and native vegetation along the waterfront of the project site occur in small patches due to abandonment, bay fill, human-induced disturbance, and historical uses. The existing shoreline ranges from unprotected, eroding banks, to banks characterized by concrete blocks, slabs, and debris (Moffatt & Nichol, 2002). These conditions result in reduced tidal ebb and flow along the project site, and the shoreline improvements proposed by the project would improve the habitat value. The proposed shoreline improvements (discussed in detail in EIR Section IV.D, Hydrology and Water Quality) would create or restore shoreline marsh and revegetate the length of shoreline from the existing sandy beach at the existing wetlands restoration project (Clinton Basin) and along Lake Merritt Channel where it fronts the project site. The existing unprotected banks along Clinton Basin would be improved with new bulkhead walls for proposed marina facilities.

Regarding wetlands, mitigation measures (identified in this EIR) are aimed at reducing and preventing disruption of existing wetlands that exist on the west shore at the mouth of Clinton Basin (Port of Oakland Wetlands Restoration and Enhancement Project, discussed below) and potentially jurisdictional wetlands that have been identified on the project site (currently under review by the U.S. Corps of Engineers). Disruption could result from construction activities increased population and water-activities introduced to the project site. Mitigation measures contained in this EIR may include onsite and/or offsite wetland creation or enhancement as well as a mitigation and monitoring plan that specifies proposed mitigation wetlands (see EIR Section I. Biological Resources). *(EPP Policy OAK-1.1)*

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[12] Estuary Policy Plan EIR, Table III.D-1, also provided as **Figure V-1** and in **Appendix F** of this EIR.

Ninth Avenue Terminal. The project would demolish the majority of the historic Ninth Avenue Terminal to accommodate the approximately 9.7-acre Shoreline Park and would retain a minimum of approximately 15,000 square feet of the Terminal's original Bulkhead Building (the northernmost 1920s section). The Bulkhead Building would be reused for Tidelands Trust uses such as community, cultural, or recreational uses (i.e., public meeting rooms, banquet/festival space, or museum space focused on the cultural and maritime history of the Oak to Ninth Avenue area and the Ninth Avenue Terminal) (*Policy OAK-2.4).* The discussion of this policy in the Estuary Plan recognizes that all or portions of the Terminal may be suitable for rehabilitation and adaptive reuse and that the structure currently impedes public access to and views of a key area of the estuary. The project aims to balance the value of retaining the historic resources with the value of maximizing public access and views of the estuary from the Oak to Ninth Project site and beyond. Project alternatives that consider full or partial preservation of the Terminal (with regard to impacts on the physical environmental only) are evaluated in this EIR.

Land Use Continuity, Access, and Circulation Connections*.* Several Estuary Plan policies encourage land use continuity and stronger circulation connections between the estuary waterfront and adjacent inland districts *(Land Use Objective 6* and *Circulation Objective 4).* As described in the Estuary Plan, the project area is "isolated from the surrounding urban community," separated from neighborhoods to the north by I-880 and rail tracks and rail yards. Direct accessways to nearby areas are the Embarcadero (to Jack London Square, Embarcadero Cove, the city of Alameda, and access to I-880) and nearby north-south streets that connect to the Embarcadero (Oak Street, 5th Avenue, 16th Street overpass). Without removal of I-880 and rail yards, which is not foreseeable, stronger physical circulation connections to nearby areas are not likely to occur. However, incorporating transit services to and from the site would improve access between nearby areas *(Circulation Objective 5,* listed in **Appendix F**). As described in detail in the above discussion of LUTE goals and policies related to transit, the project would create a new mixed-use neighborhood with new demand for transit service. Several measures to facilitate transit use in the area would be implemented with the project, including a public shuttle service, rideshare and transit incentive measures. Bus turnouts/bus bulbs, benches, and shelters would accommodate the possible future expansion of AC Transit service.

As for "land use continuity between the Estuary waterfront and adjacent inland districts" (as encouraged by *Land Use Objective 6* and *Circulation Objective 4*), the mix of residential, retail/commercial, open space, and marina uses that would occur are the same or similar to those in adjacent and nearby neighborhoods. However, the project would intensify the project site by introducing greater residential densities than those on adjacent properties, in nearby in-land neighborhoods, or permitted by the Estuary Policy Plan. The project sponsor has therefore requested a General Plan Amendment (discussed in *Land Use Impacts*, below) and the City decision-makers will be required to make a determination prior to approval of the project as to whether the new land uses and densities proposed by the General Plan Amendment are appropriate for the project site and its surroundings.

As discussed in detail in Section IV.J, Population, Housing, and Employment, housing on the project site would have a strong appeal to workers because of its central location and its proximity to places of employment and major transportation connections to other major employment centers (e.g., downtown San Francisco and other closer-in parts of the region). The open space and other neighborhood services and amenities that would be developed could also enhance the desirability of existing housing in adjacent and nearby areas to some extent. Furthermore, retail development in the project is not anticipated to compete with retailing in this area, but rather the project residents could contribute additional spending in nearby established areas, such as the Eastlake and San Antonio/Fruitvale Districts, and other neighborhood retail corridors in surrounding parts of Oakland.

Fifth Avenue Point. Fifth Avenue Point exists in the middle of the Oak to Ninth Avenue Project site and is an integral part of the existing district of primarily industrial, manufacturing, and service uses that spans from the Ninth Avenue Terminal to Lake Merritt Channel. Fifth Avenue Point is made up of about six light industrial and commercial buildings and marina uses along and west of 5th Avenue, south of the Embarcadero. Most of the buildings are the physical remains of the Hurley Marine Works shipyard (from the early 1900s) and uses include work-live, artisan studios, and industrial, manufacturing, commercial, and marina uses. The project would develop the area east of 5th Avenue (except for the 28,000 square-foot outparcel east of 5th Avenue), the main corridor of Fifth Avenue Point, and would remove two of three buildings within what would be considered its eastern edge and that are currently owned by the Port of Oakland. As a result, the project would not *expand* the area as envisioned in the Estuary Plan, and the concentrated area of uses within the area would remain intact west of 5th Avenue (*Policy OAK-4.1*). The project would, however, separate the area from the industrial/manufacturing district that currently surrounds it. The project would improve the currently unpaved 5th Avenue south of the Embarcadero (incorporating paving, curbs, and sidewalks to City standards), to provide access to new marina-related uses, residential buildings, and the newly-created South Park, which would be its terminus near Clinton Basin (*Policy OAK-8).*

Specific Planning. The City and Port of Oakland have not elected to prepare a Specific Plan for the Oak-to-Ninth District as called for in the Estuary Plan. Both agencies determined that 1) the Oak to Ninth Project application (with the modifications proposed in this EIR), 2) the analysis provided in this EIR, and 3) the public review process required pursuant to CEQA and the City of Oakland, fulfill, and may in certain cases exceed, the objectives of detailed planning and analysis envisioned in the Estuary Plan (*Policy OAK-5).* Thus together, these elements (project application, environmental analysis, and public review process) are considered functionally equivalent to the preparation and review of a Specific Plan.

A Specific Plan allows a City to adopt a special set of development standards that would apply to a specific geographic area. Statutory requirements mandate that a Specific Plan must specify (in text and/or diagram) the following in detail:

1. Distribution, location, and extent of the uses of land, including open space, within the area covered by the plan;

2. Proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan;

3. Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable;

4. A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out items (1), (2), and (3); and

5. A statement of the relationship of the Specific Plan to the General Plan. (Government Code Section 65451).

Additionally, the process to prepare a Specific Plan is the same as that required for a General Plan (or amendments thereto) and would required opportunities for broad community and public agency involvement through public hearings (Government Code Section 65453 and 65351).

Each of the applicable Specific Plan requirements listed above is described in detail in this EIR. As called for in Estuary Plan Policy OAK-5, the Oak to Ninth Avenue Project described in this EIR (and in other City staff reports that evaluate non-EIR aspects of the project) incorporates a "realistic development program and site plan" and includes a comprehensive *physical* analysis of the project area. Additionally, the project designates specific land use and development standards for the project site as part of the proposed PWD-1 District, and the project sponsor has crafted the project based on the basic principles of the Estuary Plan, incorporating most of the overall and specific policies that were developed through a focused planning effort of community and public partnership.

Historic Preservation Element (HPE)

The City adopted the Historic Preservation Element (Preservation Element) on March 8, 1994, and amended it on July 21, 1998. The Preservation Element provides a strategy for preserving historically significant resources throughout the city. The strategy is framed through a number of goals, policies, objectives, and actions that include preservation incentives and regulations. Those most pertinent and/or identified as points of controversy are as follows:

- To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, educational, architectural or aesthetic interest or value. Such properties or physical features include buildings, building components, structures, objects, districts, sites, natural features related to human presence, and activities taking place on or within such properties or physical features. *(HPE Goal 2)*

- *Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions.* The City will make all reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of existing or Potential Designated Historic Properties which could result from private or public projects requiring discretionary City actions. *(HPE Policy 3.1)*

- For any project involving complete demolition of Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: (1) the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood; or (2) the public benefits of the proposed project outweigh the benefit of retaining the original structure; or (3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood. *(HPE Policy 3.5)*

- *Property Relocation Rather than Demolition*. As a condition of approval for all discretionary projects involving demolition of existing or Potential Designated Historic Properties, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site. *(HPE Policy 3.7)*

Project Consistency with HPE Policies

The above policies generally encourage, but do not mandate, the preservation of Oakland's historic resources, within the context of, and consistent with, other General Plan goals, objectives, and policies. For example, the admonition in HPE Goal 2 against "the unnecessary destruction" of historic buildings and the direction in HPE Policy 3.1 to employ "all reasonable efforts to avoid or minimize adverse effects" on historic resources are reviewed against LUTE Policy N3.1 that supports the provision of substantial new housing in Oakland and LUTE Policy W11.6 to maximize waterfront views and vistas.

The project would substantially demolish the Ninth Avenue Terminal, an A-rated Potential Designated Historic Property (PDHP) (which the Landmark Preservation Advisory Board has recommended for City Landmark designation). Therefore, the project would not avoid adverse historic preservation impacts related to discretionary City actions *(HPE Policy 3.1)*.

Some of the Preservation Element policies are treated as significance criteria and are integral to evaluating the environmental impacts to cultural resources. HPE Policy 3.8 defines the City's "Local Register of Historical Resources" for CEQA purposes and identifies the changes that constitute significant effects under CEQA. This policy forms part of the basis for the cultural resources impact analysis in this EIR, and to summarize from that analysis (EIR Section IV.E, Cultural Resources), substantial demolition of the historic Ninth Avenue Terminal and its related wharf (consistent with Policy 3.8 discussed in Section IV.E and listed in **Appendix F**) would constitute a significant effect that cannot be mitigated to a less-than-significant level (Impacts E.3 and E.4).

Also, the Planning Commission and City Council's determination of consistency with the above policies must precede a finding that the project satisfies the findings required by HPE Policy 3.5, enumerated above. The City will assess the project's ability to meet one or more of these findings, which are not physical environmental considerations to be considered in the EIR.

Open Space, Conservation and Recreation Element (OSCAR)

The City adopted the Open Space, Conservation and Recreation Element (OSCAR) on June 11, 1996. The OSCAR addresses the management of open land, natural resources, and parks in Oakland. Many OSCAR policies address issues addressed by policies in the Estuary Plan (discussed above) and the *San Francisco Bay Plan* and *San Francisco Bay Area Seaport Plan* (discussed below). Objectives and policies in the OSCAR address recreation (REC), open space (OS), and conservation (CO). Many of the policies in particular directly relate to significance criteria, and where applicable, the project's consistency with those policies are summarized here and referenced to the appropriate impact analysis section in this EIR. All OSCAR polices that pertain to the project are included in **Appendix F**, and those most relevant to the project are as follows:

- Use level of service standards of 10 acres of total parkland and four acres of local-serving parkland per 1,000 residents as a means of determining where unmet needs exist and prioritizing future capital investments. *(OSCAR Policy REC-3.1)*

- To develop a system of linear parks and tails which (a) links existing parks together; (b) provides safe, convenient access to open space from residential areas and employment centers; (c) provides places to hike, bike, and experience Oakland's scenery; and (d) provides a means of moving from one place to another without an automobile. *(OSCAR Objective OS-5)*

- Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront. *(OSCAR Policy OS-5.1)*

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

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

- Particular attention should be paid to (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard. *(OSCAR Policy OS-10.1)*

- New development should minimize adverse visual impacts and take advantage of opportunities for new vistas and scenic enhancement. *(OSCAR Policy OS-10.2)*

- Oakland's underutilized visual resources, including the waterfront, creeks, San Leandro Bay, architecturally significant buildings or landmarks, and major thoroughfares should be enhanced. *(OSCAR Policy OS-10.3*)

- Promote land use patterns and densities which help improve regional air quality conditions by: a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, and office development with ground-floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis. *(OSCAR Policy CO-12.1)*

Project Consistency with OSCAR Policies

The project would not conflict with OSCAR policies. The project would provide a total of approximately 20.7 acres of *new*[13] publicly-accessible open space in the series of new and improved parks and open spaces along the shoreline, and would create a continuous public trail along the shoreline, except for the waterfront along the Fifth Avenue Point outparcel *(Objective OS-5*, *Policies OS-5.1* and *OS-7.2)*. As described previously, the proposed trail would allow dedicated paths for pedestrians and bicycles within a maximum 40-foot-wide right-of-way and would be located as close to the waterfront as possible. The trail would complete a segment of the Bay Trail and connect to other areas along the estuary *(Policy OS-7.5)*. (See also *San Francisco Bay Trail Plan*, below.) The project would also include housing uses and water-oriented services and activities, balanced with the series of public parks and open spaces along the water's edge *(Policies OS-7.1* and *7.2)*. As discussed in EIR Section IV.L, Public Services and Facilities, the 20.7 acres of new open space would equate to 4.1 acres of new local-serving[14] parkland per 1,000[15] residents on the project site, which would exceed the City's level of service standard of 4.0 acres of local-serving parkland per 1,000 residents *(Policy REC-3.1)*. (See also the discussion of open space and recreation under Estuary Plan policies, above.)

As discussed in EIR Section IV.K, Visual Quality and Shadows, the project would not substantially block views of the Oakland Hills, the shoreline, or other scenic resources compared to the existing views of and across the site *(Policies OS-10.1* and *10.2)*. Furthermore, the project would create new waterfront views and access where none currently exist *(Policy OS-10.3)*. As discussed throughout Chapter IV of this EIR, the project would result in a number of significant and potentially significant impacts for topics addressed by OSCAR policies. These include water quality, geologic and seismic hazards, soil constraints, toxic substances, biological resources,

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[13] Excluding the existing 7.7-acre Estuary Park and Jack London Aquatic Center.

[14] The series of connected parks and open space proposed by the project would be region-serving, as well as local-serving, given its proximity to nearby residential and mixed use neighborhoods near downtown and Lake Merritt. The analysis in this EIR uses the General Plan (OSCAR) service standard for local-serving parks (4 acres per 1,000 residents); the General Plan does not prescribe a service standard for region-serving parks. See EIR Section IV.L, Public Services and Recreation.

[15] The project would result in approximately 5,061 new residents. See EIR Section IV.J, Population, Housing, and Employment.

regional air quality, and dust emissions. Each of these adverse effects would be reduced to less-than-significant levels (after mitigation), except for regional air emissions (under cumulative conditions) which would remain significant even with implementation of trip reduction/transit incentive measures (including a public shuttle) and other project characteristics prescribed in specific OSCAR policies *(Policies CO-12.1*, and *CO-12.3* and *CO-12.4* in **Appendix F**).

Oakland Safety Element

The City adopted the Safety Element of the Oakland General Plan in November 2004 (previously the Environmental Hazards Element, adopted in 1974). The Safety Element includes goals that address the effects that safety hazards can pose to the health and safety of Oakland's populations, Oakland's economic welfare, and Oakland's natural resources. Specific policies and detailed actions are identified to address public safety, geologic hazards, fire hazards, hazardous materials, and flooding hazards.

Given the topics that are addressed in the Safety Element, most of its policies generally apply citywide. However the following policies address conditions particularly associated with the project site (also listed in **Appendix F**):

- Continue, enhance or develop regulations and programs designed to minimize seismically related structural hazards from new and existing buildings. (*Safety Policy GE-3*)
- Maintain and enhance the city's capacity to prepare for, mitigate, respond to, and recover from disasters and emergencies. *(Safety Policy PS-1)*
- Minimize the potential risk to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials. (*Safety Policy HM-1*)
- Continue to strengthen city programs that seek to minimize the storm-induced flooding hazards. *(Safety Policy FL-2)*
- Minimize further the relatively low risks from non storm-related forms of flooding. *(Safety Policy FL-4)*

Project Consistency with Safety Element Policies

The project would not conflict with any of the above Safety Element policies, and this EIR addresses the project's specific effects on emergency access and routes (Section IV.B, Transportation, Circulation, and Parking), flooding hazards (Section IV.D, Hydrology and Water Quality), seismic hazards (Section IV.F, Geology, Soils, and Seismicity), and hazardous materials (Section IV.H, Hazardous Materials), all of which are less than significant or reduced to less than significant (after mitigation).

Housing Element

In June 2004, the City adopted an update to the Housing Element of the Oakland General Plan, as required by state law. As also required by state law, the Housing Element includes "a review and assessment of the City's performance in implementing the previous Housing Element (adopted in 1992), an assessment of current and future housing needs, an inventory of resources (including sites suitable for development of housing for all economic levels), governmental and non-governmental constraints to meeting those needs, and a statement of the City's goals, policies and quantified objectives for meeting its housing needs for the period 1999-2006." (Oakland, 2004) The Housing Element contains a number of policies that address the provision of housing throughout the city and that focus on actions to be conducted by the City. However the following policies particularly apply to the project (also listed in **Appendix F**)**:**

- The City of Oakland will strive to meet its fair share of housing needed in the region. (*Housing Element Policy 1.7*)
- Seek voluntary agreements with private developers of market rate housing to include units affordable to lower-income households, especially those projects involving Redevelopment Agency support or requiring major planning approvals. (*Housing Element Policy 2.4*)
- The City will undertake a number of efforts to distribute assisted housing widely throughout the community and avoid the over-concentration of assisted housing in any particular neighborhood, in order to provide a more equitable distribution of households by income and by race and ethnicity. (*Housing Element Policy 2.11*)
- Develop and promote programs to foster the incorporation of sustainable design principles, energy efficiency and Smart Growth principles into residential developments. *Housing Element Policy 7.1*)
- Continue to direct development toward existing communities and encourage infill development at densities consistent with the surrounding communities. (*Housing Element Policy 7.3*)
- Work with developers to construct new housing that reduces the footprint of new construction, preserves green spaces, and supports the use of public transit. (*Housing Element Policy 7.4*)
- Encourage a mix of land uses in the same zoning district or on the same site in certain zoning districts. (*Housing Element Policy 7.5*)

Project Consistency with Housing Element Policies

As describe in the discussion of policies in several of the other General Plan elements, the project would not conflict with the applicable Housing Element policies listed above. Approximately 3,100 new, market-rate housing units would be introduced as part of a new mixed-use neighborhood located in central Oakland, in proximity to the downtown employment center, major transportation corridors and transit connections, new "green spaces" (*Policy 7.4* and *Policy 7.5*). In addition to creating new housing stock and homeownership opportunities in Oakland, the project would support Smart Growth principals by virtue of it occurring on a site that is central to the region and in proximity to transit and a mix of jobs and housing *(Policy 7.1*). As discussed above under the project's consistency with LUTE transit policies (and below under Oakland's "Transit First" Policy), the project would increase the demand for transit service in the area and would provide a series of transit-supporting measures, (public shuttle service, rideshare and transit incentive measures, and bus turnouts/bus bulbs, benches, shelters) *(Policy 7.4)*. (See *Redevelopment Plans*, below, for discussion of affordable housing.)

Noise Element

The City adopted Oakland's Noise Element on June 21, 2005. The Noise Element analyzes and quantifies current and projected noise levels from various sources that contribute to the community noise environment. These noise levels are depicted on noise contour maps that are used to guide land use decisions to reduce noise impacts, especially on sensitive receptors. The Noise Element also includes a land use-noise compatibility matrix that illustrates the degree of acceptability of exposing various sensitive land uses to noise.

The Noise Element contains policies and actions that direct the City's (or other appropriate agencies) efforts it will undertake to carry out the noise policies. The following policies address conditions related to the project most directly (also listed in **Appendix F**):

- Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment. *(Noise Element Policy 1)*
- Use the noise-land use compatibility matrix (Figure 6) in conjunction with the noise contour maps (especially for roadway traffic) to evaluate the acceptability of residential and other proposed land uses and also the need for any mitigation or abatement measures to achieve the desired degree of acceptability. *(Noise Element Action 1.1)*
- Reduce the community's exposure to noise by minimizing the noise levels that are received by Oakland residents and others in the City. *(Noise Element Policy 3)*
- Demand that Caltrans implement sound barriers, building retrofit programs and other measures to mitigate to the maximum extent feasible noise impacts on residential and other sensitive land uses from any new, widened or upgraded roadways; any new sound barrier must conform with City policies and standards regarding visual and aesthetic resources and quality. *(Noise Element Action 3.3)*

Project Consistency with the Noise Element Policies

As described above in the discussions of the project's consistency with LUTE policies and Estuary Plan policies, the project would introduce greater residential densities than those found in the adjacent properties or nearby in-land neighborhoods. The mixed-use project would be located in a noise environment (in proximity to I-880) and the noise analysis in EIR Section IV.G assesses the Noise Element's noise-land use compatibility matrix, in which is used to assess project noise impacts. Although, the proposed uses would be the same and/or compatible with the land uses in these neighborhoods, the project would introduce residential and park uses in noise environments considered "normally unacceptable" to "clearly unacceptable" for such uses *(Policy 1, Action 1.1)*. Mitigation measures to reduce indoor noise exposure impacts, to the extent feasible, are also identified in EIR Section IV.G, Noise.

Bicycle Master Plan

In July 1999, the City Council adopted the Oakland Bicycle Master Plan. Among other standards, the Bicycle Master Plan contains a series of recommendations, including spaces for short-term and long-term parking for bicycles. However the City has not adopted the recommended bicycle parking ratios into its Zoning Regulations but is considering adopting requirements that would be lower than the current recommended ratios. An update of the 1999 Bicycle Master Plan is underway.

The 1999 Bicycle Master Plan includes the following policy-supporting actions that specifically apply to the project:

- Seize opportunities to improve bicycle access to the Oakland waterfront through completion and implementation f 1) the Estuary Policy Plan, 2) the Bay Trail alignment, and 3) joint City, Port, and BCDC's Public Access Plan. (BMP Action 4.4, *The Waterfront*)
- Upgrade the existing path along the Lake Merritt Channel from Lake Merritt to the Bay Trail… (BMP Action 4.6, *Channel Pathway*)

Project Consistency with the Bicycle Master Plan Policies

The project would not conflict with these applicable Bicycle Plan policies. As previously mentioned, the project would create a new waterfront trail that would include bicycle facilities and complete a segment of the Bay Trail. This would include segments that could lead to future extensions northward along Lake Merritt Channel to Lake Merritt. Also, the Embarcadero (east of Oak Street) is designated as a Class II bicycle facility along the project frontage and would remain so with development of the project, which would improve and widen sections of the Embarcadero. A total of 350 short-term and 25 long-term bicycle parking spaces is recommended for the project based on the current recommended (and unadopted) standards in the Bicycle Master Plan. However the project would provide bicycle parking at onsite locations at a level determined by the City and in a manner consistent with the City's practices or adopted, updated standards and regulations at the time of project construction.

Pedestrian Master Plan

In November 2002, the City Council adopted the Pedestrian Master Plan as part of the LUTE. The Pedestrian Master Plan identifies policies and implementation measures for achieving LUTE policies that promote a walkable city. The Plan designates a Pedestrian Route Network throughout Oakland and identifies a primary pedestrian route (essentially the Bay Trail) along the

Embarcadero, from Martin Luther King Jr. Way through Brooklyn Basin. A Neighborhood Route is indicated along 5th Avenue, extending north from the Embarcadero to generally the area of East 12th Street. The Plan does not identify any Priority Projects (to be completed by approximately 2022) in the immediate vicinity of the project site, except completion of “gap” in the Bay Trail around Brooklyn Basin, east of the project site. The Plan refers to the Estuary Plan for proposed improvements for pedestrian routes along the waterfront. The following Pedestrian Master Plan policies are most relevant to the project (and all that are applicable are included in **Appendix F**):

- Improve pedestrian crossings in areas of high pedestrian activity where safety is an issue (PMP Policy 1.1, *Crossing Safety*).
- Implement pedestrian improvements along major AC Transit lines and at BART stations to strengthen connections to transit (PMP Policy 2.3, *Safe Routes to Transit).*
- Encourage the inclusion of street furniture, landscaping, and art in pedestrian improvement projects (PMP Policy 3.1, *Streetscaping*).

Project Consistency with Pedestrian Master Plan Policies

The project would not conflict with policies in the Pedestrian Master Plan as it would provide safe, improved pedestrian facilities (sidewalks, recreational paths, seating, signage, lighting, etc.) as well as opportunities for public art around and throughout the project and in proximity to and serving the waterfront.

Scenic Highways Element

In September 1974, the City adopted the Scenic Highways Element, which sets a framework for designated and potential scenic routes throughout the City and policies for establishing and preserving such routes. The Element identifies the Embarcadero as a potential scenic route. However, its specific policies address the two designated scenic routes (not in proximity to the project site[16]).General policies that would apply to the project include the following (also listed in **Appendix F**):

- Urban development should be related sensitively to the natural setting. *(Scenic Highways Element Policy 2)*
- Overhead utilities should be undergrounded along all freeways, scenic routes, and major streets…*(Scenic Highways Element Policy 6)*

[16] MacArthur Freeway (I-580) and Skyline Boulevard/Grizzly Peak Boulevard/Tunnel Road.

Project Consistency with Scenic Highways Policies

The City has not designated the Embarcadero as a scenic route since adoption of the Scenic Highways Element in 1974, nor has it established "a procedure for the nomination, designation, and protection of scenic routes," as stated in the Element's Action Plan. The project would improve and widen portions of the Embarcadero along the project site to create a landscaped parkway. There are currently very limited direct views of the Oakland Estuary from points along the Embarcadero at the project site due to existing buildings on the project site, including the Ninth Avenue Terminal. As previously described (under the discussion of the project's compliance with LUTE Waterfront policies), the project would align streets and site buildings of varied heights in an effort to create new and expanded views of the Estuary where none currently exist. Where feasible, utilities on the project site and its related public rights-of-way would be located underground.

Oakland "Transit First" Policy

The "Transit First" resolution, passed by the City Council on October 29, 1996, recognizes the importance of striking a balance between economic development opportunities and the mobility needs of those who travel by means other than the private automobile. The policy favors modes that have the potential to provide the greatest mobility for people, rather than vehicles. The support for a Transit First policy is an indication of the importance of public transit to the City and the need for cooperative efforts to improve local transit. This policy is reflected in the previous discussions of overall framework and policies within the LUTE and Estuary Plan, as described in the previous discussion of the project's consistency with LUTE Transportation policies regarding transit and access. As discussed there, the project is in an area that currently has limited direct access to transit. The San Francisco/Oakland Ferry is at the terminus of Clay Street, about 1.5 miles west of the project site, and the Jack London Square Amtrak station is approximately 0.75 mile west of the project site. There is currently no AC Transit bus service to the project site, and the bus stops nearest to the site are at the Lake Merritt BART station (about 1.0 mile away) and the Jack London Square Amtrak station. These lines provide service to downtown Oakland for direct connections to other bus lines and the 12th Street/City Center BART.

The new residents, visitors, and employees of the new mixed use neighborhood created by the project would increase the demand for transit service in the area. In addition to the proposed pedestrian and bicycle access facilities, the project would include (as Transit and Air Quality mitigation measures) a public shuttle service between the project site and nearby transit hubs, rideshare and transit incentive measures, and bus turnouts/bus bulbs, benches, shelters (in coordination with AC Transit). The project sponsor is continuing to pursue an expansion of AC Transit service.

Zoning Regulations

As shown on **Figure IV.A-1**, the area of the project site east of Lake Merritt Channel is within the M-40 Heavy Industrial Zone, and the area west of the Channel is within the S-2 Civic Center Zone / S-4 Design Review Combining Zone.

M-40 Zone is intended to “to create, preserve, and enhance areas containing manufacturing or related establishments which are potentially incompatible with most other establishments, and is typically appropriate to areas which are distant from residential areas and which have extensive rail or shipping facilities” (Section 17.72.010). Regarding residential uses, the M-40 Zone prohibits involving the transfer and/or storage of hazardous waste management to be located within 2,000 feet of residential dwellings (Section 17.72.040C). A wide range of commercial activities are permitted (or conditionally permitted) within the M-40 Zone, including General Food Sales (e.g., restaurant, grocery store) and General Retail Sales activity classifications (Section 17.72.050, and 17.72.060).

The S-2 Civic Center Zone is intended to “to create, preserve, and enhance areas devoted primarily to major public and quasi-public facilities and auxiliary uses, and is typically appropriate to portions of the Oakland Central District and to outlying areas of public facilities.” These regulations shall apply in the S-2 Zone (Section 17.76.010). The S-2 Zone applies to the area of the project site that currently contains Estuary Park and the Jack London Aquatic Center, public facilities. Most commercial uses are limited in the S-2 Zone and require approval of a conditional use permit with special findings to ensure that the proposed commercial use 1) is intended for use by employees and patrons of the civic use within the S-2 Zone, 2) would not result or worsen traffic conditions, and 3) is subordinate to the civic use that the commercial use would serve (Section 17.102.210).

The intent of the S-4 Design Review Combining Zone is “to create, preserve, and enhance the visual harmony and attractiveness of areas which require special treatment and the consideration of relationships between facilities, and is typically appropriate to areas of special community, historical or visual significance” (Section 17.80.010). The regulations of the S-4 Zone are “supplementary to the regulations applying in the zones with which the S-4 Zone is combined,” in this case, the S-2 Zone (Section 17.80.010).

The current zoning on the project site would not accommodate the project. The project sponsor proposes a new zoning district and associated regulations: the “Planned Waterfront Zoning District” (PWD-1). The proposed PWD-1 Zone would be intended to establish specific regulations to facilitate the development of an integrated mixed-use, residential, public and private open space, and commercial community on the project site. A description of the proposed PWD-1 District standards that would apply specifically to the Oak to Ninth Project site is discussion below in the *Land Use Impacts* discussion.

Guidelines for Determining General Plan Conformity in Oakland

Because the General Plan was updated more recently than the Zoning Regulations, the two may conflict in some cases. Overall, the current zoning on the project site is not consistent with the current Estuary Policy Plan land use classifications on the site. As a general rule, whenever there is an express conflict between the General Plan and the Zoning Regulations, a project must conform with the General Plan (Oakland Planning Code Section 17.01.030), and the City has adopted *Guidelines for Determining General Plan Conformity* (General Plan Guidelines) (amended through July 15, 2003) to provide direction to the City whenever there is an express conflict between the General Plan and the Zoning Regulations.

The General Plan Guidelines provide tables of maximum permitted densities for residential and non-residential development in each of the General Plan land use classifications. Density in “principal units per *gross* acre” are established, as is an assumed “net-to-gross ratio” to attain a maximum density in “principal units per *net* acre.” FAR and a minimum square feet of site area per principal unit is established.

In certain zones, FAR can apply to projects that include residential and nonresidential uses (such as ground floor commercial uses) or nonresidential uses only Section , and density would apply to those buildings that contain primarily residential uses only. Density in gross acres includes all land in the area, including streets and parks. As stated in the General Plan Guidelines, to calculate permitted density on a particular development parcel, the gross density figure must be translated to net density using the prescribed net-to-gross ratio, except in cases where the ratio seems significantly different than that prescribed by the Guidelines. This could be the case, for example, in an area with a large amount of open space or expansive streets or public rights-of-way, such as landscaped boulevards.

Redevelopment Plans

Portions of the project site are located within areas governed by the *Central City East Redevelopment Plan* (adopted July 29, 2003) and the *Central District Urban Renewal Plan* (adopted June 12, 1969 and amended through July 24, 2001).

Central City East Redevelopment Plan

In July 2003, the City adopted the *Central City East Redevelopment Plan* (CCERP) to be implemented by the Oakland Redevelopment Agency in accordance with the California Community Redevelopment Law (state law). The CCERP Project Area is a linear area (3,340 acres) that extends through the east and central portion of the City, mid way between Interstate 580 (I-580) and I-880, and that includes a relatively small portion south of the I-880 along the Oakland Estuary (from Lake Merritt Channel to approximately 29th Avenue). The Project Area is divided into Subareas, and the area of the project site east of Lake Merritt Channel is within the Eastlake/San Antonio Subarea, which is generally bound by Jackson Street (west), 20th Street (north), 28th Avenue (east), and the Oakland Estuary (south).

As stated in its introduction, the CCERP "presents a process and a basic framework within which specific plans will be presented, specific projects and programs will be established and specific solutions will be propose, and by which tools are provided to the [Redevelopment] Agency to fashion, develop and proceed with such specific plans, projects and solutions." The CCERP identifies a series of redevelopment programs that address property improvement, public infrastructure improvements, property redevelopment assistance, and the provision of affordable housing.

Two aspects of the CCERP that are directly applicable to the project include the provision of affordable housing and the generation of tax increment monies. Consistent with state law, the CCERP requires that at least 15 percent of all housing developed in the CCERP Project Area by non-Agency entities be affordable to very-low-/low- and moderate-income households. Of these affordable units, at least 40 percent must be affordable to very-low-income households. The Redevelopment Agency is obligated to meet this provision for the CCERP Project Area in the aggregate, over a 10-year period.

Overall, the CCERP incorporates policies from, and is consistent with, the General Plan LUTE. As such, the project's consistency with policies in the CCERP has been discussed previously in this section. Given the approximately 2,800 market-rate units that the project would develop within the CCERP (east of the channel), the Redevelopment Agency would be required to assure that at least 420 low- to moderate- income units within the Redevelopment Project Area would be constructed within 10 years. At least 168 of the affordable units would need to be affordable to very-low-income households (Oakland Redevelopment Agency, 2005).

Central District Urban Renewal Plan

In July 2001**,** the City last amended the *Central District Urban Renewal Plan (CDURP)* to be consistent with the General Plan (CDURP originally adopted June 12, 1969) in accordance with state law. The CDURP Project Area is generally the area of downtown Oakland bounded by the Embarcadero (south), I-980/Brush Street (west), between Telegraph Avenue and Harrison Street north of 20th Street (north), and generally Lake Merritt, Fallon Street, and Lake Merritt Channel (east). The area of the project site that is west of Lake Merritt Channel is within the CDURP Project Area. Consistent with the General Plan Land Use and Transportation Element land use diagram, this area is classified as Estuary Plan Area, and the shoreline is classified as Urban Open Space.

As amended, the CDURP, the CDURP Project Area is guided by the General Plan and applicable zoning regulations. Unlike the CCERP adopted in 2003 (discussed above), there is no affordable housing requirement under the CDURP since it was adopted in 1969, and the affordable housing production requirements apply only to project areas adopted after January 1, 1976 (Health & Safety Code Section 33413(d)(1)).

Other Applicable Plans and Policies

In addition to the City of Oakland's adopted plans, policies, and regulations discussed above, all or parts of the project site and surrounding vicinity are also guided by the *San Francisco Bay Plan*, the *San Francisco Bay Area Seaport Pl*an, the California State Lands Commission under Tidelands Trust, and a number other plans pertinent to the project area.

San Francisco Bay Plan and *San Francisco Bay Area Seaport Plan*

Portions of the project area lie within a 100-foot "shoreline band"[17] that surrounds San Francisco Bay and that is under the jurisdiction of the San Francisco BCDC, a state agency. BCDC ensures that development within the shoreline band is consistent with the *San Francisco Bay Plan* (Bay Plan) and the *San Francisco Bay Area Seaport Plan* (Seaport Plan). The McAteer-Petris Act, established by BCDC, and the Bay Plan are an exercise of authority by the state legislature over public trust lands and establish policies for meeting public trust needs (see California State Lands Commission, Public Trust Doctrine, below).

The Seaport Plan is incorporated into the Bay Plan and is the basis of port policies that promote goals for areas determined to be necessary for future port development and designate areas as "port priority use" areas. The Seaport Plan applies to "port priority use" areas in Oakland, which include the Outer Harbor, Middle Harbor, and Inner Harbor to Clay Street, as well as from the south shore of Clinton Basin to about 10th Avenue, approximately one-third of the project site's waterfront.

The Bay Plan contains policies that guide future uses of the bay and shoreline and encourage new shoreline development to provide public access to the bay, to the maximum extent feasible. It incorporates a series of Bay Plan Maps of specific areas along the shoreline, and these maps are based on, and show how to apply, the Bay Plan policies. The project site in within Bay Plan Map No. Five (Central Estuary), which designates a portion of the site west of Lake Merritt Channel as a Waterfront Park Priority Use Area. BCDC has regulatory authority for all portions of the project site waterside of BCDC's 100-foot shoreline band (including that portion of the priority use area), and the project uses and facilities within the 100-foot shoreline band would be subject to approval by BCDC's Design Review Board to ensure compatibility with policies for public access, appearance, design, and scenic views.

Bay Plan policies are categorized to address bay resources and development of the bay and shoreline. The following policies are particularly relevant to the project, and all applicable Bay Plan policies are included in **Appendix F**:

- New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain non-polluting materials; and (c) applying appropriate, accepted and effective best

[17] The "shoreline band" consists of all territory located between the shoreline of the Bay and a line 100 feet landward of and parallel with that line...." Generally includes tidelands, which are lands lying between mean high tide and mean low tide, and marshlands lying between mean high tide and five feet above mean sea level (BCDC, 2003).

management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources. *(Water Quality,* Policy #3*)*

- Whenever practicable, native vegetation buffer areas should be provided as part of a project to control pollutants from entering the Bay, and vegetation should be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable. *(Water Quality,* Policy #7*)*

- The following general standards have been used in determining locations for each type of recreational facility (and should be used as a guide in allowing additional ones):

    Marinas. Marinas should be allowed at any suitable site on the Bay. Unsuitable sites are those that tend to fill up rapidly with sediment; have insufficient upland; contain valuable marsh, mudflat, or other wildlife habitat…At suitable sites, the Commission should encourage new marinas, particularly those… not containing valuable wetlands. (2) Fill should be permitted for marina facilities that must be in or over the Bay, such as breakwaters, shoreline protection, boat berths, ramps, launching facilities, pumpout and fuel docks, and short-term unloading areas. Fill for marina support facilities may be permitted at sites with difficult land configurations provided that the fill in the Bay is the minimum necessary and any unavoidable loss of Bay habitat, surface area, or volume is offset to the maximum amount feasible, preferably at or near the site. (3) No new marina or expansion of any existing marina should be approved unless water quality and circulation will be adequately protected and, if possible, improved, and an adequate number of vessel sewage pumpout facilities that are convenient in location and time of operation to recreational boat users should be provided free of charge or at a reasonable fee, as well as receptacles to dispose of waste oil. (4) In addition, all projects approved should provide public amenities such as viewing areas, restrooms, and public parking; substantial physical and visual access; and maintenance for all facilities. Frequent dredging should be avoided. *(Excerpt from Recreation On and Around the Bay,* Policy #4a*)*

- To assure optimum use of the Bay for recreation, the following facilities should be encouraged in shoreside parks and in or near yacht harbors or commercial ferryboat facilities:

    In waterfront parks. (2) To capitalize on the attractiveness of their bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, viewpoints, beaches, and fishing facilities... (4) Public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible…(7) Trails that can be used as components of the San Francisco Bay Trail…should be developed in waterfront parks…(8) Bus stops, kiosks and other facilities to accommodate public transit should be provided in waterfront parks to the maximum extent feasible. Public parking should be provided in a manner that does not diminish the park-like character of the site. Traffic demand management strategies and alternative transportation systems should be developed where appropriate to minimize the need for large parking lots and to ensure parking for recreation uses is sufficient…(9) Interpretive information describing natural, historical and cultural resources should be provided in waterfront parks where feasible. *(Excerpt of Recreation On and Around the Bay* Policy #5a*).*

- 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. *(Excerpt from Public Access,* Policy 2*).*

- Shoreline developments should be buil[t] in clusters, leaving open area around them to permit more frequent views of the Bay…(*Appearance, Design, and Scenic Views*, Policy #2)

- Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay (shown in Bay Plan Maps). (*Appearance, Design, and Scenic Views*, Policy #14)

- Wherever waterfront areas are used for housing, whenever feasible, high densities should be encouraged to provide the advantages of waterfront housing to larger numbers of people. *(Other Bay and Shoreline Uses,* Policy #3)

Project Consistency with Bay Plan Policies

The project does not appear to conflict with policies of the Bay Plan. In April 2005, BCDC's Design Review Board identified three primary focuses of its review of the preliminary project: 1) adequate, usable, and attractive public access, 2) project appearance, design, and scenic views, and 3) the necessity of bay fill (SF BCDC, 2005). As addressed in the above discussions of related policies in the LUTE, Estuary Plan, and the OSCAR, the project generally would not conflict with Bay Plan policies that encourage increased waterfront open space accessible to the public, that encourage new recreational facilities (trails, walkways, etc.) along the shoreline, and that direct the configuring of high-density waterfront housing and new streets to maintain and provide good views to the Bay. Also, the project would incorporate trip reduction measures to address cumulative regional air emissions impacts (though not to less-than-significant level) and a parking control and management program that would ensure available public, street parking for park and open space users as well as visitors of the onsite retail/commercial uses (see EIR Section IV.C, Air Quality and Meteorological Conditions).

The project may require new Bay fill to create new open spaces around Clinton Basin. However, the potential effects that this may pose to biological resources and water quality, or that may result from potential bay fill, dredging, or increased marina uses, have been identified and fully analyzed in EIR Section IV.D, Hydrology and Water Quality, and Section IV.I, Biological Resources, and would be less than significant (after mitigation). The extent to which the potential new bay fill is "necessary" would be considered by BCDC and City decisionmakers prior to approval of the project.

California State Lands Commission, Public Trust Doctrine

As discussed in Chapter III, Project Description, the property comprising the project site is subject to the Tidelands Trust (Project Lands). Portions of the Project Lands are granted lands granted to the City pursuant to legislative grants from the State of California (Project Granted Lands). Other portions of the Project Lands have been acquired by the Port with public trust funds derived from Port operations (Project After-Acquired Lands). The Port manages the Project Lands by virtue of the Charter of the City of Oakland. The State Lands Commission (Commission) has oversight of all Tidelands Trust property in California, including the Project Lands.

The project proposes development of portions of the Project Lands for residential housing. Among other matters, the Commission asserts that residential housing is not a use to which the Project Granted Lands may be put. The Oak to 9th Avenue District Exchange Act, SB 1622, authorizes sale of certain Project After-Acquired Lands. SB 1622 also authorizes the Commission and the Port to enter into an exchange agreement meeting the requirements of the legislation to effectuate the exchange and sale. The City's approval of the project will be conditioned upon subsequent compliance with the provisions of SB 1622.

San Francisco Bay Trail Plan / Oakland Waterfront Promenade and Bay Trail Alignment Feasibility Study and Design Standards

In July 1989, the Association of Bay Area Governments (ABAG) adopted the *San Francisco Bay Trail Plan* that proposes development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo Bays. The Plan was prepared 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 Plan includes a set of policies and strategies for its design, implementation and financing (ABAG, 2005).

Generally consistent with the overall policies and design guidelines in the Bay Trail Plan, the City of Oakland has coordinated a process to develop the *Oakland Waterfront Promenade/Bay Trail Alignment Feasibility Study and Design Guidelines*. The Study explores the creation of a continuous 6.6-mile trail along Oakland's waterfront, extending from Jack London Square to 66th Avenue/Damon Slough. The City has developed draft development standards for various elements along the trail, including treatments at the water's edge, streets, site elements (e.g., lighting, markers, seating), and maintenance guidelines (Oakland, 2004b) (EDAW, undated).

As shown in **Figure III-3** and **Figure III-7** in this EIR, the project would create a continuous shoreline public trail as a segment of the Bay Trail. Facilities for pedestrian and bicycles and a variety of users would be developed within a maximum 40-foot-wide right-of-way along the waterfront. The trail would connect to the existing trail that extends from Jack London District to Estuary Park. It would provide access along both sides of Lake Merritt Channel, crossing Lake Merritt Channel Bridge (via the Embarcadero), and would edge Clinton Basin and the waterfront edge of Shoreline Park to connect further to Brooklyn Basin segment and the Embarcadero.

Land Use Impacts Discussion

Significance Criteria

The project would result in a significant impact related to land use and planning if it would:

- Physically divide an established community;
- Fundamentally conflict with any applicable land use plan, policy *(when considered in balance*[18]*)*, 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 and result in a physical change in the environment; or
- Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan.

Approach to Analysis

The project was evaluated for its compatibility with the applicable plans and policies in order to determine the potential for significant environmental impacts. As discussed in the *Setting* section of this chapter, the General Plan has determined that the “the fact that a specific project does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of [CEQA]” (City of Oakland, 2005a). In addition, the project site and its proposed uses were evaluated in terms of their compatibility with existing land uses surrounding and in close proximity to the project site.

The proposed amendments to the existing General Plan land use classification(s), zoning district and regulations are described. Also the proposed Planned Waterfront Zoning District and associated standards, which the project would be consistent with and subject to, are also described.

[18] Pursuant to the Oakland General Plan, as amended June 2005, the Oakland General Plan recognizes that it contains policies that may in some cases compete with each other, and that decision-makers must determine whether, “on balance, the project is consistent (i.e., in general harmony) with the General Plan.” Further, “the fact that a specific project does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of [CEQA]” (City of Oakland, 2005a).

Impacts and Mitigation Measures

Physical Division of an Established Community

Impact A.1: The project would develop new and different uses and buildings immediately adjacent to and surrounding Fifth Avenue Point and may result in the physical division of an existing community. (Potentially Significant)

The project would develop one of the two "distinct subareas" of the Oak-to-Ninth District, as described in the Estuary Plan: the area south of the Embarcadero. The "edges" of the project site are clearly demarcated by its predominantly industrial character, building types, and remnants of rail and port facilities that reflect its historical use. As described in the Estuary Plan, this waterfront District is "isolated from the surrounding urban community," separated from neighborhoods to the north by I-880 and rail tracks. Neighborhoods to the west are clearly established throughout the Jack London District (Waterfront Warehouse, Mixed Use Loft/Industrial, Produce, etc.) and the cohesive Embarcadero Cove area (as defined in the Estuary Policy Plan as east of the Ninth Avenue Terminal) of commercial-recreational and water-dependent uses to the east.

However, to summarize from the discussion of the project's consistency with Estuary Plan policies (see Setting), Fifth Avenue Point is an integral part of the existing industrial, manufacturing, and service-uses district that now surrounds it. One- to three-story warehouses and buildings with a mix of work-live, office, manufacturing, service uses, and unpaved parking areas line both sides of 5th Avenue to some extent. Except for an 18,000 square-foot outparcel (industrial building), the project would develop new residential buildings (with ground-floor waterfront retail/restaurant uses) on the easternmost edge of Fifth Avenue Point, between 5th Avenue and Clinton Basin. This would involve the removal of two of three buildings east of 5th Avenue (containing manufacturing uses), and although this would not divide the concentrated core of uses within Fifth Avenue Point (which would remain intact west of 5th Avenue), it would separate the community from the industrial/manufacturing district that currently surrounds it. Implementation of the following mitigation measure would effectively reduce the potentially significant impact of the project's division of Fifth Avenue Point from its surroundings to less than significant.

Mitigation Measure A.1: The project applicant shall incorporate into the project site plan design elements that 1) address the relationship (setback, height and upper-story stepbacks, etc.) of new buildings located adjacent to Fifth Avenue Point to minimize the physical division of the outparcels from the existing Oak-to-Ninth District; 2) provide safe, direct, and well-designed pedestrian and bicycle access between the outparcels and the new public open spaces, trails, and marina uses on the project site; 3) provide appropriate landscaping and/or other feature(s) to provide appropriate buffering between the outparcels and the project site, where necessary and feasible. The proposed Planned Waterfront Zoning District (PWD-1) standards discussed in Impact A.2 shall incorporate, as appropriate, specific design standards to address the aforementioned elements in areas abutting Fifth Avenue Point.

Significance after Mitigation: Less than Significant.

Consistency with Plans, Policies, and Regulations (Pertaining to Physical Environmental Effects)

Impact A.2: The project would not be consistent with the existing Estuary Policy Plan land use classification and zoning districts for the project site. (Potentially Significant)

Plans and Policies

The detailed discussions of the project's consistency with General Plan policies are provided in the Setting section of this chapter (pursuant to CEQA Guidelines Section 15125(d)).

Conflicts with a General Plan or other relevant plans do not inherently result in a significant effect on the environment within the context of CEQA. Section 15358(b) of the CEQA Guidelines states that "effects analyzed under CEQA must be related to a physical change." Appendix G of the CEQA Guidelines (Environmental Checklist Form) makes explicit the focus on *physical* environmental policies and plans, asking if the project would "conflict with any applicable land use plan, policy, or regulation…*adopted for the purpose of avoiding or mitigating an environmental effect*" (emphasis added). As such, the project's conflict or inconsistency with a policy could indicate that an environmental threshold has been exceeded. To the extent that the project exceeds an environmental threshold and physical impacts may result from a policy conflict or inconsistency, such physical impacts have been identified and fully analyzed in the relevant topical sections of Chapter IV (i.e., cultural resources; air quality; noise; transportation, circulation, and parking, etc.).

The Oakland General Plan contains many policies that in some cases address different or competing goals. The Planning Commission and City Council, in deciding whether to approve the project applications, must assess whether the project is consistent with the overall policies of the General Plan and must balance competing General Plan goals and objectives as part of its consideration. Additionally, the General Plan states that a specific project that does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment in the CEQA context (City of Oakland, 2005a).

Project's Consistency with General Plan Policies

The project would be consistent with most of the applicable General Plan policies. However, the project would potentially conflict with Historic Preservation Element (HPE) Policy 3.1 since the project would substantially demolish the Ninth Avenue Terminal, a historic resource. This policy conflict is integral to the assessment of cultural resources impacts and is discussed in EIR Section IV.E, Cultural Resources.

Also, the project would potentially conflict with Noise Element Policy 1 since the project would introduce residential and park uses to a noise environment considered "normally unacceptable" to "clearly unacceptable" for such uses. This policy conflict is integral to the assessment of outdoor noise impacts and is discussed in EIR Section IV.G, Noise.

General Plan Use and Development Standards

The Planned Waterfront Development-1 (PWD-1) Estuary Plan land use classification does not explicitly identify residential use as encouraged or envisioned for the Oak-to-Ninth District (excluding work-live studios), despite the PWD-1's provision of a maximum density (for residential use) and the Estuary Plan's overall objective to balance "residential [uses] – both traditional and non-traditional *(Objective LU-1)*." Additionally, the project would develop residential use at locations currently within the Parks, Open Space and Promenades (P) land use classification, west of the Channel. Therefore the project's proposal to develop residential use, with regard to location, is not consistent with the Estuary Plan land use classifications.

Although some of the project's buildings would contain residential uses with ground-floor retail/commercial uses, the project is primarily residential. Also, the project sponsor proposes a standard for maximum commercial space that could be developed on each project parcel (restricted to ground-floor of residential buildings) as well as maximum building heights for each project parcel. Together, these standards and limits would delineate the physical limits or "mass" of each building on each project parcel. Therefore, the project sponsor's proposed amendments to the Estuary Plan prescribe maximum and minimum density, instead of FAR, to guide new development throughout the project site. As shown in **Table IV.A-1**[19], the project would result in maximum densities of up to 160 units per net acre (compared to the maximum 40 units per net acre currently permitted by the existing PWD-1 land use classification). A minimum of 273 square feet of site lot area per dwelling unit is proposed (compared to the existing 1,089 square feet of site area per unit established by the existing PWD-1). The proposed maximum and minimum densities exceed those currently allowed by the Estuary Plan and would result in higher density development on the project site (presuming the existing PWD-1 land use classification would be amended to explicitly permit residential use). Therefore, the proposed residential density is not consistent with the existing development standards in the Estuary Plan.

Zoning Regulations

In an effort to provide a comprehensive and internally-consistent set of regulations that support the project and the desired character of the Oak to Ninth Project site, the project sponsor seeks to amend the Oakland Planning Code to add a new zoning district and associated regulations to be known as the "Planned Waterfront Zoning District" (PWD-1). The Oakland General Plan and Zoning Map would also require an amendment to conform to the PWD-1 District within the geographic area of the project site.[20] **Table IV.A-1** summarizes the draft PWD-1 Zone Regulations, which include specific regulations to facilitate the development of an integrated

[19] The project sponsor proposes a new zoning district referred to as "Planned Waterfront Zoning District (PWD-1)" (see Table IV.A-1) and proposes amendments to the existing Planned Waterfront Development Estuary Plan land use classification consistent with the standards prescribed in the proposed zoning district.

[20] The PWD-1 Zoning District would not apply to the Fifth Avenue Point outparcels or the Oak-to-Ninth District north of Embarcadero, neither of which are part of the project site.

mixed-use community with both public and private open space.. The draft PWD-1 Zone Regulations are proposed to establish the following:

(1) Land use regulations (setting forth the allowable and prohibited activities); Development standards (establishing the minimum and maximum density levels, height restrictions, requirements for building frontage, public open space (including extending the bay trail), parking/loading, and signage);

(2) Design guidelines (defining design parameters such as architectural character, building massing and articulation, exterior features, lighting, materials and colors, and landscape areas); and

(3) Submittal and review procedures that must be satisfied (including submittal of preliminary and final development plans and final design review) prior to development of a particular development area.

The identified conflicts with existing land use policies would not in and of themselves directly result in physical change in the environment that is not analyzed in this EIR. However, inconsistencies with the Estuary Plan land use classification, development standards, and the Zoning Regulations would constitute potential environmental change and result in physical effects since these standards guide the type, amount, mass, location, and intensity of development that could occur. Implementation of the following mitigation measures would eliminate these potentially-significant impacts:

Mitigation Measure A.2a: The project sponsor shall apply for and obtain City approval for a General Plan Amendment to the Planned Waterfront Development-1 land use classification in the Estuary Policy Plan to 1) include residential as a permitted land use, 2) incorporate the density, FAR, and the other land use and development standards (as appropriate to include in the General Plan) outlined in the proposed Planned Water Development-1 Zone, and 3) explicitly state the intended treatment of the Ninth Avenue Terminal. If approved, the General Plan Amendment would eliminate the project's inconsistency with the Estuary Policy Plan.

Mitigation Measure A.2b: The project sponsor shall apply for and obtain City approval for an amendment to the Oakland Planning Code to add the "Planned Waterfront Zoning District" (PWD-1) and associated regulations, and to amend the Oakland General Plan and Zoning Map to apply the PWD-1 Zone to the geographic area of the project site. The project would be required to adhere to the PWD-1 Zone district regulations, development standards, design guidelines, and other requirements, including allowable uses, requirements for open space, streets, building heights, maximum densities, maximum commercial space, and parking. If approved, the change in zoning from the existing industrial (M-40 Zone) and special (S-2/S-4 Zone) districts to the PWD-1 Zone district would eliminate the project's inconsistencies with the existing zoning as well as any zoning inconsistency with the General Plan.

Significant after Mitigation: Less than Significant

TABLE IV.A-1

SUMMARY OF DEVELOPMENT STANDARDS
PLANNED WATERFRONT ZONING DISTRICT (PWD-1)

	Development Parcels or Areas														
Standard	**Ninth Avenue Term.**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**K**	**L**	**M**	**N**	**Total**
Parcel Area (net acres)		2.74	1.53	1.48	1.46	1.2	1.49	2.72	2.08	1.84	2.23	1.45	2.65	2.41	25.28
Number of dwelling units (1)		375	160	160	160	86	164	280	335	292	310	144	334	300	3100
Number dwelling units/net acre		137	105	108	110	72	110	103	161	159	139	99	126	124	Average 122.5
Non-residential square feet (commercial/civic)	18,000	10,000	6,000	6,000	6,000	8,000	5,000	42,000	35,000	12,000	17,000	15,000	5,000	15,000	200,000
Height Limit (2) Minimum/Maximum	> >	86-240'	86-120'	86-120'	86-120'	86-120'	86-120'	86-120'	65-240'	65-240'	40-240'	65-120'	86-240'	86-240'	
Required off-street parking for residential uses (3) (1 space/unit)		375	160	160	160	86	164	280	335	292	310	144	334	300	3100
Required off-street parking for commercial uses (1 space/ 500 s.f.)															400
Required off-street parking for marinas (1 space / 5 boat slips															34

1) These are the estimated number of dwelling units that are likely to be constructed on each parcel. The number of dwelling units per parcel can increase or decrease provided that the total number of dwelling units does not exceed 3,100 for the entire Oak to 9th Development Project and the average density does not exceed 122.5 dwelling units/net acre.
2) Height Limits may vary within each parcel if there is more than one building constructed per parcel. Also if there is an exchange of density among parcels, the height of structures can be increased as a result of the increased density, but the structures cannot exceed 120 feet. the heights of the 240-foot towers cannot be increased as a result of increased density.
3) A reduction in parking may be permitted for certain types of housing projects, subject to certain requirements, as per sec. 17.116.110

Land Use Compatibility / Change in Environment

Impact A.3: The project would introduce new land uses, residential densities, and large building masses, forms, and significant height to the project site. The project may likely increase noise, light and glare, and traffic, and that may reduce or eliminate existing views from public vantage points. As a result, the project would result in a substantial change in existing environment and existing land uses. (Potentially Significant)

The project would convert the existing mix of industrial, manufacturing, storage and boat-related repair/service, wholesale and retail sales uses into a mixed-use neighborhood with residential, commercial/retail, open space, and marina uses. Nearby land uses that would remain include The Landing and Portobello residential developments, hotel and marina uses, and the manufacturing, work-live, artisan studios, and service uses in Fifth Avenue Point. Although the proposed mixed-neighborhood and other aspects of the project (removal of manufacturing and truck-related uses in proximity to existing residential uses; introduction of new public open space; site remediation, etc.) would likely alleviate certain land use conflicts that currently exist between the project site and the immediately surrounding area, the higher-density development that is proposed would represent a substantial change in environment and physical environmental impacts. To the extent that the project may result in a physical change to the environment and result in significant environmental effects, those effects have been identified and fully analyzed in relevant topical sections of Chapter IV and reduced to less than significant, where feasible. These include increased traffic; increased activity as a result of more population on the site; increased noise (due to increased traffic); increased light and glare from interior and exterior lighting; decreased solar access to adjacent work-live uses and some loss of existing views from public vantage points.

Regarding other aspects of land use compatibility, new land uses and physical development would substantially change the character of the project area from existing conditions and those envisioned in the Estuary Policy Plan. Compared to the Estuary Plan in particular, new buildings would be developed in a more closely-configured pattern; Fifth Avenue Point would not be integrated into the new land uses (notwithstanding Mitigation Measure A.1); new open space areas would be more focused toward the waterfront than toward the Embarcadero (as shown in **Figure V-1** or **Appendix F**); land uses would include high-density residential with local retail/commercial use; and the overall character of the site would be less oriented toward community uses, except for the provision of public open space, marinas, and community uses in the retained Ninth Avenue Terminal Bulkhead Building.

Implementation of the following mitigation measures would effectively reduce the potentially significant impact of the project on land use compatibility on change in environment.

Mitigation Measure A.3a: The project sponsor shall implement all mitigation measures identified throughout this EIR to address the significant physical impacts associated with the environmental changes that would occur as a result of the project, reducing each impact to less than significant, where feasible.

Mitigation Measure A.3b: The project sponsor shall implement the specific regulations and standards of the proposed Planned Waterfront Zoning District (consistent with Mitigation Measures A.1 and A.2b), if approved. To specifically address the physical impacts resulting from the change in land use and environment in proximity to Fifth Avenue Point and adjacent residential development, the project shall adhere to the regulations and standards for allowable uses, open space, streets, setbacks, building heights and upper-story stepbacks, maximum densities, maximum commercial space, pedestrian and bicycle access, and landscaping and buffering.

Implementation of Mitigation Measure A.3b would reduce some existing and future potential land use compatibility impacts by restricting industrial and manufacturing uses; requiring minimum public and private open space; establishing minimum building setbacks, heights, landscaping, and buffering near residential and other sensitive uses; requiring upper-story setbacks around Clinton Basin; limiting the number of residential units and commercial square footage on each development parcel; requiring minimal "active" ground-floor building activities; and limiting surface and visible ground-floor parking.

Significant after Mitigation: Less than Significant

Conflict with Habitat Conservation Plan / Natural Community Conservation Plan

Impact A.4: The project would not conflict with an applicable habitat conservation plan or natural community conservation plan. (Less than Significant)

The Clinton Basin Wetland Restoration and Enhancement Project, previously implemented by the Port of Oakland, exists at the southwest edge of the mouth of Clinton Basin. As discussed in detail in Section IV.I, Biological Resources, construction activities required for the project may adversely affect the restored area, a significant impact (Impact I.2). Mitigation Measure I.2b (Wetland Avoidance) includes specific measures to reduce this potential impact to less than significant. Also, as addressed in the discussion of the project's consistency with Estuary Plan Policies (see Setting), the project proposes shoreline improvements that would create new vegetated shoreline embankments and marsh habitat along the project site, particularly west of Clinton Basin.

Significant after Mitigation: Less than Significant

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B. Transportation, Circulation, and Parking [1]

Setting

Existing Street and Highway System [2]

The project study area is served by regional and local roadways, as described below.[3]

Regional Access

Interstate 880 (I-880) is an eight-lane freeway that runs in the north-south direction between I-80 near the Bay Bridge and San Jose. Given the location of the project site, it is expected that much of the project traffic would access the site from I-880. Residents of this project could use I-880 to travel to/from eastern Alameda and Contra Costa County, San Francisco (via the Bay Bridge), the Tri-Valley (via State Route 238 and I-580), and the South Bay. Interchanges in the project study area include the Broadway / Jackson Street and Oak Street ramps that connect to 5th and 6th Street, and direct connections to the project site near 6th Avenue, 10th Avenue, and 16th Avenue.

Interstate 980 (I-980) is an east-west eight-lane freeway that connects State Route 24 to I-580 and I-880, with several interchanges in the City of Oakland (including at 11th Street and 12th Street).

Interstate 580 (I-580) is an eight-lane freeway that runs both north-south and east-west between I-80 near the Bay Bridge and the Tri-Valley area, and north-south between I-80 and Richmond. The interchange in the study area is at Lakeshore Avenue.

State Route 260 (SR 260) is a six-lane freeway (three lanes in each directional tunnel) that connects the cities of Alameda and Oakland through the Posey & Webster tubes. The Posey-Webster Tubes are linked to the freeway via local surface streets in downtown Oakland, in particular, Webster, Harrison, and 7th Streets.

The Alameda County Congestion Management Agency (ACCMA) conducts periodic monitoring of the freeways and major roadways in Alameda County. Its latest report was released in September 2004. The monitoring assesses existing operating conditions on freeway segments through “floating car” travel time surveys during the PM peak hours, rather than analyzing volume capacity, which is how future operating conditions are assessed. These travel time surveys are also conducted on selected freeway segments during the AM peak hours. Based on the results of these surveys, ACCMA assigns a Level of Service (LOS) grade (from LOS A to LOS F) according to the 1985 *Highway Capacity Manual* (TRB, 1985). Any segment with an average speed less than 30 miles per hour is assigned LOS F.

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1 This EIR section was prepared on the basis of information and analysis findings contained a technical resource document (Fehr & Peers Transportation Consultants, *Oak to Ninth Project Final Traffic Study*, August 26, 2005), which was critically reviewed and amended, as appropriate, by the EIR consultant and City of Oakland staff.

2 For the purposes of this study, Interstate 880, Embarcadero, and other parallel roadways are assumed to be oriented north-south. Other roadways, such as Harrison Street, Broadway, and 5th Avenue are assumed to be oriented east-west.

3 A screening process, described on page IV.B-6, was used to identify a project study area that adequately covers the potential project-generated traffic impacts.

The travel time surveys concluded that 15 freeway segments within Alameda County operated at LOS F during the PM peak hours. Of the 15 deficient freeway segments, the following six were located in the City of Oakland:

- I-80 Westbound: Toll Plaza to San Francisco County Line
- I-80 Westbound: I-580 Split to the Toll Plaza [4]
- I-580 Eastbound: Harrison Street to State Route 13 (SR 13)
- I-880 Southbound: I-980 to 23rd Avenue
- SR 13 Northbound: Moraga Avenue to Hiller Drive
- SR 13/SR 24 Interchange: freeway-to-freeway ramp from SR 13 Northbound to SR 24 Eastbound [4]

The ACCMA also monitors some regional roadways during the AM peak hours (though not to determine CMP conformity findings), and the following three freeway segments in the City of Oakland were identified in the 2004 LOS monitoring study as operating at LOS F during the AM peak hours:

- I-80 Westbound: Toll Plaza to San Francisco County Line
- I-80 Westbound: I-580 Split to the Toll Plaza
- I-880 Northbound: I-980 to I-880/I-80 Merge

Local Access

Key local roadways that provide access to the project site are described below.

Embarcadero, which fronts on the project site, runs in the north-south direction along the Oakland Inner Harbor waterway. It is generally a two-lane surface street, with several four-lane segments. Along the project site frontage, the roadway is currently two lanes. It is the primary access route to Jack London Square and the Oakland/Alameda Ferry, and is a possible access route to downtown Oakland. South of Oak Street, Embarcadero is a signed bike route.

5th Avenue is a roadway that would likely serve as a primary project access route. It is striped for two lanes, but the pavement is wide enough to be a four-lane roadway (vehicles have been observed traveling past other vehicles waiting to make a left turn at an intersection. 5th Avenue intersects 7th Street, 12th Street, International Boulevard, and Foothill Boulevard, and extends eastward from the project site past Embarcadero while extending through the project study area past Foothill Boulevard.

14th Avenue is an east-west four-lane roadway extends from 8th Street, north of I-880 to I-580, and intersects with East 12th Street, International Boulevard, and Foothill Boulevard. *23rd Avenue* parallels 14th Avenue and intersects with East 12th Street north of I-880 and extends to I-580, connecting to East 12th Street, International Boulevard, and Foothill Boulevard.

Lakeshore Avenue runs along the south side of Lake Merritt and extends from International Boulevard to east of I-580. The roadway has four travel lanes (two in each direction). *1st Avenue*

[4] This roadway segment operated at LOS F during the 1991 CMP baseline year, and is therefore "grandfathered" from CMP requirements for preparation of a deficiency plan. See Appendix C for more information.

is an east-west roadway that parallels Lakeshore Avenue east of Lake Merritt. It extends from 12th Street to Foothill Boulevard and connects with Lakeshore Avenue north of Foothill Boulevard.

Grand Avenue/West Grand Avenue is a four-lane roadway extending from I-580 to Lake Merritt and then through downtown to the Oakland Army Base.

Foothill Boulevard begins at the intersection with MacArthur Boulevard at 73rd Avenue and continues north until it intersects with the south bank of Lake Merritt. It is one-way and provides two lanes in the northbound direction from 14th Avenue to Lake Merritt, and is bidirectional with two lanes in each direction between 14th Avenue to MacArthur/73rd..

12th Street is a three-lane one-way street in the northbound direction in the downtown area. Just east of Lake Merritt, it becomes a four-lane bidirectional street. *East 18th Street* begins at Lakeshore Avenue on the southeast bank of Lake Merritt as a bidirectional street with four lanes; it terminates at 14th Avenue.

7th Street is a one-way street with three travel lanes in the southbound direction, north of Oak Street. It joins with 8th Street to become a bidirectional street east of Oak Street. *8th Street* is a discontinuous street; with three one-way travel lanes in the northbound direction north of Oak Street, becoming a bidirectional street as a continuation of 7th Street at 5th Avenue.

Other local streets near the proposed project include 5th Street, 6th Street, Broadway, Webster Street, Harrison Street, Jackson Street, Madison Street, and Oak Street in downtown Oakland.

5th and 6th Streets are a one-way couplet adjacent to I-880, merging onto the freeway near Laney College. *Broadway* begins west of Embarcadero and extends east through the City of Oakland; it also serves as a major transit corridor for AC Transit buses. *Webster Street* runs parallel to Broadway and connects the City of Oakland with the City of Alameda through the Webster Tube. *Harrison Street* parallels Webster Street and connects the City of Alameda to the City of Oakland through the Posey Tube. *Jackson Street* runs between Lake Merritt and the Jack London District through Chinatown, terminating at the Amtrak station platform; the southbound off-ramp from I-980 and northbound on-ramp to I-880 and I-980 meet Jackson Street at 5th and 6th Streets, respectively. *Madison Street* extends eastward from Embarcadero to Lakeside Drive through the eastern downtown area. *Oak Street* is an east-west roadway extending from Embarcadero to Lake Merritt; the intersections of Oak Street at 5th and 6th Streets provide access for I-880 (southbound on-ramp at 5th Street, and northbound off-ramp at 6th Street).

Existing Traffic Conditions

The traffic conditions in urban areas are affected more by the operations at the intersections than by the capacities of the local streets because traffic control devices (signals and stop signs) at intersections control the capacity of the street segments. The operations are measured in terms of a grading system called Level of Service (LOS), which is based on average vehicle delay experienced at the intersections. That delay is a function of the signal timing, intersection lane widths and configuration, hourly traffic volumes, pedestrian volumes, and parking and bus conflicts. Recent AM and PM peak-hour traffic counts conducted in May and June 2004 were used for the analysis. Data concerning the existing intersection configurations and control were collected in the field. Existing traffic signal timing data was collected for all of the signalized study intersections (44 of the total 52) from the City of Oakland Public Works Agency and other agencies, and then compared against the actual conditions at each study intersection to verify accuracy.

Level of Service Analysis Methodologies

As described above, the operation of a local roadway network is commonly measured and described using an LOS grading system, which qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). This LOS grading system applies to both signalized and unsignalized intersections. LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered to be unacceptable, though some jurisdictions (like the City of Oakland) consider LOS E to be acceptable in certain areas (like a downtown central business district) in recognition of the positive effect of traffic congestion in promoting the use of transit or other methods of travel.[5]

Signalized Intersections

At the signalized study intersections, traffic conditions were evaluated using the 2000 *Highway Capacity Manual* operations methodology (TRB, 2000). The operation analysis uses various intersection characteristics (e.g., traffic volumes, lane geometry, and signal phasing/timing) to estimate the average control delay experienced by motorists traveling through an intersection.[6] **Table IV.B-1** summarizes the relationship between control delay and LOS.

Unsignalized Intersections

For the unsignalized (all-way stop-controlled and side-street stop-controlled) study intersections, traffic conditions were evaluated using the 2000 *Highway Capacity Manual* (HCM) operations methodology. With this methodology, the LOS is related to the total delay per vehicle for the intersection as a whole (for all-way stop-controlled intersections), and for each stop-controlled movement or approach only (for side-street stop-controlled intersections). Total delay is defined

5 City of Oakland, General Plan Land Use and Transportation Element, Policy T3.3 (Allowing Congestion Downtown).

6 Control delay, which is the portion of total delay attributed to traffic signal operation for signalized intersections, includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The use of control delay as the basis for defining LOS differs from earlier versions of the *Highway Capacity Manual* methodology, which used "stopped delay" (i.e., a portion of the total control delay) to define LOS.

TABLE IV.B-1

DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

Unsignalized Intersections		Level of Service Grade	Signalized Intersections	
Description	**Average Total Vehicle Delay (Seconds)**		**Average Control Vehicle Delay (Seconds)**	**Description**
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

SOURCE: Transportation Research Board, Special Report 209, *Highway Capacity Manual*, updated 2000.

as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This time includes the time required for a vehicle to travel from the last-in-queue position to the first-in-queue position. **Table IV.B-1** summarizes the relationship between delay and LOS.

Existing Traffic Operating Conditions

Analysis of peak-hour traffic conditions was conducted at 52 intersections in the project vicinity (listed below and shown in **Figure IV.B-1**).

1. Atlantic and Webster Street (Alameda)
2. Atlantic and Constitution Way (Alameda)
3. Embarcadero and Broadway
4. Embarcadero and Oak Street
5. 5th Street and Broadway
6. 5th Street and Webster Street
7. 5th Street and Jackson Street
8. 5th Street and Madison Street
9. 5th Street and Oak Street
10. 6th Street and Broadway
11. 6th Street and Webster Street
12. 6th Street and Jackson Street
13. 7th Street and Market Street
14. 7th Street and Broadway
15. 7th Street and Webster Street
16. 7th Street and Jackson Street
17. 7th Street and Madison Street
18. 7th Street and Oak Street
19. 8th Street and Market Street
20. 8th Street and Broadway
21. 8th Street and Webster Street
22. 8th Street and Jackson Street
23. 8th Street and Madison Street
24. 8th Street and Oak Street
25. West Grand Avenue and Market Street
26. West Grand Avenue and Broadway
27. West Grand Avenue and Harrison Street
28. 10th Street and Oak Street
29. 1st Avenue and International Boulevard
30. Lakeshore Avenue and Foothill Boulevard
31. Lakeshore Avenue and East 18th Street
32. Lakeshore Avenue and Hanover Avenue
33. Lakeshore Avenue and Brooklyn Avenue
34. Lakeshore Avenue and MacArthur Blvd.
35. Lakeshore Avenue and Lake Park Avenue
36. Embarcadero and 5th Avenue
37. Embarcadero and I-880 NB Off-Ramp
38. Embarcadero and I-880 SB On-Ramp
39. Embarcadero and I-880 SB Off-Ramp
40. 5th Avenue and 7th/8th Streets
41. 14th Avenue and 7th St./12th St. (SB)
42. 14th Avenue and East 12th Street (NB)
43. East 12th Street and 23rd Avenue
44. East 12th Street and 5th Avenue
45. International Boulevard and 14th Avenue
46. International Boulevard and 23rd Avenue
47. International Boulevard and 5th Avenue
48. Foothill Boulevard and 5th Avenue
49. Foothill Boulevard and 14th Avenue (WB)
50. Foothill Boulevard and 14th Avenue (EB)
51. Foothill Boulevard and 23rd Avenue
52. 16th Street and 23rd Avenue

These intersections were selected because they represent locations along major routes to and from the project site. A screening process, based on the travel patterns from the regional travel demand model, was used to identify the analysis intersections. The trip distribution patterns used to establish the general flow of project traffic through the surrounding intersections were generated by comparing a “without project” baseline forecast to a project forecast. This screening process was used to identify a project study area that adequately covers the potential project-generated traffic impacts. Travel time surveys were conducted to fine-tune the selection process. Study

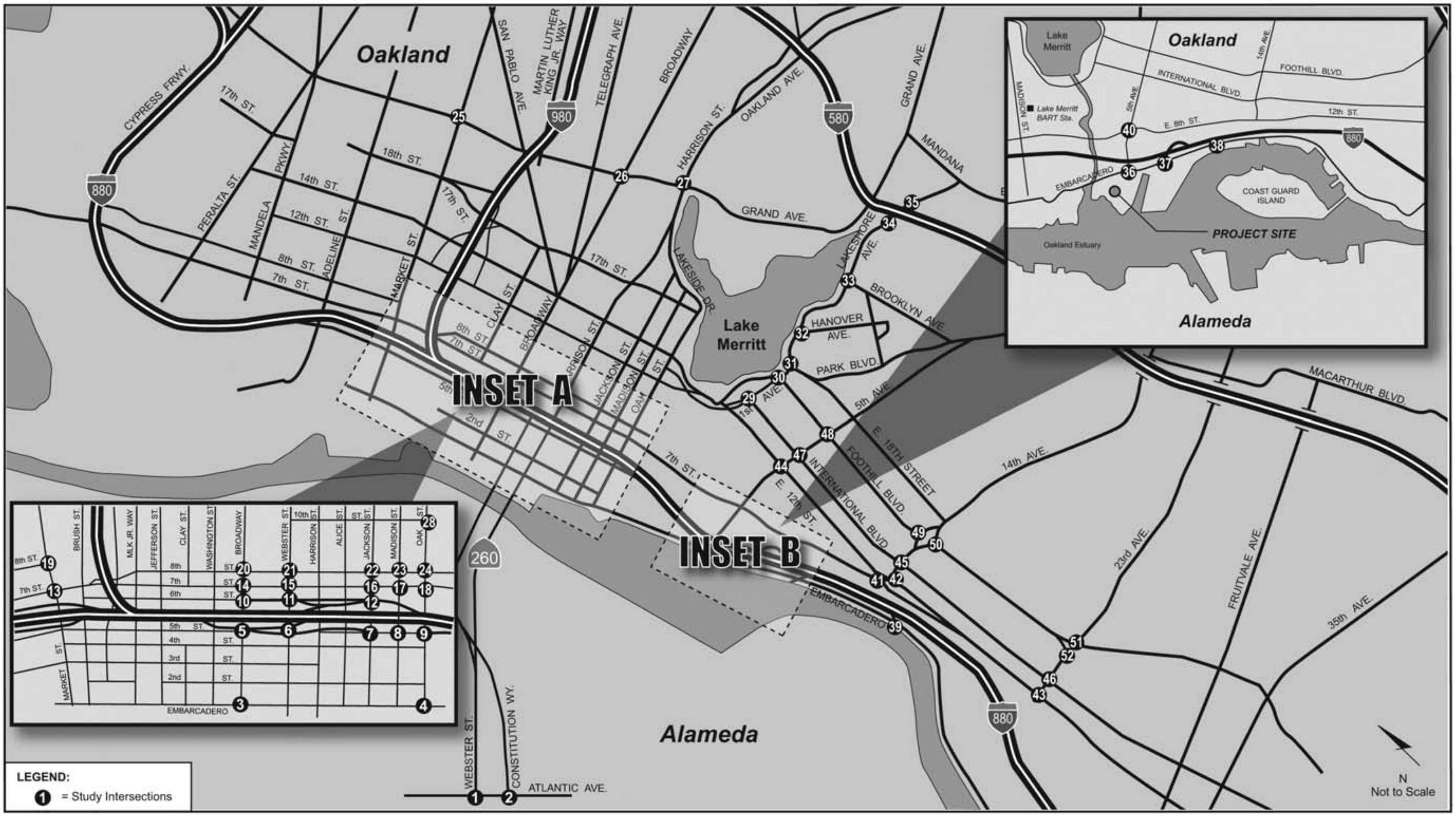

Figure IV.B-1
Project Study Intersections

intersections #41 and #42, as well as #49 and #50, were analyzed as separate locations because of the intersection configuration at 14th Avenue / East 12th Street, and Foothill Boulevard / 14th Avenue, respectively.

The existing AM and PM peak-hour intersection LOS and delays are summarized in **Table IV.B-2**; the existing peak-hour traffic volumes, and lane configurations are shown in **Appendix C**. Most intersections in the project area operate with minimal average delay (i.e., at LOS C or better). The following intersections, however, operate at LOS E or F during the peak traffic hours:

5. 5th Street & Broadway (and I-880 Eastbound On-Ramp) - LOS F, PM Peak Hour
21. 8th Street & Webster Street – LOS E, PM Peak Hour
34. Lakeshore Avenue & MacArthur Boulevard - LOS E, PM Peak Hour
36. Embarcadero & 5th Avenue - LOS F, AM & PM Peak Hour

Field observations of existing intersection operations support the analysis conclusions that intersections #5, #34, and #36 are performing at unacceptable levels, and that while 8th and Webster Streets is operating acceptably (per City standards for downtown intersections), conditions are constrained (at minimally acceptable LOS E) during the PM peak hour. Field observations and the results of previous studies verified that the LOS F assigned to the 5th Street / Broadway / I-880 Eastbound On-Ramp intersection during the PM peak hour is valid. The traffic analysis for the *Jack London Square Redevelopment EIR* concluded that this intersection was operating at LOS F in the existing conditions analysis (City of Oakland, 2004). Subsequent field visits for this EIR analysis confirmed that the main factor contributing to deficient operations at this location is the volume on 5th Street, which accumulates prior to entering the Webster Tube.

A field visit also validated that the intersection of Lakeshore Avenue / MacArthur Boulevard operates deficiently. The poor conditions at this intersection can be attributed to the proximity of the adjacent intersections and the limitations imposed by the I-580 structure. One main factor that impedes operation of this intersection is the inability of vehicles to turn left from MacArthur onto Lakeshore Avenue traveling eastbound from the City of Oakland. There is only enough storage for four or five vehicles in this eastbound left-turn lane at the Lakeshore Avenue / Lake Park intersection. When this left-turn movement backs up, vehicles are unable to turn left from MacArthur Boulevard onto Lakeshore Avenue. Sometimes, queuing extends back through the intersection and blocks the left-turn lanes on MacArthur Boulevard. These conditions were verified and documented on a videotape of the intersection operation filmed in January 2005.

The Embarcadero/5th Avenue intersection operates under stop sign control on three approaches; vehicles traveling northbound and southbound on Embarcadero are required to stop, while those traveling westbound towards the water along 5th Avenue do not. The heavy eastbound traffic flow (about 500 vehicles during each peak hour) is forced to stop and can often experience long delays.

Under optimum conditions, the intersection of Jackson/6th Streets operates at LOS C or better during the peak traffic hours. However, there are a number of factors that impede the flow of

TABLE IV.B-2

EXISTING INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

No.	Intersection	Traffic Control	Existing AM		Existing PM	
			LOS	Delay	LOS	Delay
#1	Atlantic & Webster (Alameda)	Signal	C	28.2	C	30.2
#2	Atlantic & Constitution (Alameda)	Signal	C	27.9	C	27.0
#3	Embarcadero & Broadway	All-Way Stop	A	8.0	A	9.5
#4	Embarcadero & Oak Street	Side Street Stop	B	13.3	C	16.0
#5	5th Street & Broadway	Signal	C	30.2	F	* [a]
#6	5th Street & Webster Street	Side Street Stop	A	9.4	A	9.3
#7	5th Street & Jackson Street	Signal	B	11.1	B	10.3
#8	5th Street & Madison Street	Signal	A	8.2	B	10.7
#9	5th Street & Oak Street	Signal	B	12.4	B	12.5
#10	6th Street & Broadway	Signal	C	22.2	B	19.8
#11	6th Street & Webster Street	Side Street Stop	A	9.5	A	9.2
#12	6th Street & Jackson Street	Signal	C	* [b]	C	* [b]
#13	7th Street & Market Street	Signal	B	12.0	B	12.3
#14	7th Street & Broadway	Signal	B	12.8	B	16.6
#15	7th Street & Webster Street	Signal	A	8.7	B	11.4
#16	7th Street & Jackson Street	Signal	B	11.0	B	11.9
#17	7th Street & Madison Street	Signal	B	12.9	B	14.3
#18	7th Street & Oak Street	Signal	B	12.5	B	14.0
#19	8th Street & Market Street	Signal	A	9.1	B	10.9
#20	8th Street & Broadway	Signal	B	11.4	B	11.8
#21	8th Street & Webster Street	Signal	C	28.1	E	* [b]
#22	8th Street & Jackson Street	Signal	B	16.5	B	14.2
#23	8th Street & Madison Street	Signal	A	8.9	A	9.4
#24	8th Street & Oak Street	Signal	B	16.6	B	16.0
#25	West Grand Avenue & Market Street	Signal	B	12.9	B	14.7
#26	West Grand Avenue & Broadway	Signal	B	15.5	B	17.4
#27	West Grand Avenue & Harrison Street	Signal	C	31.2	C	29.2
#28	10th Street & Oak Street	Signal	A	9.4	A	9.6
#29	1st Avenue & International Boulevard	Signal	B	16.9	B	13.4
#30	Lakeshore Avenue & Foothill Blvd	Signal	C	25.5	B	12.9
#31	Lakeshore Avenue & East 18th Street	Signal	B	13.5	C	27.5
#32	Lakeshore Avenue & Hanover Ave.	Signal	A	7.0	A	6.1
#33	Lakeshore Avenue & Brooklyn Ave.	Signal	A	7.0	A	5.8
#34	Lakeshore Avenue & MacArthur Blvd	Signal	C	23.6	E	66.9
#35	Lakeshore Avenue & Lake Park Ave.	Signal	D	35.2	D	35.5
#36	Embarcadero & 5th Avenue	Side Street Stop	F	54.0	F	>70
#37	Embarcadero & I-880 NB Off-Ramp	Side Street Stop	B	12.3	B	14.2
#38	Embarcadero & I-880 SB On-Ramp	All-Way Stop	B	10.3	B	13.5
#39	Embarcadero & I-880 SB Off-Ramp	Side Street Stop	B	12.9	B	11.7

(*Continued*)

TABLE IV.B-2 (continued)

EXISTING INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

No.	Intersection	Traffic Control	Existing AM		Existing PM	
			LOS	Delay	LOS	Delay
#40	5th Avenue & 7th/8th Streets	Signal	B	13.0	B	13.1
#41	14th Avenue & 7th St./12th St. (SB)	Signal	C	22.4	C	24.6
#42	14th Avenue & East 12th St. (NB)	Signal	B	12.3	B	10.1
#43	East 12th Street & 23rd Avenue	Signal	B	12.9	B	12.3
#44	East 12th Street & 5th Avenue	Signal	B	12.9	B	13.9
#45	International Boulevard & 14th Ave.	Signal	B	11.3	B	12.9
#46	International Boulevard & 23rd Ave.	Signal	B	12.4	B	11.7
#47	International Boulevard & 5th Ave.	Signal	B	13.4	B	12.8
#48	Foothill Boulevard & 5th Avenue	Signal	B	11.2	B	16.1
#49	Foothill Boulevard & 14th Ave. (WB)	Signal	B	19.7	B	17.0
#50	Foothill Boulevard & 14th Ave. (EB)	Signal	C	23.9	C	22.0
#51	Foothill Boulevard & 23rd Avenue	Signal	B	16.8	B	13.2
#52	16th Street & 23rd Avenue	Signal	B	15.8	C	33.7

[a] See text on page IV.B-8 about how field observations show substantially worse LOS than calculated LOS under existing conditions.
[b] See text below about how field observations show worse LOS than calculated LOS under existing conditions.

Note: The LOS/Delay for Side-Street Stop-Control (SSSC) intersections represent the worst movement or approach; for Signalized and All-Way Stop-Control (AWSC) the LOS/Delay represent overall intersection.

SOURCE: Fehr & Peers Transportation Consultants

traffic through this intersection, most notably backups on the on-ramp caused by congestion on I-880 (which slows drivers from merging onto the freeway), but also congestion at adjacent intersections and inadequate storage for queued vehicles at the signal. Field observations during the peak traffic hours indicate that there are periods when drivers experience appreciable delays getting onto the on-ramp and the freeway. However, over the course of the full analysis hour, the creation and dissipation of delays results in the two-lane on-ramp generally having enough capacity to accommodate vehicles through the intersection at an acceptable level of service. On balance, the intersection of 6th and Jackson Streets is judged to currently operate no better than LOS C during the peak traffic hours.

Field observations of the Webster/8th intersection indicate that drivers experience delays and congestion, which is worse during the weekday PM peak hour. Major factors contributing to this congestion include parking activities on both sides of the roadway, imbalanced lane utilizations, and traffic signal phasing that includes a pedestrian “scramble phase” (during which drivers on all intersection approaches have to stop at a Red traffic light, and pedestrians may cross the streets in any direction without coming into conflict with vehicles), which reduces the Green time available for vehicles. On the basis of these field observations and analysis for the “Revive Chinatown” Community Transportation Plan, the intersection of 8th and Webster Streets is judged to currently operate at LOS E during the PM peak hour.

Transit Services

The transit services in the project vicinity include options such as AC Transit bus service, BART and Amtrak trains, and water transportation. Most of the transit services are concentrated along the Broadway corridor and in Jack London Square. Each of these services is described below.

Bus Service (AC Transit)

Local bus service in the study area is provided by AC Transit. While no routes directly serve the site, many pass in general proximity. The bus stops nearest to the site are located at the Lake Merritt BART station (about one mile away), and the Jack London Square Amtrak station (about 0.75 mile away). *Line 11 - Harrison* runs from 6:00 AM to 7:00 PM on weekdays, and 7:00 AM to 7:00 PM on weekends. The route runs from Fruitvale Avenue/Montana Street to Westlake Junior High School, with a stop at the Lake Merritt BART station. During the week, headways range from 20 to 30 minutes; weekend service headways are one hour. *Line 59 & 59A - Piedmont Avenue* connects the Lake Merritt and Rockridge BART stations. It runs from 6:00 AM to 7:00 PM on weekdays, and 8:00 AM to 7:00 PM on weekends, with one-hour headways every day. *Line 62 - San Antonio* runs between the West Oakland and Fruitvale BART stations. On both weekdays and weekends it runs from 6:00 AM to 12:30 AM on 30-minute headways. *Lines 72 - San Pablo Avenue and 72M - Macdonald* between the Amtrak station and the cities of San Pablo and Richmond, stopping at the El Cerrito Plaza and Richmond BART stations, as well as Contra Costa College. They run 24 hours daily, with 15- to 30-minute headways. *Line 88 - Market* runs between the Lake Merritt and North Berkeley BART stations. It runs daily from 5:30 AM to 12:30 AM, on 20-minute headways.

Rail Service (BART and Amtrak)

No rail transit service directly connects with the project site. Bay Area Rapid Transit (BART) trains provide regional transit connections throughout the East Bay and across the bay to San Francisco and beyond, but do not serve the project site directly. The closest BART station is Lake Merritt, about one mile away, which is served by the Richmond, Fremont, and Dublin/Pleasanton lines.

Amtrak provides passenger rail service at the Jack London Square station. This station is about 0.75 mile west of the project site. Several lines use this station, including the Capital Corridor (to Reno, Nevada, via Sacramento), the San Joaquin (to Bakersfield via Fresno), and the Coast Starlight (between Seattle and Los Angeles).

Ferry Service

Ferry service is available from Jack London Square to Alameda, Angel Island, SBC Park, and San Francisco. The trip time to the San Francisco Ferry Building is 30 minutes; the trip time to San Francisco’s Pier 41 is 45 minutes. Weekday service is provided by the City of Alameda/Port of Oakland and the Blue and Gold Fleet from 6:00 AM until 9:00 PM, with headways as low as 25 to 30 minutes during peak hours.

Bicycle / Pedestrian Network

Limited bicycle and pedestrian facilities are provided at the project site. Embarcadero is designated as a Class II facility along the project frontage.[7] Given the current industrial orientation of the project site, no sidewalks are provided on-site.

Within the general project area, some bicycle and pedestrian facilities are provided. These facilities were identified on the City of Oakland's Bicycle Map and verified through a field review, which included a bicycle tour of the project study area. Many of the study area roadways provide sidewalks on both sides. Some of the bicycle facilities include the following:

- The Bay Trail, which currently extends from Jack London Square to the Estuary Park along 2nd Street
- A Class I facility that extends from the Merritt Channel to 10th Street
- Lakeshore Avenue, which is a designated Class III facility
- Grand Avenue from Lake Merritt, which is a designated Class II facility
- Embarcadero, which is a designated Class II facility extending from Oak Street past the Coast Guard Island Bridge
- A Class I facility extending from Alice Street to Estuary Park along the waterfront
- Broadway, which is a designated bicycle route. From West MacArthur to 23rd Street, this is a Class II facility, and from 23rd Street to 2nd Street, it is a Class III facility

Transportation, Circulation, and Parking Impacts Discussion

Approach to Analysis

The transportation analysis was conducted for typical weekday AM and PM peak commute hour conditions at local intersections and on the regional roadway facilities. Those time periods are the most relevant for this analysis because traffic volumes are generally the highest during those periods, and therefore, traffic and circulation conditions during the weekday morning and evening commute hours are considered the most critical to evaluate in determining potentially significant impacts. In addition, standard traffic analytical tools focus on the weekday peak hours or multiple-hour peak periods. Localized peaks may occur during other periods of the day or on the weekends depending upon the adjacent land uses, such as schools or entertainment uses, but those instances do not represent the best overall condition against which to judge potential impacts associated with the proposed project. The same reasoning applies to analysis of transit impacts, which were likewise judged in the context of average weekday peak-hour conditions.

As described in Chapter III (Project Description), the proposed project would be developed in four major phases over a period of approximately 11 years. The first phase (Interim) is assumed to complete construction of parcels A, B, C, F, and G. Based on the construction schedule, only parcels A, F, and G are likely to be constructed by 2010, but this analysis presents a conservative view of the 2010 traffic conditions by assuming that the Interim project would include the first

[7] Class II Bicycle Lanes provide a dedicated area for bicyclists within the paved street width through the use of striping and appropriate signage; these facilities are typically 4 to 6 feet wide. Other bicycle classes are Class I Bicycle Paths (located off-street), and Class III Bicycle Routes (found along streets that do not provide sufficient width for dedicated bicycle lanes, with signs informing drivers to expect bicyclists).

five parcels that could be developed. The construction of the remaining parcels, including the marina, will likely occur prior to 2025. The 2010 horizon year was used for the short-term condition, and 2025 horizon year was used for the cumulative conditions, which is consistent with the horizon years of the ACCMA Countywide Travel Demand Forecasting Model at the time this analysis was prepared. The 2025 cumulative conditions examine both the total project impacts and the cumulative effect of the whole project with other future development. For the intersection analysis, the following conditions were assessed:

- Existing
- 2010 Short-term (Existing plus Approved Developments) without Project
- 2010 Short-term plus Phase 1 (*Interim Project*) project
- 2025 Cumulative without Project
- 2025 Cumulative with Project Buildout

This analysis approach provides a conservative assessment of impacts because as traffic increases year by year (tied to projected development), the baseline conditions (traffic volumes / levels of service) against which project impacts are judged worsen. If project buildout were to occur before 2025, traffic conditions (and project impacts) would be no worse than those presented in the EIR for 2025.

Significance Criteria

Intersection Peak-Hour Level of Service

The project would have a significant effect at analysis intersections if it would cause an increase in traffic that is substantial in relation to the baseline traffic load and capacity of the street system (i.e., result in a substantial increase in either the volume-to-capacity ratio on roads, or delay [congestion] at intersections), or change the condition of an existing street (i.e., street closures, changing direction of travel) in a manner that would have a substantial impact on access or traffic load and capacity of the street system. Specifically, the project would have a significant impact if it would:

- Cause the baseline level of service (LOS)[8] to degrade to worse than LOS D (i.e., LOS E or F) at a signalized intersection that is located *outside* the Downtown[9] area;

- Cause the total intersection average vehicle delay to increase by four or more seconds, or degrade to worse than LOS E (i.e., LOS F) at a signalized intersection *outside* the Downtown area where the baseline level of service is LOS E;

- Cause the baseline LOS to degrade to worse than LOS E (i.e., LOS F) at a signalized intersection that is located *within* the Downtown area;

[8] LOS and delay are based on the 2000 *Highway Capacity Manual*, Transportation Research Board, National Research Council, 2000.

[9] Downtown is defined in the Land Use Transportation Element of the General Plan (page 67) as the area generally bound by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland estuary to the south and I-980/Brush Street to the west. Thus, 29 of the analysis intersections are located outside the Downtown area, and the other 23 analysis intersections are located within the Downtown area.

- Cause an increase in the average vehicle delay for any of the critical movements of six seconds or more, or degrade to worse than LOS E (i.e., LOS F) at a signalized intersection *for all areas* where the baseline level of service is LOS E;

- At a signalized intersection *for all areas* where the baseline level of service is LOS F, cause:

  (a) The total intersection average vehicle delay to increase by two or more seconds,

  (b) An increase in average vehicle delay for any of the critical movements of four seconds or more, or

  (c) An increase in the volume-to-capacity (“v/c”) ratio that exceeds three percent (but only if the delay values cannot be measured accurately);

- Add ten or more vehicles, and after project completion satisfy the Caltrans peak-hour volume warrant at an unsignalized intersection *for all areas*;

- Make a considerable contribution to cumulative impacts at intersections *for all areas* (the City of Oakland considers a project’s contribution to cumulative impacts to be “considerable” when the project contributes five percent[10] or more of the cumulative traffic increase as measured by the difference between existing and cumulative [with project] conditions).

Roadway Segments

The project would have a significant effect on regional roadways if it would cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the v/c ratio by more than three percent for a roadway segment that would operate at LOS F without the project.[11] The roadway analysis uses the 2010 and 2025 baseline forecasts from the ACCMA Countywide Travel Demand Forecasting Model, which capture the cumulative effects of future growth on the regional roadways.

Transit

The project would have a significant effect on transit services if it would generate added transit ridership that would:

- Increase the average ridership on AC Transit lines by three percent at bus stops where the average load factor with the project in place would exceed 125 percent over a peak 30-minute period;

- Increase the peak-hour average ridership on BART by three percent where the passenger volume would exceed the standing capacity of BART trains; or

- Increase the peak-hour average ridership at a BART station by three percent where average waiting time at fare gates would exceed one minute.

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[10] The five-percent threshold is based on the fact that day-to-day traffic volumes can fluctuate by as much as ten percent, and therefore a variation of five percent is unlikely to be perceptible to the average motorist.

[11] LOS and delay are based on the *Highway Capacity Manual*, Transportation Research Board, National Research Council, 1985, as required by the Alameda County CMA.

Site Access and Circulation

The project would have a significant effect on the site access and circulation if it would increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) that does not comply with Caltrans design standards (as defined by the latest edition of the *Caltrans Highway Design Manual*), or due to incompatible uses. For the purposes of this study, when Caltrans design standards were unavailable or unclear, then other documents, such as *A Policy on Geometric Design of Highways and Streets,* the *Manual of Uniform Traffic Control Devices* (MUTCD), and other design manuals, were used (AASHTO, 2001; FHWA, 2000).

In addition, the project would have a significant effect if the design of the project contains fewer than two emergency access routes for streets exceeding 600 feet in length. This criterion identifies roadways that are long cul-de-sacs as difficult for emergency vehicles to access, because if only one access point exists for a roadway, then an emergency vehicle's access to adjacent properties could potentially be obstructed and no alternate routes would be available.

Pedestrian Safety

The project would have a significant effect on pedestrian safety if it would substantially increase traffic hazards to pedestrians due to introduction of incompatible uses or to a design feature (e.g., sharp curves or dangerous intersections) that does not comply with Caltrans design standards.

Other Considerations

The project would have a significant effect on the environment if it would fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Construction Period

The project would have a significant, though temporary, effect on the environment if it would result in interim significant impacts based on the criteria above during the construction period. For purposes of this analysis, the potential impacts resulting from phasing and staging of project construction, and cumulative construction, have been assessed.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to the topics addressed in this section, and that apply to the project, are listed in Appendix F. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold, which the project must meet, are addressed in this section.

Planned Roadway Improvements

A review of the available information indicates that numerous improvements are planned for all transportation modes in the study area, as described below. However, few of these improvements have finalized design plans and are fully funded. Improvements lacking final design and full funding are not available to mitigate any deficient conditions in either the No Project or With Project condition.

Freeway Improvements

I-880 Seismic Retrofit

As part of a comprehensive statewide program, the California Department of Transportation (Caltrans) is improving the seismic safety of various transportation facilities to limit damage during a major earthquake. One facility that has been selected for seismic upgrades is the section of I-880 adjacent to the project. This project, known as the I-880 Seismic Retrofit, involves the reconstruction of elevated sections of I-880. Concurrent with this improvement, an auxiliary lane would be added on I-880 in the southbound direction. Several outstanding issues exist relating to the design of the project, including how to address the existing Union Pacific Rail Road (UPRR) railroad tracks that are adjacent to I-880. Several options exist, including (a) Caltrans acquiring these tracks from UPRR, and (b) shifting the tracks and Embarcadero to the south.

I-880 Ramp System

With the completion of the Seismic Retrofit (which is currently expected by 2010), the existing ramp system will be maintained along I-880 adjacent to the project. Several proposals have been presented, each of which would involve modifications to the existing ramp system. A previous study by Korve Engineering for the Port of Oakland proposed moving the northbound off-ramp that currently connects to Embarcadero near 6th Avenue to 5th Avenue. Other proposed ramp improvements include a new northbound on-ramp from 5th Avenue, and the construction of a hook ramp system (for on- and off-ramps) at 10th Avenue. This EIR assumes that none of these ramp changes will be made because design plans have not been finalized, and funding is not available for these improvements.

Broadway/Jackson Interchange at I-880

Considerable efforts have also been made to improve operations at the Broadway/Jackson interchange at I-880. Phase I improvements would involve modifying the intersection at Broadway/5th Street and modifying the ramps at Jackson Street. The preliminary studies for Phase I improvements are complete, and the environmental process is still underway. Partial funding is available for these improvements. Phase II improvements would improve access to the Posey Tube from I-880 and I-980. This phase is being funded by the Alameda County Transportation Improvement Agency and is being managed by the City of Alameda. Funding is not available for the design and construction of Phase II at this time.

In summary, of the many proposed and planned freeway improvements in the project study area, the one that is currently funded and is most likely to be successfully implemented is the I-880 Seismic Retrofit, which would not substantially modify the freeway ramps as currently designed.

This improvement is assumed to be in place by 2010 in the traffic analysis. Other freeway capacity and interchange projects are not included in the analysis because design plans have not been finalized, and they are not fully funded.

Intersection Improvements

The number of funded intersection improvements in the project study area is also limited. One potential source of intersection improvements is the Jack London Square (JLS) Redevelopment project. The JLS EIR identified a number of improvements in the project study area that would be required to mitigate that project's traffic impacts. A list of intersection mitigation measures identified in the JLS Redevelopment EIR includes:

- Install traffic signals at Embarcadero / Oak Street (*Phase 1 mitigation*)
- Install traffic signals at Embarcadero / 5th Avenue (*Phase 1 mitigation*)
- Lane reconfiguration on the eastbound 3rd Street approach at the intersection of Broadway / 3rd Street (*Phase 1 mitigation*)
- Install traffic signals at Oak Street / 3rd Street (*Phase 1 mitigation*)
- Lane reconfiguration on the northbound Broadway approach at the intersection of Broadway / 5th Street (*Phase 1 mitigation*)
- Install traffic signals at Broadway / Embarcadero (*Project buildout mitigation*)
- Install traffic signals at Embarcadero / Webster Street (*Project buildout mitigation*)
- Install traffic signals at 3rd Street / Market Street (*Project buildout mitigation*)
- Optimize traffic signal timings at 5th Street / Market Street (*Project buildout mitigation*)
- Optimize traffic signal timings at 5th Street / Oak Street (*Project buildout mitigation*)
- Optimize traffic signal timings at 3rd Street / Broadway (*Project buildout mitigation*)
- Optimize traffic signal timings at 7th Street / Market Street (*Project buildout mitigation*)

Some of the above-cited improvements would benefit the Oak to Ninth project analyzed in this EIR. However, the exact timing of implementation of these improvements has not been established, and is tied to the timing of development of the JLS project. Therefore, for purposes of this analysis, none of the identified JLS mitigation measures are assumed to be in place. However, the discussion of mitigation measures for any intersection adversely affected by the Oak to Ninth project (under Impacts B.1, B.2, and B.3, below) includes references to the mitigation measures identified in the JLS Redevelopment EIR, and to opportunities for joint funding of improvements by projects in the area.

Transit Improvements

The major transit improvements being considered in the study area is a streetcar or trolley in Jack London Square, and a Bus Rapid Transit (BRT). Since 2003, BART has studied options for improved transit service within Jack London Square under a grant from Caltrans' Community-Based Transportation Planning Grant Program. This study effort has researched concepts such as an additional BART station within Jack London Square, shuttles, distinctive buses, and street cars. A final public meeting was held in December 2004, and the conceptual planning study was completed; no additional studies are anticipated at this time. The preliminary conclusions of the study were to study two possible streetcar routing alternatives. However, no dedicated funding is currently available for improved transit in the Jack London Square area. Because of the lack of funding and the absence of finalized design plans, this EIR assumes that no additional transit service will be provided in the Jack London Square area.

In 2003, AC Transit published a Notice of Intent (NOI) and Notice of Preparation (NOP) related to an Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) for a proposed transit system expansion along International Boulevard, which would extend from Berkeley to San Leandro. This transit system expansion would be in the form of Bus Rapid Transit (BRT). According to the American Public Transit Association, BRT combines the quality of rail transit and the flexibility of buses, operating on exclusive transit ways, High-Occupancy Vehicle lanes, expressways, or ordinary streets. A BRT system combines Intelligent Transportation Systems technology, priority for transit, rapid and convenient fare collection, and integration with land use policy in order to upgrade bus system performance. At this time, the EIR/EIS documents have not been published. It is anticipated that, should BRT service be funded for the International Boulevard corridor, there would be limited adverse effects on traffic operations at locations studied in this EIR for the following reasons:

- While the NOP notes that one of the alternatives to be studied would include “dedicated transit lanes within existing urban arterials, where practicable”, it has since been determined that such use of roadways in the East Lake area (including this EIR’s study area) is not practical due to the limited available street width. At the four study intersections where there is overlap between the proposed BRT service and this EIR analysis, International Boulevard has only four lanes (without turn lanes), which would further preclude the conversion of existing travel lanes to bus-only lanes.

- The levels of service at the four (of 52 total) study intersections in the BRT corridor are projected to be LOS C or better in 2025 after the addition of project-generated trips.

- International Boulevard would carry about one percent of project-generated trips.

There currently is not sufficient detail about the potential BRT project to analyze any potential impacts of that project within this EIR. Because of the absence of finalized design plans and assurance of full funding, this EIR assumes that the BRT will not be provided in the study area. It is noted that were the BRT to be successfully implemented, there would be a reduction in background traffic volumes along International Boulevard. Because the analysis presented in this EIR does not assume that the BRT is implemented, the results of this analysis are therefore conservative.

Bicycle/Pedestrian Improvements

The City of Oakland Bicycle Master Plan, as adopted in 1999, recommended several improvements to the bicycle and pedestrian facilities within the project study area, including:

- Converting the Class II facilities on Lakeshore Avenue to Class I configuration
- Adding Class II bicycle lanes on 5th Avenue, 14th Avenue, 14th Street, and Foothill Boulevard
- Designating several downtown streets as Class III bicycle routes

These improvements have not been designed, and are not fully funded at this time, and therefore, cannot be assumed to be in place for this EIR.

Vehicle Trip Generation

Project trip generation was estimated on the basis of information published by the Institute of Transportation Engineers (ITE, 2003; ITE, 2004a). The general process employed to estimate the project trip generation is as follows:

1. Categorize the project land uses into appropriate ITE categories
2. Identify trip generation rates and/or trip generation equations
3. Apply trip generation reductions
4. Apply internalization factors
5. Calculate trip generation

Land Use Categories

Various land use categories from ITE's *Trip Generation* were considered for use in estimating trip generation for the residential component of the project (ITE, 2003). The residential condominium / townhouse (Land Use [LU] Code 230) category was selected for use because the project units would be for sale. According to the ITE publication, this land use category should be used for "ownership units that have at least one other owned unit in the same building structure".

Estimation of trip generation for the proposed commercial uses does not fall as cleanly into a specific ITE category. The expected uses would vary between restaurants, convenience retail, neighborhood retail, specialty shops, and other uses. Given the lack of specificity and the expected variety, the most appropriate ITE category for most (170,000 square feet) of commercial uses on the site was judged to be Shopping Center (LU Code 820). The remaining commercial space (about 30,000 square feet) was categorized as Grocery Store (LU Code 850) because it is anticipated that a small grocery store would be constructed as part of the project.

Another component of the project is a marina. Land Use Code 420 (Marina) was applied to estimate the trip generation for this facility because that is the only category that can be applied. Trip generation for a marina is based on the number of berths.

Trip Generation Rates/Equations

Table IV.B-3 provides the trip generation rates and equations used in the analysis. For the condominium units, trip generation was estimated using fitted curve equations based on the number of units, as recommended by the *ITE Trip Generation Handbook* (ITE, 2004a). Trip generation for the commercial portion of the project was estimated using average rates for the AM peak hour and equations for the PM peak hour, again following the ITE recommendations.

TABLE IV.B-3

VEHICLE TRIP GENERATION RATES AND EQUATIONS

Land Use	Daily	AM Peak Hour	PM Peak Hour
Residential (*LU Code 230*)	Ln(T)=0.85*Ln(X) + 2.55	Ln(T)=0.80*Ln(X) + 0.26	Ln(T)=0.82*Ln(X) + 0.32
Commercial (*LU Code 820*)	Ln(T)=0.65*Ln(X) + 5.83	1.03*X	Ln(T)=0.66*Ln(X) + 3.40
Grocery Store (*LU Code 850*)	102.24*X	3.25*X	Ln(T)=0.79*Ln(X) + 3.20
Marina (*LU Code 420*)	T=1.89*X + 410.8	0.08*X	0.19*X

[a] "X" is the independent variable in the trip generation rate and equation and corresponds to dwelling units for Residential use; 1,000 square feet of floor area for commercial uses, and number of berths for marina use. "T" is the dependent variable and is the number of vehicle trips generated by the land use.

SOURCE: Institute of Transportation Engineers, *Trip Generation*, 7th Edition, 2003.

Existing Trip Reduction

A small portion of the project area (west portion of the Fifth Avenue artisans community, south of Embarcadero at the terminus of 5th Avenue) is expected to remain on the site for the foreseeable future through the construction of the project. Other existing uses on the project site would be removed as the project is developed. As documented by Hausrath Economic Group (HEG), approximately 231 employees work on the portion of the project site to be developed. The breakdown of these employees is as follows:

- 76 manufacturing
- 109 other
- 35 service
- 11 retail

That same memo also provides square footage of the existing buildings on the project site. A review of these building and use descriptions indicates that the site includes several unique uses, such as a discount furniture warehouse, a wholesale grocery store, storage areas for KTVU, a police office, various marine storage and repair facilities, a furniture retail operation, and other miscellaneous uses. According to the data provided by HEG, many of these uses operate in a less-intensive fashion, given the range of 600 to 3,000 square-foot area per employee. Spot traffic counts during field visits support this conclusion.

Given these considerations, trip generation for these uses was calculated based on the above-cited employee numbers, rather than building square footage. Employees classified as "other" by HEG were reassigned to two more-specific categories (light industrial and office) based on the employer's business name and the description of use provided by HEG. Generally speaking, storage-associated uses were classified as light industrial and the other uses were classified as office.

Employment was classified into the following four ITE categories:

- Manufacturing – Land Use Code 140
- Light Industrial – Land Use Code 110
- Retail – Land Use Code 820
- Office & Service – Land Use Code 710

Using the rates provided in *Trip Generation*, trip generation was estimated to be 2,036 daily trips, 96 AM peak hour trips, and 123 PM peak hour trips. Because these trips are currently accounted for in the traffic counts collected for the project study, it is appropriate to reduce the project trips to account for these existing trips.

Project Trip Internalization

Internalized trips are those that both begin and end within the site. Given the mix of uses and the size of the project, there could be a sizeable number of internalized trips. For example, a person returning from work might stop at a drycleaners, a drug store, and a restaurant within the project. This type of behavior is known as trip-chaining.

The analytical method available to account for trip chaining, developed by ITE based on a study of a limited number of mixed-use sites, and provided in the *Trip Generation Handbook,* was applied for this analysis. This methodology identifies internal factors that suggest how much trip chaining or internalization might occur between complementary uses such as retail and residential uses, and the maximum trip internalization would be expected to be about 12 percent during the PM peak hour and throughout the day. To not underestimate the potential net new project trip generation, this internalization was reduced to 5 percent and applied throughout the day.

Other Trip Generation Reductions

No current or planned transit service directly connects with the project site; the nearest transit facility is approximately one mile away. Any transit trips associated with the site would likely occur through persons driving to transit stations and either being dropped off or parking at adjacent stations. Therefore, no reduction was applied to account for transit use. Furthermore, no reduction was applied to account for trip reduction activities because a formal Travel Demand Management (TDM) program has not been adopted for the site.

As shown in **Table IV.B-4**, Phase 1 of the project (Interim Project) would generate about 9,120 daily vehicle trips, of which about 440 vehicle trips would occur during the AM peak hour and 900 vehicle trips would occur during the PM peak hour. At buildout, the project would generate about 27,110 daily vehicle trips, of which 1,440 vehicle trips would occur during the AM peak hour and 2,590 vehicle trips would be during the PM peak hour.

TABLE IV.B-4

VEHICLE TRIP GENERATION

Land Use	Size/Units	Daily Trips	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Interim Project								
Residential Condos [a]	1,139 units	6,406	84	409	493	391	193	584
General Commercial [b]	69 ksf	5,336	43	28	71	235	255	490
Interim Project Subtotal		*11,742*	*127*	*437*	*564*	*626*	*448*	*1,074*
Internalization (5%) [c]		(586)	(6)	(22)	(28)	(31)	(23)	(54)
Existing Trips [d]		(2,036)	(75)	(21)	(96)	(43)	(79)	(122)
Interim Project Total		**9,120**	**46**	**394**	**440**	**552**	**346**	**898**
Project Buildout								
Residential Condos [a]	3,100 units	17,294	227	1,101	1,328	1,055	520	1,575
General Commercial [b]	170 ksf	9,588	107	68	175	427	462	889
Supermarket	30 ksf	3,066	59	38	97	184	176	360
Marina	170 berths	732	4	9	13	19	13	32
Buildout Subtotal		*30,680*	*397*	*1,216*	*1,613*	*1,685*	*1,171*	*2,856*
Internalization (5%) [c]		(1,534)	(20)	(61)	(81)	(84)	(59)	(143)
Existing Trips [d]		(2,036)	(75)	(21)	(96)	(43)	(79)	(122)
Project Buildout Total		**27,110**	**302**	**1,134**	**1,436**	**1,558**	**1,033**	**2,591**

[a] Trip generation estimates for the residential units were calculated on a parcel-by-parcel basis and then summed for the Interim Project and Project Buildout scenarios.
[b] Given the lack of specificity and the expected variety of the expected commercial uses, the most appropriate ITE category was judged to be Shopping Center, and trip generation estimates were calculated for the total gross floor areas for the Interim Project and Project Buildout scenarios.
[c] See text in the body of the report, above, about the basis for internalization reduction.
[d] The Fifth Avenue artisans community, south of Embarcadero at the terminus of 5th Avenue, is expected to remain on the site. Other existing uses on the project site would be removed as the project is developed, and because trips generated by those uses are currently accounted for in the traffic counts collected for the project study, it is appropriate to reduce the project trips to account for these existing trips.

SOURCE: Fehr & Peers Transportation Consultants

Project Trip Distribution/Assignment

Project trips were distributed using output from the regional travel demand model for Alameda County maintained by the ACCMA. The ACCMA model contains land use and roadway network information for 2005, 2010, and 2025. For each year, the project land use was input into the model, and the resulting distribution of project trips was recorded. A review of the distributions for the years 2005, 2010, and 2025 found minimal variations, so a single set of distribution factors was used. Major destinations of the project trips include downtown Oakland, San Francisco, Walnut Creek/Central Costa County, the Tri-Valley area, and other employment areas located to the south of the project site. The project trip distribution percentages are shown on **Figure IV.B-2**.

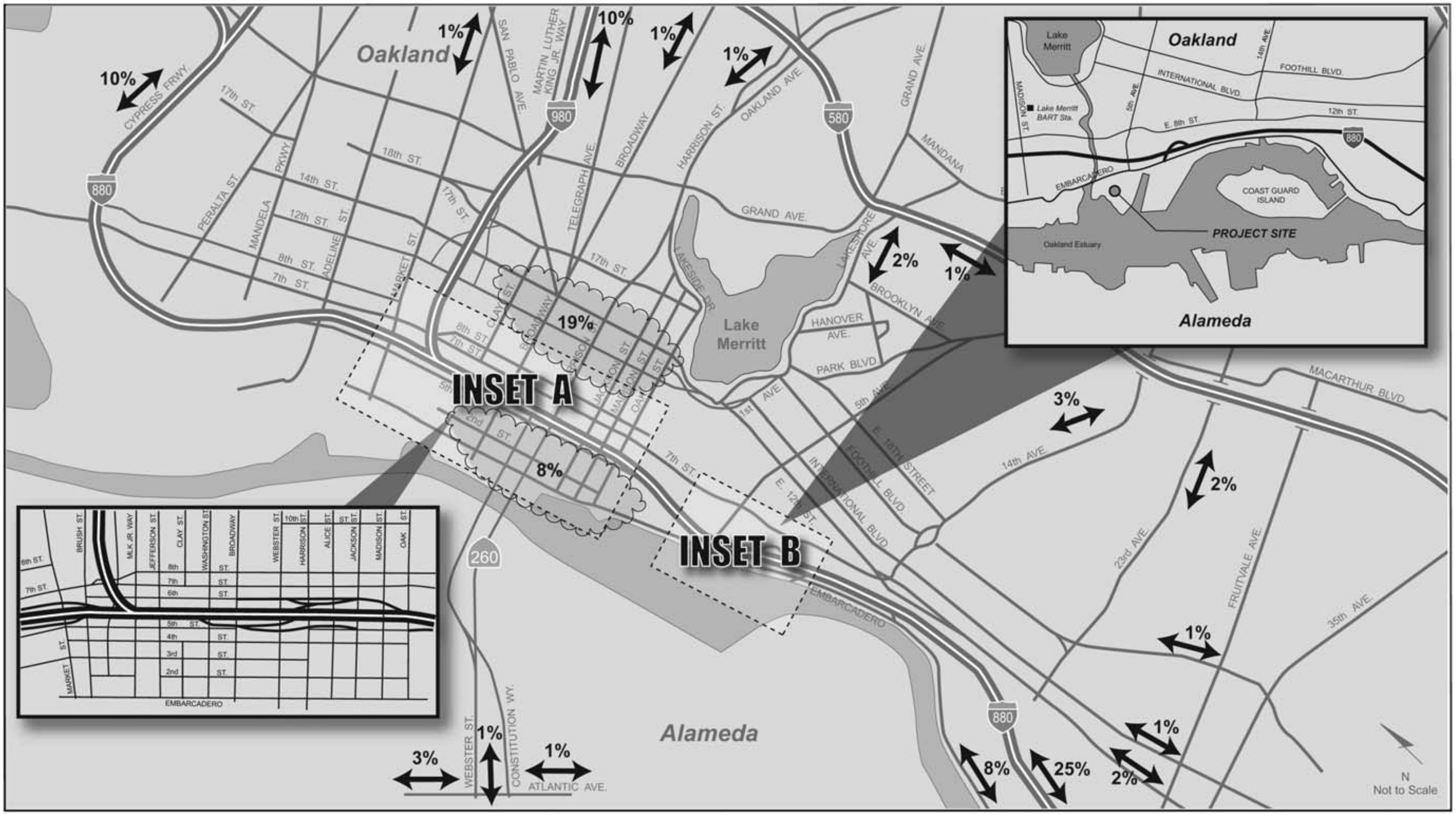

Figure IV.B-2
Project Trip Distribution

Project trips were assigned to the roadway network and study intersections based on the above-described trip distributions. For many of the project trip origins/destinations, trips were assigned along the roadway that provided the most direct route to/from the site. However, there was no single direction route from the project to the downtown Oakland area, which would be a major destination for project trips. Several possible routes exist, including Embarcadero/Broadway; 5th Avenue / 7th Street / 8th Street; and 5th Avenue / 12th Street / 14th Street. Project trips were assigned to each route on the basis of travel time runs conducted to ascertain the relative attractiveness of each route, which indicate that the 5th Avenue / 12th Street / 14th Street path would be the fastest route into the downtown area, and the 5th Avenue / 7th Street / 8th Street route would be the slowest.

Intersection Impacts

The analysis of intersection impacts used the process established by the City to prepare environmental analyses. The future intersection impacts were assessed using the Alameda County Congestion Management Agency's (ACCMA) Countywide Travel Demand Model (Countywide Model), which has been modified with land use, employment and population projections from the Oakland Cumulative Growth Scenario. Updated land use assumptions for the project area with and without the project were prepared. HEG converted the project's square footages and housing units to employment and households for the transportation modeling.

The Countywide Model was used to forecast 2010 and 2025 AM and PM peak-hour traffic volumes at the local intersections for the baseline conditions rather than using a "project list" approach of adding traffic from all cumulative developments to existing counts. The trip generation, distribution, mode split and assignment for baseline future conditions, which includes other approved or proposed developments in the City of Oakland, were conducted using the Countywide Model.

2010 and 2025 Baseline Volumes

The main inputs to the 2010 and 2025 forecasting processes are the model outputs from a modified version of the CMA regional travel demand model (with updated land use) and the existing traffic counts. As applied for the intersection-level forecasts, the base land use data in the CMA model is modified to reflect more accurate land use data and projections in the City of Oakland. HEG maintains a database of land use data for the city, in the CMA zone system and land use categories. HEG periodically updates this land use database for use by consultants preparing various studies for projects in the city.

However, as directed by the City of Oakland, these forecasts are not used directly to yield intersection turning movements. The outputs from this modified version of the CMA model is instead used as an input into the "furnessing", which "grows" existing turning movement volumes to reflect increases in roadway link volumes determined from the CMA model.[12] In each case (2010 and 2025), two versions of the CMA model were run – 2005 and the analysis year. The 2005 model corresponds to the existing level of development within the project study area. The roadway segment growth between the 2005 and 2010 (and 2025) model runs is then added to the existing turning movements based on the existing proportions between left-turn / through / right-turn movements.

The 2010 and 2025 No Project forecasts assume no growth on the Oak to Ninth project site beyond uses currently there. Because the forecasts are based on existing traffic counts, traffic from the existing uses on the site are represented in the 2010 and 2025 No Project forecasts. Figures showing the 2010 and 2025 No Project intersection traffic forecasts are in **Appendix C**

2010 and 2025 Baseline Roadway/Intersection Improvements

No roadway or intersection improvements were assumed to be in place for the 2010 or 2025 No Project Scenarios, and existing traffic signal timings were maintained.

Analytical Methodology and Tools

The *2000 Highway Capacity Manual* (HCM) methodologies were used for the analysis of traffic operation at intersections. For signalized intersections, the 2000 HCM Operations method was applied, using the Synchro computer software program. For unsignalized intersections, the 2000 HCM Four-Way Stop and Unsignalized methodologies were applied, using the Traffix computer software program.

Near-Term 2010 Conditions – Project Impacts

Traffic generated by the Phase 1 of the project was assigned to the local roadway, and the intersection operations were assessed. As described above, project trips were assigned to the roadway network and study intersections based on trip distributions patterns shown in **Figure IV.B-2**. See **Appendix C** for figures showing the project trip assignment for the Phase 1 Project scenario, and the 2010 With Project intersection traffic volumes. No roadway network-enhancing improvements are assumed to occur in the 2010 With Project scenario except for those improvements constructed by the project along the project site frontage.

Impact B.1: Traffic generated by Phase 1 of the project would affect traffic levels of service at local intersections in the project vicinity in 2010. (Significant Impact at the intersections described below under Impacts B.1a through B.1e)

Table IV.B-5 presents changes in levels of service (and average vehicle delay) due to project-generated traffic at study intersections under short-term (2010) conditions (i.e., year 2010

[12] The furness adjustment (balancing) technique is used to modify projected (future) intersection turning movement volumes based upon a comparison of existing traffic volumes and the computer model calibration results. It uses mathematical formulae to balance roadway volumes approaching, and departing from, the intersection, and thus balances turning volumes that make sense compared to the counts and model calibration turning movements. In this way, the level of confidence of the future turning movement volumes is improved.

TABLE IV.B-5

2010 AM AND PM PEAK HOUR INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

			AM Peak Hour				PM Peak Hour			
		Traffic	Baseline		With Project		Baseline		With Project	
No.	Intersection	Control	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
#1	Atlantic & Webster (Alameda)	Signal	D	52.7	D	54.3	D	49.0	D	50.0
#2	Atlantic & Constitution (Alameda)	Signal	C	34.6	C	34.8	C	31.3	C	32.0
#3	Embarcadero & Broadway	AWSC	A	8.3	A	8.9	B	10.5	B	12.5
#4	Embarcadero & Oak Street	SSSC	C	22.9	**E**	**42.1**	D	25.3	**F**	**>70**
#5	5th Street & Broadway	Signal	D	44.1	D	43.8	F	* [a]	**F**	***** [a]
#6	5th Street & Webster Street	SSSC	A	9.8	A	9.8	A	8.6	A	9.8
#7	5th Street & Jackson Street	Signal	B	11.0	B	11.0	B	10.4	B	10.3
#8	5th Street & Madison Street	Signal	A	8.4	A	8.4	B	11.0	B	10.8
#9	5th Street & Oak Street	Signal	B	13.7	B	14.2	C	20.5	C	22.8
#10	6th Street & Broadway	Signal	C	24.2	C	24.8	C	20.7	C	20.4
#11	6th Street & Webster Street	SSSC	A	9.9	A	9.9	A	9.3	A	9.3
#12	6th Street & Jackson Street	Signal	C	* [b]	C	* [b]	E	61.0	**F**	**80.5**
#13	7th Street & Market Street	Signal	B	12.9	B	12.9	B	14.7	B	14.7
#14	7th Street & Broadway	Signal	B	14.2	B	14.2	B	17.3	B	18.8
#15	7th Street & Webster Street	Signal	B	11.0	B	11.1	B	13.0	B	13.2
#16	7th Street & Jackson Street	Signal	B	12.4	B	11.9	B	14.4	B	15.7
#17	7th Street & Madison Street	Signal	B	12.8	B	12.9	B	15.6	B	15.8
#18	7th Street & Oak Street	Signal	B	12.6	B	12.4	B	16.7	B	16.5
#19	8th Street & Market Street	Signal	A	9.4	A	9.4	B	12.2	B	12.2
#20	8th Street & Broadway	Signal	B	11.7	B	11.8	B	12.2	B	12.5
#21	8th Street & Webster Street	Signal	C	29.0	C	29.3	E	* [b]	E	* [b]
#22	8th Street & Jackson Street	Signal	B	17.8	B	18.9	B	14.8	B	15.2
#23	8th Street & Madison Street	Signal	A	9.0	A	9.0	A	9.4	A	9.3
#24	8th Street & Oak Street	Signal	B	16.4	B	16.3	B	15.7	B	15.6
#25	West Grand Ave. & Market Street	Signal	B	13.7	B	13.7	B	18.3	B	18.4
#26	West Grand Ave. & Broadway	Signal	B	19.9	B	19.9	C	19.9	C	27.0
#27	West Grand Ave. & Harrison Street	Signal	D	44.6	D	45.1	D	36.0	D	36.2
#28	10th Street & Oak Street	Signal	A	9.5	A	9.5	A	9.8	A	9.8
#29	1st Ave. & International Blvd	Signal	B	16.7	B	16.9	B	16.1	B	16.2
#30	Lakeshore Ave. & Foothill Blvd	Signal	C	31.7	C	32.9	B	14.7	B	15.1
#31	Lakeshore Ave. & East 18th Street	Signal	B	14.6	B	14.6	C	29.8	C	30.2
#32	Lakeshore Ave. & Hanover Avenue	Signal	A	6.2	A	6.3	A	7.2	A	7.2
#33	Lakeshore Ave. & Brooklyn Ave.	Signal	A	7.1	A	7.1	A	6.1	A	6.1
#34	Lakeshore Ave. & MacArthur Blvd	Signal	C	23.8	C	24.1	F	90.0	F	90.3
#35	Lakeshore Ave. & Lake Park Ave.	Signal	D	39.7	D	39.8	D	48.4	D	48.5

(*Continued*)

TABLE IV.B-5 (continued)

2010 AM AND PM PEAK HOUR INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

No.	Intersection	Traffic Control	AM Peak Hour Baseline LOS	AM Peak Hour Baseline Delay	AM Peak Hour With Project LOS	AM Peak Hour With Project Delay	PM Peak Hour Baseline LOS	PM Peak Hour Baseline Delay	PM Peak Hour With Project LOS	PM Peak Hour With Project Delay
#36	Embarcadero & 5th Avenue	SSSC	F	>70	**F**	**>70**	F	>70	**F**	**>70**
#37	Embarcadero & I-880 Northbound Off-Ramp – 6th Avenue	SSSC	B	12.3	**F**	**>70**	B	14.5	**F**	**>70**
#38	Embarcadero & I-880 Southbound On-Ramp – 10th Avenue	AWSC	B	10.3	B	12.1	B	13.7	B	17.3
#39	Embarcadero & I-880 Southbound Off-Ramp – 16th Avenue	SSSC	B	13.5	B	13.7	B	11.9	B	12.8
#40	5th Avenue & 7th/8th Streets	Signal	B	13.5	B	13.8	B	15.0	B	16.1
#41	14th Avenue & 7th/12th St. (SB)	Signal	C	24.0	C	24.3	D	41.0	D	45.3
#42	14th Avenue & East 12th St. (NB)	Signal	B	13.2	B	13.1	B	11.8	B	11.6
#43	East 12th Street & 23rd Avenue	Signal	B	14.3	B	14.8	B	13.7	B	14.4
#44	East 12th Street & 5th Avenue	Signal	B	13.4	B	13.9	B	15.8	B	17.9
#45	International Blvd & 14th Avenue	Signal	B	11.9	B	11.9	B	14.2	B	14.3
#46	International Blvd & 23rd Avenue	Signal	B	13.2	B	13.3	B	13.1	B	13.5
#47	International Blvd & 5th Avenue	Signal	B	13.9	B	14.2	B	14.2	B	14.5
#48	Foothill Blvd & 5th Avenue	Signal	B	11.2	B	11.4	B	18.3	B	19.8
#49	Foothill Blvd & 14th Ave. (WB)	Signal	C	24.2	C	24.3	B	17.6	B	17.8
#50	Foothill Blvd & 14th Ave. (EB)	Signal	C	24.8	C	24.7	C	22.7	C	22.8
#51	Foothill Blvd & 23rd Avenue	Signal	B	18.0	B	17.8	B	13.4	B	13.5
#52	16th Street & 23rd Avenue	Signal	B	16.0	B	15.7	D	50.1	D	52.2

[a] See text on page IV.B-8 about how field observations show substantially worse LOS than calculated LOS under existing conditions.
[b] See text on page IV.B-10 about how field observations show worse LOS than calculated LOS under existing conditions**.**

Note: The LOS/Delay for Side-Street Stop-Control (SSSC) intersections represent the worst movement or approach; for Signalized and All-Way Stop-Control (AWSC) the LOS/Delay represent overall intersection. Significant impacts are denoted in **Bold** typeface.

SB = Southbound; NB = Northbound; WB = Westbound; EB = Eastbound

Significant impacts are denoted in **Bold** typeface.

SOURCE: Fehr & Peers Transportation Consultants

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baseline traffic volumes versus 2010 baseline volumes with Phase 1 of the project). Under the 2010 baseline condition, the following intersections would operate at an unacceptable level of service without the project traffic:

- 5th Street and Broadway (PM Peak Hour)
- Lakeshore Avenue and MacArthur Boulevard (PM Peak Hour)
- Embarcadero and 5th Avenue (AM and PM Peak Hours)

As described on page IV.B-8, field observations of existing intersection operations revealed existing problems at the intersection of 5th Street/Broadway (backups along 5th Street during the PM peak hour caused by downstream bottlenecks in the Webster Tube) and confirmed long delays of eastbound traffic flow at the stop sign controlled (at three of four approaches) at the intersection of Embarcadero/5th Avenue.

The project would not have a significant impact on the LOS F conditions at the Lakeshore Avenue / MacArthur Boulevard intersection under the 2010 Baseline scenario because the addition of project traffic would cause an increase in the average delay for critical movements of 3 seconds, less than the 4-second threshold of significance for the City's significance criteria. Therefore, the project impact would be less than significant.

The project also would have a less-than-significant impact at the 8th and Webster Streets intersection because the addition of project traffic would cause an increase in the average delay of less than one second, less than the City's 4-second threshold of significance.

Impact B.1a: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and Oak Street,* and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant. (Significant)

> **Mitigation Measure B.1a:** Install traffic signals at the unsignalized intersection of *Embarcadero and Oak Street*. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.
>
> Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes.
>
> The JLS EIR identified a number of improvements in the project study area that would be required to mitigate that project's traffic impacts, including installation of traffic signals at this intersection prior to occupancy of JLS Phase 1 project components. However, the exact
>
> timing of implementation of this improvement has not been established. If the JLS project were to install traffic signals at the intersection of Embarcadero and Oak Street prior to occupancy of Phase 1 of the Oak to Ninth project, then the Oak to Ninth project applicant would pay a fair share contribution to the cost of this traffic signal. However, if development of the JLS project were to lag behind, and the intersection of Embarcadero and Oak Street was unsignalized prior to occupancy of Phase 1 of the Oak to Ninth project, then the Oak to Ninth project applicant would pay to install the traffic signals. After implementation of this measure, the intersection would operate at LOS B in the both AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.1b: The LOS F conditions at the signalized intersection of *5th Street and Broadway*, which would prevail during the PM peak hour under 2010 baseline conditions, would worsen with the addition of traffic generated by Phase 1 of the project. The project-generated increases in vehicle delay on a critical movement would exceed the four-second threshold of significance. (Significant)

As described on page IV.B-8, based on field observations of existing intersection operations, the intersection of 5th Street and Broadway is judged to operate at LOS F during the PM peak hour due to backups along 5th Street caused by downstream bottlenecks in the Webster Tube.

> **Mitigation:** No feasible mitigation measures are available that would fully improve operations at 5th Street and Broadway to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue. The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).

Significance after Mitigation: Significant and Unavoidable.

Impact B.1c: The signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by Phase 1 of the project. (Significant)

> **Mitigation Measure B.1c:** Optimize the traffic signal timing at the signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.
>
> To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at LOS D or better.

Significance after Mitigation: This project impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.1c without the approval of Caltrans. However, in the event that Mitigation Measure B.1c could be implemented, the impact would be less than significant.

Impact B.1d: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and 5th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour. (Significant)

Mitigation Measure B.1d: Install traffic signals at the unsignalized intersection of *Embarcadero and 5th Avenue*. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.

Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes.

As described on page IV.B-59, at locations along Embarcadero, there would be intermittent periods during the PM peak hour when queues from one intersection would “spill-back” to adjacent intersections, and to minimize the effects of this queuing, coordination with signal phasing and timing of adjacent intersections shall include signal interconnects.

See page IV.B-28 for a description of the timing, funding and implementation responsibility for this mitigation measure, which the JLS Redevelopment EIR identified as required to mitigate that project’s traffic impacts prior to occupancy of JLS Phase 1 project components. After implementation of this measure, the intersection would operate at LOS C or better in the both AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.1e: Traffic generated by Phase 1 of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and I-880 Northbound Off-Ramp – 6th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant, during the PM peak hour. (Significant)

Mitigation Measure B.1e: Install traffic signals at the unsignalized intersection of *Embarcadero and I-880 Northbound Off- Ramp – 6th Avenue*. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.

Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes.

As described on page IV.B-59, at locations along Embarcadero, there would be intermittent periods during the PM peak hour when queues from one intersection would "spill-back" to adjacent intersections, and to minimize the effects of this queuing, coordination with signal phasing and timing of adjacent intersections shall include signal interconnects.

The project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at LOS C or better in the both AM and PM peak hours.

Significance after Mitigation: This project impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.1e without the approval of Caltrans. However, in the event that Mitigation Measure B.1e could be implemented, the impact would be less than significant.

Table IV.B-6 presents levels of service (and average vehicle delay) under mitigated conditions. All significant impacts would be mitigated to an acceptable LOS C or better after implementation of the above-described measures, except at 5th Street / Broadway during the PM peak hour.

TABLE IV.B-6

2010 AM AND PM PEAK HOUR MITIGATED INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

			Project Condition				Mitigated Condition			
			AM Peak		PM Peak		AM Peak		PM Peak	
No.	**Intersection**	**Mitigation**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
#4	Embarcadero & Oak Street	Signal	E	42.1	**F**	**>70**	B	13.5	B	15.8
#5	5th Street & Broadway	None feasible	D	43.8	**F**	*** a**	D	43.8	**F**	*** a**
#12	6th Street & Jackson Street	Optimize Timing	C	* b	**F**	**80.5**	C	* b	D	50.0
#36	Embarcadero & 5th Avenue	Signal	**F**	**>70**	**F**	**>70**	A	9.5	C	21.2
#37	Embarcadero & I-880 Northbound Off-Ramp – 6th Avenue	Signal	**F**	**>70**	**F**	**>70**	A	6.9	C	22.3

[a] See text on page IV.B-8 about how field observations show substantially worse LOS than calculated LOS under existing conditions.

[b] See text on page IV.B-10 about how field observations show worse LOS than calculated LOS under existing conditions.

Significant impacts are denoted in **Bold** typeface.

SOURCE: Fehr & Peers Transportation Consultants

Long-Term 2025 Conditions – Project Impacts

Traffic generated by the buildout of the project was assigned to the local roadway, and the intersection operations were assessed. As described on page IV.B-24, project trips were assigned to the roadway network and study intersections based on trip distributions patterns shown in **Figure IV.B-2**. See **Appendix C** for figures showing the project trip assignment for the Project Buildout scenario, and the 2025 With Project intersection traffic volumes. No improvements are assumed to occur in the 2025 With Project scenario except for those improvements constructed by the project along the project site frontage.

Impact B.2: Traffic generated by buildout of the project would affect traffic levels of service at local intersections in the project vicinity in 2025. (Significant Impact at the intersections described below under Impacts B.2a through B.2q)

Table IV.B-7 presents changes in levels of service (and average vehicle delay) due to project-generated traffic at study intersections under long-term (2025) conditions (i.e., year 2025 Baseline traffic volumes versus 2025 baseline volumes with buildout of the project). Under the 2025 baseline condition, the following 13 intersections would operate at an unacceptable level of service without the project traffic:

- Webster Street and Atlantic Avenue (AM and PM Peak Hours)
- Embarcadero and Oak Street (AM and PM Peak Hours)
- 5th Street and Broadway (PM Peak Hour)
- Jackson Street and 6th Street (PM Peak Hour)
- Market Street and West Grand Avenue (PM Peak Hour)
- Harrison Street and West Grand Avenue (AM Peak Hour)
- Foothill Boulevard and Lakeshore Avenue (AM Peak Hour)
- Lakeshore Avenue and MacArthur Boulevard (PM Peak Hour)
- Lakeshore Avenue and Lake Park Avenue (PM Peak Hour)
- Embarcadero and 5th Avenue (AM and PM Peak Hours)
- 14th Avenue / 7th Street and East 12th Street (Southbound) (PM Peak Hour)
- 14th Avenue (Eastbound) and Foothill Boulevard (PM Peak Hour)
- 23rd Avenue and 16th Street (PM Peak Hour)

As a condition of project approval, the project applicant shall be required to fully fund the cost of Mitigation Measure B.1c and B.1e, and to pay their fair share of the cost of Mitigation Measures B.1a and B.1d, to mitigate significant impacts caused by development of Phase 1 of the project. As described on page IV.B-28, that “fair share” could vary depending on whether or not the JLS project implements the latter measures prior to occupancy of Phase 1 of the Oak to Ninth project. On the basis of that commitment to the timely implementation of these improvements, analysis of buildout of the project assumed the required mitigation measures would be in-place at the following intersections under 2025 with project conditions (as reflected in **Table IV.B-7**):

- Embarcadero and Oak Street
- 6th Street and Jackson Street
- Embarcadero and 5th Avenue
- Embarcadero and I-880 Northbound Off-Ramp – 6th Avenue

TABLE IV.B-7

2025 AM AND PM PEAK HOUR INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

			AM Peak Hour				PM Peak Hour			
		Traffic	Baseline		With Project [a]		Baseline		With Project [a]	
No.	Intersection	Control	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
#1	Atlantic & Webster (Alameda)	Signal	E	74.6	**F**	**82.0**	E	57.9	E	61.7
#2	Atlantic & Constitution (Alameda)	Signal	D	44.0	D	45.4	D	38.5	D	40.8
#3	Embarcadero & Broadway	AWSC	A	9.4	B	14.5	C	21.3	**F**	**>70**
#4	Embarcadero & Oak Street	SSSC/ Signal	F	63.6	C	20.2	F	57.4	D	39.0
#5	5th Street & Broadway	Signal	E	77.6	E	75.2	F	* [b]	**F**	* [b]
#6	5th Street & Webster Street	SSSC	A	10.0	B	10.1	A	9.5	A	9.7
#7	5th Street & Jackson Street	Signal	B	10.9	B	11.2	B	10.6	B	12.7
#8	5th Street & Madison Street	Signal	A	8.2	A	8.3	B	14.6	B	17.8
#9	5th Street & Oak Street	Signal	C	21.9	D	52.9	E	60.7	**F**	**>100**
#10	6th Street & Broadway	Signal	C	25.3	C	28.8	C	23.1	C	25.6
#11	6th Street & Webster Street	SSSC	B	10.3	B	10.3	A	9.5	A	9.6
#12	6th Street & Jackson Street	Signal	E	77.0	**F**	**>100**	F	>100	**F**	**>100**
#13	7th Street & Market Street	Signal	B	15.2	B	15.2	C	26.2	C	26.7
#14	7th Street & Broadway	Signal	B	14.9	B	15.5	C	22.3	E	57.6
#15	7th Street & Webster Street	Signal	B	13.2	B	13.7	B	14.8	B	15.7
#16	7th Street & Jackson Street	Signal	B	14.3	B	16.0	C	23.6	D	36.9
#17	7th Street & Madison Street	Signal	B	13.9	B	13.9	B	16.7	B	17.2
#18	7th Street & Oak Street	Signal	B	13.4	B	12.6	E	61.4	E	60.3
#19	8th Street & Market Street	Signal	B	10.3	B	10.4	B	14.2	B	14.2
#20	8th Street & Broadway	Signal	B	12.7	B	13.2	B	13.0	B	14.3
#21	8th Street & Webster Street	Signal	D	38.2	D	45.5	E	* [c]	E	* [c]
#22	8th Street & Jackson Street	Signal	C	24.4	D	39.6	B	16.5	C	19.5
#23	8th Street & Madison Street	Signal	A	10.0	A	10.0	A	9.6	A	9.4
#24	8th Street & Oak Street	Signal	B	15.5	B	15.5	B	15.4	B	15.2
#25	West Grand Ave. & Market Street	Signal	B	15.6	B	15.6	E	73.8	E	74.1
#26	West Grand Ave. & Broadway	Signal	E	60.4	E	60.3	E	78.0	E	78.9
#27	West Grand Ave. & Harrison Street	Signal	F	>100	**F**	**>100**	D	49.3	D	50.6
#28	10th Street & Oak Street	Signal	B	10.4	B	10.4	B	10.4	B	10.4
#29	1st Ave. & International Blvd	Signal	B	16.3	B	16.5	C	22.1	C	22.4
#30	Lakeshore Ave. & Foothill Blvd	Signal	E	58.1	**E**	**64.1**	B	18.3	B	19.7
#31	Lakeshore Ave. & East 18th Street	Signal	D	39.9	D	39.3	D	37.5	D	40.2
#32	Lakeshore Ave. & Hanover Avenue	Signal	A	6.2	A	6.2	A	7.4	A	7.4
#33	Lakeshore Ave. & Brooklyn Ave.	Signal	A	7.7	A	7.7	A	6.8	A	6.9
#34	Lakeshore Ave. & MacArthur Blvd	Signal	C	25.5	C	26.2	F	>100	**F**	**>100**
#35	Lakeshore Ave. & Lake Park Ave.	Signal	D	43.5	D	43.9	E	55.8	**E**	**58.9**

(*Continued*)

TABLE IV.B-7 (continued)

2025 AM AND PM PEAK HOUR INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

No.	Intersection	Traffic Control	AM Peak Hour Baseline LOS	AM Peak Hour Baseline Delay	AM Peak Hour With Project [a] LOS	AM Peak Hour With Project [a] Delay	PM Peak Hour Baseline LOS	PM Peak Hour Baseline Delay	PM Peak Hour With Project [a] LOS	PM Peak Hour With Project [a] Delay
#36	Embarcadero & 5th Avenue	SSSC/ Signal	F	>70	D	49.2	F	>70	**F**	**>100**
#37	Embarcadero & I-880 Northbound Off-Ramp – 6th Avenue	SSSC/ Signal	B	12.6	B	19.0	B	14.8	**F**	**>100**
#38	Embarcadero & I-880 Southbound On-Ramp – 10th Avenue	AWSC	B	11.1	D	29.4	B	14.3	**E**	**42.7**
#39	Embarcadero & I-880 Southbound Off-Ramp – 16th Avenue	SSSC	B	14.7	C	15.5	B	13.0	C	16.5
#40	5th Avenue & 7th/8th Streets	Signal	B	14.7	B	16.8	D	37.4	**F**	**81.5**
#41	14th Avenue & 7th/12th St. (SB)	Signal	C	24.9	C	27.2	E	72.0	**F**	**87.7**
#42	14th Avenue & East 12th St. (NB)	Signal	B	16.0	B	16.0	B	12.1	B	12.6
#43	East 12th Street & 23rd Avenue	Signal	B	19.0	C	20.8	B	16.8	B	18.9
#44	East 12th Street & 5th Avenue	Signal	B	16.5	C	28.3	B	19.1	D	40.5
#45	International Blvd & 14th Avenue	Signal	B	12.8	B	13.1	B	16.8	B	17.3
#46	International Blvd & 23rd Avenue	Signal	B	19.0	C	21.0	B	19.0	C	24.2
#47	International Blvd & 5th Avenue	Signal	B	14.6	B	15.0	B	14.9	B	14.9
#48	Foothill Blvd & 5th Avenue	Signal	B	12.1	B	13.2	C	20.2	C	28.2
#49	Foothill Blvd & 14th Ave. (WB)	Signal	D	54.1	**E**	**55.8**	C	21.2	C	21.5
#50	Foothill Blvd & 14th Ave. (EB)	Signal	C	27.4	C	27.4	F	>100	**F**	**>100**
#51	Foothill Blvd & 23rd Avenue	Signal	C	21.5	C	21.3	B	13.1	B	13.7
#52	16th Street & 23rd Avenue	Signal	B	17.3	B	17.6	E	70.7	**E**	**74.2**

[a] Mitigation measures required for impacts in 2010 are assumed to be in-place under 2025 "with project" conditions

[b] See text on page IV.B-8 about how field observations show substantially worse LOS than calculated LOS under existing conditions.

[c] See text on page IV.B-10 about how field observations show worse LOS than calculated LOS under existing conditions**.**

Note: The LOS/Delay for Side-Street Stop-Control (SSSC) intersections represent the worst movement or approach; for Signalized and All-Way Stop-Control (AWSC) the LOS/Delay represent overall intersection. Significant impacts are denoted in **Bold** typeface.

SB = Southbound; NB = Northbound; WB = Westbound; EB = Eastbound

Significant impacts are denoted in **Bold** typeface.

SOURCE: Fehr & Peers Transportation Consultants

The project would have a less-than-significant impact at the 8th and Webster Streets intersection because the addition of project traffic would cause an increase in the average delay of less than one second, less than the City's 4-second threshold of significance.

Impact B.2a: The signalized intersection of *Atlantic Avenue and Webster Street* in Alameda would degrade from LOS E to LOS F during the AM peak hour with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2a: The project applicant shall pay its fair share contribution to the cost of improvements proposed by the City of Alameda at the signalized intersection of *Atlantic Avenue and Webster Street*. Intersection reconfiguration would consist of adding and restriping lanes to provide the following lanes per approach:

- Webster Street (from Oakland) – 1 Left-turn lane, 2 Through lanes, and 1 Right-turn lane (non-channelized right turn)
- Webster Street (to Oakland) – 2 Left-turn lanes, 1 Through lane, and 1 Through/Right-turn lane
- Atlantic Avenue (towards Alameda Point) – 1 Left-turn lane, 1 Through lane, and 1 Through/Right-turn lane
- Atlantic Avenue (away from Alameda Point) – 2 Left-turn lanes, 2 Through lanes, and 1 Right-turn lane

This mitigation measure was identified by the City of Alameda as the required improvement to accommodate redevelopment of the former Naval Air Station. The project would contribute to the implementation of this mitigation measure through payment of a fair share cost of the improvement (to be determined). During the AM and PM peak hours, the project's contribution to the estimated growth in traffic between the existing and cumulative traffic volumes (including project traffic). would be 5 and 6 percent, respectively. The project applicant would pay this fair share amount to the City of Alameda, which would then be responsible for the implementation of this improvement.

After implementation of this measure, the intersection would operate at LOS E in the AM peak hour, and at LOS D in the PM peak hour. LOS E is an unacceptable condition, but the average delay would be lower than under the No Project condition, and the project impact would therefore be mitigated to a less-than-significant level.

Significance after Mitigation: This project impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2a without the approval of the City of Alameda). In addition, despite the payment of the project's fair share cost of the improvement, this impact would remain significant and unavoidable because implementation of this mitigation depends on the subsequent development of the Alameda Point site, payment of traffic fees by developers, and other funding sources. Should the Alameda Point development be delayed, then sufficient funds may not be available to fully implement this mitigation measure. However, in the event that Mitigation Measure B.2a could be implemented, the impact would be less than significant.

Impact B.2b: Traffic generated by buildout of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and Broadway*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour. (Significant)

Mitigation Measure B.2b: Install traffic signals at the unsignalized intersection of *Embarcadero and Broadway*. The signals shall have fixed-time controls with permitted left-turn phasing, which would not require a separate left-turn arrow. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.

Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes.

The JLS EIR identified a number of improvements in the project study area that would be required to mitigate that project's traffic impacts, including installation of traffic signals at this intersection prior to occupancy of buildout of the JLS project. However, the exact timing of implementation of this improvement has not been established. If the JLS project were to install traffic signals at the intersection of Embarcadero and Broadway prior to buildout of the Oak to Ninth project, then the Oak to Ninth project applicant would pay a fair share contribution to the cost of this traffic signal. However, if development of the JLS project were to lag behind, and the intersection of Embarcadero and Broadway was unsignalized prior to buildout of the Oak to Ninth project, then the Oak to Ninth project applicant would pay to install the traffic signals. After implementation of this measure, the intersection would operate at an acceptable LOS B or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.2c: The LOS F conditions at the signalized intersection of *5th Street and Broadway*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen with the addition of traffic generated by buildout of the project. The project-generated increases in vehicle delay would exceed the two-second threshold of significance. (Significant)

As described on page IV.B-8, based on field observations of existing intersection operations, the intersection of 5th Street and Broadway is judged to operate at LOS F during the PM peak hour due to backups along 5th Street caused by downstream bottlenecks in the Webster Tube. The actual amount of increased delay that addition of traffic generated by buildout of the project to the intersection would cause is not known, but the average control delay would increase by more than two seconds (exceeding the threshold of significance).

Mitigation: No feasible mitigation measures are available that would fully improve its operations to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue.

The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).

Significance after Mitigation: Significant and Unavoidable.

Impact B.2d: The signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2d: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.

The JLS EIR identified a number of improvements in the project study area that would be required to mitigate that project's traffic impacts, including signal optimization at this intersection prior to occupancy of buildout of the JLS project. However, the exact timing of implementation of this improvement has not been established. If the JLS project were to optimize the traffic signal timing at the intersection of 5th and Oak Streets prior to buildout of the Oak to Ninth project, then the Oak to Ninth project applicant would pay a fair share contribution to the cost of retiming this intersection. However, if development of the JLS project were to lag behind, and the intersection of Embarcadero and Broadway was unsignalized prior to buildout of the Oak to Ninth project, then to ensure that signal timing optimization occurs, the Oak to Ninth project applicant would pay to install the traffic signals. After implementation of this measure, the intersection would operate at an acceptable LOS E or better in both the AM and PM peak hours.

Significance after Mitigation: This project impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2d without the approval of Caltrans. However, in the event that Mitigation Measure B.2d could be implemented, the impact would be less than significant.

Impact B.2e: The signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* would degrade from LOS E to LOS F during the AM peak hour with the addition of traffic generated by buildout of the project, and the LOS F conditions that, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project. (Significant)

Mitigation: No feasible mitigation measures are available. The 2010 analysis concluded that the impact from Phase 1 development could be mitigated through optimization of signal timing (see Mitigation Measure B.1c). However, with the additional growth in background traffic and the growth in project traffic that would occur from 2010 to 2025, this retiming could not fully mitigate the impact from Project Buildout. Given the constrained right-of-way at this location, the addition of turn lanes or other similar improvements would not be feasible.

Significance after Mitigation: Significant and Unavoidable.

Impact B.2f: The LOS F conditions at the signalized intersection of *West Grand Avenue and Harrison Street*, which would prevail during the AM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2f: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *West Grand Avenue and Harrison Street*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.

To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.2g: The LOS E conditions at the signalized intersection of *Lakeshore Avenue and Foothill Boulevard*, which would prevail during the AM peak hour under 2025 baseline conditions, would worsen (an increase in the total intersection average vehicle delay of more than four seconds) with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2g: Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Lakeshore Avenue and Foothill Boulevard*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.

To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at LOS E in the AM peak hour, which is an unacceptable condition, but the increase in average delay from the No Project condition would be less than the four-second threshold of significance established by the City of Oakland. The project impact would therefore be mitigated to a less-than-significant level.

Assessment of possible further mitigation measures (to achieve an acceptable LOS D or better condition) such as addition of a right-turn lane on Foothill Boulevard indicates that there is not sufficient right-of-way available for this additional lane at the intersection.

Significance after Mitigation: Less than Significant

Impact B.2h: The LOS F conditions at the signalized intersection of *Lakeshore Avenue and MacArthur Boulevard*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than four seconds) with the addition of traffic generated by buildout of the project. (Significant)

Mitigation: No feasible mitigation measures are available. Assessment of possible mitigation measures indicates that optimization of signal timing at this intersection would reduce average vehicle delays by about 15 seconds, but would not fully mitigate the project’s impact. Other improvements (to achieve an acceptable LOS D or better condition), such as additional turn lanes, are not feasible because there is not sufficient right-of-way available for additional lanes at the intersection.

Significance after Mitigation: Significant and Unavoidable.

Impact B.2i: The LOS E conditions at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than six seconds) with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2i: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.

To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.2j: The LOS F conditions at the intersection of *Embarcadero and 5th Avenue*, which would prevail during the PM peak hour under 2025 baseline unsignalized conditions, would continue under traffic signal control (installed by 2010 [see Mitigation Measure B.1d]) with the addition of traffic generated by buildout of the project. (Significant)

The project site plan does not provide sufficient capacity for this intersection. A modification of the project site plan would be needed to add additional lanes on Embarcadero and to restripe 5th Avenue to provide sufficient capacity at this location (see **Figure IV.B-3**).

> **Mitigation Measure B.2j:** Widen Embarcadero to provide two through travel lanes in each direction along the project site frontage (i.e., from north of 4th Avenue to 9th Avenue), with separate left-turn lanes provided at the intersections, and provide appropriate lane configurations on the streets that intersect Embarcadero within the above-cited limits.
>
> The project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

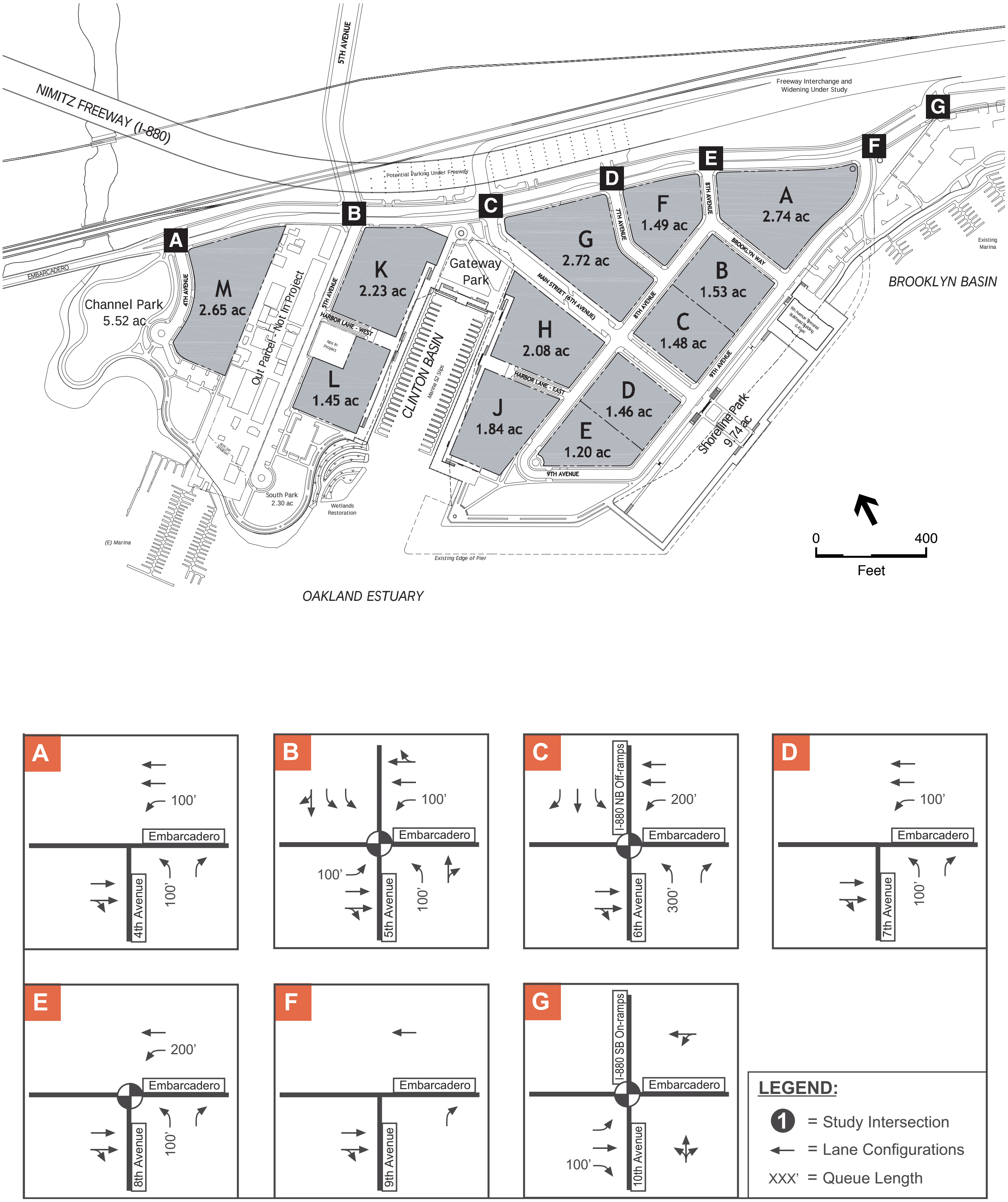
Impact B.2k: The intersection of *Embarcadero and I-880 Northbound Off-Ramp* (to be signalized by 2010 [see Mitigation Measure B.1e]) would degrade from LOS B to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project. (Significant)

The project site plan does not provide sufficient capacity for this intersection. A modification of the project site plan is recommended to add additional lanes on Embarcadero to provide sufficient capacity at this location.

> **Mitigation Measure B.2k:** Implement Mitigation Measure B.2j.
>
> The project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at an acceptable LOS C or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.2l: Traffic generated by buildout of the project would add more than ten vehicles to the unsignalized intersection of *Embarcadero and I-880 Southbound On-Ramp – 10th Avenue*, and the peak-hour volumes would meet the Caltrans peak-hour traffic signal warrant during the PM peak hour. (Significant)



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure IV.B-3
Recommended Lane Configurations on Embarcadero

Mitigation Measure B.2l: Install traffic signals at the unsignalized intersection of *Embarcadero and I-880 Southbound On- Ramp – 10th Avenue*. Installation of traffic signals shall include the traffic signal equipment and optimization of signal phasing and timing (i.e., allocation of green time for each intersection approach) in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections. Traffic signal equipment shall include pedestrian signal heads (with adequate time for pedestrians to cross the streets). Signal installation shall meet City of Oakland and Caltrans design standards.

Prior to the installation of this traffic signal, a complete traffic signal warrant analysis would be conducted at this location to verify that this location meets MUTCD signal warrants, which include both daily and peak-hour volume, accidents, and pedestrian volumes.

The project applicant shall pay for this measure. After implementation of this measure, the intersection would operate at LOS B in both the AM and PM peak hours.

As described on page IV.B-59, at locations along Embarcadero, there would be intermittent periods during the PM peak hour when queues from one intersection would “spill-back” to adjacent intersections, and to minimize the effects of this queuing, coordination with signal phasing and timing of adjacent intersections shall include signal interconnects.

Significance after Mitigation: This project impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2l without the approval of Caltrans. However, in the event that Mitigation Measure B.2l could be implemented, the impact would be less than significant.

Impact B.2m: The signalized intersection of *5th Avenue and 7th/8th Streets* would degrade from LOS D to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project. (Significant)

Mitigation Measure B.2m: Optimize the traffic signal timing for the PM peak period at the signalized intersection of *5th Avenue and 7th/8th Streets*. Additionally, the westbound and eastbound (5th Avenue) approaches of the intersection would be restriped within the current paved approach, and on-street parking spaces adjacent to the intersection would be removed, to provide separate left-turn, through, and through/right-turn lanes. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.

To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.2n: The signalized intersection of *14th Avenue and 7th/12th Streets (Southbound)* would degrade from LOS E to LOS F during the PM peak hour with the addition of traffic generated by buildout of the project. (Significant)

> **Mitigation Measure B.2n:** Optimize the traffic signal timing for the PM peak period at the signalized intersection of *14th Avenue and 7th/12th Streets (Southbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.
>
> To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at LOS E in the PM peak hour, which is an unacceptable condition, but the average delay would be lower than under the No Project condition, and the project impact would therefore be mitigated to a less-than-significant level.
>
> Assessment of possible further mitigation measures (to achieve an acceptable LOS D or better condition) such as addition of a right-turn lane, and conversion of the through/right lane to through movements only, on 14th Avenue indicates that there is not sufficient right-of-way available for this additional lane at the intersection.

Significance after Mitigation: Less than Significant

Impact B.2o: The signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)* would degrade from LOS D to LOS E during the AM peak hour with the addition of traffic generated by buildout of the project. (Significant)

> **Mitigation Measure B.2o:** Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.
>
> To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at an acceptable LOS C in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.2p: The LOS F conditions at the signalized intersection of *Foothill Boulevard and 14th Avenue (Eastbound)*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (total intersection average vehicle delay would exceed the two-second threshold of significance) with the addition of traffic generated by buildout of the project. (Significant)

> **Mitigation Measure B.2p:** Optimize the traffic signal timing for the AM peak period at the signalized intersection of *Foothill Boulevard and 14th Avenue (Eastbound)*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.
>
> To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at an acceptable LOS C in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.2q: The LOS E conditions at the signalized intersection of *16th Street and 23rd Avenue*, which would prevail during the PM peak hour under 2025 baseline conditions, would worsen (an increase in the average vehicle delay for a critical movement of more than six seconds) with the addition of traffic generated by buildout of the project. (Significant)

> **Mitigation Measure B.2q:** Optimize the traffic signal timing for the PM peak period at the signalized intersection of *16th Street and 23rd Avenue*. Optimization of traffic signal timing shall include determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches, and coordination with signal phasing and timing of adjacent intersections.
>
> To ensure that signal timing optimization occurs, the project applicant shall pay for this measure. The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at an acceptable LOS C or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Table IV.B-8 presents levels of service (and average vehicle delay) under mitigated conditions. As shown, all significant impacts would be mitigated to an acceptable level of service after implementation of the above-described measures, except at the following six intersections:

- Atlantic Avenue / Webster Street (AM and PM peak hours)
- 5th Street / Broadway (PM peak hour)
- 6th Street / Jackson Street (AM and PM peak hours)

TABLE IV.B-8

2025 AM AND PM PEAK HOUR MITIGATED INTERSECTION LEVEL OF SERVICE (LOS) AND DELAY (seconds/vehicle)

			Project Condition				Mitigated Condition			
			AM Peak		PM Peak		AM Peak		PM Peak	
No.	**Intersection**	**Mitigation**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**
#1	Atlantic & Webster (Alameda)	Add Lanes	**F**	**82.0**	E	61.7	E [a]	62.3	D	48.3
#3	Embarcadero & Broadway	Signal	B	14.5	**F**	**>70**	A	7.5	B	10.7
#5	5th Street & Broadway	None feasible	E	75.2	**F** [a]	**>100**	E	75.2	**F** [b]	**>100**
#9	5th Street & Oak Street	Optimize Timing	D	52.9	**F**	**>100**	D	52.9	E	62.2
#12	6th Street & Jackson Street	None feasible	**F**	**>100**	**F**	**>100**	**F**	**>100**	**F**	**>100**
#27	West Grand Ave. & Harrison St.	Optimize Timing	**F**	**>100**	D	50.6	C	31.4	D	50.6
#30	Lakeshore Ave. & Foothill Blvd	Optimize Timing	**E**	**64.1**	B	19.7	E [a]	59.3	B	19.7
#34	Lakeshore Ave. & MacArthur Blvd	None feasible	C	26.2	**F**	**>100**	C	26.2	**F**	**>100**
#35	Lakeshore Ave. & Lake Park Ave.	Optimize Timing	D	43.9	**E**	**58.9**	D	43.9	D	47.5
#36	Embarcadero & 5th Avenue	Widen Embarcadero	D	49.2	**F**	**>100**	D	49.2	C	29.9
#37	Embarcadero & I-880 NB Off-Ramp	Widen Embarcadero	B	19.0	**F**	**>100**	B	10.1	C	30.8
#38	Embarcadero & I-880 SB On-Ramp	Signal	D	29.4	**E**	**42.7**	B	17.6	B	19.0
#40	5th Avenue & 7th/8th Streets	Optimize Timing	B	16.8	**F**	**81.5**	D	38.7	D	47.9
#41	14th Avenue & 7th/12th St. (SB)	Optimize Timing	C	27.2	**F**	**87.7**	C	27.2	E [a]	63.8
#49	Foothill Blvd & 14th Ave. (WB)	Optimize Timing	**E**	**55.8**	C	21.5	C	26.7	B	17.9
#50	Foothill Blvd & 14th Ave. (EB)	Optimize Timing	C	27.4	**F**	**>100**	C	25.1	C	28.7
#52	16th Street & 23rd Avenue	Optimize Timing	B	17.6	**E**	**74.2**	B	17.6	C	29.3

[a] After implementation of the identified mitigation measure, the increase in average delay from the No Project condition would be less than the four-second threshold of significance established by the City of Oakland, and the project impact would be mitigated to a less-than-significant level, even with an unacceptable LOS.
[b] See text on page IV.B-8 about how field observations show substantially worse LOS than calculated LOS under existing conditions.

Significant impacts are denoted in **Bold** typeface.

SOURCE: Fehr & Peers Transportation Consultants

- Lakeshore Boulevard / Foothill Boulevard (AM peak hour)
- Lakeshore Boulevard / MacArthur Boulevard (PM peak hour)
- 14th Avenue / 7th/12th Streets (PM peak hour)

For three of the above-listed six intersections, implementation of the identified mitigation measures would mitigate the project impact to a less-than-significant level because either the increase in average delay from the No Project condition would be less than the four-second threshold of significance established by the City of Oakland (at Atlantic Avenue / Webster Street and Lakeshore Boulevard / Foothill Boulevard), or the average delay would be lower than under the 2025 No Project condition (at 14th Avenue / 7th/12th Streets).

Cumulative 2025 Conditions

In addition to the 2025 intersection analysis discussed above, which identifies project-specific impacts, full evaluation of potential impacts requires an assessment of the project's contribution to cumulative traffic conditions at intersections that will operate at unacceptable levels of service. This cumulative impact methodology compares the contribution of the project traffic to overall traffic growth (i.e., the difference between existing and cumulative [with project] volumes). The project would have a significant impact if it would contribute 5 percent or more to the traffic growth at deficient intersections (where the intersection exceeds acceptable thresholds).

Impact B.3: Traffic generated by buildout of the project would contribute to cumulatively significant impacts at local intersections in the project vicinity in 2025. (Significant Impact at the intersections described below under Impacts B.3a through B.3o)

As shown in **Table IV.B-7**, page IV.B-33, the following 18 intersections would operate at an unacceptable (as defined by location, within or outside the Downtown area; see page IV.B-13) LOS E or F under 2025 cumulative (with project) peak-hour conditions:

- Atlantic Avenue and Webster Street (AM and PM Peak Hours)
- Embarcadero and Broadway (PM Peak Hour)
- 5th Street and Broadway (PM Peak Hour)
- 5th Street and Oak Street (PM Peak Hour)
- 6th Street and Jackson Street (AM and PM Peak Hours)
- West Grand Avenue and Market Street (PM Peak Hour)
- West Grand Avenue and Harrison Street (AM Peak Hour)
- Lakeshore Avenue and Foothill Boulevard (AM Peak Hour)
- Lakeshore Avenue and MacArthur Boulevard (PM Peak Hour)
- Lakeshore Avenue and Lake Park Avenue (PM Peak Hour)
- Embarcadero and 5th Avenue (PM Peak Hour)
- Embarcadero and I-880 Northbound Off-Ramp (PM Peak Hour)
- Embarcadero and I-880 Southbound On-Ramp (PM Peak Hour)
- 5th Avenue and 7th/8th Streets (PM Peak Hour)
- 14th Avenue and 7th/East 12th Streets (Southbound) (PM Peak Hour)
- Foothill Boulevard and 14th Avenue (Eastbound) (AM Peak Hour)
- Foothill Boulevard and 14th Avenue (Westbound) (PM Peak Hour)
- 16th Street and 23rd Avenue (PM Peak Hour)

At West Grand Avenue / Market Street, West Grand Avenue / Harrison Street, and Foothill Boulevard / 14th Avenue (Eastbound), the project would contribute two percent or less to the projected growth in traffic volume from existing to 2025 (with project) conditions, i.e., a less-than-considerable contribution. The other 15 deficient locations are described below.

Impact B.3a: Traffic generated by buildout of the project would contribute at least five percent of the cumulative traffic increases at the signalized intersection of *Atlantic Avenue and Webster Street* in Alameda during the AM and PM peak hours, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3a:** Implement Mitigation Measure B.2a (contribute fair-share contribution to intersection improvements proposed by the City of Alameda).
>
> After implementation of this measure, the intersection would operate at LOS E in the AM peak hour, and at LOS D in the PM peak hour. LOS E is an unacceptable condition, but the average delay would be lower than under the No Project condition. For cumulative impacts, however, the significance criterion is whether the project would have a cumulatively considerable contribution to the unacceptable LOS (i.e., would contribute more than five percent of the cumulative traffic increase). Because implementation of Mitigation Measure B.2a would not reduce volumes at this intersection, the project's percent contribution would remain cumulatively considerable.

Significance after Mitigation: This cumulative impact would be significant and unavoidable, both because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2a without the approval of the City of Alameda), and because even though the increased average delay for the above-described mitigated condition would be less than the threshold of significance established by the City of Oakland, implementation of Mitigation Measure B.2a would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.

Impact B.3b: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and Broadway* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3b:** Implement Mitigation Measure B.2b (install traffic signals).
>
> After implementation of this measure, the intersection would operate at an acceptable LOS B or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.3c: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th Street and*

***Broadway* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)**

As described on page IV.B-8, based on field observations of existing intersection operations, the intersection of 5th Street and Broadway is judged to operate at LOS F during the PM peak hour due to backups along 5th Street caused by downstream bottlenecks in the Webster Tube.

> **Mitigation:** No feasible mitigation measures are available that would fully improve its operations to acceptable levels. While improvements such as reconfiguring lanes on Broadway and adding directional signage, as discussed in the JLS EIR, would improve traffic flow conditions on some movements, downstream bottlenecks in the Webster Tube would continue to cause substantial backups and delay on 5th Street approaching Broadway, and the previously described unacceptable LOS F conditions would continue. The constrained capacity of the tube is an issue of multi-jurisdictional concern (solutions are being explored by the cities of Oakland and Alameda, Caltrans, and the Alameda County Congestion Management Agency), and no feasible measures to increase the tube's capacity have been identified to date (e.g., the tube cannot simply be widened as can a roadway).

Significance after Mitigation: Significant and Unavoidable.

Impact B.3d: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th and Oak Streets at the I-880 Southbound On-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3d:** Implement Mitigation Measure B.2d (optimize traffic signal timing).
>
> After implementation of this measure, the intersection would operate at an acceptable LOS E or better in both the AM and PM peak hours.

Significance after Mitigation: This cumulative impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2d without the approval of Caltrans. However, in the event that Mitigation Measure B.2d could be implemented, the impact would be less than significant.

Impact B.3e: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *6th and Jackson Streets at the I-880 Northbound On-Ramp* during the AM and PM peak hours, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation:** No feasible mitigation measures are available. The 2010 analysis concluded that the impact from Phase 1 development could be mitigated through optimization of

signal timing (see Mitigation Measure B.1c). However, with the additional growth in background traffic and the growth in project traffic that would occur from 2010 to 2025, this retiming could not fully mitigate the impact from Project Buildout. Given the constrained right-of-way at this location, the addition of turn lanes or other similar improvements would not be feasible.

Significance after Mitigation: Significant and Unavoidable.

Impact B.3f: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Lakeshore Avenue and Foothill Boulevard* during the AM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3f: Implement Mitigation Measure B.2g (optimize traffic signal timing).

After implementation of this measure, the intersection would operate at LOS E in the AM peak hour, which is an unacceptable condition, but the increase in average delay from the No Project condition would be less than the threshold of significance established by the City of Oakland. For cumulative impacts, however, the significance criterion is whether the project would have a cumulatively considerable contribution to the unacceptable LOS (i.e., would contribute more than five percent of the cumulative traffic increase). Because implementation of Mitigation Measure B.2g would not reduce volumes at this intersection, the project's percent contribution would remain cumulatively considerable.

Assessment of possible further mitigation measures (to achieve an acceptable LOS D or better condition) such as addition of a right-turn lane on Foothill Boulevard indicates that there is not sufficient right-of-way available for this additional lane at the intersection.

Significance after Mitigation: This cumulative impact would be significant and unavoidable because even though the increased average delay for the above-described mitigated condition would be less than the threshold of significance established by the City of Oakland, implementation of Mitigation Measure B.2g would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.

Impact B.3g: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Lakeshore Avenue and MacArthur Boulevard* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation: No feasible mitigation measures are available. Assessment of possible mitigation measures indicates that optimization of signal timing at this intersection would reduce delays, but would not fully mitigate the project's impact. Other improvements (to achieve an acceptable LOS D or better condition), such as additional turn lanes, are not feasible because there is not sufficient right-of-way available for additional lanes at the intersection.

Significance after Mitigation: Significant and Unavoidable.

Impact B.3h: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Lakeshore Avenue and Lake Park Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3h: Implement Mitigation Measure B.2i (optimize traffic signal timing).

After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.3i: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and 5th Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3i: Implement Mitigation Measure B.2j (widen Embarcadero).

After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.3j: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and I-880 Northbound Off-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3j: Implement Mitigation Measure B.2j (widen Embarcadero).

After implementation of this measure, the intersection would operate at an acceptable LOS C or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.3k: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the unsignalized intersection of *Embarcadero and I-880 Southbound On-Ramp* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3k:** Implement Mitigation Measure B.2l (install traffic signals).
>
> After implementation of this measure, the intersection would operate at LOS B in both the AM and PM peak hours.

Significance after Mitigation: This cumulative impact would be significant and unavoidable because it is not certain that the measure could be implemented because the City of Oakland, as lead agency, could not implement Measure B.2l without the approval of Caltrans. However, in the event that Mitigation Measure B.2l could be implemented, the impact would be less than significant.

Impact B.3l: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *5th Avenue and 7th/8th Streets* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3l:** Implement Mitigation Measure B.2m (optimize traffic signal timing).
>
> The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at an acceptable LOS D or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant.

Impact B.3m: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *14th Avenue and 7th/East 12th Streets (Southbound)* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

> **Mitigation Measure B.3m:** Implement Mitigation Measure B.2n (optimize traffic signal timing).
>
> The City of Oakland, which has jurisdiction over this intersection, would be responsible for its implementation. After implementation of this measure, the intersection would operate at LOS E in the PM peak hour, which is an unacceptable condition, but the average delay would be lower than under the No Project condition. For cumulative impacts, however, the

significance criterion is whether the project would have a cumulatively considerable contribution to the unacceptable LOS (i.e., would contribute more than five percent of the cumulative traffic increase). Because implementation of Mitigation Measure B.2n would not reduce volumes at this intersection, the project's percent contribution would remain cumulatively considerable.

Assessment of possible further mitigation measures (to achieve an acceptable LOS D or better condition) such as addition of a right-turn lane, and conversion of the through/right lane to through movements only, on 14th Avenue indicates that there is not sufficient right-of-way available for this additional lane at the intersection.

Significance after Mitigation: This cumulative impact would be significant and unavoidable because even though the average delay for the above-described mitigated condition would be lower than under the No Project condition, implementation of Mitigation Measure B.2n would not reduce volumes at this intersection, and the project's percent contribution would remain cumulatively considerable.

Impact B.3n: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *Foothill Boulevard and 14th Avenue (Westbound)* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3n: Implement Mitigation Measure B.2o (optimize traffic signal timing).

After implementation of this measure, the intersection would operate at an acceptable LOS C in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Impact B.3o: Traffic generated by buildout of the project would contribute more than five percent of the cumulative traffic increases at the signalized intersection of *16th Street and 23rd Avenue* during the PM peak hour, as measured by the difference between existing and cumulative (with project) conditions. (Significant)

Mitigation Measure B.3o: Implement Mitigation Measure B.2q (optimize traffic signal timing).

After implementation of this measure, the intersection would operate at an acceptable LOS C or better in both the AM and PM peak hours.

Significance after Mitigation: Less than Significant

Transit Impacts

Impact B.4: The project would generate demand for alternative transportation service for the area. (Potentially Significant)

As described in the Setting, no transit currently serves the project site, with the closest BART service provided by the Lake Merritt station, approximately one mile away. Limited parking is provided at the Lake Merritt station, with 206 spaces dedicated for use by commuters. The nearest AC Transit service is provided at the Lake Merritt BART station or the Amtrak station, about one and 0.75 mile from the project site, respectively.

Transit Service and Facilities to Accommodate Possible Demand

As discussed in Section A, Land Use, the City of Oakland seeks to encourage the use of alternative transportation modes, and it is reasonable to assume there would be a demand for transit service by project residents, employees, and visitors. At this time, no funded transit service expansions are planned for the project site, and the project site plans do not indicate provision for transit facilities, such as bus stops/turnouts, on the Embarcadero and other major internal project roadways. Given the location of the Lake Merritt BART station and the current configurations of the BART lines, an additional (nearer) BART station would not be feasible. Possible future transit services are an expansion of AC Transit service, a privately-funded shuttle service that would convey project residents and workers to nearby transit stations. Several discussions have taken place between the project applicant and AC Transit regarding additional bus service to the site (specifically extension of Line 11 – Harrison), but no final decision has been made as of publication of this document.

If AC Transit were to expand service to this site, transit facilities, such as bus stops/turnouts, would have to be provided. Private transit (shuttle) service would also require pullouts or dedicated spaces to serve the site. The provision of transit service facilities on the site could reduce the vehicular trips and parking demand associated with both residents and employees on the site. The absence of transit facilities to service the project site would hinder development of transit and/or shuttle service. This is considered a potentially significant impact.

Transit Ridership

It could be assumed that a negligible number of transit trips would be generated by the project because of the barriers to transit usage. These barriers include the absence of existing transit service to the project site, the distance to the nearest transit facilities, and the relatively low number of parking spaces at the Lake Merritt BART station. Research indicates that most transit users prefer to access a station within one-quarter to one-half-mile of their origin or destination. With no additional transit service, would-be transit riders would have to walk one mile or more from many areas inside the project to reach either the BART or Amtrak station. Given these considerations, the number of transit users from the project site likely would be minimal unless additional transit service is provided to the site.

However, a simple assumption of no transit trips could understate the transit impacts associated with the project. Therefore, the ACCMA model was used to estimate an unconstrained number of transit trips generated by the project. The ACCMA model estimates that approximately 250 peak-hour transit trips would be generated by the project site, approximately 75 AC Transit trips and 175 BART trips. It is anticipated that each project-generated transit trip would include an automobile trip between the project site and the transit stations at Lake Merritt BART or the Jack London Square Amtrak.

Project Effects – AC Transit

An impact would occur on an AC Transit line if the project would add more than three percent to the total ridership on a line when the average passengers per seat rate (i.e., load factor) on that line exceeds more than 125 percent. Average ridership, based on load factors reported by AC Transit, is 80 percent or less on the bus lines nearest the project site (at the Lake Merritt BART station). The above-described estimated 75 peak-hour project AC Transit trips would not cause any AC Transit bus lines to exceed 125 percent, and the project impact with respect AC Transit would be less than significant.

Project Effects – BART Standing Capacity

An impact would occur on a BART line if the project would add more than three percent to the total ridership on a line when the average load factor on that line exceeds more than 135 percent. During the peak hour, 24 trains access the Lake Merritt BART station traveling both north and south. The above-described estimated 175 peak-hour BART trips would add about six riders per train, causing a limited (one percent) increase in the average load factor, and the project impact with respect BART standing capacity would be less than significant.

Project Effects – BART Gate Capacity

An impact would occur at a BART station if the project would add more than three percent to the total ridership combined with an average wait time of one minute or more. The current peak-hour ridership at the Lake Merritt BART station is about 1,063 entries and exits. Field observations conducted in January 2005 during the AM and PM peak hours indicated that delay experienced at the fare gates was minimal. Only one queue longer than one minute was observed, during the PM peak hour. The average queue was seven passengers, with a per-person delay of 16 seconds. The additional BART trips from the project would cause a total ridership increase of about 16 percent, which would not cause the average wait time to increase to one minute, and the project impact with respect BART gate capacity would be less than significant.

> **Mitigation Measure B.4a:** The project applicant shall redesign the project site plan to include transit facilities, including bus turnouts on the Embarcadero at a minimum, to ensure that bus service could be accommodated if agreement with AC Transit were to be met to extend service to the project site. Additional facilities would include bus stops within the project, or even a dedicated transit center at which public buses and/or private shuttles could stop.

Mitigation Measure B.4b: The project applicant shall operate a private shuttle service to complement AC Transit service that might be extended to the project site. The shuttle service shall have an adequate number of shuttle stops located onsite, and shall operate on a frequency sufficient to attract use of the service by project residents and employees.

Mitigation Measure B.4b complements Air Quality Mitigation Measure C.7.

Significance after Mitigation: Less than Significant.

Bicycle Impacts

Impact B.5: The project would create demand for bicycle parking. (Less than Significant)

The Bicycle Master Plan requires new development to provide both short-term and long-term parking for bicycles. For multi-family residential uses with private garages, the recommendation is for one short-term bicycle parking space per 10 units; no long-term bicycle parking spaces would be required. For retail and restaurant uses, one short-term space per 5,000 square feet and one long-term bicycle parking spaces per 8,000 square feet are recommended.

To meet the recommended goals of the Bicycle Master Plan, the project would be required to provide 128 short-term and 9 long-term bicycle parking spaces for Phase 1, and 350 short-term and 25 long-term spaces under buildout of the project. The parking ratios described above are presented as recommendations in the Bicycle Plan. However, the City is now considering adopting requirements in its Zoning Ordinance that would be lower than summarized above.

As part of the proposed project, bicycle parking spaces would be provided in onsite locations, at a level determined by the City and in a manner consistent with the City's practices at the time of project construction.

Mitigation: None required.

Pedestrian Safety Impacts

Impact B.6: The project would increase the potential for pedestrian safety conflicts. (Less than Significant)

As described in the Setting, within the general project area, some pedestrian facilities are provided, though given the current industrial orientation of the project site, no sidewalks are provided on-site. Many of the study area roadways provide sidewalks on both sides, and the Bay Trail currently extends from Jack London Square to the Estuary Park along 2nd Street.

The project would increase both pedestrian activity and vehicular traffic in and around the project area, particularly along the Embarcadero. As described in the Project Description, the proposed project would include a continuous public Class I trail along the entirety of the project shoreline, linking an existing Bay Trail segment, which ends at Estuary Park, to 10th Avenue, where the trail currently continues east to the Martin Luther King Regional Shoreline and beyond. The adopted Pedestrian Master Plan (PMP), which is part of the City's General Plan, includes PMP Policy 1.2. Traffic Signals, which recommends use of traffic signals and their associated features (e.g., pedestrian signal heads) to improve pedestrian safety at dangerous intersections. As described under Impacts B.1 and B.2, above, intersections in the project area, including those serving as access points for the project site, would be signalized to mitigate significant project effects on traffic flow conditions. As stipulated in Mitigation Measures B.1a, B.1d, B.1e, B.2b and B.2l, pedestrian signal heads (with adequate time for pedestrians to cross the streets) would be installed when new traffic signals are installed. These traffic control devices would safely accommodate the added vehicular and pedestrian traffic, and the project would have a less-than-significant impact on pedestrian safety.

Pedestrian safety is an issue of general concern throughout Oakland, and adoption of the above-cited Pedestrian Master Plan provides the City with a mechanism of addressing conditions in various areas, with a focus on high pedestrian activity areas or corridors, where pedestrian volumes and collision rates tend to be higher than the rest of the city. The following is a general discussion of issues and concerns in high pedestrian activity areas (e.g., the San Antonio and Chinatown areas), and how the proposed project potentially would affect those areas.

Drivers and pedestrians share responsibility for pedestrian safety. While increased vehicular volumes may contribute to pedestrian collisions, there are many other factors, such as signal timing (i.e., the amount of time pedestrians have to cross the street at signalized intersections), intersection and roadway design (e.g., the presence or absence of pedestrian crossing signals, and the prohibition or allowance of right turns on a red light), adjacent land uses, parking movements, as well as pedestrian volumes and characteristics that also affect pedestrian safety. Chinatown's proximity to regional roadways (freeway ramps and the Webster/Posey tubes) and downtown Oakland, as well as the mix of through and local traffic with high pedestrian volumes, has resulted in concern and action on the part of community members and the City. The Revive Chinatown Streetscape and Pedestrian Improvement Project, funded by a Transportation for Livable Communities grant and local matching funds, will include installation of corner bulb-outs (which shortens the crossing distance at intersections), scramble traffic signals (which allow pedestrians on all four corners to cross at the same time, including diagonally, while red lights stop all vehicles), pedestrian countdown timers (to show pedestrians how many seconds of "Walk" time remains), crosswalk striping, and bilingual signs. These enhancements will improve pedestrian safety by reducing conflicts with vehicles and by providing pedestrians with better information about safely crossing streets. The San Antonio district is east of the project site, and while about half of the traffic generated by the project would use regional roadways to access the project site, the rest would be dispersed through the local roadway system. The proposed project would increase traffic along 5th, 14th, and 23rd Avenue, and Foothill and International Boulevard, and East 12th Street. The major signalized intersections on those roads currently have pedestrian signal heads and crosswalks, and operate at good levels of service (i.e., LOS C or better). Those intersection would operate at acceptable service levels (i.e., LOS D or better) at all but one intersection with addition of traffic generated by buildout of the project (with, in some cases, implementation of required mitigation measures identified in the EIR). The intersection of 14th Avenue and 7th/12th Streets is projected to operate at an unacceptable LOS E in 2025 during the PM peak hour with or without the project. The traffic control devices and pavement markings would safely accommodate vehicular and pedestrian traffic, and the project would have a less-than-significant impact on pedestrian safety.

Mitigation: None required.

Site Access and Circulation Impacts

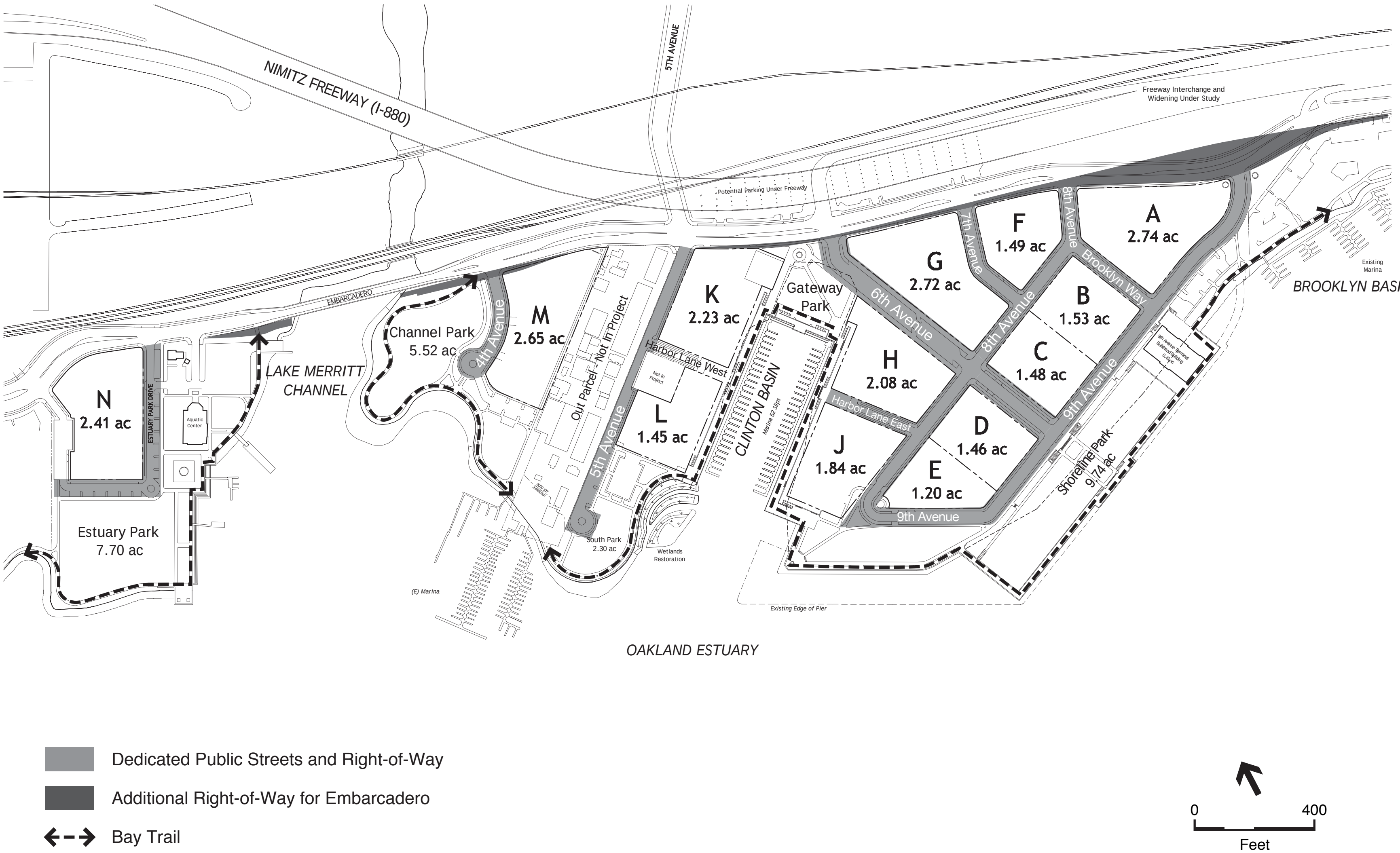
Impact B.7: The project would increase the potential for conflicts among different traffic streams. (Significant)

This impact assessment is based on the project site plan (see **Figure IV.B-4**). Aspects of the site plan assessed include the lane configurations on Embarcadero along the project boundary, access at project entrances/exits, traffic control at intersections, and internal roadway design. For the purposes of this study, the design of the project is judged to have a significant impact if the project incorporates design elements that would not comply with Caltrans design standards, as defined by of the 5th Edition of the Caltrans *Highway Design Manual* (Caltrans, 1995). When Caltrans design standards are unavailable or unclear, then other documents were used (e.g., the Manual of Uniform Traffic Control Devices (MUTCD). For the cross-sectional elements, the Caltrans recommends the use of America Association of State Highway and Transportation Officials (AASHTO) standards for city and county roadways that are not under the jurisdiction of Caltrans.

The project site would connect to Embarcadero by several public streets (4th, 5th, 6th, 7th, 8th, and 9th Avenues) that would provide full access into the development. Based on the impact analysis for 2010 and 2025 (see Impacts B.1 and B.2, above), traffic signals would be required on Embarcadero at 5th Avenue and 6th Avenue (the latter at the I-880 northbound off-ramp); in addition, a signal would be required at Embarcadero at 10th Avenue (at the I-880 southbound on-ramp) to mitigate project impacts. The other project access roadways would be full access and are assumed for this analysis initially to operate under side-street stop-sign control.

Spacing of Project Access Along Embarcadero

The *Highway Design Manual* and AASHTO do not provide formal standards for intersection spacing. However, based on standard traffic engineering principles, several general guidelines can be applied for signalized and unsignalized intersections. The first guideline (spacing for signalized intersections) sets about 800 feet or more as optimal, with 500-600 feet considered the minimum. The intersections of Embarcadero/5th Avenue and Embarcadero/6th Avenue are about



SOURCE: Fehr & Peers

Figure IV.B-4
Project Site
Street and Pedestrian Ways

500 feet apart, and the intersection of Embarcadero/I-880 Southbound On-Ramp at 10th Avenue is approximately 1,000 feet from the next adjacent intersections. Based on this spacing standard, the site access intersections at Embarcadero/7th Avenue and Embarcadero/9th Avenue must remain unsignalized because a potential signal at the former would be less than 500 feet from the Embarcadero/6th Avenue signal, and a potential signal at the latter would be less than 400 feet from the signalized intersection at Embarcadero/I-880 Southbound On-Ramp at 10th Avenue. If needed for site access, a traffic signal could be installed at Embarcadero/8th Avenue.[13] Given the short distance of the Embarcadero/9th Avenue intersection to the adjacent southbound freeway on-ramp at 10th Avenue, it is recommended that this intersection be converted to right-in / right-out operation.

The second guideline (spacing for unsignalized intersections) sets 350 feet as the minimum distance, as defined by the Caltrans *Highway Design Manual* (Table 405.1A) for corner sight distance considerations. A corner sight distance of 350 feet is required for a vehicles traveling at 30 miles per hour (considered appropriate for the posted 25 mph speed limit on Embarcadero).[14] A review of the project site plan indicates that all of the unsignalized intersections are spaced at least 350 feet apart on Embarcadero.

Queuing at Intersections Along Embarcadero

The purpose of this queuing analysis is to confirm the lane configuration changes and access changes recommended in the sections above. On the basis of a micro-simulation analysis, with an additional through lane on Embarcadero, and the other lane configurations presented previously, the queuing (backups) along Embarcadero would be minimized. A review of the estimated queues at the intersections indicated that backups would be minimal along Embarcadero, with some occasional “spill-back” from one adjacent intersection to another. The average queue length during the PM peak hour would be less than the storage length at all of the intersections along Embarcadero in front of the project site; the maximum queue at several locations would intermittently exceed the available storage area. See **Appendix C** for documentation.

At several locations, there would be intermittent periods during the PM peak hour when queues from one intersection would “spill-back” to adjacent intersections. This queuing would occur in the southbound direction along Embarcadero and occurs at 4th, 6th, and 10th Avenues. To minimize queuing along Embarcadero, signal interconnects would be installed to coordinate the traffic signals at 5th, 6th, 8th, and 10th Avenues.

Queuing also would occur at Embarcadero/7th Avenue for vehicles trying to exit the project, particularly for left-turn vehicles. Therefore, this roadway would have to be restricted to right-in/right-out operations only for vehicles turning onto Embarcadero.

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[13] A review of the peak-hour traffic signal warrants from the Manual of Uniform Traffic Control Devices (MUTCD) indicates that a traffic signal would be warranted at Embarcadero/8th Avenue.

[14] If a driver were traveling along a roadway at 30 miles per hour and a car pulled out in front of them, that driver would require 350 feet to recognize the car and safety decelerate to 85 percent of their intended speed.

Emergency Access

As stated in the Significance Criteria, the project results in a significant impact if the design of the project contains fewer than two emergency access routes for streets exceeding 600 feet in length. This criterion identifies roadways that are long cul-de-sacs that could be difficult for emergency vehicles to access. For example, if there is only one access point to a roadway, then emergency vehicle access to adjacent properties could potentially be obstructed, and there would be no alternate routes available.

The proposed project would have four roadways with only one access point – 4th Avenue, 5th Avenue, Harbor Lane West, and Harbor Lane East (see **Figure IV.B-3**). Each of these roadways would be less than 600 feet in length, as measured on the project site plan, and the project impact would be less than significant.

Railroad Operations

An issue related to emergency vehicle access is the operations of the railroad. There is a rail line (operated by Union Pacific Rail Road [UPRR]) running east of the project site that carries freight and Amtrak passenger train service. An at-grade crossing of these tracks is located at 5th Avenue and includes standard protective equipment (i.e., signals and movable gates). Amtrak passenger service out of the Jack London Square station operates on three lines (Capital Corridor, 24 trains per day, San Joaquin, 12 trains per day, and Coast Starlight, 2 trains per day). Freight rail service operates with no set/published schedule. Therefore, field observations were conducted to determine how the freight rail service might operate on a typical weekday.

Field data was collected from 7:00 AM to 6:00 PM in September 2004 at the current at-grade crossing of the UPRR line on 5th Avenue. Data collected included the number of trains that passed by the crossing, the classification of train (freight or Amtrak), the number of vehicles in each train, and the amount of time that the crossing gates were closed. On the day studied, six freight trains passed by the project site during the data collection period. These trains varied in length from 8 cars to 91 cars, and the amount of time the gates were down varied from one to five minutes. During the 11-hour data collection effort, freight trains caused the gates to be down for a total of about 20 minutes, or 3 percent of the total observed time. Because no set schedule exists for freight rail operations, more or fewer trains could operate along this line in the future. The only certainty is that the UPRR will continue to use these tracks for freight operations in the foreseeable future.

When a freight train is crossing the tracks across 5th Avenue, access to the project site would be limited. For non-emergency vehicles, these obstructions would be a temporary inconvenience. However, a track blockage by a freight train could be a more serious issue for an emergency vehicle traveling to the project site. Available alternative routes that an emergency vehicle can use to access the site are the at-grade crossing on Oak Street (to the north) and the overcrossing on 16th Avenue (to the south). A long freight train could simultaneously block the at-grade crossings at 5th Avenue and Oak Street, which would limit access to the site to the 16th Avenue alternative route. The availability of alternative routes would minimize any significant delay in response time, given the relative frequency and duration of train obstructions at both the 5th

Avenue and Oak Street crossings in typical conditions or in the instance of a simultaneous emergency in the project area (Poulson, 2004).

Internal Project Site Design Elements

Spacing of Internal Intersections. The spacing of internal intersections was judged using sight distance criteria. On the basis of less-restrictive stopping sight distance criteria (consistent with *Highway Design Manual* recommendations for intersections not located on major public streets like the Embarcadero), spacing of internal intersections would be appropriate.

Cross-section Elements. The major cross-sectional elements of the internal project roadways include travel lanes, parallel parking lanes, angled parking lanes, bicycle lanes, sidewalks, curb ramps, and crosswalks. Applicable standards and guidance from AASHTO, the MUTCD, and the America Disabilities Act (ADA) were applied.

- Travel lane widths on internal roadways would be 10 feet or more, which exceeds AASHTO's minimum lane width (9 feet).

- Roadways within the project site that would provide parallel parking would have parking widths of 8 feet, which matches AASHTO's recommended width.

- Neither the *Highway Design Manual* nor AASHTO provide explicit standards for the design of angled parking spaces. The *Dimensions of Parking* provides guidance regarding the designs of parking facilities (Urban Land Institute, 2000). The project roadway cross-sections would provide 29 feet for the angled parking space plus adjacent travel lane, which matches the minimum depth for an angled parking space (17 feet, excluding the curb overhang) plus travel lane (12 feet) in the ULI document.

- The project would provide six-foot-wide bike lanes on the Embarcadero, which exceeds AASHTO's minimum lane width (4 feet).

- The sidewalk widths shown on the project site plan vary from 5 feet to 16 feet, which exceeds AASHTO's minimum width criterion (4 feet).

  There are other design considerations applicable to sidewalks besides the minimum width. For example. Design considerations are needed for the minimum pedestrian zone (a clear space devoid of obstacles), the maximum grade, cross slopes for sidewalks, and the design of sidewalk surfaces, in keeping with ADA standards. The project site plan does not provide sufficient detail to allow determination of ADA compliance by the project at this time.

- The project site plan shows crosswalks at all internal project intersections and at project intersections on Embarcadero. The MUTCD requires that crosswalks have a minimum width of 6 feet, with a preferred width of 10 feet. A review of the site plan indicates that the crosswalks shown have sufficient width.

However, there appear to be several locations where additional crosswalks would be required, including potential mid-block crossings where pedestrians may chose to cross internal project roadways. One potential location would be 9th Avenue, west of the Ninth Avenue Terminal location because there are sidewalks connecting to 9th Avenue at this location, but no crosswalks.

- Both ADA and AASHTO provide specific guidelines regarding the design of curb ramps. Curb ramps provide connections between the sidewalks and the street and are typically found at intersections and other pedestrian crossing locations. Important issues relating to the design of curb include the width of a curb ramp and the slope of the ramp. For example, a ramp with an excessive slope could be difficult for a person in a wheelchair to navigate.

  The project site plan indicates that curb ramps are provided at each marked crosswalk location. The curb ramps are sufficiently wide and are provided at all crosswalks shown on the current project site plan. However, the site plan is not sufficiently detailed to indicate whether the maximum grade is exceeded on the curb ramps.

  Mitigation Measure B.7: The project applicant shall redesign the site plan as follows:

  - Reconfigure the intersections of Embarcadero/7th Avenue and Embarcadero/9th Avenue intersection for right-in/right-out movements only (to ensure proper spacing between signalized intersections).
  - Install a traffic signal at the intersection of Embarcadero and 8th Avenue.
  - Install signal interconnect on Embarcadero between 5th and 10th Avenues to allow for coordination of traffic signals along Embarcadero (to minimize queuing [back-ups] on Embarcadero).
  - The design of pedestrian facilities including sidewalks, crosswalks, and curb ramps shall comply with ADA standards and other applicable legislation.

Significance after Mitigation: Less than Significant.

Required Congestion Management Program Evaluation

The Alameda County Congestion Management Program (CMP) requires the assessment of development-driven impacts to regional roadways. Because the project would generate more than 100 “net new” PM peak-hour trips, the CMP requires the use of the Countywide Travel Demand Forecasting Model to assess the impacts on regional roadways near the project site during the PM peak hour. The CMP and Metropolitan Transportation System (MTS) roadways in the project vicinity identified in NOP comments by ACCMA (July 20, 2004 letter) include Interstate 880, Interstate 980 / State Route 24, Interstate 580, Broadway, Brush Street, Castro Street, Grand Avenue, Martin Luther King Jr. Way, San Pablo Avenue, and Telegraph Avenue.[15]

[15] Note that the roadway segments included in this evaluation is not based on an assessment of the project trip distribution or application of a screening criteria to determine if the project would contribute enough new trips to warrant analysis.

The Countywide Model is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process takes into account changes in travel patterns due to future growth and balances trip productions and attractions.

For the purposes of the CMP Analysis, the land uses of the proposed project were added to the assumptions in the Countywide Model; the land use assumptions in the Countywide Model for the rest of the City of Oakland were not modified. At this time, these land uses are different from the Oakland Cumulative Scenario that was used for the cumulative analysis. This version of the Countywide Model was based on ABAG *Projections 2002* land uses for 2010 and 2025. The project falls within traffic analysis zone (TAZ) 95 and a portion of TAZ 799.

The traffic baseline forecasts for 2010 and 2025 (PM peak hour) were extracted for the CMP and MTS highway segments from the Countywide Model. Due to fluctuations in the model forecasts and the model's limited number of TAZs in the project area, the "with project" forecasts were not used directly for the CMP roadway analysis. Instead, traffic estimates were computed for the proposed project and manually added to the 2010 and 2025 baseline volumes from the Countywide Model. The "with project" level of service results were compared to the baseline results for each model horizon year. Highway impacts were summarized at the designated roadway segments (links) on the MTS and CMP networks. The PM peak hour volumes, v/c ratios and the LOS for baseline and "with project" conditions represent both directions of flow. Detailed tables are provided in **Appendix C** and include all data for 2010 and 2025 forecast years.

Operations of the MTS freeway and surface street segments were assessed using a volume-to-capacity (v/c) ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the 2003 and 2004 *Congestion Management Program* documents. For surface streets, a per-lane capacity of 800 vehicles per hour was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

Due to differences in the land use assumptions and traffic zone and roadway network details, the forecasted traffic volumes on the roadway links can be different from the intersection volumes, particularly at the local level. The first area of difference is the land use data sets employed for the intersection forecasts and the MTS forecasts. The intersection forecasts, which are used to assess project traffic impacts on City of Oakland intersections, are based on land use data developed by HEG for the City of Oakland, which differs from the data in the ACCMA model. The second area of difference is the use of a furnessing process. The intersection forecasts use the output of the ACCMA model as an input to develop intersection volumes in conjunction with existing traffic counts. The MTS roadway analysis reports the outputs of the ACCMA model directly on a roadway segment level. It is not unusual for there to be discrepancies given that the two analyses measure impacts at a different scale. For local streets, intersections are typically a more accurate measure of operating conditions because the capacity of an urban street, defined as the number of vehicles that can pass through its intersections, is controlled by the capacity at its intersections.

2010 Impacts on Regional and Local Roadways

Impact B.8: The project would contribute to 2010 changes to traffic conditions on the regional and local roadways. (Less than Significant)

The addition of project-generated traffic to the regional and local roadways would not change the peak-hour levels of service on any of the roadways when compared to the 2010 baseline condition, except for I-980 (between I-880 and I-580), which would change from LOS A to B during the AM peak hour. This roadway would nonetheless continue to operate at acceptable levels of service.

Mitigation: None required.

2025 Impacts on Regional and Local Roadways

Impact B.9: The project would contribute to 2025 changes to traffic conditions on the regional and local roadways. (Significant)

The addition of project-generated traffic to the regional and local roadways would result in a change in peak-hour level of service at the following locations when compared to the 2025 baseline condition:

Addition of project trips on southbound I-880 from the project to High/42nd Street during the PM peak hour would cause the v/c ratio to increase within unacceptable LOS F by more than the 3-percent threshold of significance, which would be a significant impact.

<u>PM Peak Hour</u>

- I-880 (northbound from Hegenberger Street to High/42nd Street, <u>and</u> from High/42nd Street to the project), which would degrade from LOS D to E.
- I-880 (northbound from I-980 to I-880/Toll Plaza), which would degrade from LOS C to D.
- I-880 (southbound from I-880/Toll Plaza to I-980), which would degrade from LOS D to E.
- Martin Luther King Jr. Way (southbound from Adeline Street to SR 24), which would change from LOS D to E.
- Broadway (westbound from 14th Street to 7th Street), which would change from LOS A to B.
- Telegraph Avenue (northbound from Ashby Avenue to Bancroft Way), which would change from LOS D to E.

<u>AM Peak Hour</u>

- I-880 (northbound from the project to I-980), which would degrade from LOS D to E.

- Broadway (eastbound from Embarcadero to 7th Street), which would change from LOS A to B.

The above-cited roadway segments would nonetheless continue to operate at acceptable levels of service (LOS E or better), and the project impact on those segments would be less than significant.

Mitigation: Direct mitigation of the project's significant impact on the freeway segment is not feasible. Factors that limit the mitigation of impacts include constrained right-of-way, no regional or local traffic impact fee mechanism to collect and disperse funds for roadways improvements, and the inherent difficulties with widening the freeways, such as the need to widen over crossings and structures adjacent to the freeway.

One method to reduce vehicular trips from the project would be the inclusion of transit through the addition of transit stops, an extension of AC Transit service to the site, and the provision of a complementary private shuttle service that would connect the project to major adjacent destinations such as Downtown Oakland and Jack London Square. While inclusion of transit facilities and provision of both public and private transit service to the site would not fully mitigate the project's impacts on the regional freeway system, a reduction in trips to the site would lessen the impacts of the project on these roadways.

Significance after Mitigation: Significant and Unavoidable.

Construction Period Impacts [16]

Impact B.10: Project construction would temporarily affect traffic flow and circulation, parking, and pedestrian safety. (Potentially Significant)

During the construction period, temporary and intermittent transportation impacts would result from truck movements as well as construction worker vehicles to and from the project site. The construction-related traffic would result in a temporary reduction to the capacities of project area streets because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Given the nearby I-880 freeway ramps, use of local roadways would be limited. Truck traffic that occurs during the peak commute hours (7:00 to 9:00 AM and 4:00 to 6:00 PM) could result in worse levels of service and higher delays at local intersections than during off-peak hours.

Construction work on the site would include two main types of activities, i.e., site preparation and building construction on each of the parcels. Building construction on an individual parcel could occur only after the completion of the site preparation work. These activities are described in more detail below.

[16] This section was prepared on the basis of preliminary estimates of construction phasing, duration, materials and equipment staging, and road closures provided by Oakland Harbor Partners (project sponsor).

Site preparation includes all of the activities required to allow construction on the individual parcels of the project. Major components of site preparation would involve removal of all existing structures such as buildings, parking lots and other man-made items, removal of contaminated soil material, deposition of clean fill, grading of the site, and construction of necessary infrastructure. At this time, it is anticipated that about three feet of soil would be removed from the site, and three feet of new fill material would be deposited uniformly across the project site. The final phase of site preparation would be the installation of infrastructure that would include onsite roadways, water lines, and other required items. A variety of equipment would be required for the site preparation stage, including bulldozers, grading machines, cranes, and dump trucks, which would be responsible for the removal and deposition of cut and fill material on the site. Reconstruction of the Embarcadero along the project frontage would occur as part of site preparation activities.

Building construction involves the assembly of the buildings on each individual parcel; it is anticipated there would be 13 to 15 buildings constructed on the project site. Major elements of building construction would include driving piles to support the building foundation, constructing the building frame, pouring concrete to serve as the floor of each story, and completing the interior of each building. Interior work within each building would include adding the necessary piping and wiring, adding windows, and installing interior fixtures such as sinks and faucets.

Given the size of the project site, it is anticipated that the construction workers, vehicles, and equipment would be stored onsite. In the earlier phases of construction, these vehicles would be stored on vacant parcels within the project site. During later phases of the project, the project open spaces would be used to store vehicles and equipment. According to the project applicant, the site construction activities would not require any off-site storage of equipment or vehicles. Designation of storage and staging areas for equipment, materials, and vehicles would be a requirement of a construction traffic management plan (see Mitigation Measure B.11).

The project would be developed in four major phases over a period of approximately 11 years. It is anticipated that the project would start construction in 2007 and be completed and occupied in several subphases, with full buildout complete in approximately 2018. Based on information provided by the project applicant, the following major assumptions were used to develop this schedule:

- Site preparation would begin in 2007.
- Each parcel would require at least one year of site preparation prior to building construction.
- Building construction would begin in 2008
- Construction of each building would require two to three years after the completion of the site preparation.
- Construction would be phased, with site preparation and building construction potentially occurring on separate parcels concurrently.
- Site preparation work would require five years to complete on the entire project beginning in 2007 and ending in 2012.
- Construction work on the individual buildings would occur over a ten-year period, beginning in 2008 and ending in 2018

According to the project applicant, the number of construction workers employed on the site can be estimated using the following assumptions:

- Site preparation would require 50 workers per day per parcel.
- Building construction would require between 50 and 60 workers per day per parcel and would vary by the size of the building.
- The maximum number of building construction workers infrequently (5-10% of the time) would be between 100 and 120 workers per parcel during periods of very heavy activity. These periods of heaviest activity would occur sporadically throughout the 2-3 year construction time frame.

The anticipated number of daily construction workers for each year of construction is provided in **Table IV.B-9**. This table also indicates the allocation between workers involved with site preparation versus building construction. As shown, the total number of workers onsite per day would range up to 270 to 300 workers, during the three-year period from 2010 to 2012; the level of workers for most years would range from 120 to 220 workers per day.

TABLE IV.B-9

PROJECT CONSTRUCTION WORKERS LEVELS (workers per day)

Year	Site Preparation	Building Construction	Total
2007	50	0	50
2008	50	170	220
2009	50	170	220
2010	50	220	270
2011	50	250	300
2012	0	270	270
2013	0	120	120
2014	0	160	160
2015	0	160	160
2016	0	120	120
2017	0	120	120
2018	0	60	60
Peak Level	50 (*2007-2011*)	270 (*2012*)	300 (*2011*)

SOURCE: Oakland Harbor Partners (project sponsor)

The following assumptions were applied to estimate the number of trips associated with the construction workers:

- Construction workers would travel to the site in private vehicles.

- Vehicles carrying workers to the site would have an auto occupancy equivalent to the regional average (approximately 1.2 persons per vehicle for work trips).
- There would be two daily trips associated with each worker (i.e., commuting to and from the site)
- A majority of the worker trips would occur outside of the morning and afternoon peak traffic hours (i.e., construction workers would arrive by 7:00 AM and leave by 3:30 PM. For purposes of this analysis, 25 percent of the trips are assumed to occur during the peak traffic hours.

Based on these assumptions, the project workers would generate an additional 500 daily construction trips and approximately 62 additional trips in each of the peak hours, at a peak level of activity in 2011.

The construction activities, including the site preparation and the building construction, are expected to generate varying level of truck activity. Truck trips generated by the project would include:

- Dump trucks removing contaminated soil
- Dump trucks delivering clean fill
- Flat bed trucks delivering piles
- Cement trucks
- Delivery trucks providing drywall, interior furnishings, appliances and other items

Similar to construction workers, the number of trucks is expected to vary as the construction activity varies. For example, the highest number of trucks would be required for the removal and deposition of soil at the site, activities that are anticipated to occur during the initial site preparation phase. Another activity which would require a large number of trucks is pouring the floors of each building, requiring a daily influx of cement mixer trucks. As construction concludes, fewer trucks would be required because deliveries would only be required intermittently. For example, a single large delivery truck should be able to deliver many of the appliances required for several units in each building.

The following assumptions were applied to determine the truck trips associated with the project:

- 50 truck round trips (100 one-way trips) per day would be required during the site preparation phase. These trucks would be needed to remove the contaminated soil. Additionally, these trucks would be depositing fill material to replace the removed soil. It is anticipated that each truck might make at least 2-3 round trips per day.
- 50 truck round trips (100 one-way trips) per day per building would be required to deliver cement for the flooring. Again, these trucks may be making several round trips throughout the day. It is anticipated that cement would only be required during the first year of construction. Additionally, cement trucks may only be required 2-3 weeks per year.
- 5 truck round trips (10 one-way trips) per day per building would occur on all other days of construction activity. These trucks would be delivering materials as described above.

As shown in **Table IV.B-10**, the number of daily one-way truck trips is expected to vary between 10 and 400 trips, with the peak level of truck traffic occurring in 2011.

TABLE IV.B-10

PROJECT CONSTRUCTION TRUCK TRIPS (truck trips per day) [a]

Year	Site Preparation	Building Construction	Total
2007	100	0	100
2008	100	300	400
2009	100	30	130
2010	100	220	320
2011	100	300	400
2012	0	230	230
2013	0	20	20
2014	0	210	210
2015	0	120	120
2016	0	110	110
2017	0	20	20
2018	0	10	10
Peak Level	100 (*2007-2011*)	300 (*2011*)	400 (*2011*)

[a] The truck trips in this table represent one-way trips. One-way trips are either inbound to, or outbound from, the project site; two one-way trips equal one round trip. For example, site preparation would generate 50 round trips, and 100 one-way trips.

SOURCE: Oakland Harbor Partners (project sponsor)

The traffic associated with the construction of the project can be expected to negatively affect traffic flow in the project study area, particularly on Embarcadero and access points to/from I-880. The greatest impact would occur from vehicles associated with the delivery and removal of any cut and fill from the site. During peak periods of construction on the I-880 Seismic Retrofit, this impact would likely be exacerbated. The City of Oakland would work in cooperation with Caltrans to mitigate cumulative effects that may occur during periods when the proposed project and the I-880 Seismic Retrofit project overlap.

Mitigation Measure B.10: Prior to the issuance of each building permit, the project applicant and construction contractor shall meet with the Traffic Engineering and Parking Division of the Oakland Public Works Agency and other appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the City Traffic Engineering Division. The plan shall include at least the following items and requirements:

- A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. In addition, the information shall include a construction staging plan for any right-of-way used on the Embarcadero, including sidewalk and lane intrusions and/or closures.

- Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- Location of construction staging areas for materials, equipment, and vehicles (must be located on the project site).
- Identification of haul routes for movement of construction vehicles that would minimize impacts on vehicular and pedestrian traffic, circulation and safety; and provision for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected by the project applicant.
- Temporary construction fences to contain debris and material and to secure the site.
- Provisions for removal of trash generated by project construction activity.
- A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager.
- Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected.

It is anticipated that this Construction Traffic Management Plan would be developed in the context of a larger Construction Management Plan, which would address other issues such as hours of construction on site, limitations on noise and dust emissions, and other applicable items.

Significance after Mitigation: Less than Significant.

Evaluation of Project's Proposed Parking Supply

Because a Court of Appeal decision (regarding a challenge to San Francisco’s treatment of parking as a social, not physical, effect) held that parking is not part of the permanent physical environment, and that parking conditions change over time as people change their travel patterns, unmet parking demand created by the project need not be considered a significant environmental effect under CEQA unless it would cause significant secondary effects.[17] However, the City of Oakland, in its review of the proposed project, wants to ensure that the provision of parking spaces in conjunction with measures to lessen parking demand (by encouraging the use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as on air quality due to drivers searching for parking spaces)

[17] San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656.

will be minimized. As such, although not required by CEQA, this EIR provides City policymakers and other readers of this document with information about the relation between proposed parking supply and estimated parking demand and City code requirements.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed project are considered less than significant.

City Off-Street Parking Requirements

A consideration when evaluating the project's proposed parking supply is how it compares to the City's Municipal Code requirements for off-street parking (Municipal Code Chapter 17.116). However, Code requirements are not used to judge parking impacts; parking supply versus estimated parking demand (discussed below) is used to judge impacts. It is anticipated that the project site would be rezoned from the current site zoning to the proposed Planned Waterfront Zoning District. Based on these assumptions, parking code requirements for the project would be as shown in **Table IV.B-11**. The parking requirements for the proposed project are shown in **Table IV.B-12**. As shown, the project would require and provide 1,277 off-street parking spaces for Phase 1, and 3,534 spaces at project buildout.[18]

Parking Demand

The level of demand for parking spaces depends on various factors, including the availability of alternative modes of transportation (e.g., public/private transit, and/or facilities to accommodate bicycles) and proximity to trip destinations (e.g., shopping and/or recreational attractions). The project's parking demand was estimated on the basis of parking demand rates derived from data published by the Institute of Transportation Engineers (ITE, 2004b),and professional engineering judgment as to how characteristics of the proposed project fit in the ITE data. The ITE data are based on surveys of different types of land uses in different areas; residential uses were surveyed

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18 The proposed project would provide covered parking at minimum rates of one space per residential unit, one space per 500 sq. ft. of commercial space, and one space per five boat slips. For the project analyzed herein, the project would provide 1,277 covered spaces for Phase 1, and 3,534 covered spaces for project buildout. The project also would provide parking in surface lots in the open space areas of the site (about 30 spaces for Phase 1, and about 75 spaces for project buildout), and on-street parking within the project site (about 230 spaces for Phase 1, and about 375 spaces for project buildout). These surface lot spaces and on-street spaces do not count toward satisfying the Code requirement.

TABLE IV.B-11

PROPOSED PLANNED WATERFRONT ZONING DISTRICT PARKING STANDARDS

Land Use	Parking Requirement
Residential Unit	1 space per dwelling unit
General Commercial	1 space per 500 square feet of floor area
Marina	1 space per five boat slips

SOURCE: City of Oakland

TABLE IV.B-12

CITY OFF-STREET PARKING REQUIREMENT BY PHASE [a]

Land Use	Phase 1	Buildout Total
Residential Units	1,139	3,100
General Commercial	138	400
Marina	0	34
City Requirement	1,277	3,534
Proposed Parking [b]	1,277	3,534

[a] The parking calculations in this table are based on requirements for the anticipated zoning designations (shown in Table IV.B-11).

[b] The proposed project would provide parking in surface lots in the open space areas of the site (about 30 spaces for Phase 1, and about 75 spaces for project buildout). The project also would provide on-street parking within the project site (about 230 spaces for Phase 1, and about 375 spaces for project buildout). This totals an additional 260 spaces supplied in Phase 1 and 450 more spaces supplied at project buildout compared to the proposed parking indicated. Surface lot spaces, and on-street parking spaces do not count toward satisfying the Code requirement.

SOURCES: City of Oakland and Oakland Harbor Partners (project sponsor)

in both suburban and urban areas. Also, ITE data are presented for individual land use types (that is, do not take into account the interrelationship among a mix of uses, such as residential, and commercial, in proximity to each other).

For the project's residential component, parking generation data for residential condominiums (LU Code 230) are available in ITE's *Parking Generation* for suburban and urban areas. The current relative lack of convenient transit service opportunities for future residents of the project site supports use of suburban-based parking demand data. On the other hand, the proposed density of the project's residential units, and the mix of residential, commercial, and recreational use, supports use of urban-based parking demand data. The project's provision of a continuous public trail along the entirety of the project shoreline, linking to the existing Bay Trail, would accommodate alternative transportation (bicycle and pedestrian) traffic to off-site destinations. Greater transit availability for project occupants, in the form of increased AC Transit service and/or complementary private shuttle service, would make the project more urban-like. For the project's commercial components, parking demand was estimated for the general commercial portion (LU Code 820) and the grocery store site (LU Code 850). In order to provide decision makers and the general public with information to judge whether or not changes to the project are needed, **Table IV.B-13** presents estimated parking demand using both suburban and urban parking demand rates from ITE. As shown, the total parking demand would be about 5,270 spaces using the suburban-based residential rate, and about 3,379 spaces using the urban-based residential rate.

TABLE IV.B-13

ESTIMATED PEAK PARKING DEMAND

		Phase 1			Project Buildout		
Land Use	**Rate**	**Size**	**Demand**	**Supply**	**Size**	**Demand**	**Supply**
General Commercial	3.02/ksf	69	208		170	513	
Grocery Store	4.36/ksf	0	0		30	131	
Marina	0.59/slip	0	0		170	100	
Non-residential Subtotal			*208*			*744*	
Residential (*Suburban*) [a]	1.46/du	1,139	1,663		3,100	4,526	
Residential (*Urban*) [a]	0.85/du	1,139	968		3,100	2,635	
TOTAL (*Suburban residential rate*)			**1,871**	**1,277** [b]		**5,270**	**3,534** [b]
TOTAL (*Urban residential rate*)			**1,176**	**1,277** [b]		**3,379**	**3,534** [b]

[a] According to ITE's *Parking Generation*, residential condominiums were surveyed in both urban and suburban areas. For purposes of this analysis, both parking ratios were used to provide decision makers and the general public with information to judge whether or not changes to the proposed project are needed.

[b] The proposed project's parking supply would consist of covered spaces to accommodate the estimated parking demand. The Phase 1 project analyzed herein also would provide about 230 on-street spaces, and about 30 spaces in surface lots in the open space areas of the site. The project buildout analyzed herein also would provide about 375 on-street spaces, and about 75 spaces in surface lots in the open space areas of the site. However, those additional surface-lot and on-street parking spaces are not assumed for purposes of determining how well the project would accommodated its generated parking demand.

SOURCES: Fehr & Peers Transportation Consultants, and ESA, using data from ITE, *Parking Generation* (3rd Edition), 2004

Shared Parking Adjustments

The above-described estimates of total parking demand is the sum of the parking demand generated by individual project components, and does not take into account possible shared use of onsite parking spaces. For example, a person living in one of the residential units might walk, rather than drive, to a restaurant that is located within the project site. Because of this interaction between the various uses, the total parking demand should reflect some reduction, which is reflected in a shared-use discount. Because the potential overlap between the uses cannot be definitively identified at this time (as the types of commercial uses have not been defined), several shared-use reductions were analyzed ranging up to 25 percent.

For purposes of this analysis, this shared use reduction was applied to the retail spaces (general commercial and grocery store) because the number of retail spaces would be the limiting factor, and the parking demand for the residential uses are not likely to be sensitive to the presence or absence of adjacent commercial uses. The number of parking spaces required by the retail uses is expected to be heavily dependent on the location of adjacent residential uses. In addition, resident parking is likely to be reserved and could not be shared by multiple users.

Tables in **Appendix C** document the anticipated reduction in the total parking demand based on the application of a shared-use reduction to the retail spaces. As shown in those tables, the anticipated parking demand may be reduced by up to about 160 spaces, reducing the total parking demand to as low as about 5,110 spaces (if the suburban residential rate were applied) or about 3,220 spaces (if the urban residential rate were applied).

<u>Phase 1 of the Project</u>. As shown in **Table IV.B-13**, Phase 1 of the project would generate a peak demand for about 1,870 parking spaces (using a suburban rate) or about 1,175 spaces (using an urban rate), and would provide a total supply of about1,277 spaces, which would yield either a shortfall of about 594 spaces (suburban rate) or a surplus of about 101 spaces (urban rate).

<u>Buildout of the Project</u>. As shown in **Table IV.B-13**, buildout of the project would generate a peak demand for about 5,270 parking spaces (using a suburban rate) or about 3,380 spaces (using an urban rate), and would provide a total supply of 3,534 spaces, which would yield either a shortfall of about1,736 spaces (suburban rate) or a surplus of about 155 spaces (urban rate).

Even with the application of the maximum shared parking reductions, the suburban-based parking demand would exceed the parking supply by about 1,576 spaces. In particular, it is likely that parking for the residential units would spill over to the on-street spaces and reduce the potential parking spaces for the commercial areas of the development. Potential conflicts would be highest if the project contains retail uses that attract persons from outside of the project site. For example, the project is anticipated to contain a grocery store, which would likely attract shoppers from the surrounding area. It is possible that the project could also contain other uses such as restaurants, which also could attract visitors from outside of the project site.

While parking deficits are not considered a significant environmental impact that requires mitigation measures, the following improvement measures would help ensure that the provision of parking spaces in conjunction with measures to lessen parking demand would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as on air quality due to drivers searching for parking spaces) would be minimized:

- The project applicant shall design the project to reduce the difference between parking demand and parking supply, by decreasing parking demand or increasing parking supply). Decreasing parking demand could be accomplished by implementation of Mitigation Measures B.5a and B.5b (provide public and/or private transit service to the project site).

- The project applicant shall incorporate parking control and management techniques into the project site plan, with a goal to preserve parking spaces for retail uses to ensure that there is adequate parking for the commercial uses. Specific recommended measures include:

    - On-street parking would be limited to two-hour occupancy during peak hours of retail activity (defined as 9:00 AM to 8:00 PM on weekdays and weekends) along certain, appropriate retail streets. These restrictions would limit occupancy of these spaces by residents, guests, and their visitors.

- Short-term (30-minute) loading and unloading spaces would also be provided throughout the on-street parking.
- Parking meters would be installed for on-street parking to facilitate enforcement of parking regulations.
- Parking limits would be enforced to ensure parking restrictions are being followed by residents, visitors, and patrons.
- Each residential dwelling unit would be assigned one space within the parking structures.
- Employees would be allowed to park in the parking structures in the spaces not assigned to residences.
- Visitors to the residences would be allowed to park in the parking structures during the day or in on-street spaces overnight.
- Shared parking would be explored to allow visitors/customers to the commercial uses to park in off-street spaces in addition to the on-street spaces.

By establishing these controls, the parking spaces within the project site would be more clearly delineated between residential supply (residents, guests, and visitors) and the commercial supply (workers and patrons). Even with these parking controls, however, insufficient parking could exist unless the project were designed to reduce the difference between parking demand and parking supply.

Parking for Large Events

The project applicant is not proposing to hold events (such as concerts) at the project site. However, it is appropriate to address effects of such an eventuality in this document. Any large event on the project site would require a Special Event Permit from the City of Oakland Police Department, which requires the event sponsor to disclose parking locations for event attendees, and if applicable, to designate a shuttle system to access the event from off-site parking locations. Additionally, this permit allows the Police Department to identify traffic control measures that would be in place before, during, and after the event to minimize traffic disruption. It is noted that for organizers of special events at Jack London Square (be it an agency like the Port of Oakland, or another entity) to obtain a permit from the City of Oakland, the organizers must demonstrate that steps will be taken to manage vehicular and non-vehicular traffic access, and parking demand.

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C. Air Quality and Meteorological Conditions

Introduction

This section provides an overview of the existing air quality within the Oak to Ninth Avenue Project area and surrounding region, the associated regulatory setting, and an analysis of potential impacts on air quality that would result from implementation of the project. This section also provides an analysis of potential impacts resulting from exposure to toxic air contaminants (TACs), as well as an assessment of hazardous wind effects.

Setting

Regulatory Setting

Federal

The Federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to define National Ambient Air Quality Standards (NAAQS) to protect national public health and welfare. "Criteria" air pollutants are potentially harmful emitted compounds that have established national standards to protect sensitive receptors identified in the CAA, including the elderly, young children, people with pre-existing illness, and individuals performing strenuous work or exercise. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and respirable particulate matter (PM10 and PM2.5, particulates less than 10 and 2.5 microns in diameter, respectively). California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (referred to as State Ambient Air Quality Standards or State standards). **Table IV.C-1** provides a brief discussion of the related health effects and principal sources for each pollutant. National and state standards are presented in **Table IV.C-2**, as reported by the California Air Resources Board.

The U.S. EPA, in pursuance of the CAA Amendments of 1990, required each state to identify areas (air basins or portions thereof) within its borders as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether the national standards had been met. The federal Clean Air Act also requires non-attainment areas to prepare air quality plans that include strategies for achieving attainment. Air quality plans developed to meet federal requirements are referred to as State Implementation Plans (SIPs).

State

The California Air Resources Board (CARB) is the state's air quality management agency, which is responsible for establishing and reviewing the state ambient air quality standards, compiling the California State Implementation Plan and securing approval of that plan from U.S. EPA, and identifying toxic air contaminants (TACs). The state Air Resources Board 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 or

TABLE IV.C-1

STATE AND NATIONAL CRITERIA AIR POLLUTANT SOURCES AND HEALTH EFFECTS

Pollutant	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide	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	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide	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 (PM10)	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)	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 NO_X, sulfur oxides, and organics.
Lead	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

SOURCES: Air Resources Board, *ARB Fact Sheet: Air Pollution Sources, Effects and Control*, October 2001, http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm.

regional level. The county or regional air quality management districts are primarily responsible for regulating stationary emissions sources at industrial and commercial facilities within their geographic area and for preparing the air quality plans that are required under the federal Clean Air Act and California Clean Air Act.

State standards are stricter than national ambient air quality standards, as depicted in **Table IV.C-2**. Similar to the federal CAA, the California Clean Air Act (CCAA) designates air basins in the state as either attainment or non-attainment based on whether the specified area meets state standards. The California Clean Air Act also requires plans for non-attainment areas with respect to the state standards. Thus, just as areas in California have two sets of attainment or non-attainment designations, many also have two sets of air quality plans: one to meet federal

TABLE IV.C-2

ATTAINMENT STATUS OF THE PROJECT AREA FOR THE STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 Hour			0.08 ppm	N
	1 Hour	0.09 ppm (180 µg/m^3)	N	0.12 ppm (235µg/m^3)	N
Carbon Monoxide	8 Hour	9.0 ppm (10 mg/m^3)	A	9 ppm (10 mg/m^3)	A
	1 Hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	A
Nitrogen Dioxide	Annual Average			0.053 ppm (100 µg/m^3)	A
	1 Hour	0.25 ppm (470 µg/m^3)	A		
Sulfur Dioxide	Annual Average			80 µg/m3 (0.03 ppm^3)	A
	24 Hour	0.04 ppm (105 µg/m^3)	A	0.14 ppm (365 µg/m^3)	A
	1 Hour	0.25 ppm (655 µg/m^3)	A		
Particulate Matter (PM10)	Annual Arithmetic Mean	20 µg/m^3	N	50 µg/m^3)	A
	24 Hour	50 µg/m^3	N	150 µg/m^3	U
Particulate Matter - Fine (PM2.5)	Annual Arithmetic Mean	12 µg/m^3	N	15 µg/m^3)	U
	24 Hour			65 µg/m^3	U
Sulfates	24 Hour	25 µg/m^3	A		
Lead	Calendar Quarter			1.5 µg/m^3)	A
	30 Day Average	1.5 µg/m^3)	A		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3	U		
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 µg/m^3	No information available		
Visibility Reducing particles	8 Hour(1000 to1800 PST)		A		
A=Attainment N=Nonattainment U=Unclassified					
mg/m^3=milligrams per cubic meter		ppm=parts per million		µg/m^3=micrograms per cubic meter	

SOURCE: Bay Area Air Quality Management District, Air Quality Standards and Attainment. July 2005. http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.asp requirements relative to the national standards and one to meet state requirements relative to the state standards.

Local

San Francisco Bay Area Air Basin

The city of Oakland is located in Alameda County and is within the boundaries of the San Francisco Bay Area Air Basin (Bay Area). The Bay Area is in attainment or unclassified for all federal criteria pollutants, except for ozone. “Unclassified” is defined in the CAA Amendments as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary and secondary air quality standard for the specified pollutant (CARB 2003).

The project area is in attainment of most state standards for criteria pollutants. The Bay Area is in non-attainment for state standards for ozone, PM10, and PM2.5. Hydrogen sulfide is unclassified, and there is not enough information available to classify vinyl chloride. **Table IV.C-2** shows the attainment status of the Bay Area with respect to the federal and state ambient air quality standards for different criteria pollutants.

As noted earlier, the federal Clean Air Act and the state California Clean Air Act require plans to be developed for areas designated as non-attainment (with the exception of areas designated as non-attainment for the state PM10 standard). Plans are also required under federal law for areas designated as “maintenance” for national standards. Such plans are to include strategies for attaining the standards. Currently, there are two plans for the Bay Area: the San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard (ABAG 2001) developed to meet federal ozone air quality planning requirements, and the Bay Area Clean Air Plan and Triennial Assessment (BAAQMD, 2000) developed to meet planning requirements related to the state ozone standard.

Rules and Regulations

The regional agency primarily responsible for developing air quality plans for the Bay Area is the Bay Area Air Quality Management District (BAAQMD), the agency with permit authority over most types of stationary emission sources of air pollutants in the Bay Area. BAAQMD exercises permit authority through its *Rules and Regulations*. Both federal and state ozone plans rely heavily upon stationary source control measures set forth in BAAQMD’s *Rules and Regulations*. In contrast to the ozone plans, the *Carbon Monoxide Maintenance Plan* relies heavily on mobile source control measures. With respect to the construction phase of the project, applicable BAAQMD regulations would relate to portable equipment (e.g., gasoline- or diesel-powered engines used for power generation, pumps, compressors, pile drivers, and cranes), architectural coatings, and paving materials. Equipment used during project construction would be subject to the requirements of BAAQMD Regulation 2 (Permits), Rule 1(General Requirements) with respect to portable equipment unless exempt under Rule 2-1-105 (Exemption, Registered Statewide Portable Equipment); BAAQMD Regulation 8 (Organic Compounds), Rule 3

(Architectural Coatings); and BAAQMD Regulation 8 (Organic Compounds), Rule 15 (Emulsified and Liquid Asphalts).

Regional Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality. This setting section provides region-specific information related to climate and topography.

General Climate, Meteorology and Wind Conditions

The Bay Area Air Basin encompasses the nine-county region including all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin and Napa Counties, and the southern portions of Solano and Sonoma Counties. The climate of the Bay Area is determined largely by a high-pressure system that is almost always present over the eastern Pacific Ocean off the West Coast of North America. High-pressure systems are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. In winter, the Pacific high-pressure system shifts southward, allowing storms to pass through the region. During summer and fall, emissions generated within the Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants, such as ozone.

Specifically, the project site would be located within the Northern Alameda and Western Contra Costa Counties climatological subregion of the Bay Area Air Basin. This subregion stretches from Richmond to San Leandro with the San Francisco Bay as its western boundary and its eastern boundary defined by the Oakland-Berkeley Hills. In this area, marine air traveling through the Golden Gate, as well as across San Francisco and the San Bruno Gap, is a dominant weather factor. The Oakland-Berkeley Hills cause the westerly flow of air to divert to the north and south of Oakland, which causes diminished wind speeds. The prevailing winds for most of this subregion are from the west.

Average wind speeds in Oakland are highest during summer and lowest during winter months. However, strongest peak winds occur in winter, when speeds of over 50 miles per hour have been recorded. Except during storms, the highest wind speeds are in the mid-afternoon and the lowest are in the early morning. At night, especially in the winter, cooling temperatures on land result in light offshore (northeasterly and easterly) winds from the Oakland Hills toward San Francisco Bay.

Data collected at the former U.S. Naval Air Station at the city of Alameda show that winds from the west and north-northwest are the most frequent and strongest winds during all seasons in the

Oakland area. Of the 16 wind directions measured at the naval station, nine directions, centered on the west (46 percent), north-northwest (22 percent) and south-southeast (14 percent) comprise the most frequency occurrences. All other wind directions occur less than 19 percent of the time. Calm conditions (which include the directional breakdowns stated above) occur during 8 percent of annual observations.

Temperature in Oakland averages 58 degrees Fahrenheit (F) annually, ranging from an average of 40 degrees F on winter mornings to mid-70s in the late summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby ocean. In contrast to the steady temperature pattern, rainfall is highly variable and predominantly confined to the "rainy" period from early November to mid-April. Oakland averages 18 inches of precipitation annually, but because much of the area's rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near drought conditions.

Existing Air Quality

The approximately 64.2-acre Oak to Ninth Avenue Project site is bound by the Oakland Estuary on the south, the Embarcadero and I-880 on the north, Brooklyn Basin/Ninth Avenue Terminal on the east, and Fallon Street on the west. The BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria pollutants. Existing and probable future levels of air quality in Oakland can generally be inferred from ambient air quality measurements conducted by the BAAQMD at its monitoring stations. The major pollutants of concern in the Bay Area, ozone, particulate matter, and carbon monoxide are monitored at a number of locations. The monitoring station closest to the project site is on Alice Street in Oakland, approximately one-half mile from the project site. The station monitors ozone and carbon monoxide. Currently, the nearest stations to the project site that monitor particulate matter (PM-2.5 and PM10) are part of the Port of Oakland's West Oakland Particulate Monitoring Program. The Port of Oakland and West Oakland residential monitoring stations are located approximately three miles and two miles northwest of the project site, respectively. **Table IV.C-3** shows a six-year summary of ozone, carbon monoxide, and particulate matter monitoring data from the Alice Street and West Oakland (Port and Residential) stations. The table also compares measured pollutant concentrations with state and national ambient air quality standards.

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 reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant 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 ROG and NOx 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. On-road motor vehicles are the single largest source of ozone precursors in the Bay Area (BAAQMD, 1999).

Based on the data shown in **Table IV.C-3**, there have been no exceedances of the state and the national 1-hour ozone standards recorded at the Alice Street station in the project vicinity over the last six years. Countywide ROG and NOx emissions are expected to decrease by approximately 12 and 17 percent respectively from 2005 to 2010 (CARB, 2005a).

Carbon Monoxide

Carbon monoxide is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High carbon monoxide 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 carbon monoxide emission rates at low air temperatures. When inhaled at high concentrations, carbon monoxide 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. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

The project site is located in an area designated as an "attainment" area for carbon monoxide standards (**Table IV.C-2**). Further, according to the **Table IV.C-3** there have been no exceedances of state and national ambient carbon monoxide standards at the Alice Street station area in the city of Oakland in the last six years. Based on BAAQMD carbon monoxide isopleth maps, existing background carbon monoxide concentrations in the project vicinity are approximately 6.0 and 4.0 parts per million, one-hour and eight-hour average respectively (BAAQMD, 1999). On-road motor vehicles are responsible for approximately 70 percent of the carbon monoxide emitted within the San Francisco Bay Area and 71 percent of the emissions in Alameda County (CARB, 2005a). Carbon monoxide emissions are expected to decrease within the county by approximately 19 percent between 2005 and 2010 (CARB, 2005a).

TABLE IV.C-3

AIR QUALITY DATA SUMMARY (1999-2003) FOR THE PROJECT AREA: ALICE STREET AND WEST OAKLAND MONITORING STATIONS

		Monitoring Data by Year				
Pollutant	**Standard**[c]	**1999**	**2000**	**2001**	**2002**	**2003**
Ozone[a]**:**						
Highest 1 Hour Average (ppm) [d]		0.08	0.07	0.07	0.05	0.08
Days over State Standard	0.09	0	0	0	0	0
Days over National Standard	0.12	0	0	0	0	0
Highest 8 Hour Average (ppm) [d]		0.06	0.05	0.04	0.04	0.05
Days over National Standard	0.08	0	0	0	0	0
Carbon Monoxide[a]**:**						
Highest 8 Hour Average (ppm) [d]		5.2	3.4	4.0	3.3	2.8
Days over State Standard	9.0	0	0	0	0	0
Days over National Standard	9.0	0	0	0	0	0
Particulate Matter – 2.5 microns[b]**:**						
Port: Highest 24 Hour Average (g/m^3) [d]		--	--	--	27.03	36.09
Days over National Standard	65	--	--	--	0	0
Residential: Highest 24 Hour Average (g/m^3) [d]		--	--	--	36.0	45.42
Days over National Standard	65	--	--	--	0	0
Particulate Matter – 10 microns[b]**:**						
Port: Highest 24 Hour Average (g/m^3) [d]		--	--	--	**110.49**	42.58
Days over State Standard	50	--	--	--	**4**	0
Days over National Standard	150	--	--	--	0	0
Residential: Highest 24 Hour Average (g/m^3) [d]		--	--	--	**60.88**	**67.53**
Days over State Standard	50	--	--	--	**2**	**2**
Days over National Standard	150	--	--	--	0	0

[a] Ozone and CO data are from the Alice Street station in Oakland.
[b] PM2.5 and PM10 data are from the West Oakland (Port and Residential) monitoring stations.
[c] Generally, state standards are not to be exceeded and national standards are not to be exceeded more than once per year.
[d] ppm = parts per million; g/m^3 = micrograms per cubic meter.

NOTE: Values in **bold** are in excess of applicable standard. -- = Data unavailable.

SOURCES: California Air Resources Board, 2004, *Summaries of Air Quality Data*, 1999, 2000, 2001, 2002, 2003; http://www.arb.ca.gov/adam.
GAIA Consulting, Inc., *West Oakland Particulate Air Quality Monitoring Program – Annual Progress Report (September 2002 – August 2003)*, December 2003.
GAIA Consulting, Inc., *West Oakland Particulate Air Quality Monitoring Program – Annual Progress Report (September 2001 – August 2002)*, February 2003.

Particulate Matter

PM10 and PM-2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). 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, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, 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.

PM10 emissions in the project area are mainly from urban sources, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and meteorological conditions prevent the dispersion of directly emitted contaminants. Based on the West Oakland (Port and Residential) station data shown in **Table IV.C-3**, there have been no exceedances of the national 24-hour Average standards for PM-2.5 over the last two years. At the Port station, PM10 exceeded the state 24-hour Average standard for 4 days in 2002. At the Residential station, PM10 exceeded the state 24-hour Average standard for 2 days in 2002 and 2 days in 2003. Direct PM10 emissions in Alameda County are expected to increase by approximately 1 percent between 2005 and 2010 (CARB, 2005a). This increase would be primarily from stationary sources (such as industrial activities) and area sources (such as construction and demolition, road dust, and other miscellaneous processes).

Other Criteria Pollutants

The standards for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are being met in the Bay Area, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future (BAAQMD 1999). Ambient levels of airborne lead in the Bay Area are well below the state and federal standard and are expected to continue to decline. Because no sources of lead emissions exist on the project site or are proposed by the project, lead emissions are not required to be quantified by the BAAQMD and are not further evaluated in this analysis.

Sensitive Receptors

Individuals sensitive to air pollutants include the elderly, young children, people with pre-existing illness, and individuals performing strenuous work or exercise. Sensitive receptors are land uses such as child-care centers, schools, playgrounds, retirement or convalescent homes, and hospitals that often house these sensitive individuals who are more susceptible to adverse effects to the respiratory system than the general public (BAAQMD 1999). Individuals performing strenuous work or exercise are sensitive to air pollutants due to the greater inspiration and intake of air pollutants after strenuous physical exertion. Occupants of residential areas are also sensitive to air pollutants because residents tend to be at home for prolonged periods of time and thus have the potential for extended exposure. Occupants of industrial and business areas are the least sensitive to air pollutants because of the general health of the working population and the short exposure periods.

The existing sensitive receptors in the project area are part of the six-acre Fifth Avenue Point work-live artist community along 5th Avenue, south of the Embarcadero. Fifth Avenue Point includes a mix of residential, industrial, and commercial uses on privately owned parcels. Also, proposed parks and open space recreational areas to be developed as part of the project would also be considered sensitive land uses. Due to the project construction phasing, proposed residential units that would be completed during initial phases would be occupied while other parcels are under construction developed. Therefore, the nearest sensitive receptors to project-related air quality impacts include the new project residents and tenants.

Air Quality and Meteorological Conditions Impacts Discussion

Significance Criteria

The project would be considered to have a significant effect on the environment if the impact would satisfy any of the following significance criteria from the CEQA Guidelines, Appendix G, and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines:

Air Quality and Odor

- 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 standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Frequently create substantial objectionable odors affecting a substantial number of people;
- Contribute to CO concentrations exceeding the State ambient air quality standard of 9 ppm averaged over 8 hours and 20 ppm for 1 hour (addressed in Impact 4.C.3). Also, pursuant to BAAQMD significance criteria guidelines (BAAQMD 1999), localized CO concentrations should be estimated if:

    1. vehicle emissions of CO would exceed 550 lb/day;
    2. project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E, or F or would cause a decrease in LOS to D, E, or F; or
    3. project traffic would increase traffic volumes on nearby roadways by 10 percent or more, unless the increase in traffic volume is less than 100 vehicles per hour.

- Result in total emissions of ROG, NOx, or PM10 of 15 tons per year or greater, or 80 pounds (36 kilograms) per day or greater.

The City of Oakland considers a project's impacts cumulatively significant if it would meet either of the following criteria:

- Result in any individually significant impact; or

- Result in a fundamental conflict with the local general plan, when the general plan is consistent with the regional air quality plan. When the general plan fundamentally conflicts with the regional air quality plan, then if the contribution of the project is cumulatively considerable when analyzed the impact to air quality should be considered significant.

Toxic Air Contaminants

According to the BAAQMD CEQA Guidelines, any project with the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of TACs would be deemed to have a significant impact. Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances and is expressed as increased chances in one million of contracting cancer. Noncancer adverse health risks are measured against a hazard index, which is the ratio of the predicted exposure concentration to a threshold level that could cause adverse health effects, as established by the California Office of Environmental Health Hazard Assessment (OEHHA).

Projects that exceed the following BAAQMD thresholds of significance for TACs would be considered to have a significant impact:

- Result in potential to expose persons to substantial levels of TACs, such that the probability of contracting cancer for the Maximally Exposed Individual (MEI[1]) exceeds 10 in one million;

- Result in ground level concentrations of non-carcinogenic TACs such that the Hazard Index would be greater than 1 for the MEI; or

- Result in a substantial increase in diesel emissions;

In addition to assessing the incremental health risks of the project on the general public to test for significance, the compatibility of the project within the existing land use should also be assessed. In this case, the effects of other facilities surrounding the project site on the health of inhabitants of the site should be evaluated. Although there are no specific guidelines for establishing significance criteria for judging land use compatibility, CARB has published a Report that addresses land use compatibility (CARB, 2005b). In this case, an impact on the project site would

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[1] MEI is the Maximally Exposed Individual, which represents the worst-case risk estimate based on a theoretical person continuously exposed for 70 years at the point of highest compound concentration in air.

be significant, if nearby sources contribute DPM health risks greater than 10 percent of typical DPM health risk levels for the region.

Wind

Potential changes in wind conditions in public areas that result from the existence of tall buildings are not regulated within the City of Oakland's General Plan or Zoning Regulations. Tall buildings can redirect winds that would otherwise pass over a site down to ground level and intensify them, resulting in wind speeds and wind turbulence that makes otherwise desirable pedestrian walkways and open spaces unpleasant or unsafe. Appendix G of the CEQA Guidelines does not address wind impacts, however the City of Oakland has established criteria for determining the acceptability of wind conditions that might exist. The City of Oakland's 2004 CEQA Criteria/Thresholds of Significance indicates a significant impact exists if the project:

- Results in winds exceeding 36 miles per hour (mph) for more than 1 hour during daylight hours during the year (The wind analysis only needs to be done if the project's height is 100 feet or greater [measured to the roof] **and** one of the following conditions exist: (a) the project is located adjacent to a substantial water body (i.e., Oakland Estuary, Lake Merritt or San Francisco Bay); or (b) the project is located in Downtown.[2])

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to the topics addressed in this section, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Project Impacts

Methodology

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. First, during project construction, the project would affect local particulate concentrations primarily due to fugitive dust sources. Over the long term, the project would result in an increase in emissions primarily due to related motor vehicle trips. Onsite stationary sources and area sources would result in lesser quantities of pollutant emissions.

For the evaluation of demolition and construction impacts, BAAQMD does not require a detailed quantification of construction emissions. Instead, it recommends that evaluation of the significance of impacts be based on a consideration of the control measures to be implemented

2 Downtown is defined in the Land Use and Transportation Element (LUTE) of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

(BAAQMD 1999). The BAAQMD CEQA Guidelines recognize that construction equipment emit ozone precursors, but indicate that such emissions are included in the emission inventory that is the basis for regional air quality plans. The Guidelines note that PM10 is the pollutant of greatest concern, potentially leading to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces. Generally, if appropriate measures are implemented to reduce fugitive dust, then the residual impact can be presumed to be less than significant. Without these measures, the impact is generally considered to be significant, particularly if sensitive land uses (e.g., residential) are located in the project vicinity. However, although the Guidelines state that quantification of construction emissions is not necessary, the Guidelines also state that a lead agency may elect to calculate construction emissions. Given this option, further analysis was undertaken to estimate construction particulate emissions for the project using the Sacramento Metropolitan Air Quality Management District (SMAQMD) methodology (SMAQMD 2004).

Existing and projected traffic air pollutant emissions generated around the Oak to Ninth Project site are based on the URBEMIS 2002 Air Pollution Emission Model version 8.7 (Rimpo and Associates, 2005) and the California Line Source Dispersion Model (CALINE 4) (Caltrans, 1998) using traffic survey data by Fehr & Peers transportation consultants. Emissions are estimated for the years 2004 (existing), 2010 (interim), and 2025 (buildout) and are compared to applicable BAAQMD significance thresholds. Lastly, cumulative impacts of the project were evaluated based on the BAAQMD CEQA Guidelines as discussed under the Significance Criteria, above.

Project Construction

Construction of the project would occur in three distinct phases – 1) demolition of existing buildings, 2) soil clearing, grading, soil handling, and site improvement and 3) building construction. The project sponsor provided information about the construction equipment that would be required for each of these phases, as well as the duration of each phase. Overall, based on the duration of each phase and the construction schedule (described in more detail in the Project Description, Chapter III), construction would occur on the project site almost continuously from 2007 until 2018. More specifically, building demolition would occur in 2007, 2009, and 2011, while soil work and site improvements would occur in 2008 and again from 2010 until 2012 (see **Appendix J**). This work would proceed across the project site, generally east to west and north to south. Likewise, building construction and occupancy would proceed across the project site between 2009 until 2018.

For this analysis, emissions of diesel exhaust from all off-road and on-road construction-related vehicles were determined based on emission rates and duration of use for each piece of equipment. Diesel exhaust emissions rates for all on-road diesel trucks (e.g., dump trucks) were obtained from CARB's EMFAC2002 emissions model (CARB, 2003), while off-road diesel construction equipment (e.g., excavators, backhoes, and scrapers) were obtained from the

SMAQMD's *Guide to Air Quality Assessment in Sacramento County*[3] (SMAQMD, 2004). Using these models, diesel particulate matter (DPM) emissions were estimated for each year of construction. Annual DPM emissions from construction equipment were estimated to be about 1,008 pounds per year over the 12-year construction period. **Table IV.C-4** summarizes DPM emissions for the future years (2007, 2010, 2020, and 2040) in the vicinity of the project. The table reports DPM emissions from construction and operations as well as DPM emissions from other area sources not related to the project. A detailed year-by-year breakdown of DPM emissions for these sources is given in **Appendix J**.

TABLE IV.C-4

SUMMARY OF DPM EMISSIONS (LBS) IN THE VICINITY OF THE PROJECT FROM ALL SOURCES IN FUTURE YEARS

	DPM emissions (lbs)					
	Project					
Year	Construction	Operation	I-880 trucks	Trains	Boats	Totals
2007	554	0	5,508	262	442	**6,766**
2010	1,598	36	4,117	253	442	**6,446**
2020	0	46	2,235	224	392	**2,897**
2040	0	43	1,547	178	309	**2.077**

NOTES:
Calculations of yearly DPM emissions are based in part on the following total distances traveled:
(a) project trucks - one mile (i.e., one-half mile as the truck approaches the site and one-half mile as it departs the site);
(b) I-880 trucks - two miles (i.e., one mile as the truck approaches the project site area and one mile as it departs the area); and
(c) trains - two miles (i.e., one mile as the train approaches the project site area and one mile as it departs the area).

The incremental exposure levels and cancer risks at nearby receptors from construction DPM emissions were calculated by using the EPA dispersion model SCREEN3 (USEPA, 1995). In the modeling analysis, it was assumed that, on a long-term basis, emissions would occur at various locations at the site. As a result construction emissions were assumed to be an area source distributed over the project site.

Annual average exposure levels of DPM were calculated at residences located near the site, some as close as 500 feet from the edge of the site, while other locations are about 1,000 feet from the edge of the site. The model predicted that DPM concentrations from construction would range from 0.05 to 0.1 micrograms per cubic meter. The dispersion model runs are provided in **Appendix J**. Assuming that construction activities would occur over 12 years, the incremental cancer risk over a lifetime is estimated to range from 3 to 5 in a million. This incremental cancer risk is less than the BAAQMD significance threshold of 10 in a million.

[3] Although the project lies within the jurisdiction of the BAAQMD, the BAAQMD does not typically require calculation of emissions from construction equipment and therefore does not provide emission rates for such equipment. The SMAQMD has an established construction emissions threshold and requires that construction emissions be calculated, therefore SMAQMD emission rates are used for this analysis.

Impact C.1: Activities associated with demolition, site preparation, and construction would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. (Potentially Significant)

Construction related emissions would be short term, but may still cause adverse effects on local air quality. The project would involve construction of approximately 3,100 residential units, 200,000 square feet of ground-floor retail uses, and a total of 3,534 parking spaces for project uses. To accomplish this, the project would demolish approximately 482,200 square feet of existing buildings over the four major phases of project construction described in Chapter III, Project Description.

A project's most common construction activities include site preparation, earthmoving, and general construction. Site preparation includes activities such as general land clearing and grubbing. Earthmoving activities include cut and fill operations, trenching, soil compaction, and grading. General construction includes adding improvements such as roadway surfaces, structures and facilities. The emissions generated from these construction activities include

- Dust (including PM10 and PM-2.5) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as soil disturbance;

- Combustion emissions of criteria air pollutants (ROG, NOx, CO, SOx, PM10) primarily from operation of heavy equipment construction machinery (primarily diesel operated), portable auxiliary equipment and construction worker automobile trips (primarily gasoline operated);

- Evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Demolition may result in airborne entrainment of asbestos, a TAC, particularly where structures built prior to 1980 are being demolished. Some structural components of the buildings to be demolished may contain hazardous materials such as asbestos used in insulation, fire retardants, or building materials (floor tile, roofing, etc.), and lead-based paint. If asbestos were found to be present in building materials to be removed, demolition and disposal would be required to be conducted in accordance with standard procedures specified by the BAAQMD.

Construction activities would result in the emission of ROG, NO_x, CO, Sox, and PM10 from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. Emission levels for construction activities would vary depending on the number and type of equipment, duration of use, operation schedules, and the number of construction workers. Criteria pollutant emissions of ROG and NO_x from these emission sources would incrementally add to the regional atmospheric loading of ozone precursors during project construction. BAAQMD CEQA Guidelines recognize that construction equipment emit ozone precursors, but indicate that such emissions are included in the emission inventory that is the basis for regional air quality plans. Therefore construction emissions of ROG and NOx are not expected to impede attainment or maintenance of ozone standards in the Bay Area (BAAQMD, 1999). The impact regarding ROG and NOx would therefore be less than significant.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. Clearing, grading, and soil work would occur in 2008 and again from 2010 until 2012. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM10 concentrations may be adversely affected on a temporary and intermittent basis during the construction period. In addition, the fugitive dust generated by construction would include not only PM10 but also larger particles that would fall out of the atmosphere within several hundred feet of the site and that could result in nuisance-type impacts. PM10 would also be generated from equipment exhaust, construction-related vehicular activity, and construction worker automobile trips. The BAAQMD CEQA Guidelines do not specify construction significance thresholds for the Bay Area because the BAAQMD encourages the implementation of control measures that would mitigate construction-related air quality impacts and obviate the need to establish significance standards. In the absence of local significance thresholds for construction-related emissions of PM10, surrounding air district thresholds for PM10 emissions were applied. All of the following districts are in non-attainment for PM10 emissions, as is the Bay Area:

- San Joaquin Valley Air Pollution Control District: No PM10 threshold for construction is specified. Similar to the BAAQMD, the PM impact is assumed to be less than significant, as long as certain dust mitigation measures are implemented.

- Monterey Bay Unified Air Pollution Control District: 82 pounds-per-day construction threshold for PM10.

- South Coast Air Quality Management District: 150 pounds-per-day construction threshold for PM10.

- SMAQMD: Threshold is the CAAQS of 50 micrograms per cubic meter. Appendix B of the SMAQMD *Guide to Air Quality Assessment* (SMAQMD 2004) provides a screening table to help assess PM10 impacts. This table lists PM10 mitigation measures based on maximum area graded per day. If the applicant implements the mitigation measures specified for the project size, the screening table shows that the project is likely not significant for PM10. For a maximum graded area per day of five acres and below, no mitigation is required. For five to eight acres, exposed soil must be watered twice daily, and two feet of freeboard space must be maintained on soil hauling trucks. These control measures are not as stringent as the BAAQMD's basic controls.

The PM10 emissions from construction equipment, haul trucks, worker vehicles, and fugitive dust were estimated for the construction years 2007 through 2018 based on Table 3.2, Construction Equipment Emission Rates (pounds/day) for Years 2000 to 2010, of the SMAQMD *Guide to Air Quality Assessment*. The maximum disturbed area per day was assumed to be five acres. The maximum estimated PM10 emissions would be 78 pounds per day and would occur in the year 2010 (see **Appendix J** for equipment, vehicle, and fugitive dust assumptions). This level of emissions would be below the construction threshold of significance for PM10 of other air districts listed above and would be below the BAAQMD operational standard of 80 pounds per day. As a result, based on the quantification of construction emissions, PM10 generated by project construction would be considered less than significant. Even though PM10 emissions would be considered less than significant with respect to other air district thresholds, there are BAAQMD measures that could further reduce the generation and dispersion of particulate matter.

Mitigation Measure C.1a: During construction, the project sponsor shall require the construction contractor to implement the following measures required as part of BAAQMD's basic and enhanced dust control procedures required for sites larger than four acres (aggregate). These include:

Basic Control Measures – The following controls should be implemented at all construction sites:

- **Water all active construction areas at least twice daily.**
- **Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.**
- **Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.**
- **Sweep daily (with water sweepers) all paved access roads, parking areas and staging area at construction sites.**
- **Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.**

Enhanced Control Measures – The following measures shall be implemented during project construction because the site is greater than four acres in area:

- **All "Basic" control measures listed above.**
- **Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).**
- **Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers 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.**
- **Replant vegetation in disturbed areas as quickly as possible.**

The following control measures shall be implemented during project construction because the site is large in area and located near sensitive receptors:

- **Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.**
- **Install wind breaks, or plant trees/ vegetative wind breaks at windward side(s) of construction areas.**
- **Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.**
- **Limit the area subject to excavation, grading and other construction activity at any one time.**

Mitigation Measure C.1b: Demolition and disposal of any asbestos containing building material would be in accordance with the procedures specified by Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of BAAQMD's regulations. Therefore, required compliance with existing regulation would reduce the potential for public health hazards associated with airborne asbestos fibers or lead dust to a less than significant level.

Significance after Mitigation: Less than Significant.

Project Operation

Regional Emissions

Impact C.2: The project would result in an increase in regional ROG, NOx, and PM emissions due to project-related traffic. (Less than Significant)

Over the long-term, the project would result in an increase in emissions primarily due to project-related motor vehicle trips. Emissions for the Existing, 2010 Interim, and 2025 Cumulative scenarios have been estimated using emission inventory model URBEMIS 2002 (version 8.7) and the traffic data provided by Fehr & Peers transportation consultants. The results are shown in **Table IV.C-5**. The traffic report estimates 2,036 total daily vehicle trips associated with Existing land uses, and 11,156 and 29,147 total daily trips associated with the Interim plus Project and Cumulative plus Project scenarios, respectively, after a 5 percent reduction for internalization (see **Table IV.B-4** in EIR Section IV.B, Transportation, Circulation and Parking). As shown in **Table IV.C-5** below, criteria air pollutant emissions from existing vehicle trips were subtracted from pollutant levels associated with the Interim and Cumulative scenarios to determine the net increase in emissions generated upon completion of the project.

TABLE IV.C-5
OPERATIONAL EMISSIONS

Scenario[a]	Criteria Air Pollutant Emissions (lbs/day)[b]			
	ROG	**NOx**	**PM10**	**CO**
Interim Plus Project (Year 2010)	75	72	85	860
Existing	20	18	13	227
Net Interim Plus Project Emissions	55	54	72	**633**
Significant? (Yes or No)[c]	No	No	No	Maybe[d]
Cumulative Plus Project (Year 2025)	73	54	223	667
Existing	20	18	13	227
Net Cumulative Plus Project Emissions	52	36	**210**	440
Significant? (Yes or No)	No	No	Yes	No

a Rather than using net trips from the Traffic Report to estimate operational emissions, where existing trips are subtracted from project generated trips giving 9,118 net trips for Interim plus Project and 27,111 net trips for Cumulative plus Project, the emissions generated from existing traffic (2,036 trips) were first estimated and subtracted from the estimated emissions generated from the Interim Plus Project traffic (11,154 trips) and Cumulative Plus Project traffic (29,147 trips) scenarios.

b Emissions estimates were generated using the Air Resources Board's URBEMIS 2002 model for the San Francisco Bay Air Basin, and assume a default vehicle mix. Input assumptions include EMFAC 2002 emission factors for the year 2004 for the existing scenario, year 2010 for the interim, and year 2025 for the cumulative plus project buildout scenario. All daily estimates are for summertime conditions except for CO, which assumes wintertime conditions.

c BAAQMD threshold of significance is 80 lbs/day for ROG, NOx, and PM10 and 550 lbs/day for CO.

d Projects for which mobile source CO emissions exceed 550 pounds per day do not necessarily have a significant air quality impact, but are required to estimate localized CO concentrations. Refer to Impact C.3 for analysis of project CO emissions. Notably, net cumulative levels of CO are below the 550 pounds per day threshold and are not analyzed further in the cumulative discussion.

NOTE: **Bold** values are in excess of applicable standard.

SOURCE: ESA, 2005.

Based on the estimates shown in **Table IV.C-5**, the project's contribution to the regional emissions would be below the significance thresholds specified by the BAAQMD for ROG, NOx and PM10 for the interim analysis year 2010. The project's contribution to the Cumulative scenario is discussed below under Impact C.8.

Mitigation: None Required.

Localized Carbon Monoxide

Impact C.3: Project traffic would increase localized carbon monoxide concentrations at intersections in the project vicinity. (Less than Significant)

Traffic generated by the project was analyzed to determine its potential to affect carbon monoxide concentrations along surface streets in the project area. The modeling method included traffic levels for I-880 from Caltrans reports, background CO concentration levels from the BAAQMD (interpolated for 2004 and 2010), and traffic projections prepared for the project at the most affected local intersections in the project vicinity (BAAQMD, 1999):

- Embarcadero and 5th Avenue
- Embarcadero and 6th Avenue at the I-880 Off-ramp
- 5th Avenue and East 8th Street
- Oak Street and 5th Street

As these were the intersections most affected by project-related traffic, it was assumed that if carbon monoxide concentrations at these four intersections would not exceed the ambient air quality standards, the project's contribution to impacts at other intersections affected by project traffic to a lesser extent, would be less than significant.

As shown in **Table IV.C-6**, no violations of the CO standard would occur at the receptor locations near the intersections that were modeled. In fact, CO concentrations are lower in 2010 compared to existing levels (due to reductions in the predicted CO background concentrations due to a cleaner mix of vehicles in the future). Project traffic would have a less-than-significant effect upon CO concentrations in the area. Thus, project-related and cumulative traffic would have a less-than-significant impact on local carbon monoxide concentrations, as shown in **Table IV.C-6** and **Table IV.C-5**, respectively.

Mitigation: None Required.

TABLE IV.C-6

ESTIMATED CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS IN PROJECT VICINITY

		Concentrations (ppm)[a]				
Receptor location[b]	**Averaging Time (hrs.)**	**State Standard**	**Existing (2004)**	**Interim (2010) plus Project**	**Incremental Increase of Interim plus Project versus Existing**	**Significant? (Yes or No)**
5th Ave and Embarcadero	1	20	6.0	4.9	-1.1	No
6th Ave and Embarcadero	1	20	5.7	3.6	-2.1	No
5th Ave and E 8th Street	1	20	4.6	4.0	-0.6	No
Oak and 5th Street	1	20	5.5	4.6	-0.9	No

a Concentrations relate to receptor locations at approximately 30 to 50 feet from the edge of the roadways that form the intersection. The carbon monoxide analysis focuses on the weekday evening (p.m.) peak-hour because the project's effects on traffic congestion and related carbon monoxide concentrations are greater during that period. Carbon monoxide estimates shown above include background concentrations of 6 ppm, one-hour average.

b Although more than 4 receptors were modeled using Caline 4, the selected receptor locations had the greatest concentration of CO. Since these receptors are located at the intersections most affected by project-related traffic, other receptors in the project vicinity would experience lower CO concentrations and the impact would also be less than significant.

SOURCE: ESA, 2005.

Odors

Impact C.4: Operation of project facilities would produce objectionable odors that would affect a substantial number of people. (Less than Significant)

Since any sources of odor proposed as part of the project, such as restaurants, would be subject to the requirements of BAAQMD Regulation 7 – Odorous Substances, any odor impacts would be maintained by this regulation, and the impact would thus be considered less than significant.

Mitigation: None Required.

Toxic Air Contaminant Exposure

Impact C.5: Construction and operation of the project would expose existing sensitive receptors in the project vicinity and planned multifamily residential land uses associated with the project to health risks from diesel emissions. (Less than Significant)

In August 1998, the CARB identified diesel particulate matter (DPM) as a toxic air contaminant (TAC). OEHHA, which is a branch of California EPA, established toxicity values for DPM both as a carcinogen and a non-carcinogen. The carcinogenic risk factor established by OEHHA is by far much more restrictive than the non-carcinogenic risk factor, and the health risks evaluated in this report are concerned with the carcinogenic risks. An analysis was carried out to determine the health effects of diesel emissions from the project on the surrounding community. The health effects were for both construction of the project and for operations after project completion. The health effects of DPM emissions on future occupants of the project site from other sources in the area are also evaluated later in this section.

Project Operations Impacts

DPM emissions from the project during operation would occur from delivery trucks that would visit the site. Based on the traffic report conducted for this project, daily traffic increases due to the project would be approximately 9,120 net total vehicle trips by 2010 and 27,111 net total vehicle trips by 2025 (see **Table IV.B-4**, Section IV.B, Transportation, Circulation, and Parking). To determine the proportion of new trips that would be truck trips, it was assumed that the general vehicle fleet percentages used by the URBEMIS 2002 Air Pollution Emissions Model to calculate mobile source emissions would apply to this project. Specifically, the URBEMIS model indicates that trucks account for approximately 3.3 percent of all on-road motor vehicles. Therefore, in 2010 when project operations would commence, there would be approximately 300 total daily truck trips, and in 2025 there would be almost 900 total daily truck trips. Likewise, the percentage of trucks within each weight class and the portion of these trucks that are fueled by diesel were also obtained from URBEMIS2002. Lastly, diesel exhaust emissions rates for all diesel trucks were obtained from CARB's EMFAC2002 emissions model, assuming an average vehicle speed of 20 miles per hour. Total emissions were calculated for a total distance of one mile, which includes one-half mile as the truck approaches the site and one-half mile as the truck leaves the site. The annual average DPM emissions for these truck-travel distances were estimated to range from 35 pounds to 50 pounds, depending on the year of operation. **Table IV.C-4** summarizes the DPM emissions for operations in future years. Detailed future DPM emissions in future years, by operation, is provided in **Appendix J**.

Annual average DPM concentration impacts from the delivery trucks operating near the site were calculated using the SCREEN3 model, and the incremental cancer risks were estimated from these concentrations. The estimated incremental DPM concentrations near the site ranged from 0.010 to 0.015 microgram per cubic meter. The incremental cancer risks from exposure to these concentrations were estimated to be 3 to 4.5 in a million. Since these impacts are less than the BAAQMD significance threshold of 10 in a million, the impacts would be less than significant.

Impacts of Other DPM Sources on the Project Site

An analysis was also carried out to determine the impacts of DPM emissions on the project site from other sources. This time period would be when the residences would be occupied. The other sources of DPM near the site include: (1) diesel trucks traveling on I-880, (2) Amtrak and freight trains traveling on active tracks near the project site, and (3) ships and tugs traveling in the portion of the Oakland Estuary adjacent to the site. This analysis follows the general guidelines contained in the Air Quality and Land Use Handbook released by the California Air Resources Board (CARB, April 2005). The Handbook contains a number of advisory recommendations about locating facilities near sources of roadway emissions. Specifically, the Handbook recommends avoiding siting sensitive land uses within 500 feet of freeways with 100,000 or more vehicles/day. If nearby freeways have traffic less than this amount, location of the land use would be acceptable, and no further analysis would be required. However, if the daily traffic on nearby freeways exceeds this amount, the Handbook recommends that more detailed analyses should be carried out to determine the effects of the freeways and other nearby diesel sources on the proposed land use. Since traffic counts on Route I-880 exceeds the threshold identified in the Handbook, further a site specific analysis was carried out, and emissions of DPM from nearby sources were considered in the analysis.

I-880 Diesel Trucks. The project site is located adjacent to I-880 which is a major source of vehicle emissions. Based on the most recent estimates from Caltrans, approximately 250,000 vehicles pass by the project site on I-880 every day. Of these vehicles, approximately 10.7 percent are trucks (3.4 percent two-axle, 1.4 percent three-axle, 0.4 percent four-axle, and 5.5 percent five-axle or more trucks). The percent of trucks from each size class that are fueled by diesel (as opposed to fueled by gasoline) was obtained from the URBEMIS2002 model.

Diesel exhaust emission rates for these diesel trucks were estimated using CARB's EMFAC2002 emissions model. Based on the traffic conditions that exist throughout the day on the stretch of freeway adjacent to the project site (from free flowing during off-peak hours to bumper-to-bumper congestion during peak hours), the emissions model was run assuming an average vehicle speed of 30 miles per hour. In addition, to determine the impacts on the project site, these emissions were considered for a total distance of two miles – one mile on I-880 as the trucks approach the site and one mile as the trucks depart the area. **Table IV.C-4** summarizes the DPM emissions from truck traveling on I-880 for the years when the project would be occupied, starting in the year 2010 and going out to the year 2040. The **Table IV.C-4** shows that, because of regulations on new trucks starting in 2007, there will be a considerable reduction in emissions as the older trucks are phased out.

Rail. The project site also lies near functioning rail lines used to transport both passenger trains (operated by Amtrak) and freight trains. Currently, Amtrak operates 38 passenger trains every weekday on this track, while approximately six freight trains travel past the site every day. Based on observations of train traffic along these rails by Fehr & Peers transportation consultants, it was assumed that two locomotives would be used on each freight train (for a total of 12 locomotives per day), while passenger trains would require one locomotive. Emissions associated with all rail usage were calculated using U.S. EPA *Emission Factors for Locomotives* (USEPA, 1997) based on the type of locomotive associated for each use. These emissions were calculated for a total distance of two miles – one mile as the train approaches the site and one mile as the train departs the area. **Table IV.C-4** summarizes DPM emissions from trains near the project site going out into the future to 2040.

Marine Vessels. The portion of the Oakland Estuary adjacent to the project site does not have any cargo ship traffic as there are no active shipping berth facilities this far east along the estuary. Instead, the furthest down the estuary that cargo ships stop is at the Howard Terminal west of the Port of Oakland Building at 530 Water Street. At the same time, the U.S Coast Guard does take vessels out from Coast Guard Island further east along the estuary. Although an exact number of vessels per day was not available, based on observations, it was assumed that up to two vessels a day would go up and down the estuary. In addition, between six and eight tug boats use the project site to berth. These tug boats go out into the San Francisco Bay or Pacific Ocean to meet ships and guide them into various marine harbors. The tug boats then return back to the site to berth. Diesel emissions associated with both the U.S. Coast Guard vessels and the tug boats were calculated using the U.S. EPA *Analysis of Commercial Marine Vessels Emissions and Fuel Consumption Data* (USEPA, 2000). **Table IV.C-4** summarizes DPM emissions from diesel operated marine vessels near the project site in the future.

DPM Impacts on the Project Site

DPM exposure levels on the project site from the nearby sources were estimated by conducting screening modeling of the emissions sources described above. It was assumed that the nearest residences would be about 200 feet from the I-880 Freeway, and residences further away in the middle of the project site would be about 800 feet from the Freeway. The nearest residences would be about 700 feet from the boats traveling in the estuary. Annual average concentrations of DPM were calculated at these locations for the first year when the site would be occupied, which would be 2010. These concentrations consider the frequency of winds that would transport pollutants from the sources to the project site. The wind frequencies were based on meteorological measurements taken over five years at Oakland Airport, which is about six miles away from the site, and that would be representative of conditions at the project site. Annual average DPM concentrations were estimated to range from 0.1 to 0.2 micrograms per cubic meter. These concentration estimates consider that the project site is located upwind of the prevailing winds and that winds from the freeway to the site are infrequent.

Since the health impacts of DPM are due to chronic (long-term) exposure, the concentrations in future years should be included when calculating lifetime exposure to DPM and incremental health risk. The emissions model EMFAC2002 was used to predict DPM emissions from the largest emission source, the trucks on I-880, for future years. The model shows that DPM emissions will decrease considerably in future years because of EPA regulations. The reductions will be about 50 percent in 2020 when compared to 2010 and in 2040 by about 63 percent from 2010 levels. Consequently, lifetime exposure levels will be much lower than levels predicted for 2010. Typical lifetime exposure levels in future years would range from 0.05 to 0.1 micrograms per cubic meter. The incremental health risks from such exposure to freeway emissions would range from 15 to 30 in a million.

These predicted incremental cancer risks are much lower than levels reported in the CARB Handbook for facilities near freeways (CARB 2004), which range from 200 to 500 in a million. The CARB estimates are much higher because the CARB calculations are for receptors located downwind from the prevailing wind direction. For this project, the site is located upwind of the major DPM emission source, which is the I-880 freeway. Historical meteorological data from nearby Oakland Airport show that winds rarely blow from the freeway to the project site. Consequently, exposure levels of DPM from the freeway are much lower, and the consequent cancer risks are lower.

The incremental cancer risk from the freeway emissions would be added to the DPM background for the area, which is estimated from the Handbook to be about 300 in a million. The total risk is estimated to range 315 to 330 in a million, as compared to a background level of 300 in a million. There are no specific recommendations on acceptable cancer risks from operations not related to on a land use.

These estimates are conservatively high, mainly because of the conservative nature of the modeling. Also, it is assumed that a person would be located at the highest receptor continuously for a lifetime, and the estimated incremental risks do not consider that we spend most of our time indoors, where actual indoor exposure levels would be lower than the predicted outdoor levels. ARB estimates that indoor concentrations of DPM are about two thirds the levels of outdoor concentrations (CARB, 2000). Health risks from other sources on the project site, incorporating indoor exposure, would range from 10 to 20 in a million. Although there are no guidelines on significance criteria when considering the impacts of other sources on the project, the high-end incremental estimates of 10 to 20 in a million are small when compared to cancer risks from exposure to all TACs in California which are estimated by ARB to range from 500 to 1,000 in a million (CARB, 2005c). Consequently, the impacts of DPM from other sources on the project site would be less than significant.

Mitigation: None Required.

Wind

Impact C.6: The proposed project could result in hazardous wind conditions. (Less than Significant)

The environment within the project area is windy, and is strongly influenced by the project site's location on the Oakland Estuary exposed to west, northwest, and south-southeast winds, as well as its large open areas that allow winds to flow unobstructed from the estuary across the site. In the portions of the site that contain buildings, winds are substantially reduced by the sheltering effects of the structures. The site has full exposures to the predominant winds from the Bay, both under the regularly recurring daily and seasonal wind conditions and under storm conditions.

Wind Hazard Conditions

To simulate the project and its existing and future contexts, a 1 inch to 50 foot scale model of the project site and surrounding several blocks was constructed. The scale models were tested in a boundary layer wind-tunnel facility at the University of California, Davis, independent of the University. Wind-tunnel testing of the project simulated winds from the west (W), north-northwest (NNW), and south-southeast (SSE) wind directions. These directions were selected for testing because they represent the major wind regimes, or are relatively frequent or particularly strong, or were judged likely to result in the "worst case" with respect to pedestrian level effects for this project (Environmental Science Associates, 2005).

At least three wind hazard conditions now occur on the project site, and one additional point, not tested in the setting because it is covered by the Ninth Avenue Terminal building, is also expected to exceed wind hazard criterion. The locations and hourly annual durations of these hazard exceedences are as follows:

- at the northeast corner of Estuary Park (Location 2), two hours per year
- at the intersection of the Embarcadero and the driveway to the Jack London Aquatic Center Location 3), two hours per year
- in the open area east of Lake Merritt Channel (Location 4), one hour per year; and,
- at the edge of Ninth Avenue Pier (Location 23), along the Oakland Estuary (estimated two hours per year).

Thus, the total duration of these existing hazards is five hours per year under measurable existing conditions.

The project would generally improve hazardous wind conditions on the project site and in its vicinity. As shown in **Table IV.C-7**, specifically, it would eliminate the existing wind hazard exceedence that occurs at the intersection of the Embarcadero and the driveway to the Jack London Aquatic Center (Location 3) two hours per year. Moreover, the project would also reduce the individual hazard exceedances at Location 2 from two hours a year to one hour a year.

As part of the proposed project, the existing Ninth Avenue Terminal building would be removed, and the project's Shoreline Park would be developed in its place. Because Location 23 is covered by the Terminal building, no data exists to indicate that wind speeds at that location would be in excess of the hazard criterion. However, given that location's orientation along the waterfront exposed to direct west winds that would occur during extreme wind events, it is reasonable to expect that hazardous wind conditions would occur with or without the existing building at that location. Thus, it is expected that wind speeds at Location 23 would be no different with or

TABLE IV.C-7

WIND HAZARD CONDITIONS

Location Number	*Hazard Criterion Speed (mph)*	*Measured Equivalent Wind Speed (mph)*	*Hours per year Wind Speed Exceeds Hazard Criterion*	*Measured Equivalent Wind Speed (mph)*	*Hours per year Wind Speed Exceeds Hazard Criterion*	*Hours Change Relative to Existing Setting*
1	36	36		22		
2	36	38	*2*	27	*1*	
3	36	38	*2*	33		*-2*
4	36	36	*1*	36	*1*	
5	36			34		
6	36			22		
7	36			18		
8	36	33		21		
9	36	27		21		
10	36	26		18		
11	36	27		27		
12	36	34		30		
13	36			33		
14	36			24		
15	36	34		16		
16	36			22		
17	36			24		
18	36			34		
19	36			35		
20	36			21		
21	36			17		
22	36			25		
23	36	38*	*2**	38	*2*	
24	36			26		
25	36			23		
26	36			31		
27	36			30		
28	36	26		23		
29	36			16		
30	36	31		25		
31	36	36		21		
32	36	36		12		
Average mph and %		**33 mph**	***5-7 hrs***	**25 mph**	***4 hrs***	***-2 hrs***

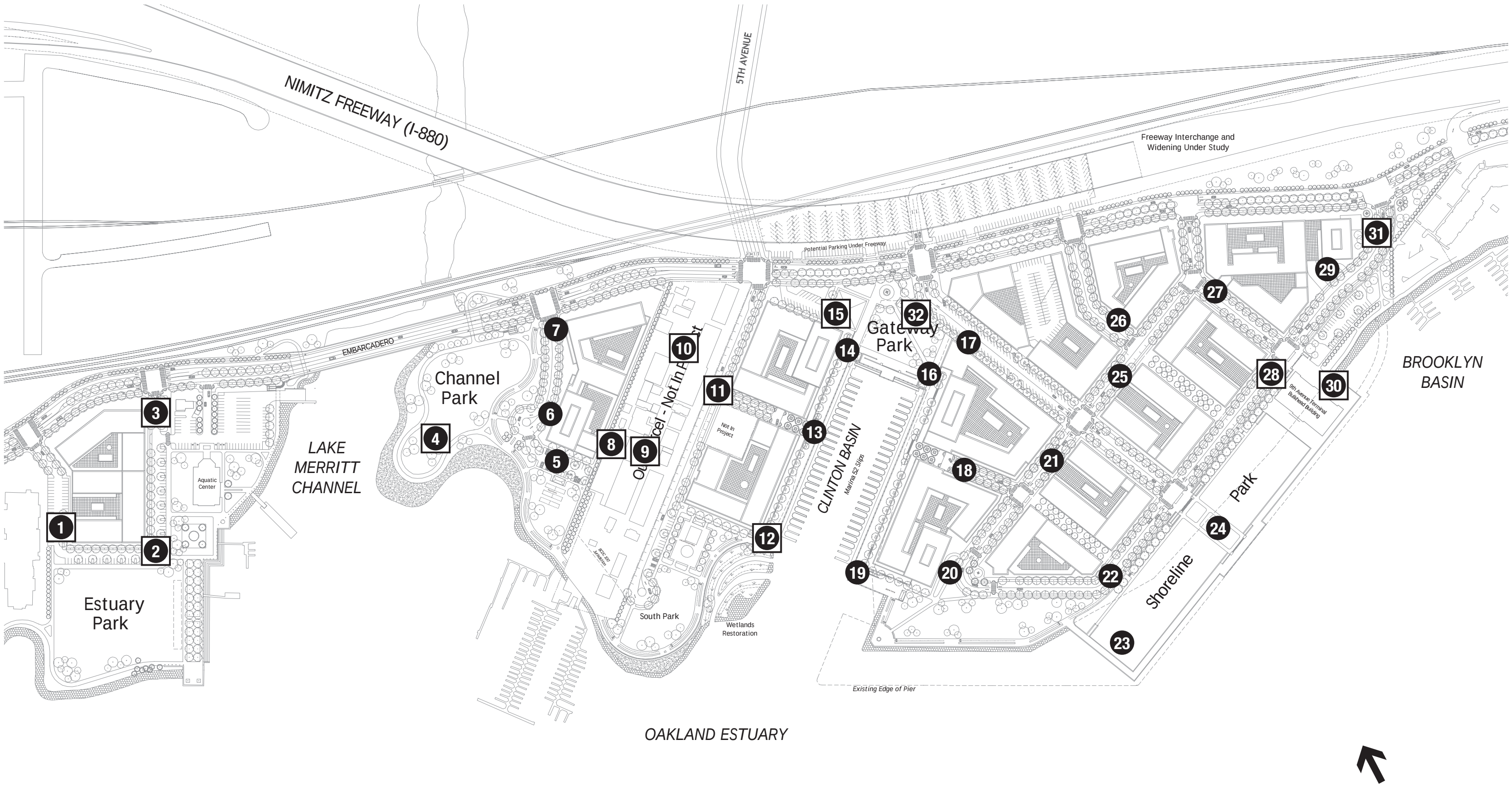
* Assumed same as project conditions. Given the orientation of Location 23 along the waterfront and exposed to direct west winds that would occur during extreme wind events, it is reasonable to expect that hazardous wind conditions would occur with or without the existing building at that location.

SOURCE: ESA, 2005.

without the shed (i.e., existing speeds at this location assumed same as projected speeds), and potentially hazardous wind conditions would not result at this location from the project, but would be a continuation of an existing condition that could occur about 2 hours a year at that waterfront location.

Therefore, the project would reduce the duration of measured hazard exceedences from a total of at least five hours per year under the existing scenario (seven hours, including the estimate for Location 23), to a total of four hours a year under the project scenario. The project would substantially reduce the speeds of the extreme winds by about 25 percent compared to existing conditions. The project would not create any new hazardous wind conditions that would exceed the CEQA threshold of the 36 mph hazard, thus the impact would be less than significant.

Mitigation: None Required.



14 Wind test point location

15 Point tested under existing and project conditions

SOURCE: ROMA Design Group; ESA

Oak to Ninth Avenue . 202622

Figure IV.C-1

Wind Test Point Location Map

Cumulative Impacts

Cumulative Regional Emissions

As stated previously (see Significance Criteria), the project that meets either of the following criteria is considered to have a significant adverse incremental effect on the region's ability to attain air quality standards.

- Result in any individually significant impact; or
- Result in a fundamental conflict with the local general plan, when the general plan is consistent with the regional air quality plan. When the general plan fundamentally conflicts with the regional air quality plan, then if the contribution of the project is cumulatively considerable when analyzed the impact to air quality should be considered significant.

Impact C.7: The project together with anticipated future cumulative development in Oakland and the Bay Area in general would contribute to regional air pollution. (Significant)

The project would result in an individually significant impact. **Table IV.C-5** shows the operational emissions of ROG, NOx, PM10, and CO due to project-related traffic estimated based on the CARB model URBEMIS 2002. For the Cumulative Plus Project scenario, the project would contribute to a cumulatively significant impact on the regional PM10 levels.

Mitigation Measure C.7: To reduce the significance of the operational impacts of the project, the project sponsor shall, as feasible and practical, implement a combination of the following mitigation measures:

Rideshare Measures

> **Mitigation Measure C.7a: Encourage all tenants (commercial and residential) at the site to implement carpool/ vanpool programs (e.g., carpool, ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, guaranteed ride home program, etc.). Distribute information about the Alameda County Congestion Management Agency's Guaranteed Ride Home Program to tenants of the building to facilitate alternative transportation modes. As part of the program, a person who uses an alternate mode of travel, including transit or a carpool, is provided with free taxi service in the case of unexpected circumstances. These circumstances might include unscheduled overtime or a family illness or emergency.**

> **Mitigation Measure C.7b: Encourage commercial tenants to implement employee rideshare incentive programs providing cash payments or pre-paid fare media such as transit passes or coupons.**

Transit Measures

Mitigation Measure C.7c: Construct transit facilities, such as bus turnouts/bus bulbs, benches, shelters, etc., as determined appropriate by AC Transit, consistent with Transit Mitigation Measure B.4a.

Mitigation Measure C.7d: Encourage commercial tenants to meet standard, minimum employee ridesharing requirements or to provide incentives to encourage employees to rideshare.

Mitigation Measure C.7e: Encourage commercial tenants to implement a parking cash-out program for employees (e.g., non-driving employees receive transportation allowance equivalent to the value of subsidized parking).

Shuttle Measures

Mitigation Measure C.7f: The project applicant shall operate a private shuttle service between the project site and nearby activity centers and transit nodes (e.g., Lake Merritt BART station) with an adequate number of shuttle stops located onsite, and on a frequency sufficient to attract use of the service by project residents and employees.

Bicycle and Pedestrian Measures

Mitigation Measure C.7g: Provide bicycle lanes and/or paths, connected to the community-wide network.

Mitigation Measure C.7h: Provide secure, weather-protected bicycle parking for employees.

Mitigation Measure C.7i: Provide direct, safe, attractive pedestrian and bicycle access to transit stops and adjacent development.

Mitigation Measure C.7j: Provide adequate street lighting within the street right of way immediately adjacent to and within the project site.

Mitigation Measure C.7k: Provide secure short-term bicycle parking for retail customers and other non-commute trips.

Significance after Mitigation: With implementation of the above mitigation measures, the cumulative air quality impact would be **Significant and Unavoidable**. Based on the effectiveness of these measures as determined by the BAAQMD, the above mitigation measures would reduce the operational impacts of the project by reducing motor vehicle trips by the project by 15 to 20 percent (BAAQMD, 2004). However, no feasible mitigation is available to reduce the residual impact to a less than significant level.

Cumulative Wind Effects

Impact C.8: The project, together with anticipated future cumulative development in the project area, would not result in cumulative hazardous wind conditions (Less than Significant)

With respect to cumulative wind effects, the effect of further local development of buildings similar in size to those of the project is likely to result in no impact or in overall reduction of wind speeds in the vicinity. Further, it is unlikely that other foreseeable development of similar scale would occur within or immediately adjacent to the project site.

Overall, with the project in place, notable decreases in wind speeds would occur at all the points tested for the project compared to existing conditions due to project buildings obstructing the existing, relatively uniform wind field and substantially slowing winds from the Oakland Estuary.

Mitigation: None Required.

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D. Hydrology and Water Quality

This section describes existing hydrologic conditions in the project vicinity and presents applicable regulations that pertain to hydrology, surface water, flooding, and water quality. This section also discusses the changes in hydrology and water quality that could result from construction and operation of the project and identifies potential project impacts and appropriate mitigation measures when necessary.

Setting

Hydrology

Regional

The project area lies in the Central Basin within the San Francisco Bay hydrologic region. San Francisco Bay marks a natural topographic separation between the northern and southern coastal mountain ranges. The San Francisco Bay estuarine system conveys the waters of the Sacramento and San Joaquin rivers into the Pacific Ocean. The rivers enter the Bay through the delta at the eastern end of Suisun Bay (RWQCB, 1995). Within the San Francisco Bay hydrologic region, the project area is a part of the Central Metropolitan Planning Unit in Alameda County. This unit is divided into a number of small watersheds that are defined by the natural topographic features of the region. A series of linear drainage basins trending northeast to southwest extend from the ridges of the Oakland hills across the alluvial plain[1] to San Francisco Bay (Alameda County, 1994).

Local

Topography of the project site is generally flat. The site lies at an elevation of approximately 3 to 10 feet (City of Oakland Datum[2]) and slopes south-westerly to sea level toward the Oakland Estuary or Oakland Inner Harbor. The estuary is the major receiving water body in the project area; it adjoins the project site on the west and lies along the eastern margin of San Francisco Bay. Other surface water features on the project site include Clinton Basin, Brooklyn Basin, and a portion of the Lake Merritt Channel that flows from Lake Merritt toward the Oakland Estuary (see **Figure IV.D-1**).

Oakland Estuary

The Oakland Estuary was a tidal slough that originated in a vast marsh that stretched from Lake Merritt to Brooklyn Basin. At the turn of the century, the estuary was dredged, separating Oakland from Alameda and forming the estuary as it is today. Lake Merritt remains

1 Alluvial plain is an area formed by deposition of sediment by a stream.
2 The datum line or plane of reference of all street grades is mean high tide, as determined by the City of Oakland.

SOURCE: GlobeXplorer; Environmental Science Associates, 2005

Oak to Ninth Avenue . 202622

Figure IV.D-1
Hydrologic Features
in the Project Area

hydrologically connected to the estuary through tidal gates at the Seventh Street Pump Station (City of Oakland, 1993).

The estuary is influenced by both freshwater and marine water. The estuary receives freshwater inflow from a combination of natural creeks, human-made stormwater drainage facilities, and direct surface runoff. The estuary is also influenced by the marine waters of the Bay and is subject to tidal currents. Sediment from Oakland's shoreline and creeks is carried by the tidal current to shoals and sandbars, causing siltation of the shipping channels (City of Oakland, 1993).

Shoreline Conditions

The Oakland Estuary shoreline along the project site ranges from unprotected, eroding banks to cemented banks depending upon the past and present uses of the backland area. The shoreline varies significantly from the Lake Merritt Channel area to the Ninth Avenue Terminal building area (Moffatt & Nichol, 2002).

The shoreline reach from Lake Merritt Channel to the Berkeley-Oakland Ready Mix Plant is characterized by unprotected banks that are in various stages of erosion. A two- to three-foot-high berm exists on the crest of the embankment on the east bank of Lake Merritt Channel with a silt fence behind the berm to control runoff. The shoreline along the Ready Mix Plant is characterized by cemented grout probably originating from the plant. Near the Fifth Avenue Marina adjacent to the Ready Mix Plant, there is a concrete bulkhead that continues for a short section near the gangways to both walkways of the marina, followed by large concrete blocks, slabs, and other debris on the shoreline (Moffatt & Nichol, 2002).

The shoreline along Clinton Basin is characterized by concrete debris, sandy pocket beaches, unprotected banks, and several pile supported structures. Sedimentation is evident in this reach, however the amount of floating debris collected indicates a low flushing rate. The decking on the walkways and docks is made of timber and concrete (Moffatt & Nichol, 2002).

A timber wharf structure abuts the concrete wharf structure that supports the Ninth Avenue Terminal building. The wharf is made up of timber piles (over 1,000 vertical piles) and is covered by an asphalt concrete topping slab. Timber fender piles protect the waterside edge of the wharf. The wharf structure frames into a cast-in place concrete bulkhead. The toe of the wall is protected by stone riprap (Moffatt & Nichol, 2002).

Water Quality

Project Area

In addition to fresh and marine water, past and present urban uses in the area have contributed to industrial waste discharges and urban stormwater runoff that has influenced the water quality in the Oakland Estuary. Pollutant sources discharging into the estuary include both point and nonpoint discharges. A point source is any discernible, confined, and discrete conveyance (e.g., a pipe discharge) of pollutants to a water body from such sources as industrial facilities or wastewater treatment plants. Nonpoint pollutant sources are sources that do not have a single, identifiable discharge point but are rather a combination of many sources.

Point sources in the project area include discharges through pipelines and other discharges that drain into the estuary. These are permitted discharges that are subject to prohibitions by regulatory agencies, water quality requirements, periodic monitoring, annual reporting, and other requirements designed to protect the overall water quality of the estuary and eventually the Bay.

A nonpoint source can be stormwater runoff from land that contains, for example, petroleum from parking lots, pesticides from farming operations, or sediment from soil erosion. Overland stormwater flow and urban runoff cause nonpoint pollution along the margin of the estuary, which include runoff from dredging activities, marine vessel waste, sediments, sand, industrial fuels, equipment and other operations, terminal fuel, infiltration from sewer system, accidental spills of hazardous materials, and construction activities.

Project Site

Nonpoint-source discharges from the project site present a water quality concern because of the current conditions and industrial uses including the use of two marinas, one within Clinton Basin and second at the foot of 5th Avenue. Nonpoint-source pollutants specific to the site are sediments, petroleum and oils, and litter. Sediments may be generated from erosion of compacted or loose fill materials that are close to the shore of the estuary. Some areas have sloping topography, which facilitates the easy movement of silt into the runoff. Unpaved parking areas can be especially prone to sediment generation. Sediment discharges into the estuary also appear to occur at the privately owned sand and gravel operation (Berkeley Oakland Ready Mix Plant) adjoining the future Channel Park site on the east shore of Lake Merritt Channel. Unpaved and aggregate storage areas at the ready mix plant site with materials stockpiled for concrete production may be sediment sources. Petroleum and oils are discharged from activities such as fueling and transportation of materials. Inadvertent spills of petroleum (including diesel, gasoline and oils, leaking from vehicles and equipment or spilled during transfer and filling) can affect localized areas of pavement and gravel parking areas. Leaks from boats and equipment at the marinas can also affect the water quality in the estuary. Washing of equipment and vehicles in some areas, such as the ready mix plant site, cause ponding of water that, if not managed, can discharge contaminated wash water into the estuary. Due to the level of industrial activity, lack of litter removal, and prevailing winds from the Bay, litter, either from on- or off-site locations, can end up accumulating in areas and some eventually lands in the estuary. Such nonpoint-source pollutants become entrained or mixed with stormwater runoff that flows directly into the estuary (BKF Engineers, 2002), or via Lake Merritt Channel. Stormwater at the project site currently flows over land and via storm drainage facilities directly into the estuary (City of Oakland, 1993). The system is typically in poor condition and has no formal water quality control system in place (BKF, 2005). (See Section IV.M, Utility and Services Systems, for further discussion of storm drainage facilities.)

Any construction in the State of California on one acre or more requires preparation of a stormwater prevention plan (SWPPP) to comply with the requirements of the SWRCB NPDES

General Permit. The best management practices identified in the SWPPP would help mitigate for the impact of construction activities on stormwater quality. Recent amendments also require water quality monitoring. Construction activities (e.g., excavation and trenching) in areas where shallow groundwater is present and construction dewatering is necessary would be subject to the RWQCB construction dewatering permit requirements which would help minimize the potential for discharging sediment laden groundwater from surface drainage activities.

Groundwater Resources

The project site lies in the East Bay Plain of the San Francisco Bay Hydrologic Region (Department of Water Resources [DWR] Groundwater Basin[3] No. 2-9.04), a northwest-trending alluvial plain 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 Basin (DWR, 2004). The East Bay Plain extends from Richmond to Hayward. The alluvial materials that extend westward from the East Bay Hills to the edge of San Francisco Bay constitute the deep water-bearing strata for this groundwater basin, which is identified as a potential water source for municipal, industrial, and agricultural use (RWQCB, 1995). Since the early 1950s, historic groundwater levels in the deep aquifer in the basin have varied between -10 and -140 feet mean sea level (DWR, 2004). However, there are no water supply wells on the project site. The closest groundwater well in the project vicinity is located in Alameda, which is greater than a mile west of the project site. According to the data from 1990 through 1994, groundwater levels in the well varied from -18 feet to -7.5 mean sea level (DWR, 2005). It is unknown whether this well is a water supply well. However, it is unlikely that the well be influenced by the project. However, there are monitoring wells associated with the remediation of the contamination of the groundwater onsite and are not used for supply. The wells could be destroyed after remediation is complete.

Groundwater elevations tend to be highest in the central portion of the Ninth Avenue Terminal building area, with groundwater flow radiating outward toward the shorelines of Clinton Basin and Brooklyn Basin (Lowney Associates, 2002). The shallow water table varies between 3 and 20 feet below ground surface and is underlain by relatively impermeable Bay Mud sediment. Shallow groundwater depth means that the existing storm sewers in the project area are in the water table. The storm sewers are both a potential source of contamination to groundwater and conduits for the migration of chemicals of concern in groundwater and soils. The storm sewers also connect to the estuary so that water moves in response to tides in portions of the storm sewers. Chemicals released to the storm sewers can migrate from the pipes into the adjacent soils and groundwater. Chemicals present in groundwater may migrate into the pipes or backfill around the pipes and move to other areas of uncontaminated soil or groundwater. Results of groundwater sampling indicated groundwater contamination with total petroleum hydrocarbons, volatile organic compounds, metals, and polynuclear aromatic hydrocarbons (Lowney Associates, 2002). However, thick, impermeable Bay Mud sediment forms a barrier that impedes surface water infiltration to the underlying water sources (Lowney Associates, 2002). (See Section IV.F, Geology, Soils and Seismicity, for discussion of Bay Mud characteristics.)

[3] A groundwater basin is defined as a hydrogeologic unit containing one large aquifer or several connected and interrelated aquifers (RWQCB, 1995).

Flooding

Flooding is inundation of normally dry land as a result of rise in the level of surface waters or rapid accumulation of stormwater runoff (City of Oakland, 2004a). Flooding can also occur due to tsunamis, seiches, or failure of dams. Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption, while seiches are waves in an enclosed or semi-enclosed body of water such as a lake, reservoir, or harbor. Oakland is not a particularly flood-prone city, nor does it have large rivers or open coastline that can result in devastating storm-induced flooding. Flooding from tsunamis would affect low-lying areas along San Francisco Bay and the Oakland Estuary however areas along the inner harbor, Brooklyn Basin and the tidal channel (project site) would be sheltered by the island of Alameda. In addition, the likelihood of large scale devastation in Oakland resulting from seiches appears to be miniscule (City of Oakland, 2004a).

The Federal Emergency Management Agency (FEMA), through its Flood Insurance Rate Mapping program, designates areas where urban flooding could occur during 100-year and 500-year flood events.[4] The project site is located in an area designated as Flood Hazard Area C (areas of minimal flooding) and not within the 100-year or 500-year floodplain (FEMA, 1982). Storm drain facilities on the existing project site convey runoff from the site, the adjoining Embarcadero and a small portion of watershed east of the Embarcadero, and discharges to the estuary. As previously stated, the system is typically in poor condition and has no formal water quality control system in place (BKF, 2005).

Flooding can also occur due to dam failure. The California DWR, Division of Safety of Dams (DSOD) oversees the construction of dams that are over 25 feet high and impound over 15 acre-feet of water, or over 6 feet high and impound over 50 acre-feet of water. Due to DSOD regulatory oversight, monitoring, and design review, the potential is minimal for the catastrophic failure of a properly designed and constructed dam, whether caused by a seismic event, flood event, unstable slope conditions, or damage from corrosive or expansive soils. Although some areas in Oakland are within one or more dam failure inundation areas, the project site does not lie within any of these areas (ABAG, 1995).

Regulatory Setting

Several federal, state, and local agencies regulate activities that could affect hydrological and water quality features. This section describes the regulatory framework that would apply to the project.

Federal

Clean Water Act

Under the Clean Water Act (CWA) of 1977, the U.S. Environmental Protection Agency (EPA) seeks to restore and maintain the chemical, physical, and biological integrity in the nation's

[4] A 100-year flood event has a one percent probability of occurring in a single year. Although infrequent, 100-year floods can occur in consecutive years or periodically throughout a decade. A 500-year flood event has a 0.2 percent probability of occurring in a single year.

waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The CWA authorizes the EPA to implement water quality regulations. The National Pollutant Discharge Elimination System (NPDES) permit program under section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the U.S. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in the project area.

Total Maximum Daily Load

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load or TMDL for the pollutant causing the conditions of impairment. TMDL is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Typically, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The intent of the 303(d) list is to identify water bodies that require future development of a TMDL to maintain water quality.

In accordance with Section 303(d), the RWQCB has identified impaired water bodies within its jurisdiction, and the pollutant or stressor responsible for impairing the water quality. Within the project area, the RWQCB has designated the Central Basin of the San Francisco Bay as an impaired water body. Pollutants that contribute to this impairment are chlordane, DDT, diazinon, dieldrin, various dioxins, exotic species, furan compounds, mercury, polyaromatic hydrocarbons, polychlorinated biphenyls, and selenium. The potential sources of the pollutants listed are non-point sources, atmospheric deposition, ballast water, industrial point sources and resource extraction, urban runoff, agriculture, exotic species, and natural sources (RWQCB, 2003). The RWQCB does not list any specific water bodies at the project site, i.e., the estuary, Clinton Basin or Lake Merritt Channel as impaired. The RWQCB is required to establish TMDLs for these pollutants in order to gradually eliminate impairment of the waters and attain water quality standards (ACCWP, 2003). Current TMDL projects include TMDLs for mercury and polychlorinated biphenyls in San Francisco Bay. The project sponsor would be required to ensure that the proposed project would not conflict with the current TMDLs and comply with specific water quality control measures under the NPDES permit requirements (see below for details) to prevent project-related contaminants from entering into the estuary, which is connected to the Central Basin.

Waste Discharge Requirements

Section 401 of the CWA requires every applicant for a federal permit or license for an activity that may result in a discharge of pollutants to the waters of the U.S. (including permits under section 404 of the CWA, see Section IV.I, Biological Resources). The purpose of the permit application is to obtain certification that the proposed activity will comply with the state water quality standards (RWQCB, 2003b). The proposed project would require 401 certification because the project involves dredging that would be subject to Section 404 of the CWA (see Section IV.I, Biological Resources).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act allows the SWRCB to adopt statewide water quality control plans or basin plans. The purpose of the plans is to establish water quality objectives for specific water bodies. The RWQCB has prepared the *San Francisco Bay Basin Plan* that establishes water quality objectives and implementation programs to meet the stated objectives and to protect the beneficial uses of the Bay waters (see regional regulatory discussion below). The act also authorizes the NPDES program under the CWA, which establishes effluent limitations and water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB's responsibilities is delegated to the nine regional boards. Under the NPDES program, the RWQCB has established permit requirements for stormwater runoff for the project area (see Regional discussion below).

Regional

The RWQCB is responsible for the protection of beneficial uses and the water quality of water resources within the San Francisco Bay region. The RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region, which includes the project area. The City of Oakland is a permittee under the NPDES permit for the Alameda Countywide Clean Water Program (see below for detailed discussion). The RWQCB also issues 401 certifications for projects that require Section 404 permit from the U.S. Army Corps of Engineers (USACE). The regulatory requirements under the RWQCB are discussed below.

Basin Plan

The RWQCB prepared the *San Francisco Bay Water Quality Control Plan* (Basin Plan) (1995) for San Francisco Bay that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region. The Basin Plan describes beneficial uses of major surface waters and their tributaries. The following beneficial uses have been listed for San Francisco Bay in the Central Basin:

- Ocean, Commercial, and Sport Fishing
- Estuarine Habitat
- Industrial Service Supply
- Fish Migration
- Navigation
- Industrial Process Supply
- Preservation of Rare and Endangered Species
- Water Contact Recreation
- Noncontact Recreation

- Shellfish Harvesting
- Fish Spawning
- Wildlife Habitat

The RWQCB is responsible for permitting construction activities for development projects to ensure the protection of the above beneficial uses. The Basin Plan also provides specific requirements for dredging activities that would be a part of the proposed project. In the San Francisco Bay region, the dredged material is disposed at specific ocean and in-bay disposal sites. The overall policy of the RWQCB for dredged sediment and its disposal includes a reduction of in-bay disposal volumes and an increased emphasis on beneficial reuse of the dredged material. The most likely beneficial reuse of dredged material is wetland restoration projects or for levee maintenance or repair. Therefore, the Basin Plan lists targets (see **Table IV.D-1**) for volume of dredged materials to be disposed at each of the designated sites and may require additional documentations and inspections to ensure that the project impacts from the dredging activity are minimum (USACE, 2001).

TABLE IV.D-1

DREDGED MATERIAL VOLUME TARGETS

Disposal Site	Time Frame	Volume of Dredged Material (million cubic yards per month)
Alcatraz Island	October – April	0.4
	May – September	0.3
San Pablo Bay	Any Month	0.5
Carquinez Straits	Any Month	1.0
Suisun Bay	Any Year	0.2
Alcatraz Island, San Pablo Bay, Carquinez Straits, and Suisun Bay		2.8 [a]

[a] The volume target is for each calendar year (i.e., January to December) for the total amount of disposal at the aquatic disposal sites (USACE, 2001).

SOURCE: RWQCB, 1995

McAteer-Petris Act / San Francisco Bay Conservation and Development Commission (BCDC)

The McAteer-Petris Act is a provision under California law that preserves San Francisco Bay from indiscriminate filling. The act established the San Francisco Bay Conservation and Development Commission (BCDC) as the agency charged with preparing a plan for the long-term use of the Bay and regulating development in and around the Bay while the plan was being prepared. The San Francisco Bay Plan, completed in January 1969, includes policies on 18 issues critical to the wise use of the Bay ranging from ports and public access to design considerations and weather. The McAteer-Petris Act authorizes BCDC to incorporate the policies of the Bay Plan into state law (BCDC, 2000). The Bay Plan has two features: policies to guide future uses of the Bay and shoreline, and maps that apply these policies to the Bay and shoreline. BCDC conducts the regulatory process in accord with the Bay Plan policies and maps, which guide the protection and development of the Bay and its tributary waterways, marshes, managed wetlands, salt ponds, and shoreline (BCDC, 2003).

The project site lies within two of the BCDC jurisdictional areas, “(1) San Francisco Bay, i.e., “all areas that are subject to tidal action from the south end of the Bay to the Golden Gate… including all sloughs, and specifically, the marshlands lying between mean high tide and five feet above mean sea level; tidelands (lands lying between mean high tide and mean low tide); and submerged lands (lands lying below mean low tide)”, and “(2) a shoreline band that consists of all territory located between the shoreline of the Bay and a line 100 feet landward of and parallel with that line...” (BCDC, 2003). The City and the project sponsor would be required to comply with the BCDC requirements due to the project location and dredging activities.

Construction Permitting

Construction activities on one acre or more are regulated by the RWQCB and are subject to the requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). The SWRCB established the General Construction Permit for the purpose of reducing impacts to surface waters that may occur due to construction activities. The project sponsor would be required to apply for the General Construction Permit that requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP). The SWPPP is prepared before project construction begins and, in certain cases, before demolition begins and includes specifications for best management practices (BMPs) that would be implemented during construction. BMPs are measures undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. Additionally, the SWPPP describes measures to prevent or control runoff after construction is complete and identifies procedures for inspecting and maintaining facilities or other project elements. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site,
2. Descriptions of BMPs for erosion and sediment controls,
3. BMPs for construction waste handling and disposal,
4. Implementation of approved local plans,
5. Proposed post-construction controls, and
6. Non-stormwater management.

Examples of typical construction BMPs include scheduling or limiting activities to certain times of the year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management includes installing specific discharge controls during activities such as paving operations, vehicle and equipment washing and fueling.

The RWQCB has identified BMPs in the *California Storm Water Best Management Practice Handbook* (2003) to effectively reduce degradation of surface waters to an acceptable level. The City of Oakland holds a NPDES permit under the Alameda County Clean Water Program and the project would be required to comply with the permit requirements to control stormwater discharges from the construction site (see Alameda County discussion below).

Construction activities such as excavation and trenching in areas with shallow groundwater would require dewatering, which would be subject to the RWQCB construction dewatering permit requirements. Dewatering operations are regulated under State requirements for stormwater pollution prevention and control. Discharge of non-stormwater from a trench or excavation that contains sediments or other pollutants to sanitary sewer, storm drain systems, creek bed (even if dry), or receiving waters is prohibited. Discharge of uncontaminated groundwater from dewatering is a conditionally exempted discharge by the RWQCB. However, the removed water could potentially be contaminated with chemicals released from construction equipment or sediments from excavation. Therefore, disposal of dewatering discharge would require permits either from the RWQCB for discharge to surface creeks and groundwater or from local agencies for discharge to storm or sanitary sewers. The RWQCB lists non-stormwater discharge controls specifically for dewatering operations (RWQCB, 2003a). The control measures are described in the mitigation for impacts discussion. These control measures would be implemented by the project sponsor during construction activities at the project site. Discharge of water resulting from dewatering operations would require an NPDES Permit, or a waiver (exemption) from the RWQCB, which would establish discharge limitations for specific chemicals (if they occur in the dewatering flows).

Dredging Permitting

Project construction activities such as the shoreline improvement along Clinton Basin would involve dredging. The project sponsor would be required to comply with the following regulatory requirements for dredging.

The proposed project would be required to apply for Section 404 permit from the USACE prior to dredging. (See also Section IV.I, Biological Resources, for additional discussion of Section 404 permit). As a part of the Section 404 permitting process, the project sponsor would be required to obtain a water quality certification from the RWQCB under Section 401 of the CWA. The RWQCB may choose to act under the authority of the state Porter Cologne Water Quality Control Act and issue waste discharge requirements for the project in conjunction with the water quality certification. As discussed previously, the dredged material is disposed at ocean or in-bay disposal sites or reused for wetland restoration or dike maintenance. The project would be required to dredge and dispose material within the target volumes listed in **Table IV.D-1.** In the event an in-bay disposal is proposed, the project sponsor would be required to provide an adequate alternatives analysis showing that there are no practicable alternatives to in-bay disposal (USACE, 2001).

The Dredged Material Management Office (DMMO) regulates dredging and dredged material in the San Francisco Bay region. The DMMO consists of representatives from the USEPA- Region

9, U.S. Army Corps of Engineers-San Francisco, San Francisco Bay RWQCB, BCDC, and the State Lands Commission. The DMMO serves as the single point of entry for applicants to the dredging and disposal permitting process. The DMMO regulates two types of dredging projects, 1. small dredging projects defined by a project depth of less than -12 feet mean lower low water (MLLW) and generating less than 50,000 cubic yards per year on average, and 2. other dredging projects defined by project depth greater than -12 feet MLLW or average annual volumes greater than 50,000 cubic yards (USACE, 2001). The proposed project would involve a one-time dredging event of up to a depth of - 8 feet MLLW with an estimated volume of 20,000 cubic yards of the dredged material. Therefore the project sponsor would be required to apply for a dredging permit in the first category. The Impacts Analysis section below discusses the specific dredging regulatory compliance.

San Francisco Estuary Project

The San Francisco Estuary Project was established pursuant to CWA Section 320 to protect and improve the water quality and natural resources of San Francisco Bay-Delta Estuary. The San Francisco Estuary Project recommends actions in the several areas such as aquatic resources, water use, pollution prevention and reduction, dredging and waterway modification, and research and monitoring. As stated earlier, the project site is located in the San Francisco Bay hydrologic region and drains eventually into the Bay which is a part of the Bay-Delta Estuary, therefore, the following recommended actions that would apply to the project are:

- Action PO-2.4: Improve the management and control of urban runoff from public and private sources.
- Action LU-3.2: Develop and implement guidelines for site planning and BMPs.

Alameda County

The Alameda County Flood Control and Water Conservation District and the City of Oakland Public Works Agency share the responsibility for maintaining drainage facilities in Oakland. The project sponsor would be required to comply with the requirements concerning drainage issues during construction and operation of the project as a condition of receiving a drainage permit.

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program (ACCWP) consists of 17 participating agencies including the City of Oakland that cooperatively comply with a municipal stormwater permit issued by the RWQCB. The permit contains requirements to prevent stormwater pollution and to protect and restore creek and wetland habitat. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites (ACCWP, 2002). In the project area, the ACCWP administers the stormwater program to meet the CWA requirements by controlling pollution in the local storm drain sewer systems.

The ACCWP prepared the *Stormwater Quality Management Plan* in 2001 that is effective through June 2008 (ACCWP, 2001). This plan describes the ACCWP's approach to reducing stormwater pollution. In conjunction with the stormwater discharge permit adopted by the RWQCB, the plan is designed to enable the ACCWP member agencies to meet CWA requirements. The plan provides a framework for protection and restoration of creeks and watersheds in Alameda County in part through effective and efficient implementation of appropriate control measures for pollutants. The plan addresses the following major program areas: regulatory compliance, focused watershed management, public information/participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, control of specific pollutants of concern, and performance standards (ACCWP, 2001). New development and construction controls in the plan would apply to the project. The plan recommends tasks to implement source, site design, post-construction stormwater treatment and hydromodification[5] controls (ACCWP, 2001).

Construction activities associated with the project would be subject to the NPDES permit requirements for stormwater management and discharges. The ACCWP NPDES permit also incorporates updated state and federal requirements related to the quantity and quality of post-construction stormwater discharges from new development and redevelopment projects.

The RWQCB issued a NPDES permit (Permit No. CAS0029831) to ACCWP that includes the City of Oakland by Order 97-030 on February 19, 1997, and modified by Order No. 99-049 on July 21, 1999. The most recent Order R2-2003-021 was adopted on February 19, 2003 for waste discharge requirements. The City of Oakland has jurisdiction over and/or maintenance responsibility for its municipal separate storm drain systems and/or watercourses in Alameda County.

C.3 Permit Requirements

The NPDES permit lists provision C.3 that governs storm drain systems and regulates post-construction stormwater runoff. The provision requires new development and redevelopment projects to incorporate treatment measures and other appropriate source control and site design features to reduce the pollutant load in stormwater discharges and to manage runoff flows. "Redevelopment" is defined as a project on a previously developed site that results in the addition or replacement of impervious surface. According to the C.3 provision in the ACCWP NPDES permit, the proposed project falls under the "significant redevelopment projects" category under Group 1 Projects. A significant redevelopment project is defined as a project on a previously developed site that results in addition or replacement of total of 43,560 square feet (one acre) or more of impervious surface. The permit requires that in the case of a significant redevelopment project that would result in an increase of, or replacement of, more than 50 percent of the impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, the entire project be included in the treatment measure design. The proposed project would replace more than 50 percent of the impervious surface, therefore the entire project would be required to implement treatment measures and appropriate

[5] Hydromodification is alteration of the natural flow of water through a landscape.

source control and site design measures under the NPDES permit in addition to the following conditions (ACCWP, 2003):

- Implement site design/landscape characteristics as feasible, which maximize infiltration (where appropriate), provide retention or detention, slow runoff, and minimize impervious land coverage, so that post-development pollutant loads from the site have been reduced to maximum extent possible, and

- For new and redevelopment projects, such as the proposed project, that discharge directly to water bodies listed as impaired (under section 303(d) of CWA), ensure that post-project runoff does not exceed pre-project levels for such pollutants through implementation of the control measures addressed in the C.3 provision, to the maximum extent practicable.

The C.3 provision also requires preparation of a hydrograph modification management plan (HMP). Implementation of an HMP ensures that post-project runoff shall not exceed estimated pre-project rates and/or durations, where the increased stormwater discharge rates and/or durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the amount and timing of runoff. The project would involve an overall increase in pervious areas with a reduction in storm runoff, which is a net beneficial impact. The project would install the required site design and source control measures to control any project related runoff. Therefore, the project sponsor would not be required to prepare an HMP.

City of Oakland

Oakland Ordinances and Municipal Code

The City implements the following regulations to protect water quality and water resources:

Creek Protection, Stormwater Management, and Discharge Control Ordinance

This ordinance establishes comprehensive guidelines for the regulation of discharges to the city's storm drain system and the protection of surface water quality. The ordinance identifies BMPs and other protective measures for development projects. Under the ordinance, the Public Works Agency must issue permits for storm drainage facilities that would be connected to existing city drainage facilities. In 1997, the ordinance was amended to include the requirement for a creek protection permit for any construction or related activity on creekside property. It includes enforcement provisions to provide more effective methods to deter and reduce the discharge of pollutants to the storm drain system, local creeks, and San Francisco Bay. The provisions also list clear guidelines to creekside residents for protecting the creek and habitat. The project would fall under Category III or IV[6] due to its proximity to the estuary and would be required to prepare a creek protection plan and a hydrology report (City of Oakland, 1993).

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[6] Category III: Any exterior development or work that may adversely affect the creek, beyond the 20-foot setback from the top of the creek bank, and is within 100 feet of the centerline of the creek, that may or may not require any other development-related permit, including without limitation: landscape walls, fences, patios, decks, private

Grading Ordinance

Chapter 13.16 of the Oakland Municipal Code prohibits activities that would result in the discharge of pollutants to Oakland's waterways or in damage to creeks, creek functions, or habitat. The ordinance requires the use of standard BMPs to prevent pollution or erosion to creeks and/or storm drains. Additionally, a creek protection permit is required for any construction work on creekside properties (City of Oakland, 2004b). The project sponsor would apply for a creek protection permit.

Chapter 3304.2 of the Oakland Municipal Code requires a permit for grading activities on private or public property for projects that exceed certain criteria, such as amount of proposed excavation and degree of site slope. During project construction, the volume of the excavated fill material could exceed 50 cubic yards and could result in a 20 percent slope onsite, or the depth of excavation could exceed five feet at any location. Therefore, the project sponsor would be required to apply for the permit and prepare a grading plan, erosion and sedimentation control plan, and drainage plan (City of Oakland, 2004c).

Hydrology and Water Quality Impacts Discussion

Significance Criteria

A hydrology or water quality impact would be considered significant if the impact would result in any of the following criteria, which are adapted from CEQA *Guidelines*, Appendix G, and the City of Oakland’s 2004 CEQA Thresholds/Criteria of Significance Guidelines:

- Violate any water quality standards or waste discharge requirements;
- Result in substantial erosion or siltation on or offsite that would affect the quality of receiving waters;
- Create or contribute substantial runoff that would be an additional source of polluted runoff;
- Otherwise substantially degrade water quality;
- Substantially alter the existing drainage pattern of the site or area (including through the alteration of the course or by increasing the rate or amount of flow of a creek, river or stream) in a manner that would result in substantial erosion, siltation, or flooding, both on or off the site; or

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drainage improvements, irrigation systems, or trenching work. Additionally, any work or development that includes earthwork beyond the 20-foot setback from the top of the creek bank.

Category IV: Any exterior development or work that is conducted from the centerline of the creek to the 20-foot setback from the top of the creek bank that may or may not require any other development-related permits including without limitation: earthwork, landscape walls, fences, patios, decks, private drainage improvements, irrigation systems, or trenching work.

- Fundamentally conflict with elements of the City of Oakland creek protection ordinance (Oakland Municipal Code Chapter 13.16). Although there are no quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of water quality through (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water or the creek's capacity; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) substantially endangering public or private property or threatening public health or safety.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or proposed uses for which permits have been granted);
- Result in substantial flooding on or offsite;
- Create or contribute substantial runoff that would exceed the capacity of existing or planned stormwater drainage systems;
- Place housing 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, that would impede or redirect flood flows;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a substantial risk of loss, injury, or death involving flooding;
- Result in inundation by seiche, tsunami, or mudflow.

As discussed in Setting, the Bay Mud sediment onsite forms a barrier that impedes surface water infiltration to the underlying water sources. Given the sediment barrier and considering that the groundwater beneath the project site is not a source for municipal or agricultural uses (RWQCB, 1995), the project would not affect groundwater resources.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to hydrology, water quality, and related effects, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Methodology

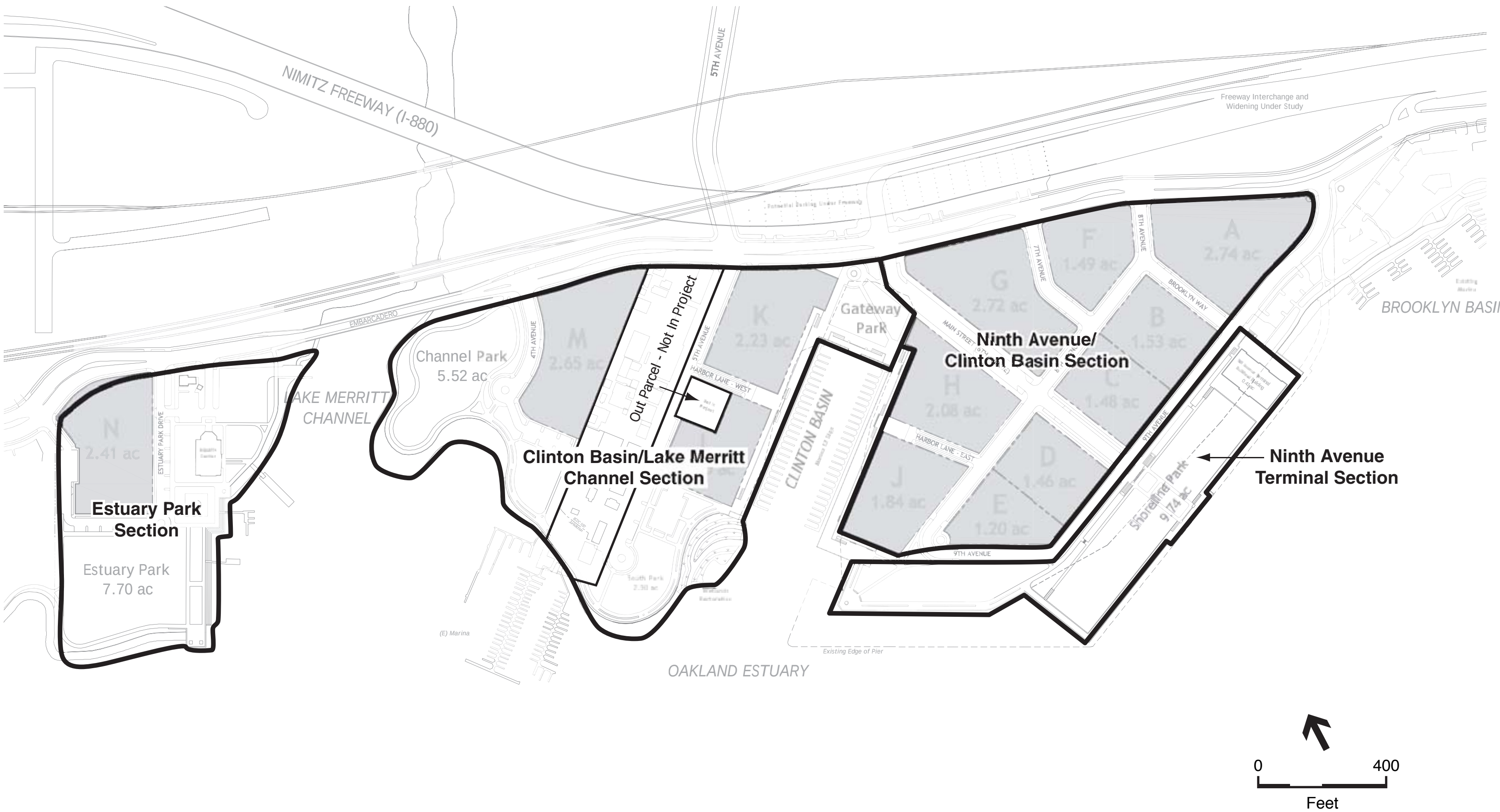
The following section provides impact analysis and discusses the thresholds used to determine the impact significance. The impacts analysis discusses the significance of the changes to the existing conditions that would result from the project. Impacts are divided into three main categories: water quality, groundwater resources, and flooding. This section discusses water quality impacts to Oakland Estuary, which is the immediate receiving water body, and San Francisco Bay depending upon the significance criteria. Construction and operational impacts of the project are discussed for each category. For the purposes of the water quality analysis, the project site is divided into four main sections depending upon the distribution of pervious and impervious or paved areas. See **Figure IV.D-2**. The four sections are:

- **Ninth Avenue Terminal section:** The section of the site that includes the Ninth Avenue Terminal is paved and impervious with runoff flowing into storm drains or directly into the estuary. The Terminal includes a pile supported structure, its wharf that partially extends over the estuary. A portion of the Terminal building and its associated wharf would be removed and the area would be converted to public open space with open green lawn, bicycle paths, and jogging trails. This would increase pervious areas facilitating greater infiltration and reducing runoff.

- **Ninth Avenue/Clinton Basin section:** The area between Ninth Avenue and Clinton Basin shows industrial use on paved areas with stormwater flowing into storm drains. Some unpaved sections cause sedimentation with storm runoff and discharges that flow into the estuary. The project would convert the heavy industrial section to residential and retail use.

- **Clinton Basin/Lake Merritt Channel section:** This partly paved and semi-pervious area between Clinton Basin and Lake Merritt Channel (includes Berkeley Oakland Ready Mix operation) would be used for residential/retail development and for South Park and Channel Parks. The area currently has industrial uses with storm runoff and discharges from the ready mix plant flowing directly into the estuary and the Lake Merritt Channel. The project would develop residential and commercial uses in this area, provide new public open space, and improve the existing shoreline.

- **Estuary Park section:** The portion of the site west of the Lake Merritt Channel includes Estuary Park, Jack London Aquatic Center, and the Cash & Carry wholesale grocery building. The project would improve the park, which is approximately 3.5 acres of lawn surface, and the park's connection to the Bay Trail, which forms a continuous path along the shoreline. The project would redevelop the Cash & Carry retail site and would not significantly change



SOURCE: Environmental Science Associates, 2005

Oak to Ninth Avenue . 202622

Figure IV.D-2
Water Quality Analysis Study Parcels

- the existing impervious surface acreage. No changes are proposed to the Aquatic Center and related parking areas that make up approximately three acres of impervious surface.

The existing commercial and industrial structures on the project site would be replaced by residential areas and new and improved parks and open spaces, as described in Chapter III, Project Description.

Project Impacts

Water Quality

Construction Impacts

Impact D.1: Project construction would involve activities (excavation, soil stockpiling, boring and pile driving, grading, and dredging, etc.) that would generate loose, erodable soils that, if not properly managed, could violate any water quality standards or waste discharge requirements; result in substantial erosion or siltation; create or constitute substantial polluted runoff; or otherwise substantially degrade water quality. (Potentially Significant)

Construction of the project would involve excavation, soil stockpiling, and boring along with pile driving and grading. Construction would include activities such as removal of a portion of the pile-supported pier along the southernmost edge of the Ninth Avenue Terminal section and building of a sheet pile edge and a 55-foot wide hardscape around Clinton Basin. The project would rebuild the marina in Clinton Basin and improve the Fifth Avenue Marina and include improvement of the shoreline along the project site (see **Figure IV.D-3**). The shoreline improvement activities would include installation of rock slope protection measures and a bulkhead wall with riprap at the toe of the slopes (Moffatt & Nichol, 2005a). Rock slope protection (shown as riprap in **Figure IV.D-3**) would consist of installing the following measures (Moffatt & Nichol, 2005a):

- Revetment or a type of a barricade that would consist of armor stone, geotextile fabric, geo-membrane if applicable, and a crushed rock leveling course, and

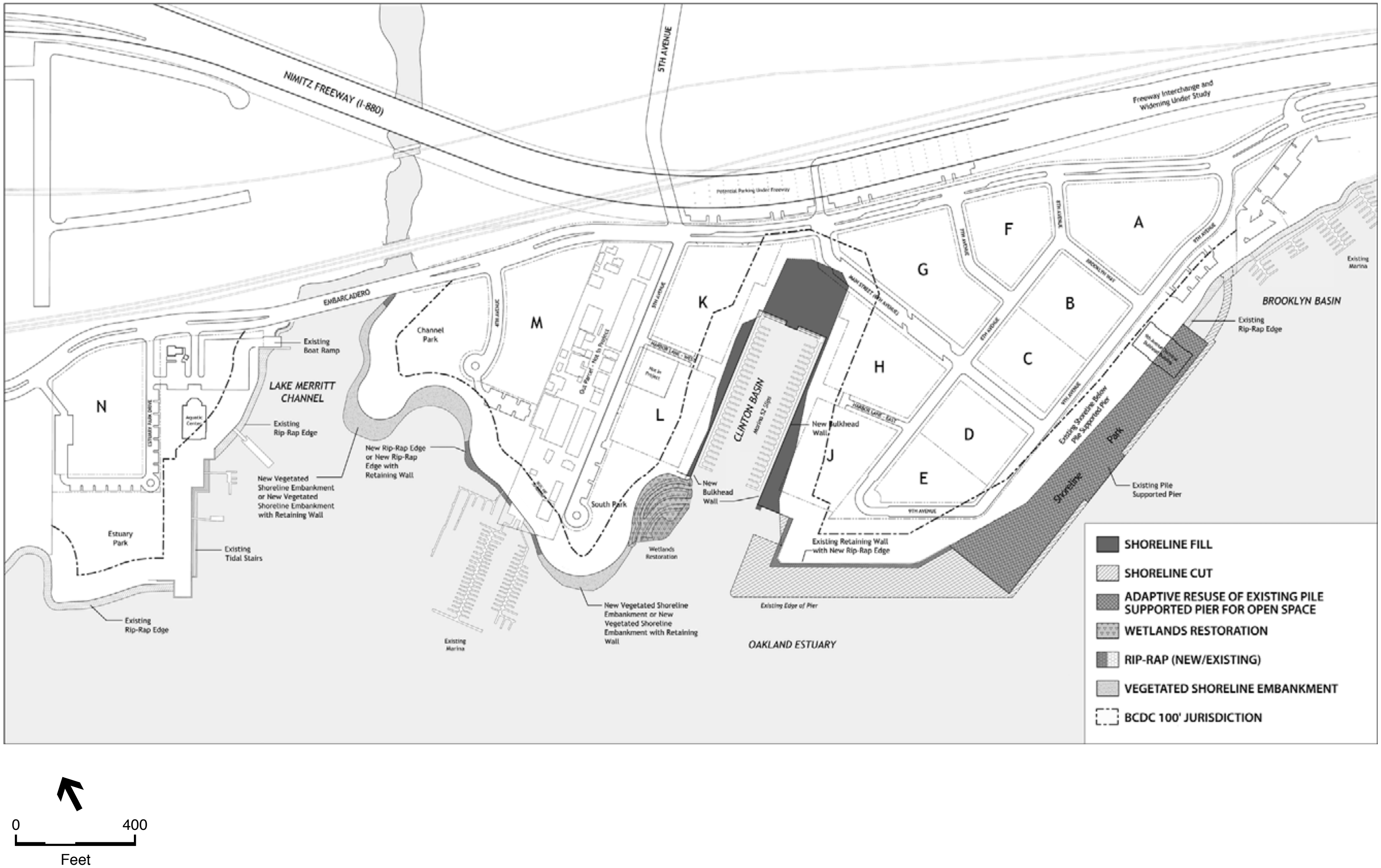
- Slope dressing that would consist of armor stone and bedding that would be placed on the slope and does not require significant excavation or foundation support.

The bulkhead wall would consist of a vertical bulkhead wall made up of either steel or concrete sheet piles. The wall would retain the fill and include a revetment on the waterside that would provide structural resistance to overturning (Moffatt & Nichol, 2005a).

The proposed shoreline improvements would change along Channel Park, Clinton Basin, Shoreline Park, and Brooklyn Basin by constructing piles and shadow fills (i.e., fills that are cantilevered over into the estuary creating a shadow in the water) and by creating or restoring shoreline marshland and vegetated shoreline embankments, such as along the proposed Channel Park. Marsh improvement would occur by placing a wedge of soil between the estuary and the excavation. The wedge would be excavated after the revetment is constructed (Moffatt & Nichol, 2005a). Shadow fills could result in fluctuation of temperature in the estuary, which may in turn affect aquatic habitat. (See Section IV.I, Biological Resources, for further discussion of impacts on aquatic habitat.).

Construction of the shoreline improvement measures is expected to involve mostly land-based operations using backhoes and cranes, except for the areas along Clinton Basin and Shoreline Park where construction would involve barges or water-based equipment such as scows, derrick barges, and tugs. Construction of riprap would require excavation that would be considered as dredging (Moffatt & Nichol, 2005a). Dredging and placement of toe rock would be typically limited to the length of the shoreline that could be covered with bedding and/or riprap. Dredging impacts are discussed in the Impacts section below. Bulkhead construction around Clinton Basin would depend on the type of the retaining wall and the contractor’s preferred method of construction. Some sections, such as the Clinton Basin sections are deeper due to the required navigation related depths, therefore the excavation for the proposed bulkhead wall in the areas would extend two to three feet below the toe of the slope to place the rock (Moffatt & Nichol, 2005a).

The construction activities as discussed above would generate loose, erodable soils that, if not properly managed, could be washed into surface water by rain or by water used during grading operations. Soil erosion would cause excess sediment loads in waterways and could affect the water quality of the Oakland Estuary and eventually San Francisco Bay. However, stormwater control measures such as the installation of silt fences and hay bales would be implemented to prevent stormwater runoff into the estuary. Construction would involve use of fuel and other chemicals that if not managed properly, could get washed off into the stormwater. These construction impacts would be temporary, however would be a potentially significant, particularly due to the proximity of the project site to the estuary. Adherence to the standard City practices, and City and RWQCB requirements discussed in Mitigation Measure D-1 would reduce the impact to a less-than-significant level.



SOURCE: Oakland Harbor Partners, 2005

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Figure IV.D-3
Shoreline Reconfiguration and Stabilization Plan

Mitigation Measure D.1: The project sponsor shall comply with all NPDES requirements, RWQCB General Construction Permit requirements, and all City regulations and Creek Protection Permits requirements.

Specific requirements are as follows:

NPDES Requirements

- The project sponsor shall comply with the ACCWP NPDES permit and the RWQCB General Construction Permit. According to the permit requirements, the project sponsor shall prepare a SWPPP that would outline construction stormwater quality management practices based on the ACCWP *Stormwater Quality Management Plan* and coordinate the SWPPP with the preparation of the grading plan. The SWPPP shall describe erosion control measures as recommended in the *California Stormwater Best Management Practice Handbook* (Stormwater Quality Task Force, 2003).

    - The project sponsor shall prepare the SWPPP and submit a notice of intent application to the RWQCB prior to construction activities, as required by the RWQCB. Implementation of the SWPPP shall start with the commencement of construction and continue though the completion of the project.

    - At a minimum, the SWPPP shall include a description of construction materials, practices, and equipment storage and maintenance, a list of pollutants likely to contact stormwater, site specific erosion and sedimentation control practices, list of provisions to eliminate or reduce discharge of materials to stormwater, and BMPs for fuel and equipment storage.

    - The project sponsor shall develop and implement a monitoring program as required under the General Permit. The project sponsor shall require the contractor to conduct inspections of the construction site prior to anticipated storm events and after the actual storm events. During extended storm events, inspections shall be conducted after every 24-hour period. The goals of these inspections are:

        - to identify areas contributing to stormwater discharge,

        - to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the General Permit, and

        - whether additional control practices or corrective maintenance activities are needed.

    - Equipment, materials, and workers shall be available for rapid response to failures and emergencies. All corrective maintenance or BMPs shall be performed as soon as possible, depending upon worker safety.

- Upon project completion, the project sponsor shall submit a notice of termination to the RWQCB.

City of Oakland Requirements

- The City of Oakland Municipal Code Sections 15.04.780 and 13.16 require that project applicants prepare a grading plan for the project. The required grading plan includes drainage, erosion, and sediment control measures, and incorporates construction BMPs to prevent pollutants from entering the storm sewer to the maximum extent practicable. The plan discusses existing, temporary, and final drainage facilities. Erosion and sediment control combine interim and permanent measures to minimize erosion, stormwater runoff, and sedimentation. Measures may include inlet protection using rock media filters, filter fabrics and bags, installation of straw waddles, silt fences, covering, and hydroseeding of open areas to prevent erosion and migration of sediment to the storm drain system or directly to the estuary. After construction is complete, the storm drain system would be inspected and cleared of any debris or sediment. Preparation and implementation of the grading plan shall include the preparation of the construction SWPPP as discussed above.

  The project sponsor shall obtain a Creek Protection Permit under Category III or IV due its proximity to the estuary. The permit application shall include the following:

  - A site plan that illustrates the relationship and distance of the project to the creek centerline and top of the creek bank.
  - Posting of public notices within a 300 foot-radius of the project location.
  - Environmental documents as required under CEQA,
  - A Creek Protection Plan that describes how the project sponsor would protect the creek, its banks, riparian vegetation, wildlife, surrounding habitat, and the creek's natural appearance during and after construction. The plan may be prepared by the owner of the property, an architect, engineer, or contractor. The project sponsor shall be obligated to implement the approved provisions of the plan. The plan shall be reviewed and approved by the City prior to issuance of the Creek Protection Permit. The plan may include but is not limited to the following elements:
    - Education on creek protection provided to workers on the site;
    - Litter prevention measures, (for example, how is debris, loose dirt. etc. stored);
    - Dust control measures;
    - Methods of cleaning tools and equipment;
    - Construction site fencing;

- Future and ongoing sediment and erosion control measures;
- Wet weather protection;
- Special circumstances/additional information; or
- Emergency preparations for construction related spills.

- Submittal of a Hydrology report (For Category 4): A Hydrology report shall be prepared by a licensed engineer with creek hydrology expertise. The report shall be reviewed and approved by the City prior to issuance of a Creek Protection Permit. A hydrology report may include, but is not limited to the following elements:
    - Flows and water surface levels;
    - Address how future development in the area (unrelated to the proposed work) may impact flows;
    - Creek bank stability, before and after the project;
    - Impact of proposed work with regard to direction, as well as quantity of flow in the Creek;
    - Upstream and downstream conditions, before and after project construction;
    - Location of major drainage facilities (e.g. trash racks, culverts, discharge points, etc.);
    - Profiles of the stream;
    - Cross sections;
    - Proposed improvements to the Creek; including any vegetative or other natural screening enhancements utilized;
    - Impacts of project on existing vegetation or wildlife within the affected riparian corridor;
    - Required permits or approvals from regulatory agencies such as the California Department of Fish and Game, Army Corps of Engineers, and the State Regional Water Quality Control Board; and
    - Any additional information deemed reasonable by the Director of Building Services.

Implementation of Mitigation Measure D.1 would reduce soil erosion and release of hazardous materials into watercourses, therefore construction of the project would not cause degradation of water quality in the estuary or other waterways or violate any water quality standards. The impact would be less than significant.

Significance after Mitigation: Less than Significant

Impact D.2: Project construction activities would include dredging in Clinton Basin, which could require disturbance, removal, and disposal of contaminated sediment that may result in adverse impacts to aquatic organisms and water quality. (Potentially Significant)

Construction activities would involve dredging as a part of shoreline improvements at Clinton Basin. A vertical bulkhead wall (see **Figure IV.D-3**) would be constructed around the edge of the basin, which would allow a promenade type of public access with proximity to the water's edge. This would be a combination of a low-height retaining wall on a riprap embankment (see Impact D.1 for discussion). In addition to the promenade along the edge of Clinton Basin, approximately 17-foot boat long slips would be built within the basin. Construction of the embankment with riprap would require excavation that would constitute dredging.

As discussed previously, the project would involve dredging at a design water depth of -8 feet MLLW with about 20,000 cubic yards of dredged material. The type of dredging and the equipment used for dredging would be strongly influenced by desired depths and the quality of material (Moffatt & Nichol, 2005b). The dredging activities are expected to continue for about a month, assuming that offsite facilities would be used to process the material. Dredging would occur between June 1 and November 30 (Moffett & Nichol, 2005b).

Dredging would cause bottom disturbance, loading of suspended solids, reduction in dissolved oxygen, mobilization of toxicants that are adsorbed to the sediments, and release of substances such as nitrogen, phosphorus, and ammonia. Such phenomena could result in adverse impacts to aquatic organisms in Clinton Basin and the estuary. Impacts include smothering of organisms living in or on the bottom of the basin or the estuary, impaired respiration, reduced oxygen intake, and stimulation of algal growth (RWQCB, 1995). In addition to the actual dredging activity, disposal of the dredged material could cause a significant adverse impact depending upon the sediment quality. The impact would be minimized by implementing Mitigation Measure D.2.

Mitigation Measure D.2: The project sponsor shall obtain and comply all water quality certification and requirements required for dredging activities, which shall include a Section 404 permit process pursuant to the Army Corps of Engineers (Corps) and pursuant to the oversight, permitting, and approval of the Dredged Material Management Office (DMMO).

Specific requirements are as follows:

Water Quality Certification

As a part of the Section 404 permit process to obtain approval for the dredging activity, the project sponsor shall apply for water quality certification under Section 401 of the CWA. See discussion for dredging permitting under *Regulatory Setting* above and *Section IV.I, Biology*, for details on the 401 certification process.

Dredging Permit

The project sponsor shall obtain dredging approval by adhering to the following three-phased process (USACE, 2001):

1. Suitability determination: The project sponsor shall obtain a recommendation from DMMO on whether the sediments to be dredged are appropriate in terms of potential for environmental impacts for the proposed disposal or reuse site. The recommendation is typically based upon sediment testing.

    - *Material Quality:* Preliminary sampling and testing performed by the Port of Oakland indicated that the material to be dredged at the project site is not suitable for in-bay disposal at a designated site in San Francisco Bay. Assuming that additional testing does not change this assumption, the material within Clinton Basin shall potentially occur in one of the three types of classifications listed below in increasing levels of contaminants (Moffatt & Nichol, 2005b):

        - <u>Wetland Foundation Class Material:</u> This material is defined as the dredged material that is capped with wetland cover type of material. It is the beneficial reuse material, as defined by the RWQCB, which should meet wetland non-cover guidelines. Dredged material that is reused for levee maintenance, construction fill, and daily landfill cover typically falls under the wetland foundation screening criteria. The Long Term Management Strategy (LTMS) Plan defines beneficial reuse as dredged material that is used for wetland creation, construction fill, levee maintenance and daily landfill cover.

          All dredged material shall be tested to determine whether it is suitable for a proposed disposal site or beneficial reuse environment. Currently, screening guidelines developed by the RWQCB are used by the DMMO (see Dredging Permitting under *Regulatory Setting* above) to help identify dredged material suitability for beneficial reuse. This material could also be construed to be "mostly clean" with little to no impact on groundwater quality. Approved sites which accept this type of material include the Montezuma site in Solano County and landfills for daily cover.

        - <u>Designated Waste (Class III Landfill):</u> This material does not meet the screening criteria established by the RWQCB for wetland cover or non-cover, however is acceptable at a Class III type of landfill.

- Designated Waste (Class II or I Landfill): This material cannot be accepted at a Class III landfill, and needs to be disposed at a Class I or II Landfill.

2. Permit process: The DMMO shall develop a consolidated permit application for dredging and disposal projects. The project sponsor shall submit a completed application form along with the supporting documentation[7].

3. Episode approval: The DMMO shall issue dredging episode approvals as appropriate. Because the approvals occur in conjunction with a suitability determination for the sediments proposed for dredging, the DMMO serves as a main portal for the permitting process.

The dredged material from the Bay is either disposed of at in-bay disposal sites[8] or Ocean Disposal sites or can be reused for a variety of beneficial purposes such as habitat improvements at diked baylands, to stabilize levees, etc. It could be necessary to permanently confine the dredged material from the aquatic environment due to certain contaminant levels (USACE, 2001).

Given the depth of dredging and quantity of the dredged material, the project sponsor shall obtain the dredging permit under Group 1 projects (see regulatory discussion above). The project sponsor shall submit to the DMMO either a sediment Sampling and Analysis Plan (SAP) or a written request (with supporting information) requesting a “Tier I”[9] exclusion from testing requirements based on the factors such as previous testing history and physical characteristics of the material proposed for dredging. A Tier I determination constitutes a recommendation by the DMMO that the sediments are suitable for the proposed disposal environment and that the project applicant may proceed with the next phase of project authorization (USCAE, 2001).

As part of the permitting process, the project sponsor shall pursue the following steps (Moffatt & Nichol, 2005b):

1. Prepare a SAP as described by the USACE in Public Notice (PN) 99-4.

2. Obtain approval of the SAP from the DMMO.

3. Sample and test the material to be dredged as per the established guidelines in the *Inland Testing Manual* published by USEPA, PN-01-01 published by the USACE, and the *Draft Sediment Screening and Testing Guidelines* published by the RWQCB.

4. Complete the permit application as per the DMMO instructions. This includes proposing a disposal location based on the results of the sediment testing and conducting an alternatives analysis for disposal of the dredged material.

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7 Because permits are issued by the individual DMMO agencies, any necessary enforcement activities are also carried out by the individual agencies, although the DMMO may serve as a forum for initial discussion of problems (USACE, 2001).

8 In-Bay disposal sites include the three federally designated open-water sites: one located near Alcatraz Island, second in San Pablo Bay, and third in Carquinez Strait. Some projects are designated to dispose materials in the Suisun Bay Channel (USACE, 2001).

9 Tier I is one of the different tiers of information needed for decision-making, based on the degree of potential environmental risk associated with the proposed project (USACE, 2001).

The project sponsor shall submit completed applications and any additional required documentation for 401 certification and the dredging permit. Therefore, implementation of Mitigation Measure D.2 would address the related water quality impacts and reduce the dredging and disposal impacts to a less-than-significant level.

Significance after Mitigation: Less than Significant

Operational Impacts

Impact D.3: Development of the project would result in a substantial decrease in impervious area. The project would implement post-construction BMPs to increase stormwater infiltration; to treat and direct stormwater runoff or discharge into a stormwater system and the estuary; and to prevent illicit discharge. Therefore, the project would not violate regulatory water quality standards or waste requirements. (Less than Significant / Beneficial)

The majority of the project site is currently covered with impervious surfaces. Stormwater from the existing site is discharged either overland or through the existing piped storm drain system directly into the estuary without treatment. Implementation of the project would increase open space areas and reduce impervious surface areas facilitating infiltration and reducing storm runoff. The water would infiltrate into the subsurface soils and eventually flow into the estuary and the Bay through groundwater seepage. As part of the project, selected post-construction stormwater BMPs such as hydrodynamic separators, grass swales, pervious pavements, and infiltration basins would be installed where practicable to treat runoff from impervious surface areas. Other administrative BMPs would include signage at inlets to prevent illicit discharge to storm drains, street sweeping, public education, and household hazardous waste disposal programs. The project site would be landscaped with lawns and pervious areas and would involve reduced hazardous material use and storage as compared to the existing conditions. Further implementation of the BMPs would improve the water quality seeping into the subsurface soils and into the estuary. The project would also provide grading and a storm drain system to limit direct storm runoff or discharge into the estuary. Therefore, the long-term water quality impact resulting from the increased pervious area therefore would be less than significant and beneficial.

Mitigation: None Required.

Impact D.4: Project operation would involve increased use of the marinas at the project site. As required by the RWQCB, the project design would incorporate post construction BMPs to treat stormwater and control discharge of wastes from the vessels used at the marinas. Therefore, the project would not violate water quality standards or waste discharge requirements. (Less than significant impact)

The proposed project would consist of increasing slips at the marinas in Clinton Basin and at the end of Fifth Avenue. There would be an increase of approximately 17 marina slips in Clinton Basin and 52 slips at the Fifth Avenue marina, and a maximum number of 170 total slips. The project is expected to enhance public opportunities for recreational boating, such as sailing, rowing, canoeing, and kayaking. This increased use of the marinas would mean greater number of boats or vessels that would be cleaned and/or used at the site. These activities could cause the chemicals used such as the cleaning agents, to flow into the estuary and result in a significant water quality impact.

The project sponsor shall ensure that marina operations include implementation (as a part of the project) the following BMPs, which shall include, but not be limited to, the following:

- Grade the site to prevent stormwater entering the sediment pits and oil/water separators;
- Prohibit engine cleaning in vehicle wash bay areas because solvents remove oil and dirt from the engines that could enter the sewer;
- Prohibit pouring of wastes into drains, into surface water, or onto the ground;
- Prohibit hosing down of spills with water;
- Erect signs that state that the wash area is for washing vehicle exteriors only and that other maintenance or cleaning activities such as oil changes and engine cleaning is prohibited.

The project sponsor shall ensure that marina operations enforce rules and regulations for boat users that shall include, but not be limited to, the following:

- Use only biodegradable, low-phosphate content, water-based cleaners, whenever possible;
- Avoid the use of halogenated compounds, aromatic hydrocarbons, chlorinated hydrocarbons, petroleum-based cleaners or phenolics. (The presence of these substances can be checked in the material safety data sheet sheets for each cleaning agent.)
- Implementation of these measures would control the flow of chemicals into the estuary and reduce the water quality impacts to the estuary to a less-than-significant level.

Mitigation: None Required.

Impact D.5: Site development under the project would involve new landscaping and open lawns. If not properly handled, chemicals used to establish and maintain landscaping and open lawn areas, such as pesticides and fertilizers, could flow into the waterways and result in water quality impacts to the Oakland Estuary, and eventually San Francisco Bay. (Potentially Significant)

The project would redevelop an underutilized, maritime, and industrial area into a mixed-use neighborhood with approximately 28.4 acres of open space (approximately 44 percent of the project area), most of which would be parks (pervious lawn) with paved pathways. New pervious area would replace areas that are currently impervious surface (Shoreline Park, Gateway Park, and portions of Channel Park on land currently occupied by the sand and gravel operation). (See Chapter III, Project Description, and Section IV.L, Public Services and Recreation, for details). The increase in pervious areas on the project site could increase the amount of nonpoint-source pollutants particularly nutrients from pesticides and fertilizers typically used in parks. Implementation of Mitigation Measure D.4 would control the contaminants from flowing into the stormwater runoff before their transport into the Bay, therefore the impact would be minimized.

The City of Oakland is a participating agency in the ACCWP that protects water quality through implementation of various source control and monitoring measures outlined in the NPDES permit and the *Stormwater Quality Management Plan*. Under the ACCWP *Stormwater Quality Management Plan* (2001), new development is required to comply with existing stormwater runoff controls (e.g., hazardous materials storage requirements, elimination of illicit discharges, etc.). The project would be required to comply with these control requirements. The ACCWP NPDES permit requires the City of Oakland as a permittee, to address pesticides, which have been found by the RWQCB to have the reasonable potential to cause or contribute to exceedances of water quality standards. The pesticide program has submitted a proactive Diazinon Pollutant Reduction Plan or the "Pesticide Plan". The goals of the Pesticide Plan and of its resulting implementing actions are to reduce or substitute pesticide use (especially diazinon use) with less toxic alternatives. In addition, compliance with the existing water quality protection requirements and ordinances implemented through the City, the RWQCB, and Alameda County (see construction impacts discussion), in addition to implementation of Mitigation Measure D.4, above, would effectively reduce surface water pollutants and ensure that potential project impacts to water quality would remain less-than-significant. (See also Section IV.F, Hazards and Hazardous Materials, for discussion of site contaminants.)

Mitigation Measure D.5: The program sponsor shall prepare a landscape management plan (LMP) for all public open spaces that includes, but is not necessarily limited to, a description of application, storage, and safety measures involving the use of pesticides and fertilizers.

The LMP shall include, but not be limited to, the following:

- **Transportation and storage: Pesticides and fertilizers shall be transported and stored as per state and federal guidelines. They shall be stored in designated bermed areas onsite.**

- **Pesticide Application: Pesticides and fertilizers shall be handled and applied according to the procedures set by the manufacturer. The LMP shall address methods to optimize and reduce the use of pesticides and fertilizers and present strategies to incorporate environmentally-safe (organic) pest and growth enhancement materials. These strategies shall address eventually eliminating the use of chemicals such as**

diazinon that harm water quality. The RWQCB has found that the pesticides have a reasonable potential to cause or contribute to exceedances of water quality standards. Therefore, the NPDES permit requires the City of Oakland (as a permittee) to address pesticides. The project sponsor shall adhere to the Diazinon Pollutant Reduction Plan or the Pesticide Plan submitted by the ACCWP to the RWQCB. The goals of the Pesticide Plan and of its resulting implementing actions are to reduce or substitute pesticide use (especially diazinon use) with less toxic alternatives (ACCWP, 2003).

- **Pesticide and fertilizer application schedules.**

- **Container Disposal: The contractor shall dispose of empty containers carefully. The containers shall never be disposed at locations that would contaminate natural waterways.**

The LMP and its recommendations for use, control, and eventual reduction of nonorganic pesticide and fertilizer use shall be approved by the City prior to installing the landscape and shall be implemented throughout the life of the project.

Significance after Mitigation: Less than Significant

Groundwater Resources

Construction Impacts

Impact D.6: The project sponsor could deplete groundwater supplies or interfere with groundwater recharge and cause contamination of surface. (Potentially Significant)

Excavation and construction of structures with subsurface foundations or open trenches, such as building foundations or pipelines, can often intercept shallow groundwater and require dewatering (removal of groundwater by pumping) to lower groundwater levels and dry the area for construction. Depending on the nature of construction activities and given the shallow subsurface water levels, groundwater could flow into excavations that extend below the groundwater table. However, there are no supply wells at the project site, and therefore dewatering would not deplete the groundwater supplies from the deeper aquifer recharge areas. Common practices employed to facilitate construction include either dewatering the excavation or shoring the sides of the excavation to reduce groundwater inflow. If dewatering methods are used, groundwater would be pumped out of the excavation to the surface and then discharged, typically to either the storm drain or sanitary sewer. Water extracted during dewatering could contain chemical contaminants (either from pre-existing sources or from equipment), particularly given the existing contamination underlying the site (see Section IV.H, Hazards and Hazardous Materials for discussion of site contaminants), or could become sediment-laden from construction activities. Depending on the quality of the groundwater, the discharge could potentially contaminate the estuary. Implementation of Mitigation Measure D.6 would minimize the impact to groundwater resources to a less-than-significant level.

Mitigation Measure D.6: **The project sponsor shall comply with NPDES permit requirements by the RWQCB for dewatering activities.**

- **The RWQCB could require compliance with certain provisions in the permit such as treatment of the flows prior to discharge. The project sponsor shall discharge the groundwater generated during dewatering to the sanitary sewer or storm drain system with authorization of and required permits from the applicable regulatory agencies, in this case EBMUD and/or the City of Oakland Public Works Agency.**

- **The project sponsor shall comply with applicable permit conditions associated with the treatment of groundwater prior to discharge.**

- **If necessary a dewatering collection and disposal method shall be identified at stream and channel crossings.**

With implementation of Mitigation Measure D.6, the project would not contaminate surface waters and violate any water quality or waste discharge standards.

Significance after Mitigation: Less than Significant

Flood Hazards

Impact D.7: The project would not result in flooding due to its proximity to a 100-year flood hazard area, or expose people or property to other substantial risks related to flooding, seiche, tsunami, or mudflow. (Less than Significant)

The project site is located in an area designated as Flood Hazard Area C (areas of minimal flooding) and not within the 100-year or 500-year floodplain (FEMA, 1982). The project site does not lie in a 100-year flood area. Further the likelihood of flooding in the project area from tsunamis, seiches, or mudflows is negligible in areas along Oakland’s Inner Harbor, Brooklyn Basin and the tidal channel, which would be sheltered by the island of Alameda. In addition, the likelihood of large scale devastation in Oakland resulting from seiches appears to miniscule (City of Oakland, 2004a). Therefore the project would not expose people or structures to the risk of loss due to flooding.

Mitigation: None Required.

Impact D.8: The project would result in a net decrease in impervious surfaces and would reconfigure and stabilize the shoreline along the project site, thereby decreasing the volume of stormwater runoff. Therefore the project would not increase runoff and result in substantial flooding on or offsite, or exceed the capacity of the existing stormwater drainage system. (Less than Significant / Beneficial)

The project site is predominantly paved with runoff flowing into storm drains onsite or directly into Oakland Estuary and Lake Merritt Channel. The project would improve these conditions by replacing existing industrial and manufacturing uses with new residential and retail uses, and by introducing improved pervious open spaces (parks). The shoreline would be graded and stabilized to allow stormwater discharge to the proposed onsite stormwater system rather than flowing overland into the Oakland Estuary.

The project proposes to reduce the overall impervious area onsite by approximately 10 percent with the introduction of pervious area within open space, therefore reducing peak runoff discharges to the estuary. The project will install new storm drain throughout the proposed project size in conformance with City of Oakland design criteria. Storm drain will be discharged to the Oakland Estuary through existing and new outfalls permitted through RWQCB, the USACE and BCDC. New storm drain will be designed to accommodate drainage from the Embarcadero. The existing storm drain system would be replaced with a new system that would convey runoff via controlled discharge points (onsite) to the Oakland Estuary and would be capable of conveying 100-year. (See also Section IV.M, Utilities and Service Systems.) Further the project would be required to comply with the C.3 provision in the NPDES permit by including specific site design features, such as minimizing land features and impervious surfaces, including minimum impact site design standards, and adopting source control measures such as indoor mat/equipment wash racks for restaurants, sanitary drained outdoor covered wash areas for vehicles, equipment, and accessories. Therefore, the project would adhere to the regulatory requirements and manage the operational runoff. The impact would be less-than-significant.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the East Bay Plain of the San Francisco Bay Basin. This includes the city of Oakland and its surrounding areas (per the Oakland Cumulative Growth Scenario as refined for this EIR).

Hydrology and Water Quality

Impact D.9: The increased construction activity and new development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would not result in cumulative impacts with respect to hydrology and water quality. (Cumulative Impact: Less than Significant)

Implementation of the project, with other reasonably foreseeable future projects in the vicinity, would not result in adverse cumulative effects to hydrology and water quality. These effects could include increases in stormwater runoff and pollutant loading to the Oakland Estuary and San Francisco Bay. The project and other future projects in the vicinity would be required to comply with drainage and grading ordinances intended to control runoff and regulate water quality at each development site. Additionally, new projects would be required to demonstrate that stormwater volumes could be managed by downstream conveyance facilities. New development projects in Oakland would also be required to comply with City of Oakland ordinances regarding water quality, and ACCWP NPDES permitting requirements. Therefore, the effect of the project on water quality and hydrology, in combination with other foreseeable projects would not be significant. Additionally, the project itself would reduce impervious surfaces in the project and improve shoreline conditions, thereby decreasing the runoff from the site, which is a beneficial impact.

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E. Cultural Resources

This section examines the potential impacts of the Oak to Ninth project on cultural resources. Specifically, archaeological, paleontologic, and historic resources in the project vicinity and on the project site are described and evaluated, and appropriate mitigation measures are identified where necessary.

Setting

Archaeological and Historic Resources

Prehistoric Setting

Although the project area is urbanized with a history of industrial and maritime uses since the early 20th century, prehistorically it was a biologically rich tidal marsh environment. Natural marshland biotic communities along the edges of bays and channels were the principal source for subsistence and other activities from the middle Holocene[1] 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 (Nelson 1909). From these beginnings, the most notable sites in the Bay region were excavated scientifically, like the Emeryville shellmound (Ala-309), the Ellis Landing Site (Cco-295) in Richmond, and the Fernandez Site (CC0-259) in Rodeo Valley (Morrato 1984). These dense midden sites are 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 B.C. (Jones 1992). 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.

Early urbanization of the Bay Area and massive amounts of filling along the Bay shores has, in many cases, destroyed or at least obscured the archaeological record. Indeed, much of the subsequent excavation work done after Nelson’s (1909) investigations have been salvage operations. Some of the evidence for initial human occupation of the area is represented by what are commonly referred to as the Civic Center BART and Sunnyvale skeletons (Moratto 1984). We now know that these date to just 5000 years ago. Sea-level changes and post-Gold Rush sedimentation have obscured older materials. Indeed, recent evidence indicates that the lowest level strata of several of the oldest bay mounds are now 6 m below sea level, while virtually all

1 10,000 years ago to present day.

other major estuarine environments along the California coast yield significant archaeological materials older than 5000 years (Broughton 1999; Jones 1992). Therefore, although the earliest known bay shore mounds date to 3800 years ago, it is difficult to generalize about the time frame since the samples are from shellmounds only above the current bay water level. The majority of the earliest Bay Area sites are well inland along inland lakes and estuaries (e.g., Jones, 1991). Perhaps for this reason, the Early Period (c. 3000–500 BC) is generally characterized as having less emphasis on shellfish than the later midden sites and instead were focused on hunting and vegetal food processing, or terrestrial subsistence.

The Early Period 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 (Moratto 1984). 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. 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 explicate the shift toward exploiting a readily available, yet lower ranked resource like acorns or seeds (Jones 1991). 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 (King 1974). Many of the Berkeley traits diffused throughout the region and spread to the interior areas of central California during this time period.

The population increases and larger, more complex settlements that began in the late-Early Period typify the Middle Period (ca. 500 BC – AD 1000), which is sometimes referred to as the “golden age” of shellmound communities (Arnold et al. 2004). The sociopolitical landscape also appears to become more elaborate with clear differentiations in wealth and evidence of aggrandizing. During the Late Period (ca. AD 1000 – 1700), 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 (Broughton 1994). Broughton (1997; 1999) 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.

A record search at the files of the Northwest Information Center in October, 2004 revealed that there were no recorded archaeological sites within one-quarter mile from the project boundary (NWIC, 2004).

Ethnographic Setting

Prior to Euro-American contact, the area of present-day Alameda County was occupied by the Ohlone (also known by their linguistic group, Costanoan[2]). 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. Oakland, 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.

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, where 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 to work as manual laborers on the ranchos that were established 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 project site is within the Rancho San Antonio land grant that was granted to Luis Maria Peralta on August 3, 1820 for his service to the Spanish government. The 43,000-acre rancho included the present-day cities of Oakland, Berkeley, Alameda, and parts of San Leandro and Piedmont. Peralta's land grant was confirmed after Mexico's independence from Spain in 1822, and the title was honored when California entered the Union by treaty in 1848. Despite the title, by the middle of the 19th century, squatters had moved in to use portions of Peralta's undeveloped land. The Gold Rush and California statehood brought miners, businessmen,

[2] "Costanoan" is derived from the Spanish word Costanos meaning "coast people." No native name of the Costanoan people as a whole existed in prehistoric times as the Costanoan were neither a single ethnic group nor a political entity.

lumbermen and other speculators to the area in search of opportunities. Early settlers of that period include Edson Adams, Andrew Moon, and Horace Carpentier, who squatted on 480 acres of Vicente Peralta's (one of Luis Peralta's sons) land. Adams, Moon, and Carpentier subsequently hired Jules Kellsersberger, an Austrian-educated Swiss military engineer, to plot a new city – Oakland, which was incorporated in 1852.

The city of Oakland originally encompassed the area roughly bordered by the estuary (formerly called San Antonio Creek), Market Street, 14th Street and the Lake Merritt Channel. Broadway served as the main street. The majority of the early city dwellers, numbering under one hundred, lived near the foot of Broadway in proximity to the estuary. From there, city development moved towards the Oakland hills and ultimately towards East Oakland and along the waterfront.

The project area lay southeast of the city of Oakland and was considered part of the town of Brooklyn prior to annexation by the city in 1872. The project area is also southeast of the former San Antonio Creek and the Estuary of San Antonio, later renamed Brooklyn Basin. Brooklyn Basin became the Oakland Inner Harbor and which is currently part of the Oakland-Alameda Estuary.

The geography of the area has been altered over the last century through both man-made changes in the form of dredging and by annexation. The construction of the railroad and the reclamation of the waterfront drove the development of the project area along Oakland's Inner Harbor. The transcontinental railroad was completed to the San Francisco Bay in 1869 along the so-called Niles Route which ran along the north side of Embarcadero, bordering the project area. Reclamation of the waterfront occurred in stages during the decades following completion of the transcontinental railroad. In 1878 the area south of the tracks and east of the entrance into Lake Merritt was still separated from the mainland by water and marshes. By 1893, this area had been formed to create the Brooklyn Basin and was connected to the shore. Further work by the Army Corps of Engineers in the 1910s created a wider channel, making it more accessible to large merchant ships.

As a result of its location between the railroad tracks and waterfront, the project area developed into an industrial and warehousing center, serving the shipping needs of lumber and manufacturing industries. In 1925, voters approved a bond to fund harbor improvements, which stimulated development by the Port of Oakland. Control of the port area was transferred to the Board of Port Commissioners in 1926, and the first permanent Board of Port Commissioners was assembled in 1927. The bond funded the construction of the Ninth Avenue Terminal, which was begun in 1929 and completed in 1930.[8] It was one of three municipal terminals funded under the harbor bond; the others were the Grove Street Terminal and Outer Harbor Terminal, neither of which exists today.

In 1935 further waterfront improvements were made using over 500 laborers supplied through the Public Works Administration (PWA) and Works Progress Administration (WPA), work relief programs created under Franklin Delano Roosevelt's New Deal policies during the Great Depression. More improvements followed during the 1930s, including the purchase of 20 acres of waterfront land adjacent to the Ninth Avenue Terminal (1936), a 506-foot wharf extension and other additional projects completed by the WPA with a PWA grant (1937), and more improvements funded by the PWA in 1938, such as construction of roadways and installation of sewer lines.

During World War II, the Terminal was used in the war effort for shipping and was controlled by the Pacific Naval Air Base Command. After World War II, the first freeway in Oakland, known as the Nimitz (after Admiral Chester W. Nimitz who commanded the Pacific Fleet during the war), was opened to traffic from Oak Street to 23rd Avenue in 1949. The Terminal building received an addition in 1951 which nearly doubled the size of the original 1930 building. Today, the building is surrounded by light industrial and warehouse buildings constructed in the mid-to-late 20th century, as well as paved yards.

Paleontologic Resources

Paleontologic resources are the fossilized evidence of past life found in the geologic record. Despite the prodigious volume of sedimentary rock deposits preserved worldwide, and the enormous number of organisms that have lived through time, preservation of plant or animal remains as fossils is an extremely rare occurrence. Because of the infrequency of fossil preservation, fossils – particularly vertebrate fossils – are considered to be nonrenewable resources. Because of their rarity, and the scientific information they can provide, fossils are highly significant records of ancient life. Paleontologic resource localities are those sites where the fossilized remains of extinct animals and/or plants have been preserved.

Rock formations that are considered of paleontologic sensitivity are those rock units that have yielded significant vertebrate or invertebrate fossil remains. This includes, but not limited to, sedimentary rock units that contain significant paleontologic resources anywhere within its geographic extent.

The project area consists of artificial fill (Af) and undivided surficial deposits (Helley & Greymer 1997). These types of sediments would not likely yield significant paleontologic remains because they are surface or artificial deposits that are not considered fossil-bearing rock units. However, significant paleontologic resources can be discovered even in areas of low sensitivity.

Regulatory Framework

City of Oakland Historical and Architectural Survey Ratings

Since 1979, the Oakland Planning Department has conducted the Oakland Cultural Heritage Survey (OCHS), a project that provides an inventory of historic resources throughout the city. The OCHS uses a five tier rating system for individual properties, ranging from "A" (highest importance) to "E" (of no particular interest). A rating of "*" or "F" indicates that the property is less than 45 years old or modernized. The ratings are based on visual quality and design, including the importance of the designer; history and association with persons and events; context; and integrity and reversibility of any changes.[3] The OCHS has also identified historic districts, designated as Areas of Primary Importance and Areas of Secondary Importance. Areas of Primary Importance (API) appear eligible for the National Register of Historic Places (see below), while Areas of Secondary Importance do not qualify as APIs, but appear eligible for designation as a local Preservation District. The OCHS ratings use a plus (+) or minus (-) sign attached to the API and ASI indicators to indicate whether a building contributes to an historic district.[4,5] The full list of ratings is:

> A: Highest Importance: Outstanding architectural example or extreme historical importance (about 150 properties total). These properties are considered clearly eligible for individual listing on the National Register of Historic Places.
>
> B: Major Importance: Especially fine architectural example, major historical importance (about 600 total). Most of these properties are considered individually eligible for the National Register of Historic Places, although some may be "marginal" candidates.
>
> C: Secondary Importance: Superior or visually important example, or very early (pre-1906). C buildings "warrant limited recognition" (about 10,000 total). These properties generally are not considered eligible for the National Register of Historic Places.
>
> D: Minor Importance: Representative example of an important style, type, convention, or historical pattern, but "not individually distinctive." About 10,000 D-rated buildings are Potential Designated Historic Properties (PDHPs),[6] either because they have a higher contingency rating ("Dc") or because they are in districts ("D2+").
>
> E: Of no particular interest. Some E-rated buildings are also PDHPs because they have higher contingency ratings or are in districts.

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3 Properties with conditions or circumstances that could change substantially in the future are assigned both an "existing" and a "contingency" rating. The existing rating, denoted by a capital letter, describes the property under its present condition, while the contingency rating, denoted by a lower-case letter, describes it under possible future circumstances. Buildings receiving contingency ratings include those whose character-defining elements have been altered but that could become more important if the alterations were reversed; certain post-1945 buildings that are too new to be historically important; and properties believed to have historical importance but for which more research is required to document the importance. Thus, a building with a rating of "Eb" is currently of "no particular interest," but could be of "major importance" if, for example, it is restored.

4 Thus, a rating of "A1+" denotes a building of the highest importance [A] that is within an historic district that is an Area of Primary Importance [1] and is a contributor to the district [+], while a rating of "Db2-" denotes a building that is of minor importance [D], potentially of major importance [b], that is within an historic district that is an Area of Secondary Importance [2] and is not a contributing resource within the district [-].

5 According to National Register Bulletin 16A, "How to Complete the National Register Registration Form," a building is contributory to an historic district, and is thus a contributing resource, if it "adds to the historic associations [or] historic architectural qualities" for which the district is recognized. A building generally is identified as a contributing resource if it was built during the district's period of significance (the period for which the district's importance is recognized, generally being the period during which most of the buildings in the district were constructed), relates to the documented significance of the district, and possesses historic integrity. A building may also contribute to the significance of a district if the building individually meets National Register Criteria for listing.

6 PDHPs are properties that have an existing or contingency rating of "A" (highest importance), "B" (major importance), or "C" (secondary importance) in either the OCHS or the Reconnaissance Survey, or have been determined by the surveys to contribute (or potentially contribute, based on contingency rating) to an Area of Primary Importance or Area of Secondary Importance. PDHP is the broadest definition of "historic" in the Preservation Element.

> * or F: Less than 45 years old or modernized. Some *-rated and F-rated buildings are also PDHPs because they have higher contingency ratings or are in districts.

All areas of the City that are not yet intensively surveyed by the OCHS have been evaluated through "windshield" surveys in 1985-1986 and 1996-1997. This Preliminary Citywide Historical and Architectural Inventory, known as the Reconnaissance Survey, employs the same A-B-C-D-E-F rating system as the OCHS, but is not as thorough and is intended to be confirmed or modified over time by the OCHS.

Of the 15 buildings and structures located on the project site, nine were evaluated by OCHS for their potential historic significance on the national and local levels. Of the nine evaluated buildings, eight were assigned preliminary ratings based on the city-wide reconnaissance survey completed in 1985-1986, and one was assigned an intensive survey rating (the Ninth Avenue Terminal) in 1997. OCHS formally evaluated the Terminal in 2004 as part of the City's consideration to designate the Terminal a City Landmark. The remainder of the buildings on the project site was surveyed by OCHS, but not assigned letter ratings.[7] All buildings or structures on the project site were resurveyed and reevaluated by Carey & Co., Inc., an historic preservation consultant, in April 2005, to evaluate their potential historic significance on national, state, and local levels. **Table IV.E-1** includes and summarizes the status of each of the 15 buildings and structures on the project site.

National and State Registers

The National Register of Historic Places ("National Register" or "NRHP") is the official U.S. government list of properties that have architectural, historical, or cultural significance at the national, state or local level. The Register is administered by the National Park Service, an agency of the Department of the Interior. The National Register 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. Listing of a property in the National Register does not prohibit demolition or alteration of that property, but does denote that the property is a resource worthy of recognition and protection. The National Register includes four criteria under which a structure, site, building, district or object can be considered significant for listing on the Register. These include:

> Criterion A (Event): Resources that are associated with events that have made a significant contribution to the broad patterns of our history;

> Criterion B (Person): Resources that are associated with the lives of persons significant in our past;

> Criterion C (Design/Construction): Resources that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that

7 A= Primary (historical) Importance, F = less than 45 years old or modernized, NR = surveyed, but not rated as a Preliminary Designated Historic Property (PDHP) by OCHS, and presumed to be of little or no historical value at the time of the survey, as evidenced by check marks on the survey maps.

possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and

Criterion D (Information Potential): Resources that have yielded, or may be likely to yield, information important in prehistory or history.

The State Office of Historic Preservation (OHP) maintains the California Register of Historical Resources ("California Register"). The California Register includes properties that are listed or are formally determined eligible for listing in the National Register of Historic Places; certain State Historical Landmarks; and eligible Points of Historical Interest. Other resources that may be eligible for the California Register, and which require nomination and approval for listing by the State Historic Resources Commission, include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resources surveys conducted in accordance with OHP procedures, historic resources or districts designated under a local ordinance consistent with the procedures of the State Historic Resources Commission, and local landmarks or historic properties designated under local ordinance. A resource may be listed in the California Register under criteria that are similar to those of the National Register, except that California Register criteria include specific references to California's history and cultural heritage. In addition to historic significance, a National Register or California Register evaluation includes a determination of physical integrity, or the authenticity of an historic resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity consists of seven aspects: location, design, setting, materials, workmanship, feeling, and association.

Resources evaluated for listing on the National Register are assigned a status code from 1 to 7; until 2003, the codes were as follows:

1. Listed in the National Register
2. Determined eligible for the National Register in a formal process involving federal agencies
3. Appears eligible for the National Register in the judgment of those completing an evaluation of an historic resource
4. Might become eligible for listing (if restored, when older, or depending on further research)
5. Ineligible for the National Register but of local interest
6. Not eligible for the National Register
7. Undetermined.

Categories of Historic Properties

The Oakland General Plan Historic Preservation Element, adopted in 1994 and revised in 1998, provides a strategy to promote preservation of a wide range of historically significant, older properties and districts throughout the city, and a preservation strategy that reasonably balances other City goals, policies, and objectives. The Element identifies several categories of historic properties: Designated Historic Properties (DHPs) include City Landmarks, Preservation Districts, and Heritage Properties, which are designated by the Landmarks Preservation Advisory

Board, Planning Commission, and City Council.[8] The Element also defines a broad category of Potential Designated Historic Properties (PDHPs),[9] which are all those properties that have an existing or contingency rating of "A" (highest importance) or "B" (major importance) in either the OCHS or the Reconnaissance Survey, or those properties that have been determined by the surveys to contribute (or potentially contribute, based on contingency rating) to an Area of Primary Importance or Area of Secondary Importance. PDHP is a status based on survey rating, not a formal designation by any City body. The highest rated PDHPs, plus all DHPs, are defined as Oakland's Local Register of Historical Resources for such purposes as environmental review and use of the State Historical Building Code.

Oakland General Plan Goals and Policies

City goals and policies that pertain to cultural resources are provided in following elements of the Oakland General Plan: the Historic Preservation Element (HPE) (1994), the Land Use and Transportation Element (LUTE) (1998), and the Estuary Policy Plan (EPP) (1999). As discussed in detail in Section IV.A, Land Use, Plans, and Policies, policies are discussed in the EIR solely for the benefit of the decision-makers who will, as a policy matter, consider and apply them for consistency prior to issuing discretionary permits for the project. In doing so, the City must "balance" potentially competing General Plan policies (City of Oakland, 2005a).

Many goals and policies in these General Plan elements are relevant to cultural resources citywide, and others specifically address the project area or specific resources in the project area or on the Oak to Ninth Project site. Additionally, some General Plan policies do not involve CEQA issues, but do provide thresholds of significance for CEQA purposes (as they apply to a much wider range of properties, not just those that meet the CEQA standards set forth above).

Section IV.A (Land Use) lists and discusses the goals and policies that pertain to cultural resources citywide, that are particularly relevant to the discussion of the project's consistency with land use plans and policies, or that have emerged as a point of controversy during the public input and review process. Detailed descriptions of each General Plan element are also provided in Section IV.A. A complete list of General Plan policies (or policies in other relevant plans not part of the General Plan) that pertain to the project is provided in **Appendix F**.

The goals and policies outlined below are provided in this cultural resources analysis section because they are most directly relevant to the Oak to Ninth Project site or provide CEQA thresholds of significance.

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8 Eligibility requirements for designation as a Heritage Property include an existing or contingency OCHS rating of A, B, or C; an existing or contingency Reconnaissance Survey rating of A or B; or a contributor (or potential contributor based on contingency rating) to a potentially eligible Preservation District (Area of Primary or Secondary Importance). The Heritage Property category was developed in the Historic Preservation Element to replace the City's Preservation Study List. However, as of 2003, the City has not initiated designation of a list of Heritage Properties.

9 In accordance with Policy 1.2 of the General Plan Historic Preservation Element, PDHPs "warrant consideration for possible preservation"; thus, according to the OCHS, a PDHP is "of local interest" and therefore warrants a National Register status code of 5. They are also eligible to be Heritage Properties; see Footnote 8.

Historic Preservation Element (HPE)

HPE Goal 2: To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, educational, architectural or aesthetic interest or value. Such properties or physical features include buildings, building components, structures, objects, districts, sites, natural features related to human presence, and activities taking place on or within such properties or physical features.

- **HPE Policy 3.1:** *Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions.* The City will make all reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of existing or Potential Designated Historic Properties which could result from private or public projects requiring discretionary City actions.

- **HPE Policy 3.5**: *Historic Preservation and Discretionary Permit Approvals.* For additions or alterations to Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: (1) the design matches or is compatible with, but not necessarily identical, to the property's existing or historical design; or (2) the proposed design comprehensively modifies and is at least equal in quality to the existing design and is compatible with the character of the neighborhood; or (3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood.

  For any project involving complete demolition of Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: (1) the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood; or (2) the public benefits of the proposed project outweigh the benefit of retaining the original structure; or (3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood.

- **HPE Policy 3.7**: Property Relocation Rather than Demolition. As a condition of approval for all discretionary projects involving demolition of existing or Potential Designated Historic Properties, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site.

- **HPE Policy 3.8**: *Definition of "Local Register of Historical Resources" and Historic Preservation "Significant Effects" for Environmental Review Purposes.* For purposes of environmental review under the California Environmental Quality Act, the following properties will constitute the City of Oakland's Local Register of Historic Resources:

  1) All Designated Historic Properties, and

  2) Those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance.

  3) Until complete implementation of Action 2.1.2 (Redesignation), the "Local Register" will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties.

As discussed in Section IV.A, Land Use, Plans, and Policies, the General Plan policies in the Historic Preservation Element generally, encourage, but do not mandate, the preservation of Oakland's historic resources, within the context of and consistent with other General Plan goals, objectives, and policies. So, for example, the admonition in HPE Goal 2 against "the unnecessary destruction" of historic buildings and the direction in HPE Policy 3.1 to employ "all reasonable efforts to avoid or minimize adverse effects" on historic resources must be considered with competing policies, such as the proposed project's provision of substantial new housing in Oakland, which is encouraged by General Plan policies in the LUTE and the Housing Element, or the fulfillment of providing shoreline access and parkland as set forth in the Estuary Policy Plan.

As further stated in Section IV.A, a determination of consistency with the above policies by the Planning Commission and City Council must be predicated upon a finding specified in HPE Policy 3.5, and which are discussed in the "Impacts" section below.

HPE Policy 3.8 defines the City's "Local Register of Historical Resources" for CEQA purposes and identifies the changes that constitute significant effects under CEQA. This policy forms part of the basis for the impact evaluation in this section of the EIR (see "Significance Criteria," below).

Estuary Policy Plan (EPP)

(The complete Oak-to-Ninth District chapter of the Estuary Policy Plan is provided in **Appendix F**.)

- **EPP Policy OAK-2.4**: Establish a large park in the area of the existing Ninth Avenue Terminal to establish a location for large civic events and cultural activities. The discussion of this policy also states, "Recognize that the Ninth Avenue Terminal shed, or portions thereof, may be suitable for rehabilitation and adaptive reuse. However, the terminal building impedes public access to and views of a key area of the Estuary."

- **EPP Policy OAK-11**: Preserve and expand the existing Fifth Avenue Point community as a mixed-use district of artists and artisan studios, small businesses, and water-dependent activities.

Land Use and Transportation Element (LUTE)

- **LUTE Policy D6.2**: *Reusing Vacant or Underutilized Buildings.* Existing vacant or underutilized buildings should be reused. Repair and rehabilitation, particularly of historic or architecturally significant structures, should be strongly encouraged. However, when reuse is not economically feasible, demolition and other measures should be considered.

Consultation and Resources

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted on April 21, 2005, in order to request a database search for sacred lands or other cultural properties of significance to local

Native Americans. The sacred lands survey did not find any presence of cultural resources in the project area. On April 22, 2005, the NAHC provided a list of Native American contacts who may have further knowledge of the project area with respect to cultural resources and potential impacts to those resources that could occur as a result of the project. Each person or organization listed on the NAHC list was contacted by letter on May 8, 2005, requesting information about locations of importance to Native Americans. No response has been received as of the publication of this EIR.

Northwest Information Center Records Search

A records search at the Northwest Information Center (NWIC) at Sonoma State University, which is a member of the California Historical Resources Information System (CHRIS), revealed that there were no recorded archaeological or historic sites within or adjacent to the property boundary (NWIC, 2004). No properties on or near the project site are listed in the State Office of Historic Preservation (OHP) Historic Properties Directory for Alameda County, or listed in the California Inventory of Historical Resources. The records search did, however, identify a number of historic-period maps of the area, including an 1857 map of San Antonio Creek, an 1870 Government Land Office (GLO) plat map, an 1871 map of Rancho San Antonio Plat Map, and a 1915 USGS quadrangle map.

Archaeological Resources

Given the high level of fill deposits and general urbanization of the entire project area, no systematic pedestrian survey of the project area was conducted for the purposes of this EIR. Moreover, no prehistoric resources have been identified within or adjacent to the project boundary. Nelson’s (1909) shellmound survey and excavations did not identify midden sites within this area of the East Bay. The area was prehistorically subject to tidal flows and was likely not a suitable habitation locality. However, in April 2005 a Registered Professional Archaeologist conducted a reconnaissance level survey of the project site to determine if undisturbed soils or areas suitable for survey exist. No archaeological features or exposed native soils were identified.

Historic and Paleontologic Resources

Resources used to describe and evaluate the historic resources in this EIR include an historic Resources Evaluation report for the project site and vicinity, prepared by Carey & Co. Inc., an historic preservation consultant, (2005) for purposes of this EIR; the OCHS report for the Ninth Avenue Terminal (1997) and direct consultation with OCHS staff; the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the Ninth Avenue Terminal (2003); archival research at the California Historical Resources Information System’s Northwest Information Center (NWIC) (2004); and several resources pertaining to paleontology.

Historic Resources on the Project Site

Light industrial buildings and warehouses, large paved areas, open space along the shoreline, and numerous temporary structures characterize the project area. Smaller warehouses, clad in corrugated metal, are most concentrated along 6th Avenue. Fewer buildings, but of greater size, occupy an area east of 8th Avenue. The majority of structures on the project site were constructed in the middle of the 20th century or later. Overall, the architectural style of these simple, functional structures can be classified as industrial vernacular.

For purposes of this analysis, the project site includes 15 buildings. OCHS evaluated nine of the 15 buildings on the project site for potential historic significance on national and local levels, and assigned either existing or preliminary ratings to each of the nine buildings. OCHS did not assign ratings to the remaining six buildings because they were recently built or of little historic or architectural interest, and therefore, non-historic. In 2005, Carey & Co. Inc. surveyed and evaluated all 15 buildings and related structures on the project site and assigned ratings to them based on the NRHP codes 1-7. Carey & Co. also identified whether or not any properties within the project vicinity are included in, or appeared eligible for, national, state, or local listings. The findings are summarized in **Table IV.E-1**, on the following page, and described in detail below.

Buildings Considered Historical Resources for Purposes of CEQA

The Oakland General Plan Historic Preservation Element (Policy 3.8) defines the City's "local register of historical resources" (the term used in CEQA Section 21084.1 as part of the definition of "historical resource") as including all Designated Historic Properties and Potential Designated Historic Properties that have an existing OCHS rating of "A" or "B" or are located within an Area of Primary Importance (API). In addition, until complete implementation of Action 2.1.2 (re-designation of existing landmarks and Preservation Districts into the Historic Preservation Element's classification system, and Preservation Study List properties, where warranted, as Heritage Properties[10]), the Local Register of Historical Resources also includes Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties.

Only one of the buildings on the project site, the Ninth Avenue Terminal at One Ninth Avenue, meets the Oakland Historic Preservation Element and CEQA definition of an historical resource, because it has an existing OCHS rating of "A." The building therefore meets the HPE Policy 3.8 definition of a property on the City of Oakland's Local Register of Historic Resources. In addition, the building has been recommended eligible for listing in the National Register as an individual resource, and recommended eligible as a City of Oakland Landmark by the Oakland Landmarks Preservation Advisory Board. The building's description, history, and historical significance are described below.

[10] As of 2003, the City has not undertaken the zoning revisions that will be necessary to reclassify landmarks and Preservation Districts, nor has it initiated re-designation of study list properties as Heritage Properties.

TABLE IV.E-1

HISTORIC SIGNIFICANCE RATINGS FOR BUILDINGS ON THE PROJECT SITE

	Property Address/Port Building Number (Common Identifier)	Built Date	OCHS Rating [a]	Carey & Co. Rating [b]	CEQA Historic Resource (yes/no) [a]
1	One Ninth Avenue / Bldg # H-309 *(Ninth Avenue Terminal and Wharf)*	1930/1951	A	3S	Yes
2	105 Embarcadero / Bldg # G-203 *(Jetro Cash & Carry)*	c. 1955	NR	6Z	No
3	351 Embarcadero / Bldg # G-309 *(Golden State Diesel Marine)*	c. 1955	F	6Z	No
4	603 Embarcadero / Bldg # H-103 *(Philbrick Boat Works)*	c. 1947	NR	6Z	No
5	845 Embarcadero / Bldg # H-232 *(National Furniture Liquidators, Inc.)*	c. 1930/1979	F	6Z	No
6	296 5th Avenue / Bldg # H-108	c. 1955	NR	6Z	No
7	295 6th Avenue / Bldg # H-101 *(Thunderbird Properties)*	c. 1925/1950	NR	6Z	No
8	296 6th Avenue / Bldg # H-110 *(Jal vue Windows)*	1966	F	6Z	No
9	280 6th Avenue / Bldg # H-112 *(Shipshape Marine; previous Seabreeze Yacht Center and Boat Repair)*	1948	NR	6Z	No
10	280 6th Avenue / Bldg # H-113 *(Previous Seabreeze Café)*	c. 1985	F	6Z	No
11	305 6th Avenue / Bldg # H-104	1962	F	6Z	No
12	370 8th Avenue / Bldg # H-228	c. 1970	F	6Z	No
13	455 9th Avenue / Bldg # H-314 *(Lakeside Metals)*	1965	F	6Z	No
14	101 10th Avenue / Bldg # H-318	c. 1960	F	6Z	No
15	115 Embarcadero East/ Jack London Aquatics Center/Estuary Channel Park	2000	NR	6Z	No

[a] A= Primary (historical) Importance, F = less than 45 years old or modernized, NR = surveyed, but not rated as a Preliminary Designated Historic Property (PDHP) by OCHS, and presumed to be of little or no historical value at the time of the survey, as evidenced by check marks on the survey maps.
[b] Based on Carey & Co. evaluation for this EIR (2005). “3S” = eligible for the National Register as an individual resource. “6Z” = ineligible for the National Register, California Register, or Local listing.
SOURCE: Carey & Co., Inc.

One Ninth Avenue / Bldg # H-309 (Ninth Avenue Terminal and Wharf)

Description and History.

The Carey & Co. report generally concurs with the description and history of the Ninth Avenue Terminal as written in the Oakland Landmark and S- 7 Preservation Combining Zone Application Form (referred to throughout as "landmark application") for this structure, prepared by Cynthia L. Shartzer in 2003, and accepted by the City of Oakland's Landmark Preservation Advisory Board on 10 May 2004. This description states the following:

> "The Ninth Avenue Terminal consists of a five-berth quay wharf, transit shed, paved storage yards and land for industrial tenants……The 9th Avenue Terminal, located in Brooklyn Basin at the foot of 9th Avenue, is a Beaux-Arts derivative freight wharf and warehouse. It is high one story, long rectangular plan, with a curved and angled far end. It is about 1000' long, with the transit shed about 180' wide, railroad spur tracks on either side, and extensive open platform space along the west side. It has long bands of steel windows along the sides and a metal awning over a series of loading doors on the side, and a vast open interior. The outer 500' appears to have been added after 1951. The head house[11] at the inland end, containing a small office, has a stepped and peaked parapet highest in the middle, and a monumental entry with tall paneled concrete pilasters and massive plain cornice. Exterior walls are concrete and steel-sash. Roof is composition. Structure is reinforced concrete with steel trusses. Designed for break-bulk cargo, the building is now little used. Visible alterations include some windows covered. The building is in good condition; its integrity is excellent.[12] Its preliminary rating of B+3[13] reflects its interest as a fine and rare surviving example of a Beaux Arts derivative pier from the Port of Oakland's harbor improvement program of the 1920s: the similar Grove Street and Outer Harbor Terminals no longer exist.[20]

The landmark application also includes a verbal description of the wharf, "[The] marginal type wharf has a lower side in Clinton Basin of 312 feet, a main channel face of 952 feet and a Brooklyn Basin north channel face of 1,100 feet." Port of Oakland documentation indicates that the wharf's type of construction is concrete pile and decking with a "timber pile fender system." A "concrete bulkhead with asphalt-surfaced solid fill" is also noted. Carey & Co. identifies the proposed historic resource boundary in its Historic District Boundary Technical Memorandum and Map prepared for this EIR (**Appendix G**).

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[11] Also referred to as the "Bulkhead Building" elsewhere in this document.

[12] Interpreted to refer to the building's historical integrity (discussed under "Federal and State Registers," above), as opposed to its structural/seismic integrity.

[13] The preliminary rating was revised to an existing rating of "A" in May, 2004, as part of the LPAB evaluation for landmark eligibility.

Construction began on the Ninth Avenue Terminal in 1929, and it was completed in October 1930. It was one of three municipal terminals funded under a 1925 voter-approved harbor bond; the others were the Grove Street Terminal and Outer Harbor Terminal, both of which have since been demolished. Initially the Ninth Avenue Terminal was 504 feet long, then a 500-foot addition in 1951 extended the length to 1004 feet. The interior floor space is measured at 178,530 square feet (about four acres), and the ceiling height is 47 feet at the center and 27 feet at the sides.

Design of the terminal has been attributed to Arthur A. Abel, who served as Assistant Chief Engineer and Assistant Port Manager from 1926 to May 1932, and Chief Engineer and Port Manager from May 1932 to 1952. According to the landmark application:

> "The Beaux-Arts style of the building, while very simple stylistically, represents an important phase in Oakland architecture and city planning during this period. ….. The Ninth Avenue Terminal in its simple paneled pilasters, symmetrical façade, and other detailing represents these ideals very well. Other notable examples of this style and movement are Oakland City Hall, the bulkhead buildings along San Francisco's waterfront, and the Courthouse on St. James Park in San Jose."

As noted in the landmark application, the Terminal is an "amalgamation of water, rail and land transportation capability in one facility" and "an early example of an inter-modal transportation complex." With its location at the waterfront, proximity to the railroad, and easy road access, the Terminal was well-suited to its purpose. As further elaborated in the landmark application, "Significant features of the Terminal's operation were easy, twenty-four hour access by water, land, and rail and a facility tailor-made to enhance the Port of Oakland's ability to load, unload, and store cargo in the most efficient manner, in the least amount of time, with the least amount of damage."

Historical Significance

According to the Oakland Landmark and S-7 Preservation Combining Zone Application Form for this structure, prepared by Cynthia L. Shartzer and accepted by the City of Oakland's Landmark Preservation Advisory in May, 2004, the Ninth Avenue Terminal is historically significant for the following reasons:

> "The Ninth Avenue Terminal is…an intact, original wharf and transit shed constructed 1929-1930 as part of the Port of Oakland's state of the art harbor improvements during the period 1925-1931; it is the only surviving municipal terminal constructed from the 1925 harbor bond and the prewar period; and it has been in continual use from October 1930 to the present day; it is still leased by tenants as a break-bulk cargo facility.
>
> …The transit shed as a whole – [is] the only existing utilitarian, industrial municipal building on which the Beaux-Arts derived architectural style was applied to create monumental imagery."

The landmark application also states that the building appears eligible for individual listing in the NRHP at the local level. Local designation was based on significance of the building in the areas of Architecture, Commerce, Maritime Commerce, and Harbor Terminal. These correspond to NRHP Criterion A/CRHR Criterion 1, indicating an association with significant historic events, and NRHP Criterion C/CRHR Criterion 3, indicating that it embodies the distinctive characteristics of the style, type, or period.

The Carey & Co. report concurs with the argument for historical significance included in the Oakland Landmark and S-7 Preservation Combining Zone Application Form for this structure. In terms of integrity, Carey & Co. also concurs that that major additions to the structure in 1951 were in keeping with the original design and intent, and that the building retains an overall high level of integrity. Therefore, both the original portion of the building constructed in 1930, as well as the 1951 addition, qualify as an historic resource under federal, state, and local criteria.

The Ninth Avenue Terminal is a potentially designated historic property (PDHP) with an existing rating of "A" (highest importance), and is therefore considered to be listed on the City of Oakland's Local Register of Historic Resources. The City of Oakland's Landmark Preservation Advisory Board recommended that the Ninth Avenue Terminal be designated as a City Landmark in 2004. In addition, the Ninth Avenue Terminal appears to be individually eligible for listing on the NRHP and CRHR. Since the building appears to be eligible for inclusion on federal and state lists, and is considered to be listed on the City of Oakland's Local Register of Historic Resources by virtue of its "A"-rated status, the property is considered an historic resource under CEQA Guidelines Section 15064.5(a)(1).

Buildings Not Considered Historic Resources for Purposes of CEQA

As indicated in **Table IV.E-1**, none of the remaining 14 buildings on the project site are considered historic resources for purposes of CEQA. None of them are listed in, or determined eligible for listing in, the NRHP, the CRHR, nor are any included in the City of Oakland's Local Register of Historical Resources (pursuant to Policy 3.8 of the Historic Preservation Element). Seven of these buildings have been assigned a preliminary rating of "F" (less than 45 years old or modernized) by OCHS, and all of them assigned a rating by Carey & Co. of "6Z" (ineligible for NRHP, CRHR, or local designation.) The entire Historic Resources Evaluation report prepared by Carey & Co., Inc. (2005) includes detailed description, history, and evaluation of each building, regardless of CEQA status (not considered historic resources), and is included in **Appendix G** of this EIR.

Project Site as a Potential Historic District

According to the Carey & Co. report, the project site does not appear to be eligible for listing as an historic district in the NRHP or CRHR and does not appear to be eligible for inclusion on the Local Register of Historic Resources as a local Preservation District ("S-7 Zone").[14] Since it is

[14] The nomination form and associated LPAB staff report suggests that the S-7 Preservation Combining Zone would only apply to the Terminal and wharf, but would not apply to the entire Oak to Ninth Project site. Carey & Co.

not listed or eligible for inclusion on federal, state, or local lists, the area is not considered an historic resource under CEQA Guidelines Section 15064.5(a)(1).

As described in the Carey & Co. report, an historic district is defined as a unified entity that "possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development." To be potentially eligible for listing on the NRHP, an historic district must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. The project area possesses a concentration of light industrial style buildings, all built between 1930 and 1979, with the majority of buildings constructed in the mid-to-late 20th century. Because the period of significance for this area would be 1930 to 1979 (reflecting the construction span of the buildings), most of the buildings are less than 45-50 years old. Therefore, the project area would have to be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while together these buildings are an example of 20th century industrial vernacular architecture, the grouping does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that there is the potential to yield exceptionally important information (Criterion D).

In Carey & Co.'s professional opinion, the project site does not qualify for inclusion on the Local Register of Historic Resources as a Preservation District because the buildings as a group do not exhibit sufficient historic, cultural, educational, aesthetic, or environmental value. Although the project area is historically and culturally associated with the development of Oakland's waterfront, in Carey & Co.'s opinion, the area lacked sufficient integrity and historical significance required for designation as a potential historic district under CEQA criteria.[15]

Designation of the Ninth Avenue Terminal as a potential City Landmark would generally conform to the verbal boundary description of the resource as defined in the Oakland Landmark and S-7 Preservation Combining Zone application, and not to the map provided in the Oakland City Planning Commission Staff Report regarding landmark designation of the Ninth Avenue Terminal (June 2004), which identified a much larger boundary conforming to existing parcel lines. The application states the boundary as: "Ninth Avenue Terminal's marginal type wharf has a lower side in Clinton Basin of 312 feet, a main channel face of 952 feet and a Brooklyn Basin north channel face of 1,100 feet." The application further describes the potential landmark area bound as follows:

- East: Transit Shed Main Entrance - Defremery Avenue
- Northwest: Transit shed rear entrance; open wharf on Inner Harbor Channel waterfront and paved storage yard to Clinton Basin waterfront

identifies the proposed historic resource boundary in its Historic District Boundary Technical Memorandum and Map prepared for this EIR (Appendix G).

15 Carey & Co. Historic District Boundary Technical Memorandum, Ninth Avenue Terminal EIR, July, 2005, provided in Appendix G.

- North: Transit shed land-side elevation - 10th Avenue
- South: Brooklyn Basin waterfront

The verbal boundary description draws the north boundary of the historic resource along 10th Avenue, bisecting the parcel upon which the building sits. This indicates that the portion of the parcel to the north of 10th Avenue would not be part of the Ninth Avenue Terminal historic resource. Carey & Co. agrees with this assessment in a technical memo prepared for this EIR and has included a map identifying a proposed historic resource boundary (see **Appendix G**).[16]

Potential Historic Resources in the Project Vicinity

For the historic resources survey prepared for this analysis, the project vicinity was defined as approximately one city block surrounding the project site. The north boundary was the Union Pacific Railroad tracks, while the west boundary was Oak Street and the east boundary was the location of 12th Avenue if it were to be extended southward across the railroad tracks. The project vicinity also included the property bounded by 1st Street on the north, Madison Street on the west, and Fallon Street on the east as well as the Fifth Avenue Point community, a work-live artist community and a collection of primarily light industrial, commercial, marina uses, and work-live buildings along 5th Avenue, between the Embarcadero and the estuary.

Within this project vicinity, there are no buildings/structures listed or previously determined eligible for the NRHP, CRHR, or the City of Oakland's Local Register of Historic Resources. Excluding the Fifth Avenue Point community, whose status is described in more detail below, there are 16 buildings/structures that have been assigned ratings by OCHS: eight have an "F" rating (indicating that they are "less than 45 years old or modernized"), six have an "F3" rating (indicating that they are "less than 45 years old or modernized" and not located in an Area of Primary or Secondary Importance), and two have a "D3" rating (indicating minor importance and not located in an Area of Primary or Secondary Importance).

Fifth Avenue Point

The project vicinity also includes the Fifth Avenue Point, a mixed use artist's community with about six light industrial and commercial buildings (plus outbuildings and additions) and marina uses on a six-acre parcel, most of which date to the early to mid 20th century (1900s – 1940s). (Generally, the few parcels east of 5th Avenue and closest to the Embarcadero are part of the project site.) This Fifth Avenue Point area is the physical remains of the Hurley Marine Works, an early 20th century shipyard that is no longer intact. In 1998, OCHS evaluated this area as a part of a reconnaissance survey, and assigned the following preliminary building ratings to four buildings; "D2+" (20-28 – 5th Avenue), "D2+" (50 - 5th Avenue), "F3" (375 – 8th Avenue) and "C2+" (471-499 Embarcadero), none of which are on the project site portion. The remaining buildings in the Fifth Avenue Point area were not rated as Preliminary Designated Historic Properties (PDHPs) because OCHS deemed them to be too recently constructed or of too little

16 Ibid.

historic or architectural interest to assign them a rating.[17] Therefore, they were presumed to be of little or no historic value at the time of the survey. The OCHS also assigned Fifth Avenue Point a preliminary rating of “ASI” (Area of Secondary Importance), and three of the four rated properties (75 percent) appear to contribute (indicated by “+” in the rating) to the local historic district.[18] Although as mentioned above, none of the four rated buildings are on the project site, the project site does include portions of the preliminarily-rated ASI that lie east of 5th Avenue.

The Historic Preservation Element of the City of Oakland General Plan defines an API (Area of Primary Significance) as “historically or visually cohesive areas or property groups which usually contain a high proportion of individual properties with ratings of “C” or higher….and at least two thirds of the properties must be contributors.” The Preservation Element also states that ASIs are similar to APIs, but do not appear eligible for the National Register. Finally, ASIs are not considered to be listed on City of Oakland’s Local Register of Historical Resources, and are not considered historic resources for CEQA purposes, as defined by Policy 3.8.

Although more than two-thirds of the properties located at the Fifth Avenue Point ASI are contributors, only one out of four of the rated buildings (25 percent) is assigned a preliminary rating of “C,” (Secondary Importance; generally not considered eligible for NRHP), which would not be considered a high proportion. As such, this area would not qualify as an API, and may not qualify as an ASI, as defined by the Preservation Element. While the Fifth Avenue Point area has been identified as a potential local historic district of secondary interest (ASI) by OCHS, it is not on the LRHR, and consistent with Policy 3.8 of the Preservation Element, Fifth Avenue Point is not considered an historic resource for CEQA purposes.

Cultural Resources Impacts Discussion

Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of Oakland’s 2004 CEQA Thresholds/Criteria of Significance Guidelines, a cultural resource impact would be considered significant if the project would result in any of the following:

- Cause a substantial adverse change in the significance of an archaeological resource, pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of an historic resource, as defined in Section 15064.5

[17] As evidenced by the check marks over each building on the OCHS survey maps.
[18] The ASI is entitled “Fifth Avenue Marina District.”

"Historical Resource" Defined by CEQA

CEQA Section 21084.1 states that "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." A "historical resource" is defined as one that is listed in, or determined eligible for listing in, the California Register of Historical Resources. A resource that is officially designated or recognized as significant in a local register of historical resources or one that is identified as significant in an historical resources survey meeting the requirements of Public Resources Code Section 5024.1(g), is presumed to be significant under CEQA "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." In addition, a resource included in a local register of historical resources, as defined by Section 5020.1(k) of the Public Resources Code, shall be presumed to be historically or culturally significant. A "substantial adverse change" is defined in Section 15064.5(b)(1) of the CEQA Guidelines as "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." The significance of an historical resource is "materially impaired," according to Guidelines Section 15064(b)(2), when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that:

- convey its historic significance and that justify its inclusion in, or eligibility for inclusion in, the California Register of Historical Resources (including a determination by the lead agency that the resource is eligible for inclusion in the California Register);
- account for its inclusion in a local register of historical resources adopted by local agency ordinance or resolution (in accordance with Public Resources Code Sec. 5020.1(k)); or
- account for its identification in an historical resources survey that meets the requirement of Public Resources Code Sec. 5024.1(g), including, among other things, that "the resource is evaluated and determined by the [State Office of Historic Preservation] to have a significance rating of Category 1 to 5 on DPR Form 523," unless the lead agency "establishes by a preponderance of evidence that the resource is not historically or culturally significant."

The state CEQA Guidelines indicate that projects that are consistent with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings generally "shall be considered as mitigated to a level of less than a significant impact on the historic resource" (Section 15064.5(b)(3)).

Unique Archaeological Resources

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. Public Resources Code Section 21083.2, subdivision (g), states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological resource is neither a "unique archaeological" nor an "historical resource," the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the EIR, but they need not be considered further in the CEQA process.

"Historical Resources" and Mitigations Defined by the City

The Oakland General Plan Historic Preservation Element (Policy 3.8) defines the City's "local register of historical resources" (the term used in CEQA Section 21084.1 as part of the definition of "historical resource") as including all Designated Historic Properties and Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance. In addition, until complete implementation of Action 2.1.2 (re-designation of existing landmarks and Preservation Districts into the Historic Preservation Element's classification system, and Preservation Study List properties, where warranted, as Heritage Properties; not yet complete), the Local Register of Historical Resources also includes Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties.

Under Policy 3.8, "complete demolition" of an historical resource generally is considered to constitute a significant effect that cannot be mitigated to a less-than-significant level.

The Historic Preservation Element identifies favored mitigation, for CEQA purposes, as (1) including project modifications that avoid adversely affecting the character defining elements of the property, or (2) relocation of the affected resource to a location consistent with its historical or architectural character. If these measures are not feasible, the Element identifies a menu of other potential measures, including:

- restoration of the remaining historic character of the property;
- incorporating or replicating elements of the building's original architectural design;
- salvage and display of significant features in a local museum or as part of the project;
- measures to protect the resource from effects of construction activities;
- preparing historic documentation of the resource;
- placement on-site of a display providing information on the historical resource; or
- contribution to an historic preservation program appropriate to the resource.

The Element states that "determination of whether mitigations are adequate to reduce a significant effect to an Historical Resource to a level less than significant will be determined by the lead agency on a case by case basis." (Historic Preservation Element, Action 3.8.1)

In summary, CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of an historical resource, or would cause significant effects on an unique archaeological resource, then alternative plans or mitigation measures must be considered.

Section 15065 of the CEQA Guidelines mandates a finding of significance if a project would eliminate important examples of the major periods of California history or pre-history. Impacts to resources determined to be not significant according to the significance criteria are not considered significant or potentially significant under CEQA. Generally, under CEQA, a project that follows *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* or *The Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* is considered to have mitigated impacts to an historical resource to a less-than-significant level (CEQA Guidelines 15064.5).

Archaeological and Paleontological Resources Impacts

Impact E.1: Construction of the project could cause substantial adverse changes to the significance of currently unknown cultural resources at the site, potentially including an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or CEQA Section 21083.2(g), or the disturbance of any human remains, including those interred outside of formal cemeteries. (Potentially Significant)

Archival research at the Northwest Information Center was undertaken in 2004 to determine whether any archaeological resources have been discovered at the project site. There are no recorded Native American or historic-period archaeological resources listed with the Historical Resources Information System within or adjacent to the project site.

As previously mentioned in the Setting of this section, midden sites along the prehistoric stand of the San Francisco Bay have been identified in these environments; however, because the project site is located within a former tidal marsh environment (that is, the area was inundated with the cycle of tides during most of the Holocene), the likelihood of a well-stratified habitation or similar site existing within the project area is low.

The project would involve excavation for building footings and foundations for above-grade structures, and would require pile driving for all new buildings, which would likely be the extent of subsurface construction. Therefore, the possibility of encountering subsurface cultural resources is fairly limited. Also, because the precise locations of unrecorded prehistoric and historic subsurface resources are not known with certainty, Mitigation Measure E.1a would be implemented to properly handle and/or recover any resources that may be discovered.

Implementation of Mitigation Measure E.1a would reduce any potential impacts to a less-than-significant level.

At the project site, there is no indication that the site has been used for burial purposes in the recent or distant past, and it is unlikely that human remains would be encountered at the project site. In the event of the discovery of any human remains, including those interred outside of formal cemeteries, during project construction activities, work would be halted and the following mitigation measure would be implemented. Implementation of Mitigation Measure E.1b would reduce potential impacts to a less-than-significant level.

Mitigation Measure E.1a: Pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project proponent and/or lead agency shall consult with a qualified archaeologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate mitigation, with the ultimate determination to be made by the City. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

In considering any suggested mitigation proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the City shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for historical resources or unique archaeological resources is carried out.

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

Significance after Mitigation: Less than Significant.

Impact E.2: The project may adversely affect unidentified paleontological resources at the site. (Potentially Significant)

The project area consists of artificial fill (Af) and undivided surficial deposits (Helley & Greymer 1997). These types of sediments would not likely yield significant paleontologic remains because they are surface or artificial deposits that are not considered fossil-bearing rock units.

This notwithstanding, significant fossil discoveries can be made even in areas designated as having low potential, and may result from the excavation activities related to the project. Excavation activities can have a deleterious effect on such resources. This impact would be reduced to a less-than-significant level with the incorporation of the following Mitigation Measure.

Mitigation Measure E.2: The project sponsor shall notify a qualified paleontologist of unanticipated discoveries, who shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in Section 15064.5 of the CEQA Guidelines. In the event of an unanticipated discovery of a breas, true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 1995)). The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The paleontologist shall submit the excavation plan to the City for review and approval.

Significance after Mitigation: Less than Significant

Historical Resources Impacts

Impact E.3: The project would result in the substantial demolition of the Ninth Avenue Terminal, which is an historic resource as defined in CEQA Guidelines Section 15064.5. (Significant)

The project would result in the substantial demolition of the Ninth Avenue Terminal, an historic resource as defined by CEQA. Of the approximately 180,000 total square feet that comprise the Terminal, approximately 165,000 square feet would be demolished and a minimum of 15,000 square feet (comprising portions of the Bulkhead Building) would be adaptively reused for Tidelands Trust uses. The entire building, including the 1951 addition, is considered an historic resource. By removing approximately 90 percent of the building, its ability to convey its historic significance would be permanently altered and materially impaired. Although the portion to be saved is the key north-facing elevation with the most architectural design treatment, the retention of this portion alone would be insufficient to offset the loss of physical characteristics that qualify this building as a federal, state, and local historical resource. Demolition of 90 percent of an 180,000 square foot building would be considered a "complete demolition." Therefore, as defined by Policy 3.8, the project would constitute a significant effect that cannot be mitigated to a less-than-significant level.

Implementation of Mitigation Measures E.3a and E.3b would somewhat reduce this impact as much as feasible. However, because the demolition of substantial portions of an historical resource represents an irreversible change to the historical resource, this impact would remain significant and unavoidable, even after mitigation. Preservation and adaptive reuse of the Bulkhead Building would partially offset the loss of the building. The project would still result in a significant unavoidable impact to this building, because it would remain substantially materially impaired due to the fact that its major character defining elements would be lost.

As described in Chapter III, Project Description, and throughout other sections of this EIR, the project would incorporate a new public park and shoreline pathway where the Ninth Avenue Terminal and associated wharf now stand, providing public access and views of the Bay where none currently exists. Furthermore, the project would provide up to 3,100 new housing units near downtown Oakland, as well as up to 200,000 square feet of retail uses. Therefore, prior to issuing discretionary permits for the project, the City decision-makers would consider these aspects of the project, along with policies of the General Plan, to determine whether affirmative findings for the project could be made under Policy 3.5 of the General Plan Historic Preservation Element, that "the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood" (Finding 1) and that "the public benefits of the proposed project outweigh the benefit of retaining the original structure[s]" (Finding 2).

Although recommended in the Historic Preservation Element, the project design would not be modified "to avoid adversely affecting the character defining elements" of the identified historic resources, which would substantially alter the project as proposed. CEQA requires an analysis of preservation alternatives(s) in order to ascertain whether there are feasible options to the project that would lessen the significant unavoidable impacts to less than significant. A series of preservation alternatives to the project are included in Chapter V of this EIR, including an alternative that would preserve the entire Terminal building and its associated wharf structure.

Mitigation Measure E.3a: Photograph the affected historic resource through large-format, black and white photographs meeting the Photographic Specifications of the Historic American Building Survey (HABS). The documentary photographs would be archived locally at the Oakland History Room (OHR) of the Oakland Public Library along with a copy on archival paper of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the Ninth Avenue Terminal. Digital copies of the photographs would be forwarded to the Oakland Cultural Heritage Survey. Even with extensive documentation, however, the demolition of a substantial portion of the building would

result in the permanent loss of the historic resource that is associated with Oakland's history. Therefore, this demolition would remain significant and unavoidable.

Mitigation Measure E.3b: Adaptive reuse and rehabilitation of the Bulkhead Building should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The current concept depicts a design that appears to comply, although the conceptual nature of the design requires further review of final design plans. The project sponsor shall submit detailed designs, including, but not limited to, proposed window treatments, materials palette, awnings, signage, and interior configurations for review by the City. For the latter, particular attention would be paid to the significance of the interior's "Expansive, unimpeded space with exposed trusses," and the statement "A key feature of the transit shed is its expansive interior with exposed trusses." In addition, the first story of the existing office in the Bulkhead Building, mentioned in Attachment 2 of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the Ninth Avenue Terminal, should be retained and rehabilitated. The review should be conducted by a professional meeting the standards for Historic Architecture or Historic Preservation Planning as set forth in the Secretary of the Interior's Professional Qualification Standards, 1997 Proposed Changes (not adopted). The results of the review should be forwarded to the Secretary of the Landmarks Preservation Advisory Board, City of Oakland, for final approval.

Mitigation Measure E.3c: The City should continue to pursue landmark nomination of the Bulkhead Building and delineate the S-7 Preservation Combining Zone immediately around it to ensure its long-term protection as a representation of Oakland's important maritime past.

Even with implementation of the above mitigation measures, the demolition of the substantial portion of the building would result in the permanent loss of the historic resource that is associated with Oakland's history. Therefore the impact of demolition would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact E.4: The project would substantially alter the wharf structure supporting the Ninth Avenue Terminal and surrounding areas, which is an historic resource, as defined in CEQA Guidelines Section 15064.5. (Significant).

The wharf structure supporting the Ninth Avenue Terminal and surrounding areas was constructed as part of the initial construction of the Terminal. It was constructed to be larger than the original Terminal to provide open storage yards in the vicinity. The 1951 addition to the Terminal was constructed over a portion of the formerly open portion of the wharf. The wharf is considered an integral part of the Ninth Avenue Terminal and is an historic resource for CEQA purposes. The project would retrofit the wharf to improve its structural capacity, and a portion of its southern and western edges would be eliminated, thus reducing its current width and length and replacing the historically paved surface with lawn area. Most of the area currently occupied by the Terminal would be converted for use as public open space. This would include a walkway would be constructed along the water's edge with new retaining walls, light standards, and pavement. The use of this space as a "shoreline park" would also require the addition of new surfacing materials on the majority of the pier, including top soil. By removing the edge and western portion of the pier structure and transforming it into a park, the wharf would be substantially altered and would no longer maintain its industrial character. This would result in a significant impact to historic resources.

Implementation of Mitigation Measure E.3a and E.3b, described above, would minimize this impact, but would not reduce the impact to a less-than-significant level. As such, the impact would remain significant and unavoidable.

City decision-makers would consider the proposed reuse of the open portion of the Terminal's wharf, along with other aspects of the project and overall General Plan policies to determine whether or not an affirmative finding could be made, under Policy 3.5 of the General Plan Historic Preservation Element, that "the design quality of the proposed project is at least equal to that of the original structure[s] and is compatible with the character of the neighborhood" (Finding 1) and that "the public benefits of the proposed project outweigh the benefit of retaining the original structure[s]" (Finding 2).

Significance: Significant and Unavoidable.

Impact E.5: The project would construct a new mixed-use, multi-story development within approximately 100 feet of the remaining Bulkhead Building which may not be architecturally compatible with this structure as a potential future Oakland City Landmark. (Significant)

As described in Mitigation Measure E.3c, the City should continue to pursue landmark nomination of the Bulkhead Building and delineate the S-7 Preservation Combining Zone immediately around it to ensure its long-term protection as a representation of Oakland's important maritime past. If designated as a landmark in the future, the proposed project may affect this building's historical setting through potentially incompatible or incongruous adjacent new construction. As the designs of the proposed mixed use, multi-story project have not been finalized, it is possible that the project could affect its historic setting as an Oakland City Landmark. This would be considered a significant and unavoidable impact.

The Historic Preservation Element recommends that the project design should be modified "to avoid adversely affecting the character defining elements" of the Bulkhead Building. As discussed in Impact E.3, above, the project would incorporate the key north-facing elevation of the Bulkhead Building, which has the most architectural design treatment and reflects much of the structure's character defining elements. The potentially incompatible or incongruous adjacent new construction could impair the expansive setting that surrounds the Terminal Building, particularly as the new construction would occur within approximately 100 feet of the retained Bulkhead Building. Modifying the project as recommended in the Historic Preservation Element would substantially alter the project as proposed. However, as required by CEQA, a series of preservation alternatives to the project is included in Chapter V of this EIR, including an alternative that would preserve the entire Terminal building.

Significance: Significant and Unavoidable

Impact E.6: The project would demolish the remaining buildings on the project site. (Less than Significant)

The project would demolish the remaining mid to late 20th century light industrial buildings/structures on the project site, including 105, 351, 603, and 845 Embarcadero Street, 296-5th Avenue, 295, 296, 280, and 305-6th Avenue, 370-8th Avenue, 455-9th Avenue, and 101-10th Avenue. As none of these buildings appear to possess historic significance, their proposed removal would constitute a less-than-significant impact to historic resources. The project would not demolish or substantially alter the Jack London Aquatic Center or Estuary Park at 115 Embarcadero East.

Mitigation: None required**.**

Impact E.7: The project would construct a new mixed-use, multi-story development, diminishing the industrial character of the project site and vicinity, and altering the existing setting of the Fifth Avenue Point neighborhood. (Less than Significant)

The project would construct a new mixed-use, multi-story development that would be distinctly different than the existing uses on the project site and vicinity. The historic industrial character of the area would be diminished, and the previous and existing marina uses would be retained and improved. However, since no other historic resources have been identified on the project site or in the project vicinity, with the exception of the Ninth Avenue Terminal, the proposed new construction of residential and commercial retail uses would have a less-than-significant impact with regard to the loss of industrial character.

The project would appear as a new and visibly different building type immediately adjacent to Fifth Avenue Point, an artist's community of small industrial and commercial buildings. The project would change the setting of Fifth Avenue Point by replacing empty lots or light industrial uses in the immediate area with larger-scale mixed use residential and retail uses. Fifth Avenue Point has been assigned a preliminary rating as an Area of Secondary Interest (ASI) by OCHS. However, an ASI by definition does not qualify for listing in either the National Register or in the

City of Oakland Local Register of Historical Resources, and is not considered an historic resource for CEQA purposes as defined by Policy 3.8. As a result, changes to the immediate setting of this neighborhood would have a less-than-significant impact on historic resources.

Mitigation: None required.

Cumulative Impacts

Impact E.8: The substantial demolition of the Ninth Avenue Terminal, in combination with the previous loss of the other two Oakland Municipal Terminals, would result in cumulative impacts to historic resources. (Significant)

The Ninth Avenue Terminal is the last remaining building from the three Oakland Municipal Terminals built in the early 1920s. The Grove Street Terminal, Outer Harbor Terminal, and Ninth Avenue Terminal were custom- and purpose-built buildings financed under a 1925 bond of $9,960,000. The substantial demolition of the Ninth Avenue Terminal would complete the loss of all of the buildings built as the Oakland Municipal Terminals and would result in significant, unavoidable cumulative impacts to historic resources.

The implementation of Measure E.3a and E.3b would also mitigate the significant, cumulative impact associated with Impact E.8, but not to a less-than-significant level. Even with the documentation, the cumulative impact would remain significant and unavoidable.

Previously, the demolition of the Grove Street Terminal was partially mitigated by the publication of a book on the history of the Port of Oakland, *Pacific Gateway: An Illustrated History of the Port of Oakland* (Minor, 2000) A similar type of mitigation, in the form of interpretive materials, shall also be used to partially mitigate the cumulative loss of the Ninth Avenue Terminal, as described below.

Mitigation Measure E.8: The project sponsor shall set aside a minimum of 200 square feet of floor area within the Bulkhead Building for an historical exhibit depicting the history of the Oakland Municipal Terminals. At a minimum, the exhibit would consist of the following:

1) **Historic photographs of the Grove Street Terminal, Outer Harbor Terminal and Ninth Avenue Terminal.**

2) **Contemporary photographs of the Ninth Avenue Terminal taken as recommended in Mitigation Measure E.3a.**

3) **Examples of manifests, log books, invoices and other artifacts that may be in the possession of the Port of Oakland or private companies, if available. These may be reproductions.**

4) **Other displayable objects and narrative information.**

5) **An educative and documentary audio/visual history on the Oak to Ninth area and accessory areas as appropriate, including:**

   a. **Visual explanation of wharf design versus other types of pier design;**

   b. **Oral histories of people who worked at the building and/or other maritime industries in the area;**

   c. **Historic film clips.**

   d. **History of the development of the harbor;**

   e. **History of the development of the Port Board;**

   f. **PWA and WPA involvement at the Port;**

   g. **World War II uses;**

   h. **A visual film documentation of the existing warehouse/industrial character of the area, including views from the water to the City.**

6) **The proposed park design, to be located where the Ninth Avenue Terminal demolition is proposed, should incorporate landscaping, sculptural elements, paths, lighting, etc. that conceptually reference the expanse of the building's footprint and height.**

As stated above, implementation of Mitigation Measure E.3a and E.3b would reduce, but not eliminate, the significant cumulative impact to historic resources.

City decision-makers would consider the all aspects of the project, overall General Plan policies, and the significant and unavoidable impact discussed here, to determine whether or not an affirmative finding could be made, under Policy 3.5 of the General Plan Historic Preservation Element, that "the design quality of the proposed project is at least equal to that of the original structure[s] and is compatible with the character of the neighborhood" (Finding 1) and that "the public benefits of the proposed project outweigh the benefit of retaining the original structure[s]" (Finding 2).

Significance after Mitigation: Significant and Unavoidable.

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F. Geology, Soils, and Seismicity

This section describes geologic and seismic conditions in the project vicinity and evaluates the potential for the Oak to Ninth project to result in significant related to exposing people or structures to unfavorable geologic hazards, soils, and/or seismic conditions. As the primary source of geotechnical data, this section relies on the 2002, Treadwell and Rollo (T&R) geotechnical investigation for the project. The geotechnical investigation included numerous soil borings, geotechnical testing of subsurface soil samples, and geotechnical analyses of hazards. The results of the investigation established recommendations for foundation and pile types and mitigation of geologic hazards. Potential impacts are discussed and evaluated, and appropriate mitigation measures are identified where necessary.

Setting

Regional and Site Geology

The city of Oakland includes the mountainous uplands of the Oakland-Berkeley Hills and an alluvial plain that slopes gently westward away from these hills to meet the flat marginal baylands of the San Francisco Bay. The project site is located in an area that was historically open water in Oakland's Inner Harbor. The project area is relatively flat, with a slope of less than 5 percent and elevations ranging from mean sea level (msl) to approximately 10 feet above (msl).

The city of Oakland lies within the geologic region of California referred to as the Coast Ranges geomorphic province.[1] The Coast Ranges natural region is between the Pacific Ocean and the Great Valley and stretches from the Oregon border to the Santa Ynez River near Santa Barbara. Discontinuous northwest-trending mountain ranges, ridges, and intervening valleys characterize this province. Much of the Coast Range province is composed of marine sedimentary and volcanic rocks that form the Franciscan Assemblage, which in this region of California consists primarily of greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), and sandstone that originated as ancient sea floor sediments.

The San Francisco Bay is in a broad depression in the Franciscan bedrock resulting from an east-west expansion between the San Andreas and the Hayward fault systems. The bedrock surface occurs at elevations that range between 200 to 2,000 feet below msl across the Bay Area. Bedrock is estimated to be at elevations of 600 to 700 feet below msl in the study area. The bedrock surface becomes deeper towards the south-southeast and shallower in other directions.

Above the bedrock, there are thick deposits of sand, silt, clay and gravel (also referred to as sedimentary deposits) overlying the Franciscan bedrock due to millions of years of erosion, deposition, and changes in sea level. These sedimentary deposits have been categorized into the following geologic formations based on the period of deposition and material type, as described below.

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1 A geomorphic province is an area that possesses similar bedrock, structure, history, and age. California has 11 geomorphic provinces.

- The Alameda Formation is the deepest and oldest of these sedimentary deposits and consists of a mixture of clay, silt, sand, gravel, and some shells with predominantly silt and clay sediments surrounding discontinuous layers of sand and gravel.

- Overlying the Alameda Formation are clay deposits referred to locally as Bay Mud. These deposits are generally divided into old and young deposits. Old Bay Mud deposits generally consist of firm, dark greenish gray clay with varying amounts of sand and fine gravel (SCI, 2000) Young Bay Mud is a natural marine deposit present throughout most of the bay that consists of generally uniform, soft, saturated clay and silt with organic material and some sand, deposited in areas of weak tidal currents and low water turbulence, primarily consisting of soft, silty clay. Deposits of Bay Mud are primarily encountered along the historic shoreline of the bay. Throughout most of the project site, the Bay Mud layer ranges in thickness between 15 and 30 feet thick with some localized areas that are thicker. In the vicinity of the Ninth Avenue Terminal, the Bay Mud appears to be up to 40 feet thick. North of the Crowley Yard, the Bay Mud is almost 50 feet thick. This area coincides with what is believed to be a former drainage of the Lake Merritt Channel (T&R, 2002).

- Heterogeneous fill that includes sands, gravels, and sand-gravel-clay mixtures. These fill materials exist across the project site and generally range from 2 to 7 feet in thickness for most of the site with some localized areas that are thicker (T&R, 2002). The Crowley Yard has between 6 and 13 feet of fill material, and north of the Crowley Yard the fill is as much as 18 to 25 feet thick. The east and south sides of the Ninth Avenue Terminal have up to 15 feet of fill. In addition, some hydraulically placed dredged Bay Mud was encountered around the Ninth Avenue Terminal most likely for the purpose of construction of that building and may be up to 11 feet thick. This dredged Bay Mud fill has similar properties to some of the other existing Bay Mud. The fill observed in borings located at the northwest end of land adjacent to Clinton Basin appears to coincide with the location of a historic slough that incised through the marshland. As early as 1852, maps show the project area entirely covered by natural marsh lands, which was reclaimed by placement of artificial fill between 1854 and 1915 for bayside development (T&R, 2002).

Soils

The project site was part of the San Francisco Bay before filling operations created the area in the mid to late 1800s and early 1900s. The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) (formerly known as the Soil Conservation Service) has characterized soils beneath the project area as “Urban Land” soils (USDA, 1980). Urban land refers to areas that are so altered or obstructed by urbanization such as buildings, pavement, and cut and fill operations that identification of the native soils is not feasible. The fact that much of the project area is reclaimed land created by filling in the open water severely limits any native surface soils on the project site. A description of the fill materials encountered in the project area is provided above.

Mineral Resources

The California Division of Mines and Geology (CDMG) has classified lands within the San Francisco-Monterey Bay Region into Mineral Resource Zones (MRZs). The classification of MRZs is based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act (SMARA) of 1974 (Stinson et al., 1982). The project site is mapped by the CDMG as MRZ-1, an area where no significant mineral deposits are present (Stinson et al., 1982).

Seismicity

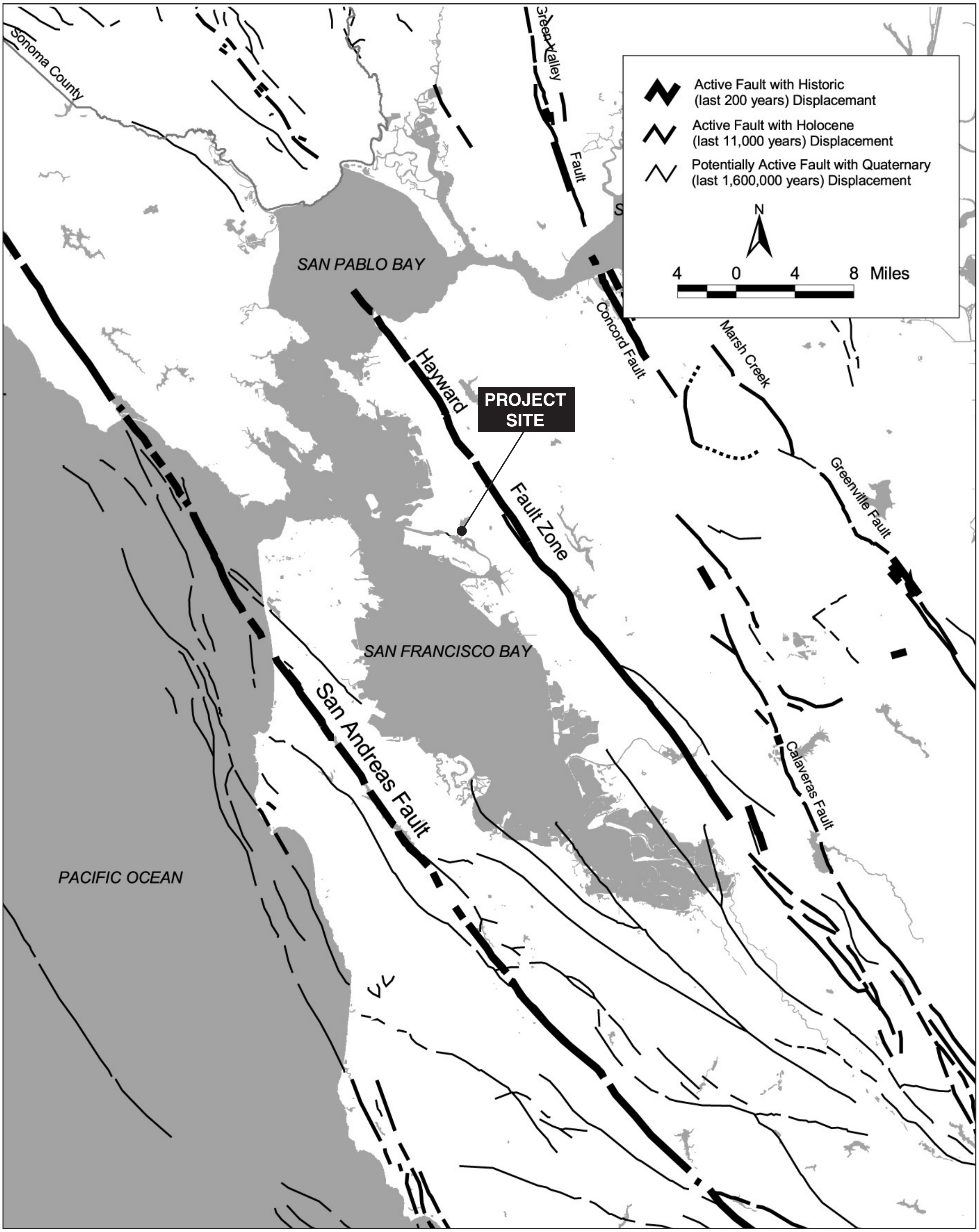
The San Francisco Bay Area region contains both active and potentially active faults and is considered a region of high seismic activity (**Figure IV.F-1**).[2] The 2001 California Building Code locates the entire Bay Area within Seismic Risk Zone 4. Areas within Zone 4 are expected to experience maximum magnitudes and damage in the event of an earthquake. The U.S. Geological Survey (USGS) Working Group on California Earthquake Probabilities has 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 (USGS, 2003).

Magnitude is a measure of the energy released in an earthquake and intensity is a measure of the ground shaking effects at a particular location. The estimated magnitudes, described as moment magnitudes (Mw) represent *characteristic* earthquakes on particular faults (**Table IV.F-1**).[3] Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. The Modified Mercalli (MM) intensity scale (**Table IV.F-2**) is commonly used to measure earthquake effects due to ground shaking. The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage.[4]

2 An “active” fault is defined by the State of California as a fault that has had surface displacement within Holocene time (approximately the last 10,000 years). A “potentially active” fault is defined as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not, of course, mean that faults lacking evidence of surface displacement are necessarily inactive. “Sufficiently active” is also used to describe a fault if there is some evidence that Holocene displacement occurred on one or more of its segments or branches (Hart, 1997).

3 Moment magnitude is related to the physical size of a fault rupture and movement across a fault. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave. Moment magnitude provides a physically meaningful measure of the size of a faulting event (CDMG, 1997b). The concept of “characteristic” earthquake means that we can anticipate, with reasonable certainty, the actual earthquake that can occur on a fault.

4 The damage level represents the estimated overall level of damage that will occur for various MM intensity levels. The damage, however, will not be uniform. Some buildings will experience substantially more damage than this overall level, and others will experience substantially less damage. Not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance (ABAG, 1998a).



SOURCES: California Department of Conservation,
Division of Mines and Geology (After Jennings, 1994)

Oak to Ninth Avenue . 202622

Figure IV.F-1
Regional Fault Map

TABLE IV.F-1

ACTIVE FAULTS IN THE PROJECT SITE VICINITY

Fault	Distance and Direction from Oak to Ninth District	Recency of Movement	Fault Classification[a]	Historical Seismicity[b]	Maximum Moment Magnitude Earthquake (Mw)[c]
Hayward	3.48 miles northeast	Historic (1836; 1868 ruptures) Holocene	Active	M 6.8, 1868 Many <M 4.5	7.1
Calaveras	13.67 miles east	Historic (1861 rupture) Holocene	Active	M 5.6–M 6.4, 1861 M 4–M 4.5 swarms 1970, 1990	6.8
San Andreas	15.53 miles west	Historic (1906; 1989 ruptures) Holocene	Active	M 7.1, 1989 M 8.25, 1906 M 7.0, 1838 Many <M 6	7.9
Marsh Creek–Greenville	21.13 miles east	Historic (1980 rupture) Holocene	Active	M 5.6 1980	6.9
Concord–Green Valley	21.13 miles northeast	Historic (1955) Holocene	Active	Historic active creep	6.9
Rodgers Creek	21.13 miles north	Historic Holocene	Active	M 6.7, 1898 M 5.6, 5.7, 1969	7.0

[a] See footnote 3

[b] Richter magnitude (M) and year for recent and/or large events. The Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave.

[c] Moment magnitude (Mw) 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 (CGS, 1997). The Maximum Moment Magnitude Earthquake, derived from the joint CDMG/USGS Probabilistic Seismic Hazard Assessment for the State of California, 1996. (USGS OFR 96-705).

SOURCES: Hart, 1997; Jennings, 1994; Peterson, 1996, T&R, 2002.

Regional Faults

The project site is approximately 3.5 miles southwest of the active Hayward Fault Zone and 15.5 miles east of the San Andreas Fault Zone (Figure IV.F-1). The Hayward fault and the San Andreas fault exhibit strike-slip orientation and have experienced movement within the last 150 years.[5] Other principal faults capable of producing significant ground shaking at the project site are listed on **Table IV.F-2** and include the Calaveras, Concord–Green Valley, Marsh Creek–Greenville, and Rodgers Creek.

Faults that have experienced displacement more than 1.6 million years ago, referred to as pre-Quaternary, exist throughout the East Bay Hills, approximately 3 miles to the east of the project site. These faults are not considered either active or potentially active; although they cannot be

[5] A strike-slip fault is a fault on which movement is parallel to the fault's strike (Bates and Jackson, 1984).

TABLE IV.F-2

MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Acceleration
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0017 g[a]
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.014 g
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 g
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 g
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 g
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 g
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.	0.18–0.34 g
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 g
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 g
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 g
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 g
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 g

[a] 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.

SOURCES: ABAG, 2003a, CGS, 2005.

considered inactive, their period of inactivity suggests that they are less likely to generate a considerable seismic event. Occasionally, pre-Quaternary faults exhibit secondary movement during a major event on an active fault.

Hayward Fault Zone

The Hayward Fault Zone is the southern extension of a fracture zone that includes the Rodgers Creek fault (north of San Pablo Bay), the Healdsburg fault (Sonoma County), and the Maacama fault (Mendocino County). The Hayward fault trends to the northwest within the East Bay, extending from San Pablo Bay in Richmond, 60 miles south to San Jose. The Hayward fault in San Jose converges with the Calaveras fault, a similar type fault that extends north to Suisun Bay. The Hayward fault is designated by the Alquist-Priolo Earthquake Fault Zoning Act as an active fault.

Historically, the Hayward fault generated one sizable earthquake in the 1800s.[6] In 1868, a Richter magnitude 7 earthquake on the southern segment of the Hayward Fault ruptured the ground for a distance of about 30 miles. Recent analysis of geodetic data indicates surface deformation may have extended as far north as Berkeley. Lateral ground surface displacement during these events was at least 3 feet.

A characteristic feature of the Hayward fault is its well-expressed and relatively consistent fault creep. Although large earthquakes on the Hayward fault have been rare since 1868, slow fault creep has continued to occur and has caused measurable offset. Fault creep on the East Bay segment of the Hayward fault is estimated at 9 millimeters per year (mm/yr) (Peterson, et al., 1996). However, a large earthquake could occur on the Hayward fault with an estimated moment magnitude (Mw) of about Mw 7.1 (**Table IV.F-2**). The USGS Working Group on California Earthquake Probabilities includes the Hayward–Rodgers Creek Fault Systems in the list of those faults that have the highest probability of other Bay Area faults of generating earthquakes of magnitude (M) 6.7 and greater (USGS, 2003).

San Andreas Fault Zone

The San Andreas Fault Zone is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates, extending from the Salton Sea in Southern California near the border with Mexico to north of Point Arena, where the fault trace extends out into the Pacific Ocean. The main trace of the San Andreas fault through the Bay Area trends northwest through the Santa Cruz Mountains and the eastern side of the San Francisco Peninsula. As the principal strike-slip boundary between the Pacific plate to the west and the North American plate to the east, the San Andreas is often a highly visible topographic feature, such as between Pacifica and San Mateo, where Crystal Springs Reservoir and San Andreas Lake clearly mark the rupture zone. Near San Francisco, the San Andreas fault trace is located immediately off-shore near Daly City and continues northwest through the Pacific Ocean approximately 6 miles due west of the Golden Gate Bridge.

In the San Francisco Bay Area, the San Andreas Fault Zone was the source of the two major seismic events in recent history that affected the San Francisco Bay region. The 1906 San Francisco earthquake was estimated at M 7.9 and resulted in approximately 290 miles of surface

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[6] Prior to the early 1990s, it was thought that a Richter magnitude 7 earthquake occurred on the northern section of the Hayward Fault in 1836. However, a study of historical documents by the California Geological Survey concluded that the 1836 earthquake was not on the Hayward Fault (Toppozada et al., 1998).

fault rupture. Horizontal displacement along the fault approached 17 feet near the epicenter. The more recent 1989 Loma Prieta earthquake, with a magnitude of Mw 6.9, resulted in widespread damage throughout the Bay Area.

Geologic Hazards

Expansive Soils

Expansive soils possess a “shrink-swell” behavior. 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. Expansive soils were not identified in the geotechnical investigation performed. Also, based on the presence of coarse grained material in the artificial fill, there is a low potential that expansive soils will be encountered.

Soil Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. At the project site, areas that are susceptible to erosion are those that would be exposed during the construction phase and along the shoreline where soil is subjected to wave action. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection. Soil erosion is a potential issue at the site and is discussed in the Impacts and Mitigations section below.

Settlement

Settlement can occur from immediate settlement, consolidation, shrinkage of expansive soil, and liquefaction (discussed below). Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in void ratio under the continued application of the load.

Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement. The project site is underlain by poorly engineered artificial fill that varies in depth and thickness; geotechnical borings indicate up to 25 feet of artificial fill. Compressible Bay Mud underlies the fill and is up to 50 feet thick. In addition, the presence of historic sloughs, old buried foundations, and former marsh areas that may have been exposed for extended periods at the project site, indicate variable conditions that could add to the potential for differential settlement.

Seismic Hazards

Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults, which are referenced in **Table IV.F-1**.

The site is not within an Alquist-Priolo Fault Rupture Hazard Zone, as designated through the Alquist-Priolo Earthquake Fault Zoning Act, and no mapped active faults are known to pass through the immediate project region. Therefore, the risk of ground rupture at the site is low.

Ground Shaking

Strong ground shaking from a major earthquake could affect Oakland during the next 30 years. Earthquakes on the active faults (listed in **Table IV.F-1**) are expected to produce a range of ground shaking intensities at the project site. Ground shaking may affect areas hundreds of miles distant from the earthquake's epicenter. Historic earthquakes have caused strong ground shaking and damage in the San Francisco Bay Area, the most recent being the M 6.9 Loma Prieta earthquake in October 1989. The epicenter was approximately 50 miles southeast of the project site, but this earthquake nevertheless caused strong ground shaking for about 20 seconds and resulted in varying degrees of structural damage throughout the Bay Area.

The 1906 San Francisco earthquake, with an estimated moment magnitude of 7.9, produced strong (VIII) to violent (IX) shaking intensities (ABAG, 2003d). The 1989 Loma Prieta earthquake, with an Mw of 6.9, produced very strong (VIII) shaking intensities in the project area. (ABAG, 2003d).

The common way to describe ground motion during an earthquake is with the motion parameters of acceleration and velocity in addition to the duration of the shaking. A common measure of ground motion is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile accelerations, one "g" of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum peak acceleration value recorded during the Loma Prieta earthquake was in the vicinity of the epicenter, near Santa Cruz, at 0.64 g. The highest value measured in the East Bay was 0.29 g, recorded at the Oakland Wharf near the Naval Supply Center where the soils are artificial fill overlying Bay Mud. The lowest values recorded were 0.06 g in the bedrock on Yerba Buena Island. However, an earthquake on the nearby Hayward fault would likely produce far more severe ground shaking at the site than was observed during the Loma Prieta earthquake. Probabilistic seismic hazard maps indicate that peak ground acceleration in the Oakland region could reach or exceed 0.7g (Peterson, et al., 1999).[7] The presence of non-engineered artificial fill and Bay Mud in the project area could intensify ground shaking effects in the event of an earthquake on one of the aforementioned faults in the vicinity of the project area. The potential hazards related to ground shaking are discussed further in the Impacts and Mitigations section of this chapter.

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 pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. Lateral spreading is the horizontal displacement of surficial blocks of sediments resulting from liquefaction in a subsurface layer that occurs on slopes ranging between 0.3 and 3 percent and commonly displaces the surface by several meters to tens of meters. Flow failures occur on slopes greater than 3 degrees and are primarily liquefied soil or blocks of intact material riding on a liquefied subsurface zone. Ground oscillation occurs on gentle slopes when liquefaction occurs at depth and no lateral displacement takes place. Soil units that are not liquefied may pull apart from each other and oscillate on the liquefied zone. The *loss of bearing pressure* can occur beneath a structure when the underlying soil loses strength and liquefies. When this occurs, the structure can settle, tip, or even become buoyant and “float” upwards. Liquefaction and associated failures could damage foundations, disrupt utility service, and cause damage to roadways.

Soil liquefaction causes ground failure that can damage roads, pipelines, underground cables, and buildings with shallow foundations. Liquefaction can occur in areas characterized by water-saturated, cohesionless, granular materials at depths less than 40 feet (ABAG, 2003e). In addition, liquefaction can occur in unconsolidated or artificial fill sediments located at the project site and other reclaimed areas along the margin of San Francisco Bay. The depth to groundwater influences the potential for liquefaction in this area, in that sediments need to be saturated to have a potential for liquefaction (Helley and LaJoie, 1979).

Hazard maps produced by the Association of Bay Area Governments (ABAG) depict liquefaction and lateral spreading hazards for the entire Bay Area in the event of a significant seismic event

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[7] A probabilistic seismic hazard map shows the predicted level of hazard from earthquakes that seismologists and geologist believe could occur. The map’s analysis takes into consideration uncertainties in the size and location of earthquakes and the resulting ground motions that can affect a particular site. The maps are typically expressed in terms of probability of exceeding a certain ground motion. These maps depict a 10% probability of being exceeded in 50 years. There is a 90% chance that these ground motions will NOT be exceeded. This probability level allows engineers to design buildings for larger ground motions than seismologists think will occur during a 50-year interval, making buildings safer than if they were only designed for the ground motions that are expected to occur in the 50 years. Seismic shaking maps are prepared using consensus information on historical earthquakes and faults. These levels of ground shaking are used primarily for formulating building codes and for designing buildings. (CDMG, 1999)

(ABAG, 2003e).[8] According to these maps, the project site is in an area expected to have a very high potential to experience liquefaction. Liquefaction potential is highest in areas underlain by unconsolidated materials and was cited as a concern during the geotechnical investigation with the area known as the Crowley Yard identified with the most potential. The CGS has designated the project and surrounding area as a Seismic Hazard Zone (discussed below) for liquefaction potential.

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 compaction and settling of subsurface materials (particularly loose, noncompacted, and variable sandy sediments above the water table) due to the rearrangement of soil particles during prolonged ground shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different amounts). Areas underlain by artificial fill would be susceptible to this type of settlement. Given the geologic setting of the project area, this area could be subjected to earthquake-induced settlement.

Regulatory Background

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 may be 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 is located within a Seismic Hazard Zone for liquefaction, as designated by the California Geological Survey. Therefore, evaluation and mitigation of potential liquefaction hazards must be conducted in accordance with the California Geological Survey, Special Publication 117, adopted March 13, 1997 by the State Mining and Geology Board pursuant to the Seismic Hazards Mapping Act, as discussed in the Impacts and Mitigations chapter below.

California Building Code

The California Building Code (CBC) is another name for the body of regulations found in the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code (CBSC, 2001). 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. The purpose of the CBC is to provide minimum standards to safeguard life or limb, health, property

8 Lateral spreading is a ground failure associated with liquefaction and generally results from predominantly horizontal displacement of materials toward relatively unsupported free slope faces.

and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. Published by the International Conference of Building Officials, the Uniform Building Code is a widely adopted model building code in the United States. The CBC incorporates by reference the Uniform Building Code (UBC) with necessary California amendments. These amendments include significant building design criteria that have been tailored for California earthquake conditions (CBSC, 2001).

The project area is located within Zone 4, one of the four seismic zones designated in the United States. Zone 4 is expected to experience the greatest effects from earthquake ground shaking and therefore has the most stringent requirements for seismic design. The national model code standards adopted into Title 24 apply to all occupancies in California except for modifications adopted by state agencies and local governing bodies.

City of Oakland

The City implements the following ordinances which are intended to reduce erosion associated with grading activities:

- The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specified conditions of volume of earth to be moved, slope characteristics, areas where "land disturbance" or stability problems have been reported. To obtain a grading permit, a soils report, a grading plan, and an erosion and sedimentation control plan must be submitted to the Department of Public Works and approved.

- The *Sedimentation and Erosion Control Ordinance* (Ordinance No. 10446) requires any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil to take appropriate preventative measures to control erosion; prevent sedimentation of eroded materials onto adjacent lands, public streets, or rights-of-way; and prevent carrying of eroded materials to any water course by any route.

City of Oakland Building Services Division

In addition to compliance with building standards set forth by the 1997 UBC, the project sponsor will be required to submit an engineering analysis accompanied by detailed engineering drawings to the City of Oakland Building Services Division prior to excavation, grading, or construction activities on the project site. This is consistent with standard City of Oakland practices to ensure that all buildings are designed and built in conformance with the seismic requirements of the City of Oakland Building Code. An engineering analysis report and drawings and relevant grading or construction activities on a project site would be required to address constraints and incorporate recommendations identified in geotechnical investigations. These required submittals ensure that the buildings are designed and constructed in conformance with the requirements of all applicable building code regulations, pursuant to standard City procedures.

Geology, Soils, and Seismicity Impacts Discussion

Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines, the project would have a significant geologic or seismic impact if it would:

- Expose people or structures to geologic hazards, soils, and/or seismic conditions so unfavorable that they could not be overcome by special design using reasonable construction and maintenance practices. Specifically,
- Expose people or structures to substantial risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publications 42 and 117 and PRC §2690 et. seq.);
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse; or
  - Landslides;
- Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as it may be revised), creating substantial risks to life or property;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property ; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

This following impact analysis focuses on potential project impacts related to seismicity and other geologic hazards. The evaluation considered project plans, current conditions at the project site, and applicable regulations and guidelines.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to the topics addressed in this section, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Project Impacts

Impact F.1: In the event of a major earthquake in the region, seismic ground shaking could potentially injure people and cause collapse or structural damage to proposed structures. (Potentially Significant)

The project site would likely experience at least one major earthquake (Richter magnitude (M) 6.7 or higher) within the next 30 years. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. A seismic event in the Bay Area could produce ground accelerations at the project site ranging from strong (MM-VII) to very violent (MM-X) (ABAG, 2003).

A characteristic earthquake on the Hayward fault with an estimated M 7.1 could produce very violent (X) shaking in the project area (ABAG, 2004). Based on the MMI scale, an earthquake of this intensity would cause considerable structural damage, even in well-designed structures. Substantial cracks could appear in the ground, and the shaking could cause other secondary damaging effects, such as the failure of underground pipes. As a comparison, the great 1906 San Francisco earthquake, with an M 7.9, produced very strong (VIII) shaking intensities in the area of the project (ABAG, 2004a). A characteristic earthquake on the Calaveras, San Andreas, Marsh Creek, Concord, or Rodgers fault (listed in **Table IV.F-1**) could produce strong (VII) to violent (IX) shaking intensities (ABAG, 2003). Earthquakes of this intensity may cause considerable damage ranging from chimneys and plaster fall or crack to some well-built wooden structures being destroyed, along with most masonry and frame structures with foundations. According to observed effects as described by the modified Mercalli Scale, ground shaking intensity of this level could cause the ground to become badly cracked and damaged.

A Master Plan level Geotechnical Investigation has been completed for the project site. This investigation has provided a broad-based analysis of site conditions which has revealed a heterogeneous subsurface environment. However, the investigation was comprehensive enough to establish the range of geotechnical concerns that are likely to be encountered on a site specific basis. This level of investigation is consistent with standard acceptable geotechnical practices for such a project as the one proposed. Based on this investigation, the following mitigation measure would ensure that standard and appropriate practices would mitigate potential seismic ground shaking impacts.

Mitigation Measure F.1: A site-specific, design level geotechnical investigation for each site area (which is typical for any large development project) shall be required as part of this

project. Each investigation shall include an analysis of expected ground motions at the site from known active faults. The analyses shall be in accordance with applicable City ordinances and policies and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from known active faults. In addition, the investigations shall determine final design parameters for the walls, foundations, foundation slabs, and surrounding related improvements (utilities, roadways, parking lots and sidewalks). The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer and geotechnical engineer shall be included in the final design. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the project design phase, shall be incorporated in the project. The final seismic considerations for the site shall be submitted to and approved of by the City of Oakland Building Services Division prior to the commencement of the project.

Significance after Mitigation: Less than Significant.

Impact F.2: In the event of a major earthquake in the region, seismic ground shaking could potentially expose people and property to liquefaction and earthquake-induced settlement. (Potentially Significant)

The CGS has designated the project and surrounding area as a Seismic Hazard Zone (discussed above) for liquefaction potential. Liquefaction at the site could result in loss of bearing pressure, lateral spreading, sand boils (liquefied soil exiting at the ground surface), and other potentially damaging effects. The geotechnical investigation completed for the site also identified liquefaction as a seismic hazard.

The Geotechnical investigation completed in 2002 identified a liquefaction potential at the site and called out the Crowley Yard parcel (northwestern tip of project area) in particular. In addition, a few of the borings indicated that there were pockets of potentially liquefiable fill in other areas. Saturated sand lenses within or just below the Bay Mud, although not laterally continuous, were noted as potentially liquefiable. The investigation reported estimated average liquefaction induced settlement figures ranging from ½ to 1 inch across the site and as much as 1.0-1.5 to 4 inches across the Crowley Yard parcel. Lateral spreading was also listed as a potential in the Crowley Yard parcel but not across the entire site. The risk of sand boils and lurching was considered low except for localized areas of thicker fill where the risk is considered higher.

The geotechnical investigation provides recommendations to mitigate the adverse effects of liquefaction in terms of specific foundation types and pile specifications. These recommendations were made based on the Master Plan level geotechnical investigation that was completed for the site which was in accordance with standard geotechnical practices for a project of this nature. The following mitigation measure incorporates these recommendations.

Mitigation Measure F.2: Prepare an updated site specific, design level geotechnical investigation for each building site to consider the particular project designs and provide site specific engineering recommendations for mitigation of liquefiable soils. Liquefiable soils under the conditions described in the geotechnical report shall be mitigated using various proven methods to reduce the risk of liquefaction. Liquefaction mitigation measures include subsurface soil improvement, deep foundations, structural slabs, and soil cover. Site improvement methods to address potential liquefaction include dynamic compaction, compaction grouting, jet grouting, and vibroflotation can significantly reduce the risk of liquefaction. Deep foundations extending below the liquefiable layers can be designed to support structures despite the occurrence of liquefaction. Structural slabs are designed to span across areas of non-support, such as in the case of liquefaction or settlement. The presence of a sufficiently thick, engineered fill layer over liquefiable soil can reduce the potential for damage at the ground surface due to liquefaction by helping to bridge across isolated liquefaction zones. Other methods of mitigating potential liquefaction hazards suggested in the *California Geological Survey's (CGS) Geology Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997)* include edge containment structures (berms, dikes sea walls, retaining structures, compacted soil zones), removal or treatment of liquefiable soils, modification of site geometry, lowering the groundwater table, in-situ ground densification, deep foundations, reinforced shallow foundations, and structural design that can accommodate predicted displacements (CDMG, 1997).

These measures shall be evaluated during the site specific geotechnical investigation and the most effective, practical and economical methods should become part of the project. Prior to incorporation into the project, geotechnical engineering recommendations regarding the mitigation and reduction of liquefaction for each site shall be reviewed for compliance with the CGS Geology Guidelines. The purpose of these guidelines is to protect the public safety from seismic effects such as liquefaction.

Significance after Mitigation: Less than Significant.

Impact F.3: Development at the project site could be subjected to settlement. (Potentially Significant)

Based on their review of the subsurface information and laboratory testing, the geotechnical engineers T&R concluded primary consolidation of the Bay Mud layer is essentially complete under the existing fill and building loads over most of the site. Primary consolidation is likely on-going in areas covered by cargo containers, steel, and soil stockpiles. Where primary consolidation is complete, ground surface settlement is still expected to occur under the existing loads due to secondary compression of the Bay Mud layer.

Constructing new shallow foundations and/or placement of new fill at the site would begin a new cycle of consolidation settlement in the Bay Mud. The amount and rate of consolidation settlement would depend on:

- the weight of any new fill or structural loads (i.e., footings)

- the thickness of the existing fill
- the thickness of the Bay Mud deposit (including dredged Bay Mud fill)
- the degree to which desiccation has overconsolidated the upper portion of the Bay Mud
- the presence of sand layers within the Bay Mud deposit
- the amount of previous stockpiling
- the presence of existing foundation or other obstructions, particularly pile foundations.

Consolidation settlement from the new fill/structural loads would be expected to occur over a period of about 6 to 30 years, depending on the thickness of the Bay Mud.

The Bay Mud consolidation properties are expected to be highly variable across the site because of previous and/or current stockpiling of soil or other materials (including cargo containers and steel). Where former, pile-supported buildings previously existed, the degree of overconsolidation[9] would be significantly less than in open areas where stockpiling and storage has occurred. Buried foundations or foundation elements may also act as “hard points” beneath new roads or utilities, resulting in the potential for abrupt differential settlement.

The amount of differential settlement that would occur at the site due to new fill loads would depend on the differences in thickness of new fill and the Bay Mud layer and the properties of the Bay Mud. In general, the potential for differential settlement is high because of the presence of the former marsh area. Portions of the marsh that were exposed above water for extended periods of time could exhibit differences in strength and stiffness due to desiccation of the upper few feet of soil. In addition, it is likely several sloughs traversed the marsh, and the Bay Mud may be locally more compressible where soil remained below water in the sloughs.

Very little settlement is expected to occur in areas covered by the soil and gravel stockpiles at the concrete plant. The existing stockpile locations appear to coincide with the proposed perimeter road on the west side of the site. Therefore, new underground utilities constructed in the road could be subject to abrupt differential settlement over relatively short distances if new fill is placed in this area. Settlement could occur at the site due to liquefaction, immediate settlement, and/or consolidation. Settlement due to liquefaction is estimated to be up to 4 inches. While primary consolidation is anticipated to be complete throughout the majority of the site, ongoing secondary compression settlement of an estimated ½ to 2 inches is anticipated to occur throughout the site under no additional loads. New fill and structural loads would cause a new cycle of primary consolidation to occur, with the settlement depending on the magnitude of the load and thickness of Bay Mud; the amount of settlement is anticipated to be significant. Differential settlement is often the most damaging and could occur at the site due to liquefaction, variations in the thickness of the fill and Bay Mud, variations in the consolidation properties of the Bay Mud, and hard spots created by buried foundations from previous structures.

Settlement would have an effect on many aspects of the project:

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9 Degree of overconsolidation refers to the ratio of the maximum sustained load imposed on the soil in the past to the load currently imposed on the soil, including the weight of all overlying soil. More highly overconsolidated soil (i.e., soil that was loaded much more heavily in the past relative to its current condition) is typically stronger and less compressible.

- Liquefaction and consolidation settlement would cause a negative friction on deep foundations, called "downdrag". The load from downdrag is added to the foundation load, effectively reducing the available capacity of the foundation.

- Settlement beneath pile-supported slabs and buildings would cause damage to utilities where they connect to the structure and create differential settlement at entrances to the building.

- Settlement of gravity utilities can flatten or increase the gradient and/or change the flow direction. Where utilities cross pile-supported structures or old piles remaining in the ground, abrupt differential settlement would occur, potentially causing damage.

- The settlement of the ground surface in streets, sidewalks, and open space would change site topography and may impact surface drainage.

Mitigation Measure F.3: As with standard geotechnical practices, site specific geotechnical investigations and reports would be required in order to obtain permits from the City of Oakland. Such geotechnical investigations and reports prepared for the project site shall include generally accepted and appropriate engineering techniques for determining the susceptibility of the project site to settlement and reducing its effects. Where settlement and/or differential settlement is predicted, mitigation measures such as lightweight fill, geofoam, surcharging, wick drains, deep foundations, structural slabs, hinged slabs, flexible utility connections, and utility hangers could be used. These measures shall be evaluated and the most effective, feasible, and economical measures shall be recommended. Engineering recommendations shall be included in the project engineering and design plans. All construction activities and design criteria shall comply with applicable codes and requirements of the 1997 UBC with California additions (Title 22), and applicable City construction and grading ordinances.

Significance after Mitigation: Less than Significant.

Impact F.4: Development at the project area may include use of dredged material as fill which would be subject to settlement and subsidence. (Potentially Significant)

Construction activities at the project area may include filling the north end of Clinton Basin with dredged fill generated from the south half of the basin. Reuse of dredged fill is highly subject to settling and subsidence. The soft unconsolidated dredged materials will likely have a high water content and are, in general, very weak from a geotechnical standpoint. Settlement could range from several inches to several feet depending on the material and what method is used for dredging.

Mitigation Measure F.4: Any dredged material used for fill will have to undergo an appropriate process of consolidation and stabilization to render it suitable for the support of engineered fill. A geotechnical investigation and report will be required in order to obtain permits from the City of Oakland *in addition to the Dredged Material Management Office*

***permitting requirements*. The geotechnical investigations and reports prepared for the project site shall include generally accepted and appropriate engineering techniques for determining the susceptibility of the project specific site to settlement and reducing its effects. Engineering recommendations shall be included in the project engineering and design plans. The use of dredged materials as fill shall be limited to open space areas.**

Significance after Mitigation: Less than Significant.

Impact F.5: Construction activities at the project area could loosen and expose surface soils. If this were to occur over the long term, exposed soils could erode by wind or rain causing potential loss of topsoil. In addition, shoreline areas exposed to wave action could be subject to erosion and loss of topsoil. (Potentially Significant)

Construction activities such as backfilling, grading and compaction can expose areas of loose soil that, if not properly stabilized, could be subjected to soil loss and erosion by wind and storm water runoff. Concentrated water erosion, if not managed or controlled, can eventually result in significant soil loss. Potentially, this soil loss could lead to a reduction in the structural integrity of building foundations, berms, riprap, or access roads.

Mitigation Measure F.5: Consistent with Mitigation Measure D.1 (which addresses construction-related water quality impacts), the project sponsor shall comply with all applicable NPDES requirements, RWQCB General Construction Permit requirements, and all City regulations, including Creek Protection Permits, as detailed in Mitigation D.1.

During the construction phase, the applicant would comply with erosion and sediment control measures in accordance with City of Oakland's stormwater management requirements and construction best management practices for the reduction of pollutants in runoff and the State Water Quality Control Board National Pollution Discharge Elimination System (NPDES) requirements, including the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) incorporating Best Management Practices (BMPs). The SWPPP would identify BMPs for implementation during construction activities, such as detention basins, straw bales, silt fences, check dams, geofabrics, drainage swales, and sandbag dikes.

Compliance with these requirements, together with Alameda County and the City of Oakland's stormwater management requirements would reduce erosion of disturbed soils during construction activities to less than significant levels.

The project includes improvements to the shoreline such as removal of existing debris, re-grading of the banks, addition of shoreline protection measures (e.g. riprap, geotextiles, etc.), and construction of retaining walls. These proposed bank stabilization improvements would reduce the potential for wave action erosion to less than significant levels.

Significance after Mitigation: None Required.

Impact F.6: The project would not expose people or structures to substantial risk or hazards as a result of 1) expansive soils, or 2) conditions that would potentially result in landslides or 3) surface fault rupture. (Less than Significant)

In 2002, Treadwell and Rollo completed a geotechnical investigation on the project site and did not identify expansive soils. The investigation also determined that the potential for encountering expansive soils on the site is low due to the presence of coarse grained material in the artificial fill that exists. Therefore, the potential for the project to expose persons or structures to risk as a result of expansive soils is less than significant.

In general the site is relatively flat, with an average slope of less than 5 percent, however steeper slopes exist along the shoreline. The project includes three different shoreline improvement features that are designed to improve upon the existing condition of the shoreline. These measures include revetment (rock slope protection that includes armor stone, geotextile fabric, and crushed rock fill), slope dressing (similar to revetment only without significant excavation and uses smaller armor stone and bedding material), and a bulkhead wall with a revetment toe (Moffat & Nichol, 2005). The vertical bulkhead wall will consist of either steel or concrete sheet piles or a concrete retaining wall on a foundation. These bank stabilization measure would reduce the potential impact of shoreline

Seismically induced ground rupture is considered most likely to occur along active faults, which are referenced in **Table IV.F-1**. As indicated previously, the project site is not within an Alquist-Priolo Fault Rupture Hazard Zone, and no mapped active faults are known to pass through the immediate project region. Therefore, the potential for the project to expose persons or structures to risk of ground rupture is less than significant.

Significance after Mitigation: None Required.

Impact F.7: The project would not create substantial risks to life or property as a result of being located above a well, pit, swamp, mound, tank vault, or unmarked sewer line; above landfills for which there is no approved closure and post-closure plan, or unknown fill soils; or soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. (Less than Significant)

The investigation conducted on the site did not identify any wells (excluding groundwater monitoring wells), pits, swamps, tank vaults, or unmarked sewer lines on the project site, nor is the site above a landfill. The project would connect to the existing EBMUD sanitary sewer system and may require extension or improvement to existing onsite pipelines to accommodate the project. As discussed in Section IV.M., Utilities and Service Systems, there is adequate capacity to serve the project's projected demand for sewer utilities.

Significance after Mitigation: None Required.

Cumulative Impacts

Cumulative Context

As discussed above, the project would result in potentially significant project-level impacts related potentially hazardous geologic and seismic conditions. The mitigation measures described above, however, would reduce all potential impacts to less-than-significant level. Although the entire Bay Area is within a seismically active region with a wide range of geologic and soil conditions, these conditions can vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific.

Geology, Soils and Seismic Cumulative Impacts

Impact F.8: The development proposed as part of the project, when combined with other reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity. (Cumulative Impact: Less than Significant)

Development of the project, with implementation of the identified mitigation measures above, would have less than significant impacts related to exposing persons or structures to geologic, soils, or seismic hazards. The project, combined with other foreseeable development in the area, would result in increased population and development in an area subjected to seismic risks and hazards. While the number of people visiting, living and working in the area will increase incrementally, exposing additional people to seismic and geological hazards over a short term, the risk to people and property would be reduced through the upgrading or demolishing of older buildings that are seismically unsafe. Older buildings would be seismically retrofitted and newer buildings will be constructed to stricter building codes. All construction phases of this project, and other foreseeable projects in the area, would be required to implement mitigation measures similar to those above and adhere to all federal, state, and local programs, requirements and policies pertaining to building safety and construction permitting. All projects would be required to adhere to adhere to the City's Building Code and grading ordinance. Therefore, the project, combined with other foreseeable development in the area, would not result in a cumulatively significant impact by exposing people or structures to risk related to geologic hazards, soils, and/or seismic conditions.

Significance after Mitigation: None Required.

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G. Noise

This section analyzes potential impacts on the ambient noise environment caused by construction and operation of the proposed Oak to Ninth Avenue Project. It also analyzes the compatibility of proposed noise-sensitive uses, such as residences and commercial areas, with the existing noise environment. The section describes the environmental and regulatory setting of the project as well as basics of environmental acoustics, including definitions of terms commonly used in noise analysis.

Introduction

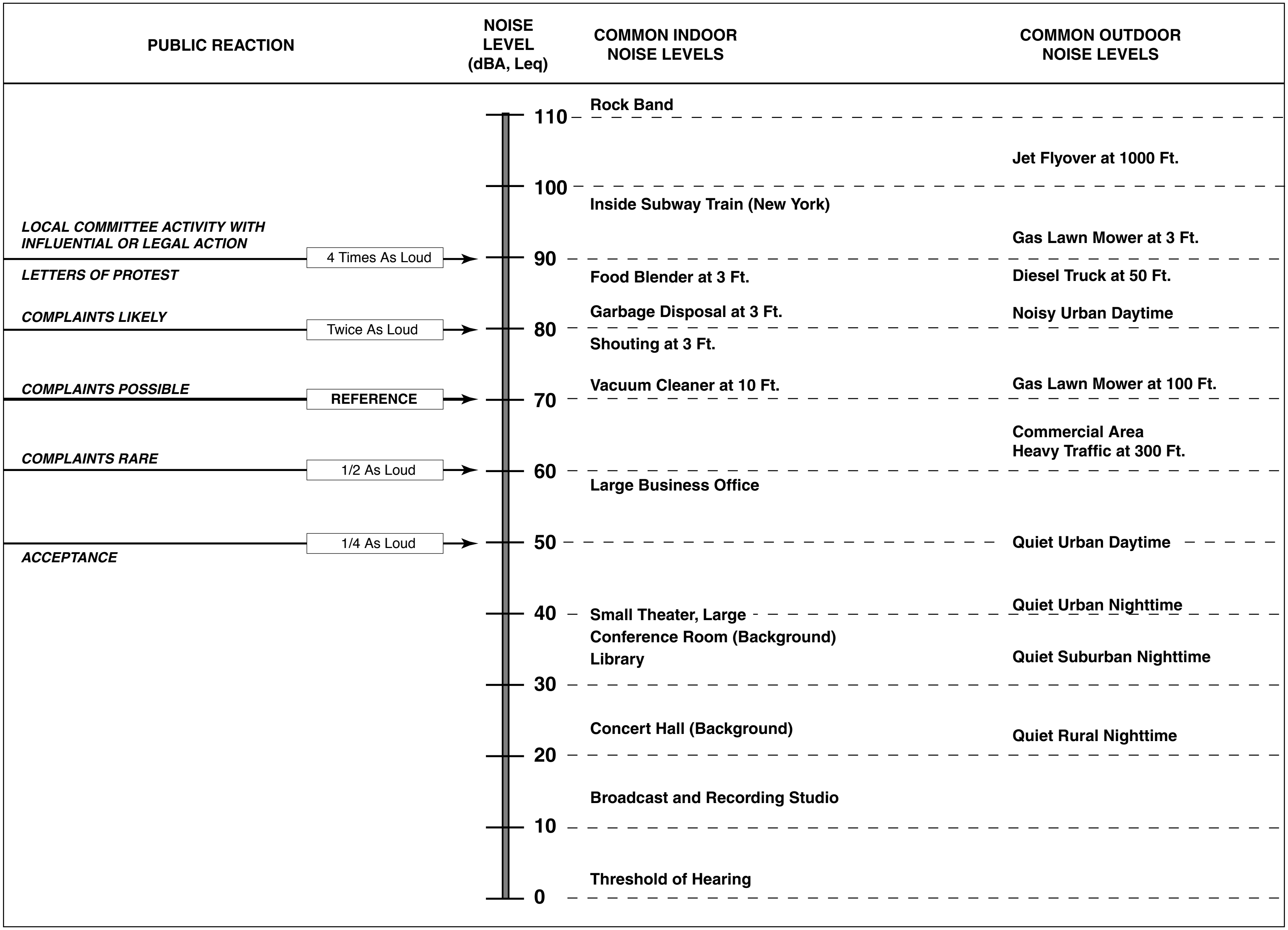
Noise Principles

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz in a manner corresponding to the human ear’s decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting is typically applied to community noise measurements. Some representative noise sources and their corresponding sound levels (in dBA) are shown in **Figure IV.G-1**.

Noise Exposure and Community Noise

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



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982; and Modification by Environmental Science Associates

Figure IV.G-1
Effects of Noise on People

These successive additions of sound to the community noise environment lead to variations in the community noise level from instant to instant. Because of these variations, noise exposure must be measured over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are as follows:

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

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

L_{50} The noise level that equals or exceeds 50 percent of the specified time period. L_{50} represents the median sound level.

L_{90} The noise level that equals or exceeds 90 percent of the specified time period. L_{90} is often considered the background noise level averaged over the specified time period.

L_{dn} The energy average of A-weighted sound levels over a 24-hour period, including a "penalty" to account for the greater sensitivity of most people to nighttime noise. Noise that occurs between 10:00 PM and 7:00 AM is weighted (penalized) by adding 10 dBA to account for the greater annoyance of such noise. The L_{dn} is also referred to as DNL.

CNEL Similar to the L_{dn}. However, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 PM and 10:00 PM in addition to a 10-dBA penalty between the hours of 10:00 PM and 7:00 AM.

Effects of Noise on People

Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. The effects of noise on people can be placed into three categories:

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

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting human reaction to a new noise environment is to compare the new environment to the existing one to which people have adapted, or the so-called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans, 1998):

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

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for "hard sites" and 7.5 dBA for "soft sites" for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver, such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling of distance) is normally assumed for soft sites. Line sources (such at traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans, 1998). Widely distributed noises, such as a large industrial facility spread over many acres or a street with moving vehicles (a "line" source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA per doubling of distance from the source (also dependent upon environmental conditions) (Caltrans, 1998). Noise from large construction sites would have characteristics of both "point" and "line" sources, so attenuation would range between 3.0 and 7.5 dBA per doubling of distance.

Setting

Federal, State, and Local Regulations

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; local noise ordinances establish standards and procedures for addressing specific noise sources and activities. Federal regulations and local policies address airport noise. Noise issues relevant to the proposed project are addressed in Title 24 of the California Code of Regulations and in City of Oakland General Plan policies and noise ordinance standards.

State of California Regulations

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-unit residential buildings (Title 24, Part 2, California Code of Regulations). Title 24 establishes standards for interior room noise (attributable to outside noise sources). To limit noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. The regulations also specify that acoustical studies must be prepared whenever a residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{dn}) of 60 dB or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise such that the interior CNEL (or L_{dn}) is no more than 45 dB. If the interior noise level depends upon windows being closed, the design for the structure must also specify ventilation or an air-conditioning system to provide a habitable interior environment.

The proposed project would include development of dwelling units that would be required to comply with the above standards. The Title 24 standards are enforced through the building permit application process in the City of Oakland, as in most jurisdictions.

Alameda County Airport Land Use Commission and Federal Aviation Administration (FAA) Regulations

The Alameda County Airport Land Use Plan (ALUP) developed by the Airport Land Use Commission of Alameda County has adopted Noise Impact Zones for the Oakland International Airport. Noise Impact Zones are areas where exposure to aircraft noise would be above the levels considered acceptable under the state noise guidelines for judging land use compatibility (see **Figure IV.G-2** below). Noise Impact Zones ensure that new development in the vicinity of an airport would be compatible with existing and projected noise from airport operations.

The project site would be located outside the 65-dBA contour for the Oakland International Airport. The site therefore is not located within the airport's Noise Impact Zone.

City of Oakland Policies and Regulations

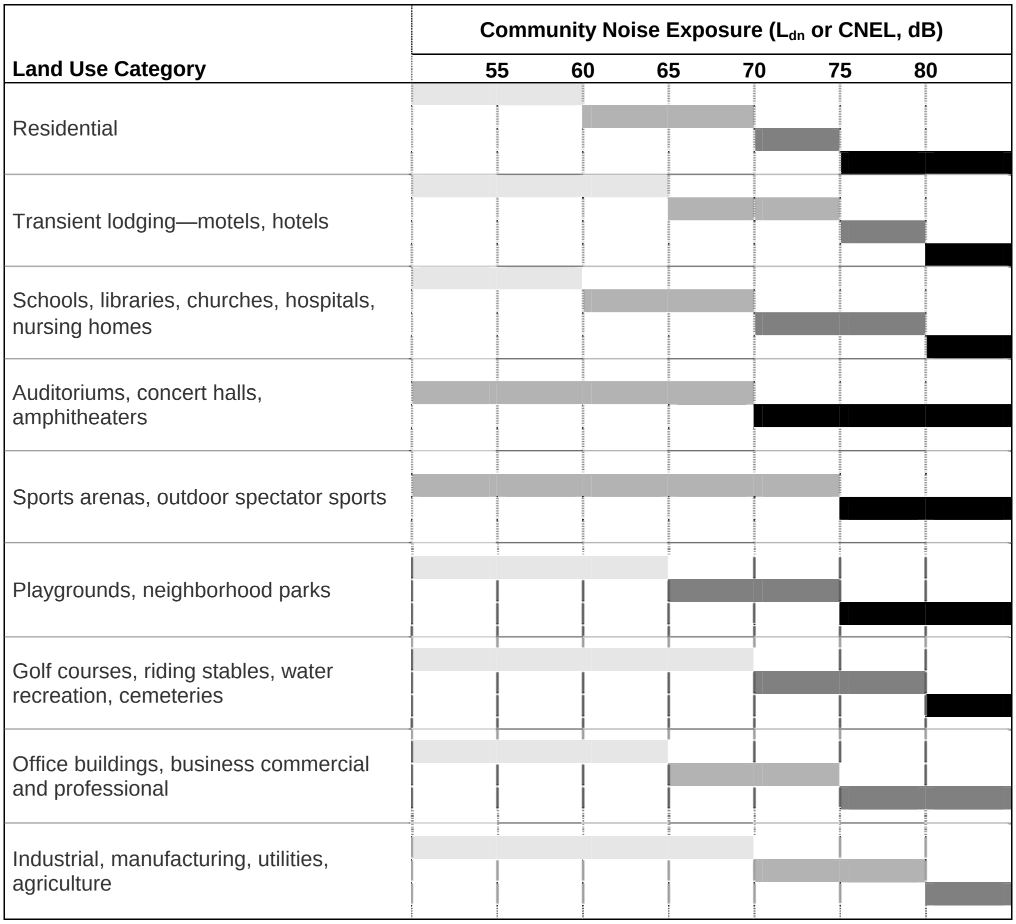
The Oakland General Plan contains guidelines for determining the compatibility of various land uses with different noise environments (City of Oakland, 2005). The General Plan Noise Element recognizes that some land uses are more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. The City of Oakland uses state noise guidelines, depicted in **Figure IV.G-2**, for judging the compatibility between various land uses and their noise environments (City of Oakland, 2005).

The City also regulates noise through enforcement of its noise ordinance and nuisance standards, which are found in the Oakland Planning Code, Section 17.120.050 (City of Oakland, 2003b), and Oakland Health and Safety Code, Section 8.18.020 (City of Oakland, 2003a), respectively. The noise ordinance regulates only operational noise from stationary sources, as cities and counties do not have regulatory authority over noise from mobile sources (transportation noise). (Transportation noise is regulated at the state and federal level by noise limits placed on vehicle manufacturers.) **Table IV.G-1** presents standards for maximum allowable receiving noise applicable to long-term exposure of residential and civic land uses. The noise ordinance states that if the measured ambient noise level exceeds the applicable noise level standard in any category, then the stated applicable noise level shall be adjusted so as to equal the ambient noise level. **Table IV.G-2** presents noise level standards that apply to temporary exposure to short- and long-term construction noise. In this context, “short-term” refers to construction activity lasting less than 10 days while “long-term” refers to construction activities lasting more than 10 days.

Existing Noise Environment

Noise Sources and Levels

The project site adjoins the Oakland Estuary to the south, the Embarcadero and I-880 to the north, 10th Avenue to the east, and Fallon Street to the west. The eastern part of the site contains commercial and industrial uses (the Ninth Avenue Terminal, a retail furniture store, a metal recycling facility, and outdoor storage of shipping containers). The central portion of the project site (which excludes the Fifth Avenue Point outparcel) contains residential, commercial, and industrial uses, a concrete batch operation, and a mix of manufacturing and outdoor storage uses. The western part of the site contains public open space and industry (Estuary Park and Jack London Aquatic Center, and an East Bay Municipal Utility District dechlorination facility).



INTERPRETATION

NORMALLY ACCEPTABLE: Development may occur without an analysis of potential noise impacts *to the proposed development* (though it might still be necessary to analyze noise impacts that the project might have *on its surroundings*).

CONDITIONALLY ACCEPTABLE: Development should be undertaken only after an analysis of noise-reduction requirements is conducted, and if necessary noise-mitigating features are included in the design. Conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air-supply systems, though it will likely require that project occupants maintain their windows closed.

NORMALLY UNACCEPTABLE: Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise insulation, mitigation or abatement features are included in the design.

CLEARLY UNACCEPTABLE: Development should not be undertaken.

SOURCE: *City of Oakland General Plan*, Noise Element, Adopted June 21, 2005

Oak to Ninth Mixed Use Development Project . 202622

Figure IV.G-2
Land Use Compatibility for
Community Noise Environment

TABLE IV.G-1

MAXIMUM ALLOWABLE RECEIVING NOISE STANDARDS FOR LONG-TERM EXPOSURE OF SPECIFIED LAND USES, IN dBA

Receiving Land Use	Cumulative Number of Minutes in One-Hour Time Period	Maximum Allowable Noise Level Standards (dBA) Daytime 7:00 AM to 10:00 PM	Maximum Allowable Noise Level Standards (dBA) Nighttime 10:00 PM to 7:00 AM
Residential, School, Child Care, Health Care, or Nursing Home, and Public Open Space	20	60	45
	10	65	50
	5	70	55
	1	75	60
	0	80	65
		Anytime	
Commercial	20	65	
	10	70	
	5	75	
	1	80	
	0	85	
		Anytime	
Manufacturing, Mining, and Quarrying	20	70	
	10	75	
	5	80	
	1	85	
	0	90	

SOURCE: City of Oakland, Oakland Planning Code, Section 17.120.050, 2003.

TABLE IV.G-2

MAXIMUM ALLOWABLE RECEIVING NOISE STANDARDS FOR TEMPORARY CONSTRUCTION OR DEMOLITION ACTIVITIES, IN dBA

Operation/Receiving Land Use	Daily 7:00 AM to 7:00 PM	Weekends 9:00 AM to 8:00 PM
Short-Term Operation (less than 10 days)		
Residential	80	65
Commercial, Industrial	85	70
Long-Term Operation (more than 10 days)		
Residential	65	55
Commercial, Industrial	70	60

SOURCE: City of Oakland, Oakland Planning Code, Section 17.120.050, 2003.

The primary sources of noise in the project area are traffic on local roads and on the railroad tracks north of the project site. Occasional boat traffic on the Oakland Estuary and activities associated with the retail, commercial, and industrial establishments are secondary noise sources. The sources of transportation-related noise that dominate the noise environment include vehicular traffic on the Embarcadero and I-880 as well as Union Pacific Railroad, Amtrak, and BART railway traffic the project site (Salter Associates, 2002).

Long-Term Noise Levels

In 2002, Charles M. Salter Associates, conducted six 48-hour long-term measurements in the vicinity of the project site (Salter Associates, 2002). In addition, ESA conducted two 72-hour long-term noise level measurements in the vicinity of the project site in the year 2005. The noise measurement locations are shown on **Figure IV.G-3**.

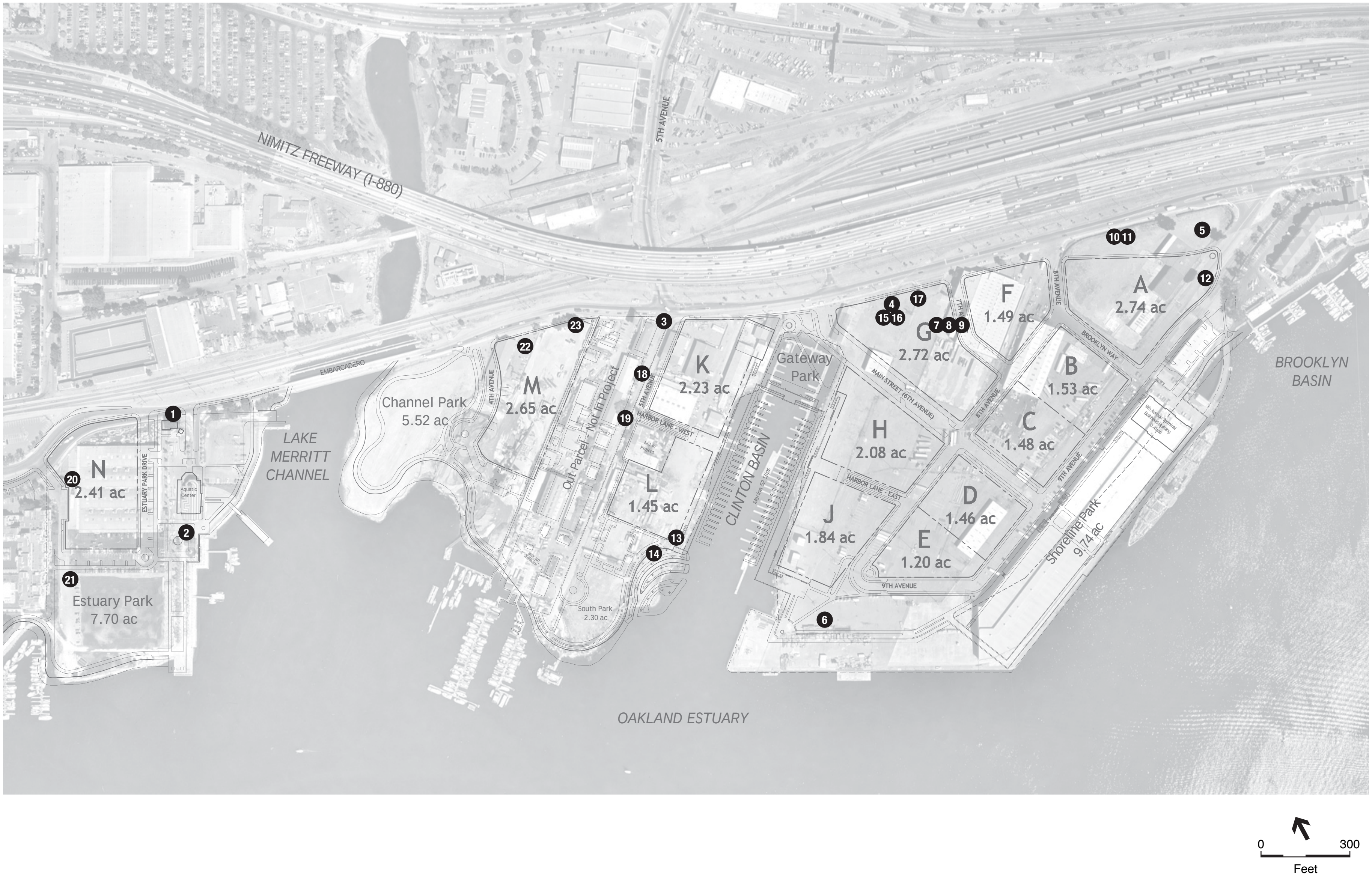
Noise levels were logged digitally during the monitoring period, although individual noise sources are not identifiable in the resulting data. High noise levels typical of an urban environment were measured at all monitor locations. The results are presented below in **Tables IV.G-3** and **IV.G-4** and **Figures IV.G-4** through **IV.G-9.**

Short-Term Noise Levels

Three short-term measurements were taken by ESA in 2005, in addition to 17 short-term measurements that were taken by Charles M. Salter Associates in 2002 in the project site vicinity. Noise levels measured at these locations are shown in **Tables IV.G-3** and **IV.G-4.**

Sensitive Receptors

Human response to noise varies considerably from one person to another. Effects of noise at various levels can include interference with sleep, concentration, and communication; physiological and psychological stress; and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive. Residents of the adjacent residential development (The Portobello) are the primary existing sensitive receptors in the project area. Fifth Avenue Point includes a mix of work-live, industrial, and commercial uses and is located in an industrial zoning district (M-40 Heavy Industrial), however, the work-live tenants would also be considered sensitive receptors to project-related noise.



Oak to Ninth Avenue . 202622

Figure IV.G-3
Noise Monitoring Locations

SOURCE: Environmental Science Associates

TABLE IV.G-3

EXISTING NOISE ENVIRONMENT (2002 MEASUREMENTS)

Location	Time Period	L_{dn} (dBA) Oct 1st – 2nd	L_{dn} (dBA) Oct 3rd – 4th
1. Estuary Park Monitor – Embarcadero (35' south of Embarcadero center line, 65' west of driveway center line, 16' elevation)	Long Term	72	73
2. Estuary Park Monitor – Boat House (450' south of Embarcadero center line, 75' west of water line, 14' elevation)	Long Term	65	65
3. 5th Avenue Monitor – Embarcadero (50' south of Embarcadero center line, 25' west of 5th Avenue center line, 14' elevation)	Long Term	77	77
4. 8th Avenue Monitor – Embarcadero (50' south of Embarcadero center line, 28' west of 8th Avenue center line, 14' elevation)	Long Term	79	78
5. 10th Avenue Monitor – Embarcadero (45' south of Embarcadero center line, 60' west of 10th Avenue center line, 15' elevation)	Long Term	82	82
6. Oakland Estuary Monitor – Clinton Basin (1140' south of Embarcadero center line, 120' east of water line, 14' elevation)	Long Term	67	62
7. Embarcadero 45' Elevation Spot (50' south of Embarcadero center line, 110' east of 8th Avenue center line, 45' elevation on northwest corner of Furniture Liquidator rooftop)	Short Term	83	83
8. Embarcadero 58' Elevation Spot (50' south of Embarcadero center line, 110' east of 8th Avenue center line, 60' elevation on northwest corner of Furniture Liquidator rooftop)	Short Term	84	83
9. Embarcadero 70' Elevation Spot (50' south of Embarcadero center line, 110' east of 8th Avenue center line, 70' elevation on northwest corner of Furniture Liquidator rooftop)	Short Term	83	83
10. Embarcadero Spot Between 9th and 10th Avenues (30' south of Embarcadero center line, 315' west of 10th Avenue center line, 5' elevation)	Short Term	80	80
11. Embarcadero Spot Between 9th and 10th Avenues (30' south of Embarcadero center line, 315' west of 10th Avenue center line, 18' elevation)	Short Term	85	85
12. 10th Avenue Spot (190' south of Embarcadero center line, 32' west of 10th Avenue center line, 5' elevation)	Short Term	76	76
13. 6th Avenue Spot – Clinton Basin (740' south of Embarcadero center line, 110' west of Clinton Basin shoreline, 5' elevation)	Short Term	63	61
14. 6th Avenue Spot – Clinton Basin (850' south of Embarcadero center line, 110' west of Clinton Basin shoreline, 5' elevation)	Short Term	62	60
15. 8th Avenue Spot – Embarcadero (60' south of Embarcadero center line, 25' west of 8th Avenue center line, 5' elevation)	Short Term	76	76
16. 8th Avenue Spot – Embarcadero (60' south of Embarcadero center line, 25' west of 8th Avenue center line, 18' elevation)	Short Term	77	77
17. 8th Avenue Spot – Embarcadero (60' south of Embarcadero center line, 35' east of 8th Avenue center line, 5' elevation)	Short Term	78	77

TABLE IV.G-3 (continued)

EXISTING NOISE ENVIRONMENT (2002 MEASUREMENTS)

18. 5th Avenue Spot – 200-foot setback (200’ south of Embarcadero center line, 10’ west of 5th Avenue center line, 5’ elevation)	Short Term	69	69
19. 5th Avenue Spot – 350-foot setback (350’ south of Embarcadero center line, 10’ west of 5th Avenue center line, 5’ elevation)	Short Term	65	65
20. Estuary Park Spot – West Location (125’ southeast of Embarcadero center line, 100’ east of neighboring residential building, 5’ elevation)	Short Term	70	70
21. Estuary Park Spot – setback from Embarcadero (335’ southeast of Embarcadero center line, 100’ east of neighboring residential building, 5’ elevation)	Short Term	62	62
22. Embarcadero Spot – West of 5th Avenue (80’ south of Embarcadero center line, 450’ west of 5th Avenue center line, 5’ elevation)	Short Term	71	70
23. Embarcadero Spot – West of 5th Avenue (40’ south of Embarcadero center line, 340’ west of 5th Avenue center line, 5’ elevation)	Short Term	75	74

SOURCE: Charles M. Salter Associates, Inc. *Oak to 9th Residential Development, Oakland, California, Environmental Noise Assessment,* November 2002.

TABLE IV.G-4

EXISTING NOISE ENVIRONMENT (2005 MEASUREMENTS)

Location	Time Period	Leq (dBA)	Noise Sources
1. 9th Avenue and Embarcadero (65 feet from center of Embarcadero, 15 feet from center of 9th)	24–hour CNEL measurements were: Tuesday: 75 dBA Wednesday: 75 dBA Thursday: 75 dBA	Hourly L_{eq} ranged from 63 to 72 dBA	Interstate 880 traffic (ground level) Embarcadero traffic
2. 5th Avenue and Embarcadero (150 feet from center of Embarcadero, 20 feet from center of 5th)	24–hour CNEL measurements were: Tuesday: 71 dBA Wednesday: 72 dBA Thursday: 72 dBA	Hourly L_{eq} ranged from 58 to 69 dBA	Interstate 880 traffic (on high overpass) Embarcadero traffic
3. 9th Avenue and Embarcadero (65 feet from center of Embarcadero, 15 feet from center of 9th)	10 minutes	69	Interstate 880 traffic (ground level) Embarcadero traffic Several trucks on 9th Birds chirping
4. 6th Avenue and Embarcadero (110 feet from center of Embarcadero, 15 feet from center of 6th)	9 minutes	63	Interstate 880 traffic (on high overpass) Embarcadero traffic Several cars on 6th Birds chirping
5. 5th Avenue and Embarcadero (120 feet from center of Embarcadero, 12 feet from center of 5th)	9 minutes	64	Interstate 880 traffic (on high overpass) Embarcadero traffic Several cars and a motorcycle on 5th Industrial saw/equipment across 5th

SOURCE: Environmental Science Associates, 2005.

Figure IV.G-4
24-hours Noise Measurement
Location - 9th and Embarcadero
Tuesday April 5, 2005

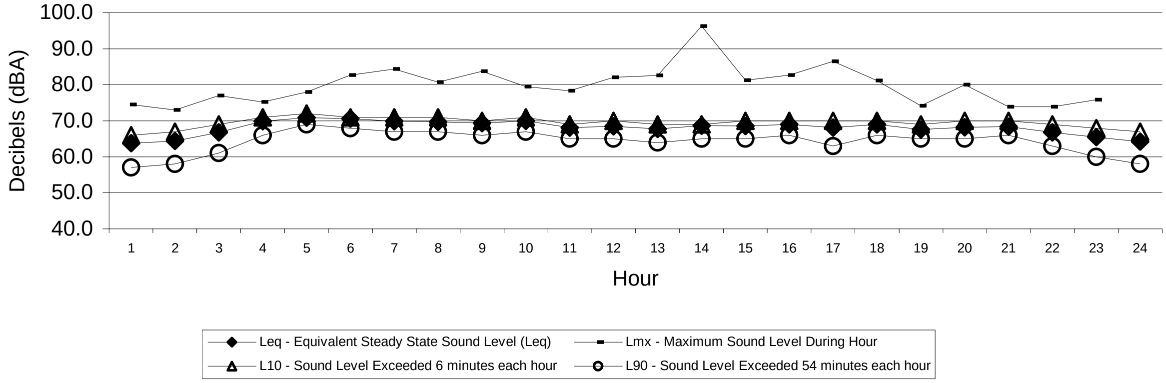


Figure IV.G-5
24-hours Noise Measurement
Location - 9th and Embarcadero
Wednesday April 6, 2005

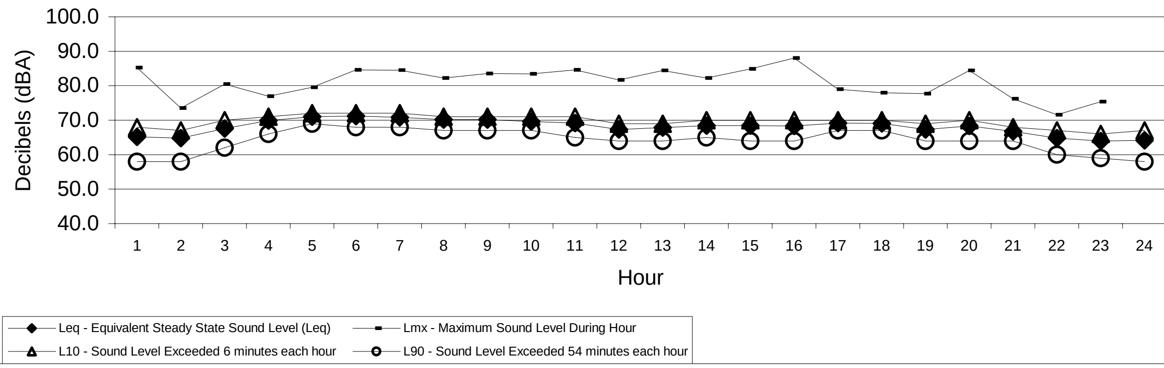


Figure IV.G-6
24-hours Noise Measurement
Location - 9th and Embarcadero
Thursday April 7, 2005

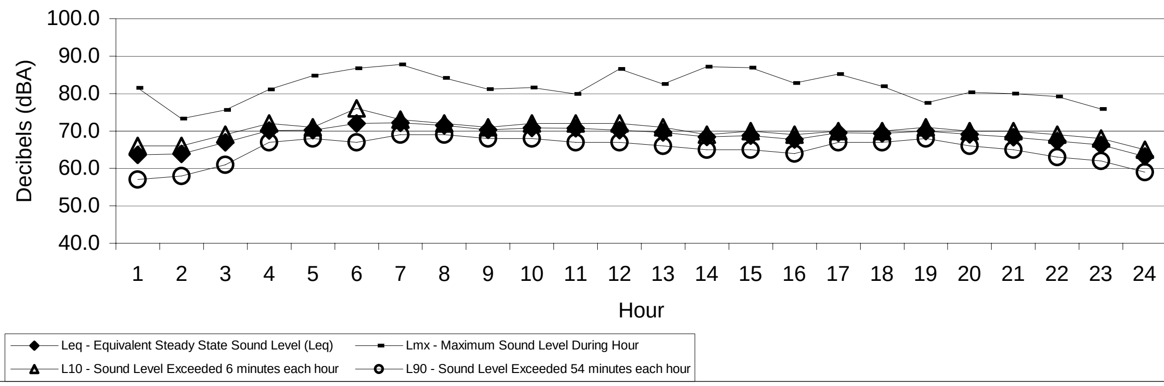


Figure IV.G-7
24-hours Noise Measurement
Location - 5th and Embarcadero
Tuesday April 5, 2005

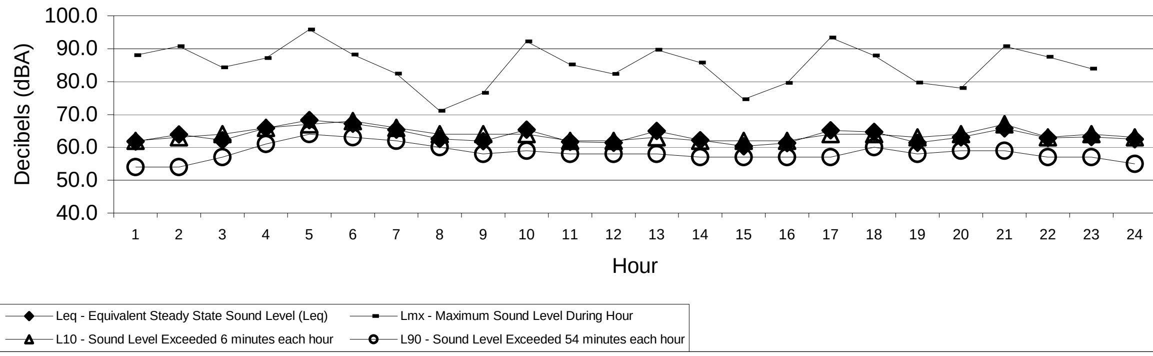


Figure IV.G-8
24-hours Noise Measurement
Location - 5th and Embarcadero
Wednesday April 6, 2005

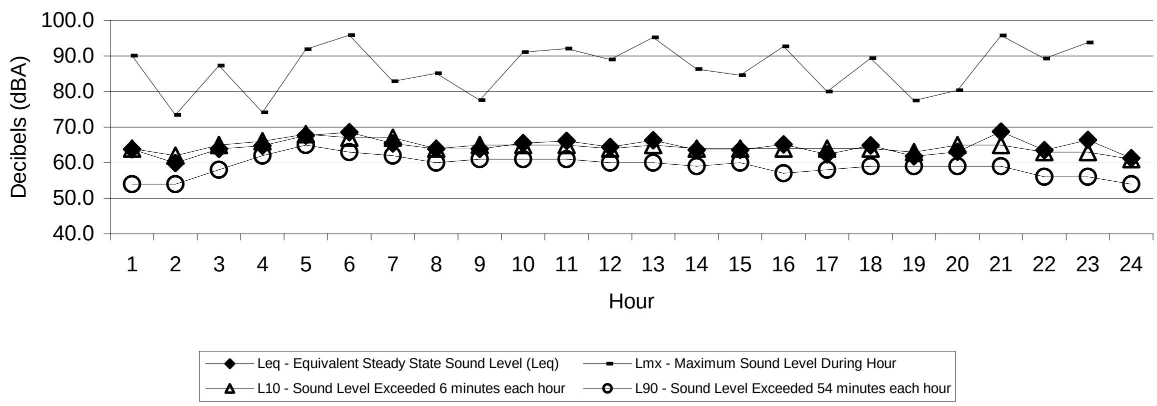
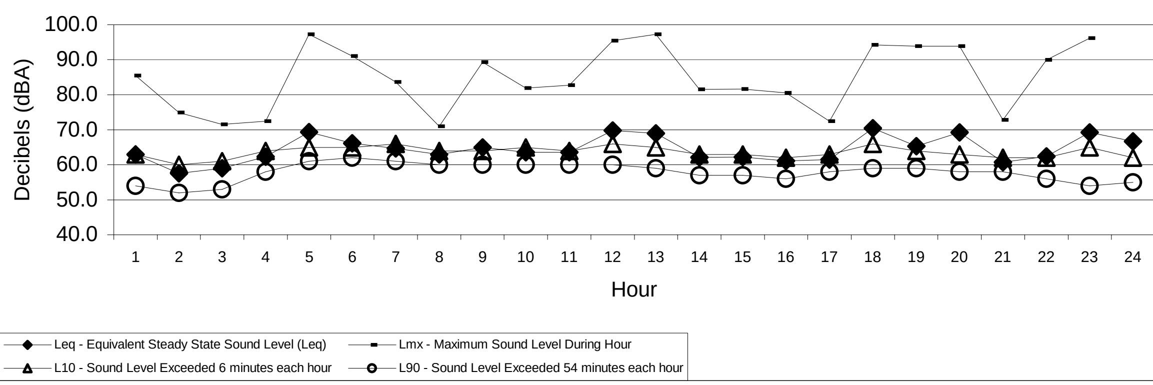


Figure IV.G-9
24-hours Noise Measurement
Location - 5th and Embarcadero
Thursday April 7, 2005



Noise Impacts Discussion

Significance Criteria

The City of Oakland considers a project to have a significant noise impact if it would:

- Expose persons to or generate noise levels in excess of standards established in the City of Oakland General Plan or applicable standards of other agencies (e.g., Occupational Safety and Health Administration [OSHA]);
- Violate City of Oakland Noise Ordinance standards for operational noise (Oakland Planning Code Section 17.120.050);
- Violate City of Oakland Noise Ordinance standards for construction noise (Oakland Planning Code Section 17.120.050), unless an acoustical analysis is performed and all feasible mitigation measures imposed, including the standard City of Oakland noise measures adopted by the Oakland City Council on January 16, 2001 (addressed in Impact IV.G.1);
- Violate City of Oakland Health and Safety Code provisions regarding nuisance from persistent construction-related noise (Oakland Municipal Code Section 8.18.020);
- Create a vibration that is perceptible without instruments by the average person at or beyond any lot line containing vibration-causing activities not associated with motor vehicles, trains, and temporary construction or demolition work, except activities located within the (a) M-40 zone, or (b) M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code Section 17.120.060);
- Generate interior L_{dn} or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single-family dwellings) per California Noise Insulation Standards (California Code of Regulations Part 2, Title 24;
- Result in a 5-dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Conflict with state land use compatibility guidelines for all specified land uses for determination of acceptability of noise (in accordance with the State of California Governor's Office of Planning and Research *General Plan Guidelines, 2003*);
- Be located within an airport land use plan and expose people residing or working in the project area to excessive noise levels; or
- Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

The proposed project site is not located within 2 miles of a public airport or private airstrip. The Oakland International Airport is located approximately 3 miles southeast of the project site, and the San Francisco International Airport is located approximately 14 miles southwest of the project site. The Alameda Point Naval Air Station closed in April 1997. Therefore, the project would not expose persons residing at the project site to excessive noise levels as a result of proximity to an airport, and airport noise will not be addressed further in this document.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to noise, and that apply to the project, are listed in Appendix F. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Project Impacts and Mitigation Measures

Noise impacts are assessed by comparing noise levels resulting from the Oak to Ninth Avenue Project with noise levels under baseline or existing conditions. These existing conditions were measured using sound level meters at various locations (specified above in **Table IV.G-3** and **Table IV.G-4**) in the vicinity of the proposed project site. Temporary construction impacts from the development of the project are evaluated based on typical noise levels generated during various phases of construction and proximity to sensitive land uses. Analysis of traffic-related noise is based on (1) traffic survey data (prepared by Fehr & Peers transportation consultants) that included existing and projected traffic around the project site, and (2) the Federal Highway Administration (FHWA) Traffic Noise Prediction Model. Long-term noise impacts are evaluated both with respect to the impact of the project on existing uses and the impact of the existing noise environment on future project residents.

Construction Noise Impacts

Impact G.1: Project construction activities would intermittently and temporarily generate noise levels above existing levels in the project vicinity. Project construction noise levels could exceed City of Oakland standards and cause disturbances in noise-sensitive areas, such as residential areas. (Potentially Significant)

Projected Noise Levels

The project would start construction in 2006 and be built out over approximately eleven years. Project construction would occur in four phases and would involve demolition of 425,700 square feet of existing commercial and industrial space and construction of 3,100 residential units, 200,000 square feet of retail space, and up to 3,534 vehicle parking spaces. Construction-related activities would temporarily increase ambient noise levels in the project vicinity over the duration of construction. Construction-related noise levels at and near locations on the project site would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend upon the level of construction activity on a given day and the related noise generated by that activity, the distance between construction activities and the nearest noise-sensitive uses, and the existing noise levels at those uses.

Table IV.G-5 shows typical noise levels generated by building construction. As shown in the table, the noisiest phase of construction would be during pile driving, which could generate noise levels of approximately 90 to 105 L_{eq} at 50 feet. Excavation and exterior finishing may also generate a substantial amount of noise.

Noise from project demolition and construction activities could affect adjacent and nearby commercial and residential uses. Noise-sensitive uses nearest the proposed demolition and construction activity would be the residents of the adjacent residential complex (The Portobello), work-live tenants in the adjacent Fifth Avenue Point, and tenants occupying buildings completed during initial construction phases. These uses could occasionally experience the noise levels indicated in **Table IV.G-5**, depending on the proximity of equipment at a given time.

TABLE IV.G-5

TYPICAL CONSTRUCTION ACTIVITY NOISE LEVELS

Phase	Noise Level (L_{eq})[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Exterior Finishing	89
Pile Driving	90-105

[a] Estimates correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase and 200 feet from the other equipment associated with that phase.

SOURCE: Bolt, Baranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, December 1971.

Compliance with City of Oakland Noise Standards

As noted above, building construction noise during the noisiest phases of construction would be 90 to 105 L_{eq} at 50 feet. These predicted noise levels would exceed the standards of the City of Oakland's Noise Ordinance, which states that, for residential receptors, the maximum allowable receiving noise for weekdays (Monday through Friday, 7:00 AM to 7:00 PM) is 65 dBA for construction activity of greater than 10 days duration and 80 dBA for construction activity of 10 days or less. Also, during nighttime, temporary construction-related noise could be more disturbing given the more sensitive nature of the nighttime period. Temporary construction noise impacts could be significant unless proper mitigation is followed.

According to Section 8.18.020 of the Health and Safety Code, the persistent emission of any noise produced by mechanical means between the hours of 9:00 PM and 7:00 AM, could constitute a nuisance if the raucous noise disturbs the peace or comfort or is injurious to the health of any exposed individual. The nuisance of persistent construction-related noise impacts could be significant unless proper mitigation is followed.

Ground-Borne Vibration

Ground-borne vibration from activities that involve "impact tools," especially pile driving, could produce significant vibration at sensitive receptors unless proper mitigation is followed. Mitigation measures described below that would decrease the noise associated with impact equipment, such as the pre-drilling of piles, would also decrease vibration levels (see Mitigation Measure G.1c).

The project construction activities would involve pile driving intermittently throughout the 11-year construction phase. The actual number of piles would be determined when each building is designed, and the duration of pile driving activities for each building will vary with site conditions which can vary widely throughout the project site. The project sponsor estimates that the number of piles required per parcel may range from 420 to 900 (with an average of 675 piles per parcel). The duration of pile driving per parcel may range from nine to 16 weeks (with an average of 12 weeks per parcel).

Mitigation Measure G.1a: The project applicant shall require construction contractors to limit standard construction activities as required by the City of Oakland Building Services Division. Such activities are generally limited to between 7:00 AM and 7:00 PM Monday through Friday, with pile driving and/or other extreme noise-generating activities (greater than 90 dBA) limited to between 8:00 AM and 4:00 PM Monday through Friday, with no extreme noise generating activity permitted between 12:30 PM and 1:30 PM. No construction activities shall be allowed on weekends, except that interior construction shall be permitted after buildings are enclosed, without prior authorization of the Building Services Division, and no extreme noise-generating activities shall be allowed on weekends and holidays.

Mitigation Measure G.1b: To reduce daytime noise impacts due to construction, the project applicant shall require construction contractors to implement the following measures:

- **Equipment and trucks used for project construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, wherever feasible).**

- **Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. Quieter procedures, such as use of drills rather than impact tools, shall be used whenever feasible.**

- **Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible.**

- **If feasible, the noisiest phases of construction (such as pile driving) shall be limited to less than 10 days at a time to comply with the local noise ordinance.**

Mitigation Measure G.1c: To further mitigate pile driving and/or other extreme noise-generating construction impacts, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the City of Oakland Building Services Division to ensure that maximum feasible noise

attenuation will be achieved. These attenuation measures shall include as many of the following control strategies as feasible:

- **Erect temporary plywood noise barriers around the construction site, particularly along the western boundary along Fallon Street to shield the adjacent multi-family residential uses;**

- **Implement "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;**

- **Use noise control blankets on building structures as buildings are erected to reduce noise emission from the site;**

- **Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings; and**

- **Monitor the effectiveness of noise attenuation measures by taking noise measurements.**

Mitigation Measure G.1d: Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the City Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

- **A procedure for notifying the Building Services Division staff and Oakland Police Department of complaints;**

- **A plan for posting onsite signs pertaining to permitted construction days and hours, complaint procedures, and whom to notify in the event of a problem;**

- **A listing of telephone numbers (during regular construction hours and off-hours);**

- **Designation of an onsite construction complaint manager for the project;**

- **Notification of neighbors within 300 feet of the project construction area about the estimated duration of the pile-driving activity at least 30 days in advance of the activity; and**

- **A preconstruction meeting with the job inspectors and the general contractor/onsite project manager to confirm that noise mitigation and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.**

The contractor would be required to implement the above measures throughout the duration of construction activity. Based on the significance criteria used by the City of Oakland, compliance with the City's noise ordinance is achieved if the above mitigation measures are implemented. However, given the significant number of piles (estimated average of 675 pile per parcel), and the extended duration of pile driving (estimated average of 12 weeks per parcel) that would occur over the nearly 11-year construction period, implementation of the above measures to the extent feasible is not expected to adequately reduce the potential construction-related noise impacts to a less than significant level. The General Plan Noise Element incorporates the City's noise ordinance and allows for the City to interpret the existing noise standards as appropriate to ensure consistency with the City's noise policies (General Plan Action 3.2). Therefore, project construction noise impacts would be considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable

Noise from Project Traffic and Other Operations

Impact G.2: Noise from project-generated traffic and other operational noise sources, such as mechanical equipment and truck loading/unloading, could exceed City of Oakland Noise Ordinance standards and disturb project occupants and nearby residents. (Potentially Significant)

Operational activities associated with the project that would generate noise include vehicle traffic; operation of mechanical equipment such as heating, ventilation, and air conditioning (HVAC) equipment; and truck loading or unloading activities.

Operational Traffic Noise

As discussed above, and depicted in **Tables IV.G-3** and **IV.G-4** and **Figures IV.G-4** through **IV.G-9**, Charles M. Salter Associates in 2002, and ESA in 2005, conducted several long-term and short-term measurements in the vicinity of the project site. The measured long-term results along the affected roadway segments are shown in **Table IV.G-6** and considered to be the existing ambient noise from all noise sources.

In addition, noise level projections were made using traffic data from Fehr & Peers (2005) and the Federal Highway Administration (FHWA) Noise Prediction Model for those road segments that would experience the greatest increase in traffic volume and/or that would pass through residential areas. The model is based on the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The results of the modeling effort are shown in **Table IV.G-6** for the Existing, Interim (Year 2010), Interim Plus Project (Year 2010), Cumulative (Year 2025), and Cumulative Plus Project scenarios. The traffic analysis indicates that the project would generate approximately

11,741 total daily vehicle trips under the Interim Plus Project scenario and 30,681 daily vehicle trips for the Cumulative Plus Project scenario. This traffic would be distributed over the local street network and would affect roadside noise levels. For the modeling effort, PM peak hour traffic volumes during weekdays were used. Modeled existing noise levels shown in **Table IV.G-6** correspond to a distance of 7.5 meters (25 feet) or 15 meters (50 feet) from the centerline of applicable roadway segments.

The difference between the calculated and actual (measured) noise levels along these roadways is due to other noise sources in the vicinity, such as intersecting roadway and I-880 traffic and other non-vehicle noise sources that substantially contribute to the total ambient noise levels but are not included in the FHWA Modeling (which is based on traffic volume on the specified Road Segments only).

To account for other noise sources that are not included in the FHWA Modeling, the levels of actual existing noise (which do reflect all sources of noise in the vicinity) are also considered in the analysis to assess the impact of project traffic on future roadside noise levels. Given that the Measured Existing Noise Levels more accurately reflect existing noise conditions, the City has determined that these levels shall be used to evaluate the significance of the project's impacts. A review of **Table IV.G-6** shows that under the 2010 Interim Plus Project scenario and the 2025 Cumulative Plus Project scenario, the incremental increase in noise levels over existing conditions on the road segments analyzed would be less than significant.

HVAC and Loading/Unloading Operations

Once the project is in operation, noise would also be generated by truck loading and unloading activities as well as HVAC systems on project buildings. These noise sources are considered separately from traffic noise because they would be located on rooftops and in loading docks, away from street noise generated by traffic. Because these noise sources would be separated by location from traffic noise, they would not combine with traffic noise to create higher noise levels. Operation of HVAC equipment would be subject to City of Oakland Noise Ordinance standards shown in **Table IV.G-1**. Provided that the equipment would be designed and used in a manner that complies with those standards (see Mitigation Measure G.2 below), the related noise impact on project residences and adjacent land uses would be less than significant. Operational noise related to the arrival, departure, and loading/unloading of goods from delivery trucks associated with the project's proposed commercial establishments would be potentially significant.

Mitigation Measure G.2: The project applicant shall incorporate the following design features into the final site plans:

- **Building equipment (e.g., HVAC units) shall be located away from nearby residences, on building rooftops, and properly shielded within an enclosure that effectively blocks the line of sight of the source from receivers in order to meet City of Oakland Noise Ordinance standards.**

- **Truck delivery areas shall be located as far from adjacent residences as possible. To the extent feasible, project buildings shall be located so that they block noise related to truck deliveries and waste collection from residential or other sensitive receptors.**

With implementation of the mitigation measure listed above, noise impacts from HVAC equipment and truck loading and unloading activities would be reduced to a less-than-significant level.

Significance after Mitigation: Less than Significant

TABLE IV.G-6

TRAFFIC NOISE INCREASES ALONG ROADS IN THE PROJECT AREA

	Measured and Modeled Noise Levels, dBA, CNEL									
Road Segment	**Modeled Existing Traffic Noise**[c]	**Measured Existing Noise (CNEL)**	**Modeled Interim (Year 2010)**	**Modeled Interim (Year 2010) plus Project**	**Modeled Incremental Increase (Interim Plus Project vs. Modeled Existing)**	**2010 Estimated Noise from All Sources/ Incremental Increase from Existing Measured Noise**	**Modeled Cumulative (Year 2025)**	**Modeled Cumulative (Year 2025) plus Project**	**Modeled Incremental Increase (Cumulative Plus Project vs. Existing)**	**2025 Estimated Noise from All Sources/ Incremental Increase from Existing Measured Noise**
1. 5th Street (between Madison and Oak Streets)[e]	71.7	77[b]	73.1	73.4	1.7	78/ +1	73.9	74.4	2.7	79/ +2
2. Oak Street (between 5th Street and Embarcadero)[e]	69.6	71[b, g]	70.8	71.5	1.9	71.5/ +0.5	72.5	73.8	4.2	73.8/ +4.2
3. Embarcadero (west of 5th Avenue)[f]	68.3	77[a]	68.8	70.4	2.1	78/ +1	69	72.6	4.3	78/ +1
4. Embarcadero (between 5th Avenue and 6th Avenue)[f]	71	77[a]	71.2	72.7	1.7	78/ +1	71.6	74.7	3.7	79/ +2
5. Embarcadero (between 6th Avenue and 10th Avenue)[f]	70.3	75 – 82[a]	70.3	72.1	1.8	76 – 82/ +0 to +1	70.3	73.7	3.4	78 – 83/ +1 to +3
6. 5th Avenue (south of Embarcadero)[e]	50.8	71[a]	55.1	55.1	4.3	71/ +0	59.8	65.5	14.7[d]	72/ +1
7. East 8th Street (between Oak Street and 5th Avenue)[e]	72	72[b, g]	73.5	73.7	1.7	73.7/ +1.7	74.7	75.1	3.1	75.1/ +3.1
8. 5th Avenue (between East 8th Street and Embarcadero)[e]	70	71[b, g]	70.2	71.3	1.3	71.3/ +0.3	70.7	73	3	73/ +3

a The measured existing traffic noise levels on these roadway segments are based on actual long-term measurement data that account for all noise sources, not just traffic on the single roadway.

b Since measurement data were not available for some roadway segments, the noise levels on these roadway segments were deduced from actual long-term measurements on roadway segments that were similar in proximity to I-880 and where I-880 was at a similar elevation.

c These listed values represent the modeled existing noise levels from mobile sources along specified roadways and are based on traffic data from Fehr and Peers. These values allow incremental noise increases to be deduced in order to provide an initial screening with respect to the noise level standard of a 5 dBA increase over existing (in this case, the calculated existing noise from traffic on the roadways). However, other noise sources in the vicinity of these roadway segments, such as intersecting roadways, I-880 traffic, and other non-vehicular noise sources, can contribute substantially to the total ambient noise levels along roadways in the project vicinity.

d On Road Segment 6, the calculated incremental increase between the Cumulative Plus Project versus Existing scenario is 14.7 dBA. Although this exceeds the 5 dBA criterion, the traffic-related impact on the noise environment along this Road Segment is considered less than significant because actual measured ambient noise levels on this Road Segment are much greater than the modeled existing noise from traffic on Road Segment 6 only. When using the noise model to predict only the noise from Road Segment 6, the future noise level would be 65.5 on this Road Segment in 2025. However, actual noise measurements show that the existing noise levels along Road Segment 6 are already 71 to 77 dBA, CNEL (from Tables **IV.G-3** and **IV.G-4)**. Thus, in 2025 the predicted future Cumulative Plus Project noise level

TABLE IV.G-6 Footnotes, continued.

of 65.5 dBA (from traffic on Road Segment 6 only) would sum logarithmically with the actual measured existing noise levels of 71-77 dBA and result in a maximum increase of 0-1 dBA with resulting future noise levels expected to be 72-77 dBA, CNEL (Caltrans, 1998). Thus, the incremental increase in noise for the actual Cumulative Plus Project versus actual existing noise would be considered less than significant without mitigation

[e] Road center to receptor distance is assumed to be 7.5 meters (approximately 25 feet) on these segments. Vehicle mix on these road segments is assumed to be 90 percent auto, 5 percent medium trucks, and 5 percent heavy trucks. The speed limit for these segments is assumed to be 25 miles per hour.

[f] Road center to receptor distance is assumed to be 15 meters (approximately 50 feet) on these segments. Vehicle mix on these road segments is assumed to be 90 percent auto, 5 percent medium trucks, and 5 percent heavy trucks. The speed limit for these segments is assumed to be 35 miles per hour.

[g] Because modeled and measured noise levels were approximately equal, future noise levels are estimated directly from the model.

SOURCE: ESA, 2005

Indoor Noise Exposure

Impact G.3: The project would locate noise-sensitive multifamily residential uses in a noise environment where noise levels are above what is considered "normally acceptable" according to the City of Oakland General Plan Noise Element. (Potentially Significant)

Based on noise measurements in the project site vicinity (see **Table IV.G-3** and **Table IV.G-4**), existing ground-level and aerial (elevations of 14 to 70 feet) L_{dn} noise levels range from 60 dBA to 80 dBA and from 62 dBA to 85 dBA, respectively. These noise levels are primarily due to the proximity of the measurement location to the Embarcadero and I-880 and show that project-related ground floor and non-ground floor residences in close proximity to these noise sources would be exposed to noise levels classified from "normally unacceptable" to "clearly unacceptable" for residential uses (see **Table IV.G-2**).

The project would include development of 3,100 multifamily housing units that would be subject to Title 24 standards of the *California Code of Regulations*, which provides an interior standard of DNL 45 dBA in any habitable room and requires an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard.

Though commercial uses are not subject to the requirements of Title 24, incorporation of standard noise insulation features in the design would minimize potential noise impacts on onsite commercial uses.

Mitigation Measure G.3: To comply with the requirements of Title 24 and achieve an interior noise level of less than 45 dBA, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls) shall be incorporated into project building design. Final recommendations for sound-rated assemblies will depend on the specific building designs and layout of buildings on the site and shall be determined during the design phase.[1]

Significance after Mitigation: Less than Significant

Outdoor Noise Exposure

Impact G.4: The project would locate noise-sensitive multifamily residential uses and public parks in a noise environment where outdoor noise levels are above what is considered "normally acceptable" according to the City of Oakland General Plan Noise Element. (Potentially Significant)

1 *Oak to 9th Residential Development, Oakland, California, Environmental Noise Assessment* by Charles M. Salter Associates, Inc., November 2002. Table 4 of the Salter Associates document lists conceptual window and wall Sound Transmission Class (STC) ratings for different noise environments and gives an estimate of the STC requirements needed to meet interior noise criteria.

As discussed in Impact G.3 above, noise measurements taken in the project site vicinity (see **Table IV.G-3** and **Table IV.G-4**) showed existing ground-level and aerial (elevations of 14 to 70 feet) L_{dn} noise levels from 60 dBA to 80 dBA and from 62 dBA to 85 dBA, respectively. These noise levels are primarily due to the proximity of the measurement location to the Embarcadero and I-880. Project-related residences located on the northern perimeter of parcels A, F, G, K, M, and N and public open space located in the northern area of the project (portions of Estuary Park, Channel Park, Gateway Park, and Shoreline Park) would be exposed to outdoor noise level environments classified from "normally unacceptable" to "clearly unacceptable" for residential and park uses (see **Table IV.G-2**), whereas residences and public open space in the southern area of the project would be exposed to reduced noise levels due to sound attenuation by distance and potentially some blockage by project-developed buildings.

Measured noise levels also exceed the maximum allowable daytime (60 dBA, 20 minutes in a one-hour time period) and nighttime (45 dBA, 20 minutes in a one-hour time period) noise level standards listed in **Table IV.G-1** for residences and public open space. Although construction of berms and sound walls along the northern perimeter of the project would reduce the outdoor noise levels reaching project-related public open space and residential receptors, sound barrier construction is not considered feasible given the height of the barriers that would be required to effectively block the line of sight of the Embarcadero and I-880 traffic and the effect they would have on the aesthetic character of the area. Thus, locating residential and public open space uses in the existing noise environment would result in a significant and unavoidable outdoor noise impact.

Significance after Mitigation: Significant and Unavoidable.

Cumulative Impacts

Cumulative Context

The geographic context used for the cumulative assessment noise impacts includes the Oak to Ninth District and surrounding freeways and major roadways in the vicinity. Cumulative noise is generated by the project and background growth from reasonably foreseeable projects identified in the Oakland Cumulative Growth Scenario as refined for this EIR.

Noise

Impact G.5: The proposed project, together with anticipated future development in Oakland, could result in long-term traffic increases that could cumulatively increase noise levels. (Less than Significant)

A cumulative impact arises from two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts. This means that the project's incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

The traffic analysis indicates that the project would generate approximately 30,681 daily vehicle trips for the Cumulative Plus Project scenario. This traffic would be distributed over the local street network and would affect roadside noise levels. To assess the cumulative impact on roadside noise levels, noise level projections were analyzed using the FHWA Noise Prediction Model and results of noise measurements in the project area and are shown in **Table IV.G-6** above. Given that the Measured Existing Noise Levels more accurately reflect existing noise conditions, the City has determined that these levels shall be used to evaluate the significance of the project's impacts. A review of **Table IV.G-6** finds that the Interim project traffic in the year 2010 and the Cumulative Plus Project traffic in the year 2025 would have less than significant noise impacts.

Mitigation: None Required.

References – Noise

Airport Land Use Commission of Alameda County, *Alameda County Airport Land Use Plan*, July 16, 1986.

Bolt, Baranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances,* December 1971.

Caltrans, Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 1998.

Charles M. Salter Associates, Inc., *Oak to 9th Residential Development, Oakland, California, Environmental Noise Assessment,* November 2002.

City of Oakland, Oakland Health and Safety Code (Title 8 of the Oakland Municipal Code), Chapter 8.18.020, Persistent Noises a Nuisance, 2003a.

City of Oakland, Oakland Planning Code (Title 17 of the Oakland Municipal Code), Chapter 17.120.050, Noise Ordinance, 2003b.

City of Oakland General Plan, *Noise Element,* Adopted June 21, 2005.

State of California, California Code of Regulations, Title 24 Part 2, California Building Code, 2001.

H. Hazardous Materials

This section discusses the hazardous materials issues associated with the project site, project construction, and project operations. The hazardous materials issues evaluated include past chemical use and potential buildup of associated toxic substances in soil and groundwater at the site; past onsite and offsite storage and release of petroleum products, including the presence and former presence of underground storage tanks at the site; potential hazardous waste issues during site construction; and the potential of the project to generate and discharge hazardous materials and/or hazardous wastes. This section identifies potential project impacts and appropriate mitigation measures when necessary and describes the regulatory process for remediation of the site.

Introduction

Under federal and state laws, materials, including wastes, may be considered hazardous if they are specifically listed by statute as such or if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode or generate vapors when mixed with water (reactivity). The term “hazardous material” is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.[1] In some cases, past industrial or commercial activities on a site could have resulted in spills or leaks of hazardous materials to the ground, resulting in soil and/or groundwater contamination. The presence of certain hazardous materials can also lead to the buildup of methane gas which if trapped under structures can become an explosive hazard. Federal and state laws require that hazardous materials be specially managed and that excavated soils having concentrations of contaminants such as lead, gasoline, or industrial solvents that are higher than certain acceptable levels, be specially managed, treated, transported, and/or disposed of as a hazardous waste. The California Code of Regulations, Title 22, §66261.20-24 contains technical descriptions of characteristics that would cause a soil to be designated a hazardous waste. The California regulations are compliant with the federal regulations and in most cases, more stringent.

A preliminary site assessment, commonly referred to as a “Phase I” investigation, seeks to identify the presence or likely presence of hazardous materials at a project site under conditions that indicate an existing release, a past release, or a material threat of release of hazardous materials into structures on the site or into the ground, groundwater, or surface water of the site, and to assess whether such conditions warrant further investigation, such as subsurface soil and groundwater sampling. Such subsurface sampling is often, referred to as a “Phase II” investigation.

During the Phase I investigation, environmental professionals, among other things, research the site history, perform a regulatory database review and conduct a site reconnaissance for the site and surrounding area. Methods to obtain historical information pertaining to the site include the

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

review of historical aerial photographs, topographical maps and Sanborn Fire Insurance Maps. A Phase I generally includes a review of potential offsite sources of contamination that may be of potential environmental concern due to their proximity to the project site. A Phase II generally involves subsurface sampling of soil or groundwater at a project site to evaluate the extent of known or suspected contaminant releases

Numerous Phase I and Phase II investigations have been conducted on the project area, including comprehensive Phase I and Phase II investigations by Lowney Associates (Lowney), dated March 2002 and December 2002, respectively.

Setting

Geology and Groundwater

Regional

The project site is within the East Bay Plain groundwater basin bounded by San Pablo Bay to the north, Hayward to the south, San Francisco Bay to the west, and the Hayward Fault to the east.

Five unconsolidated sedimentary formations lie over the bedrock. The deepest is the Alameda Formation which consists of marine and continental deposits of clay, silt, sand, and gravel. Old Bay Mud is deposited on top of the Alameda formation and consists primarily of firm, dark greenish gray clay with varying amounts of sand and fine gravel. This formation forms a fairly continuous aquitard[2] across the region.

Above the Old Bay Mud is the San Antonio formation, which includes the Merritt and Posey sands. The San Antonio formation generally consists of clean sands with interbedded layers of clay and sand. Younger deposits of Bay Mud, overlying the San Antonio formation throughout much of the region, are soft clays deposited in an estuarine/marine environment. Young Bay Mud is a natural marine deposit present throughout most of the Bay that consists of generally uniform, soft, saturated clay and silt with organic material and some sand, deposited in areas of weak tidal currents and low water turbulence, primarily consisting of soft, silty clay. The uppermost layer is fill that was placed on top of the Young Bay Mud (where present) or the San Antonio formation (where Young Bay Mud is absent) along the margins of the Bay since the mid-1800s. (See Section IV.F, Geology, Soils, and Seismicity for more information.)

The East Bay Plain (DWR Groundwater Basin No. 2-9.01) is an important and beneficial groundwater basin underlying the East Bay, extending from Richmond (San Pablo Bay) to Hayward. The alluvial materials that extend westward from the East Bay hills to the edge of the San Francisco Bay constitute the deep waterbearing strata for this groundwater basin, which is identified for municipal, industrial, and agricultural water supply. Historic groundwater levels in the deep aquifer in the basin have varied between -10 and -140 feet mean sea level since the early 1950s (DWR, 2004).

2 A layer of rock having low permeability that stores groundwater but delays its flow.

Groundwater elevations at the project site tend to be highest towards the northern (or inland) areas with groundwater flow radiating outward toward the shorelines. The shallow groundwater table varies between 3 and 20 feet below ground surface (Lowney, 2002a). The groundwater in the project area is of poor quality and is underlain by relatively impermeable Bay Mud sediments. The thick mud forms a groundwater barrier impeding surface water infiltration to the underlying water sources. Results of groundwater sampling in the shallow groundwater zone (Lowney, 2002a) indicated poor groundwater quality and contamination with total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), metals, and polynuclear aromatic hydrocarbons. (See also Section IV.G, Hydrology and Water Quality for more discussion regarding groundwater.)

Project Site – Historical Use

Historical land uses on and near a site can be important indicators of whether hazardous materials were likely used at or near the site and may be present in the subsurface soil and groundwater at that location. The following paragraphs summarize what is known regarding the past uses of the major parcels that comprise the Oak to Ninth project site. For reference and planning purposes, the project site has generally been divided into eight property areas listed below:

- Ninth Avenue Terminal
- 901 Embarcadero
- Former Seabreeze Yacht Center – 280 6th Avenue
- 6th Avenue Area
- Berkeley-Oakland Ready Mix (formerly Kaiser Sand and Gravel) Parcel
- Pacific Dry Dock Yard II – 321 and 325 Embarcadero
- Cash & Carry
- Silviera and Schultz Parcels

Ninth Avenue Terminal Area

The Ninth Avenue Terminal area is the most studied portion of the project site regarding hazardous materials. The Ninth Avenue Terminal area is also the portion of the project site that is slated for the first phases of development. The area is approximately 25 acres in size, not including the Terminal building's wharf areas built on piers. It lies on the easternmost portion of the project site, west of Clinton Basin and east of Brooklyn Basin. Existing streets (7th, 8th, 9th, and 10th Avenues) and several railroad track spurs extend onto the Ninth Avenue Terminal property.

The Ninth Avenue Terminal area originally consisted mainly of marshlands and tidal flats not connected to the mainland. By 1911, the property was filled to almost its current boundaries. A riprap seawall was built along the southern and western boundaries of the filled area and a concrete bulkhead was present along the southern boundary (Brooklyn Basin). The concrete bulkhead is located inboard of the pile-supported concrete wharves that were constructed as early as 1933 and wrap around the southern side of the bulkhead. A storm drain outfall into the northern reach of Clinton Basin discharges runoff from a portion of the Embarcadero.

The Port of Oakland has owned most of the Ninth Avenue Terminal property since the 1920s. Previous tenants have included Pacific Lumber Company, Britz Chemical Company, Vic Adelsons' Drayage, Marine Terminals Corporation, Keep-On-Trucking, Chevron Oil Company, Bay City Fuel Company, East Bay Oil Company, AMCO, and Lakeside Nonferrous Metals. Activities conducted by these previous tenants have included lumber handling, manufacturing operations, metals recycling, packing operations, truck dispatching, warehousing, repair of marine vessels and equipment, truck repair, fuel storage and handling, and break-bulk cargo loading. Fuel was historically stored onsite in aboveground storage tanks (ASTs) and underground storage tanks (USTs).

901 Embarcadero Area

From 1954/1955 until recently, the Port has leased the approximately 3 acre 901 Embarcadero area to manufacturers of various compressed gases (i.e., Liquid Carbonic, Praxair, and Alliance Gas Products). Activities conducted on the property were related to the production and bottling of carbon dioxide gas and acetylene gas. Chemicals used on the property were diesel and gasoline fuel (stored in USTs), acetone, carbon dioxide, nitrous oxide, calcium carbide (carbide lime), liquid oxygen, liquid nitrogen, liquid argon, paints, and other miscellaneous chemicals of concern.

Former Seabreeze Yacht Center Area – 280 – 6th Avenue

The former Seabreeze Yacht Center (Seabreeze property) is located to the west of the Ninth Avenue Terminal. Clinton Basin, an inner harbor with tidal wetland areas occupies approximately 6 acres of the 9-acre former Seabreeze property; approximately 1 acre of the property is occupied by a parking lot on the northern side of Clinton Basin, adjacent to Embarcadero. (See Section IV.I, Biological Resources for additional discussion of wetland areas.)

There is one primary historical use of this site and several ancillary uses that may have resulted in releases of chemicals of concern to soil and groundwater. A steam generating power plant was constructed on the northwestern portion of the site in 1909, operated until the late 1950's, and was demolished sometime between 1977 and 1979. Extensive foundation remnants remain in place below grade. Maintenance and storage facilities for boats (prior to 1911) and Oakland Sash and Door Company, a lumber operation, were located on the northeast portion of the site. Seabreeze Yacht Center leased the entire property from the Port of Oakland from 1961 to 1989. Currently, the Seabreeze property is vacant.

6th Avenue Area

The approximately two acres referred to as the 6th Avenue area is bounded by 5th Avenue to the west, Embarcadero to the north, 6th Avenue to the east, and the privately-owned 27,000 square-foot parcel that is not part of the Oak to Ninth Project site to the south. Current site occupants in various buildings include a storage warehouse for the Port of Oakland, a KTVU broadcasting company storage warehouse, and Jal-Vue Windows Co. The southeastern part of the property, near the foot of Clinton Basin, has been occupied by various businesses, including Steel Sash & Glass Company. Activities conducted by these businesses included crate manufacturing, steel fabricating, and painting. Sanborn maps (historic fire insurance maps) indicate that the oldest building, and longest continuous business on the site, has been a boat manufacturing and repair facility near the corner of 6th Avenue and the Embarcadero.

Berkeley-Oakland Ready Mix (formerly Kaiser Sand and Gravel) Parcel Area

The approximately five-acre Berkeley-Oakland Ready Mix (BORM) area is bounded by the Pacific Dry Dock property (discussed below) to the northwest, Embarcadero to the north, the approximately five-acre area that is not part of the Oak to Ninth Project site (Fifth Avenue Point) to the southeast, and Oakland Estuary to the southwest. Current tenants include Golden State Diesel Marine and Telemedia Communications along the Embarcadero, and a concrete batch operator (BORM) on the remaining areas of the parcel. The BORM parcel was mostly vacant, undeveloped fill in 1911, with only a few buildings present in the northeastern corner of subject property, including a hotel and several, small storage sheds and warehouses. The main portion of the property was later occupied by the Hurley Marine Works Inc., a ship repair yard with associated machine shops, office and warehouse buildings, including dry docks, and boat slips near the waterfront (circa 1947 to 1953). Various tenants subsequently occupied the space of the former shipyard, including a door manufacturer, wire rope and splicing manufacturer, and warehouse operators from 1953 to 1965. After approximately 1965, the central area of the property was cleared. Buildings and remaining shipyard-related structures were demolished and replaced by the facilities of Kaiser Sand and Gravel, Inc. Until the 1970s, the parcel was occupied by Kaiser Sand and Gravel. Kaiser has utilized the central area of the site for concrete mixing, sand and gravel operations.

Pacific Dry Dock Yard II Area – 321 and 325 Embarcadero

The approximately four-acre Pacific Dry Dock area is bounded by Lake Merritt Channel to the west, Embarcadero to the north, Kaiser Sand and Gravel, Inc. property to the east, and the estuary to the south. According to reports reviewed by Lowney (2002a), the property was used for dry dock activities from 1912, after the City of Oakland assumed ownership of the property from a private land owner, to approximately 1942, when the U.S. Navy assumed ownership. The Navy filled the western and southern portions of the site in 1944 and constructed buildings on top of the fill. Reportedly, the fill was created from dredging the bottom of the estuary (Versar, Inc., 1995). In 1948, the City of Oakland regained ownership of the property. Crowley Marine Services, Inc. and its predecessors leased the property from the Port of Oakland from approximately 1951 to 1992, and the dry dock was removed in 1993.

Cash & Carry Area

The approximately 2.73-acre Cash & Carry area is located adjacent to Estuary Park and the Jack London Aquatic Center on the west bank of the Lake Merritt Channel. Historical records indicated that a boiler house, an engine room, steam pumps, lumber storage, and a deep-well pump and water tank, were located on the property at the time of occupancy by the Sunset

Lumber Company (1911). An auto repair shop and an oil house were also located on the property at the time of occupancy by Monarch Lumber Company (1950). Later tenants included Scammel Lumber Company, Cutter Lumber Company, and Standard Wholesale Grocery, Inc.(Lowney, 2002c).

Silviera and Schultz Parcels

These two parcels are located between the former Seabreeze Yacht Center and the Berkeley-Oakland Ready Mix operation. The Silviera is a rectangular parcel approximately 5.5 acres in size. The Schultz property is located adjacent to the Silviera towards the southeast and is approximately 0.5 acres in size. Both properties currently have residential and commercial tenants that include marine-related facilities, metal works, and artist studios. Former tenants of the Silviera parcel have included General Metals Corporation, Hurley Marine Works, M&M Drilling & Shoring Services, Shamrock Marine, In Sight Designs, Corvette Parts & Restoration, Boardworks, Ethan Silva, and 5th Avenue Boatyard. Former tenants of the Schultz property have included Pacific Carbonic Gas Company, and a rubber and boot manufacturing facility. Records indicate that hazardous materials have been handled and stored at these properties throughout its history and have included the use of USTs, ASTs, and a boiler (Lowney, 2002b). The Silviera and Schultz parcels are not part of the project site.

Soil and Groundwater Contamination

Site Investigations

Numerous Phase I and Phase II investigations have been conducted for the project site. The remainder of this section provides a brief overview of the results of these investigations and the identified chemicals of concern (COCs) for each of the property areas identified above. Chemicals of concern are chemicals that have been shown to potentially cause harm to human health or the environment.

Much of the available information on contaminant concentrations at the project site are compared to environmental screening levels (ESLs) published by state and federal agencies, including the Department of Toxic Substances Control (DTSC), the San Francisco Regional Water Quality Control Board (RWQCB) and the United States Environmental Protection Agency (EPA), for evaluation of property proposed for residential use. It is generally accepted that detections of chemicals at concentrations below their paplicable screening levels means that the chemicals pose no significant, long-term threat to human health or the environment. Thus, ESLs are often used to evaluate the potential for risk at a site associated with the presence of hazardous materials in soil and/or groundwater. Such screening levels do not, however, constitute regulatory “cleanup standards.” The presence chemicals at concentrations in excess of their designated ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; it simply indicates that potential risks may exist and that additional site-specific evaluation is warranted.

Ninth Avenue Terminal Area

Site Investigations

Since 1988, several investigations have been performed on the Ninth Avenue Terminal property area by the Port or on behalf of Port tenants. These investigations included near surface soil samples, removal of USTs and surrounding contaminated soil, verification sampling after UST removals, and installation of ground water monitoring wells. Investigations have included installation of 35 ground water monitoring wells, 74 soil borings, and 42 test pits across the property. Alameda County Environmental Health Department (ACEHD) and/or the RWQCB have overseen these activities. (ACEHD and the RWQCB are discussed below as part of the Regulatory Framework section.)

In 1992, a diesel AST and associated piping located on the property leased by Keep-On-Trucking was determined to be the source of an unauthorized release of diesel into the Oakland Estuary. The storm drain acted as a conduit for migration of the product into the Estuary. Contaminated soils were removed in the vicinity of the AST and monitoring wells were installed to assess the groundwater quality. Floating product was observed on the groundwater table. Interim measures to remove the free product from the groundwater were put into place.

Lowney conducted environmental investigations at the Ninth Avenue Terminal on behalf of the project sponsor of the Oak to Ninth Project, Oakland Harbor Partners (OHP) in 2002 (Lowney, 2002a) The investigations included the completion of 27 borings (T-1 through T-27) to approximate depths between 8 and 17 feet. Lowney also collected soil and soil gas samples. Currently, the Port of Oakland conducts quarterly groundwater monitoring at the site under the supervision of the ACEHD.

In addition to the soil and groundwater investigations, the Port of Oakland has previously conducted asbestos surveys in Port owned buildings in the project area for tenant notification purposes. The results of the surveys indicate that asbestos was detected or assumed in various friable and non-friable materials including transite pipe, floor tile and adhesive, duct tape, drywall and joint compound, and wall texturing compound (Heinze, 2005).

Geology and Groundwater

Fill and Bay Mud are the two primary stratigraphic units that underlie the Ninth Avenue Terminal area. The fill soils beneath the Ninth Avenue Terminal extend up to as much as 25 feet below ground surface (bgs), but most of the site fills range from 2 to 7 feet bgs. The fill at the Ninth Avenue Terminal is underlain by up to almost 40 feet of Bay Mud (TRI, 2002), a soft, highly compressible, highly organic, silty clay. Beneath the Bay Mud is an alluvial soil formation, consisting of silts and clays and interbedded with silts and sands.

Two hydrologic units are defined beneath the Ninth Avenue Terminal: a shallow unconfined water bearing zone in the fill and a deeper, confined, water bearing zone below the Bay Mud.

Shallow groundwater is encountered at the Ninth Avenue Terminal, on average, approximately 5 feet bgs and range from approximately 1 foot bgs to 8 feet bgs. The majority of the area of the Ninth Avenue Terminal is currently paved, which limits surface water infiltration.

In general, local gradients in the shallow fill zone are complex and are likely influenced by vertical gradients, tidal fluctuations, and the presence of preferential pathways (*e.g.*, zones of more permeable material and major utility lines); however, shallow groundwater appears, under existing site conditions, to follow a radial flow pattern away from the recharge mound at the center of the Ninth Avenue Terminal property toward the edges of the Ninth Avenue Terminal.

The Bay Mud is approximately 30 feet thick and overlies the interbedded clay, silt, and alluvial silts and sands that extend to at least 120 feet bgs (the maximum cone penetrometer test (CPT) depth). Water-bearing zones are encountered in this deeper unit, but they appear to be of limited extent. The predominant, regional direction of the groundwater gradient follows the topography down towards the Oakland Estuary (Lowney, 2002a).

Chemicals of Concern

The potential chemicals of concern associated with the Ninth Avenue Terminal are discussed below.

- Total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) have been identified in soils over a large portion of the western area of the Ninth Avenue Terminal. Total petroleum hydrocarbons as gasoline (TPHg) has been identified to a more limited extent.
- Metals (primarily lead and copper) are present in localized hot spots.
- Polycyclic aromatic hydrocarbons (PAHs) are present in localized areas, typically associated with fuel releases.
- Polychlorinated biphenyls (PCBs) and pesticides have been detected in localized areas.
- Volatile organic compounds (VOCs), including trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), methylene chloride, and other chlorinated and non-chlorinated VOCs are present in a limited area in the central portion of the Ninth Avenue Terminal (Lowney, 2002a).

Chemicals of concern identified in soil vapors include TPH related compounds in limited areas, VOCs in limited areas, and methane and hydrogen sulfide (H_2S) over a large portion of the Ninth Avenue Terminal. The methane is likely present due to both degradation of hydrocarbons in soils and groundwater and naturally occurring sources including the Bay Mud. Significant methane is present in soil vapor in the area of the former ASTs on the western portion of the Ninth Avenue Terminal. H_2S is present likely due to naturally occurring sources such as organic rich muds and former shoreline areas that were filled.

The chemicals detected in shallow groundwater can be summarized as follows:

- TPH as diesel/motor oil is present in a large area on the western portion of the Ninth Avenue Terminal. Free phase diesel product has been observed on the groundwater table in certain monitoring wells (Fugro, 2004). TPH as gasoline (TPHg) is present to a more limited extent.

- VOCs (TCE, cis-1,2-DCE, methylene chloride, and other VOCs) have been present in a limited area in the central portion of the Ninth Avenue Terminal. Groundwater sampling conducted in the fall of 2004 did not indicate the presence of TCE or methylene chloride.

- Metals (barium, copper, and lead) have historically been present in isolated areas and more recent sampling has shown the presence of arsenic and barium in one of the onsite wells (Fugro, 2004).

- Semi-volatile organic compounds (SVOCs), PAHs, and pesticides are present in localized areas.

One groundwater monitoring well has been installed in the deeper confined groundwater zone. Analytical results from sampling conducted out of this well has shown no detections of the identified COCs in the shallow groundwater above (James, 2005).

In addition, Lowney conducted sediment sampling along the shoreline of the Terminal. A summary of the significant chemicals of concern that were detected are presented below.

- Metals exceeding residential ESLs and likely exceeding soluble hazardous waste concentrations were detected.

- PCBs were detected at concentrations that exceed residential ESLs.

- PAHs exceeding residential ESLs were detected.

901 Embarcadero Area

Investigations have been conducted on the 901 Embarcadero property by consultants employed by Praxair, a previous tenant at the property and a manufacturer of compressed gases. Based on the Lowney summary (Draft Remediation Investigation), investigations have included soil sampling and the installation and sampling of groundwater monitoring wells (Lowney,2002a). Available results from prior soil and groundwater investigations indicate the presence of TPHd, TPHg, and metals (mercury, copper, and manganese) exceeding applicable screening levels. In addition, there may be areas of high pH due to releases of carbide lime.

Praxair conducted demolition and closure activities in consultation with the Port and with oversight from ACEHD in late 2003. Additional environmental investigation and remediation was performed as part of these closure activities. The 901 Embarcadero property is currently awaiting closure of environmental issues by ACEHD.

Former Seabreeze Yacht Center Area – 280 Sixth Avenue

Environmental investigations have been conducted at the Seabreeze property since 1989. Regulatory oversight has been provided primarily by the ACEHD. Previous investigations performed by others on the Seabreeze property identified several environmental concerns. Lowney conducted an investigation on the Seabreeze property that included the installation and sampling of ten borings to approximate depths from 8 to 26 feet, collection of grab groundwater samples, collection of soil gas samples, and collection of twelve shoreline sediment samples. TPH-impacted soil and groundwater were detected in several areas of the property, including the Clinton Basin shoreline, areas surrounding the former power plant foundation, and areas surrounding the former intake and discharge tunnels (which have since been grouted and abandoned in place (James, 2005)). Isolated lead- and copper-impacted soil was detected. Lead and Copper in concentrations exceeding applicable screening levels were detected in shallow soils (0 to 3 feet), deeper soils (3 to 6 feet), and shoreline sediment samples (Lowney, 2002a). Copper was detected in groundwater samples in the central portion of the property.

A wetlands mitigation project is in progress on the southeast portion of the Seabreeze property near the former location of the above ground storage tank. The Port is conducting this wetlands project. Currently, the bulk of the mitigation project has been completed and is being monitored for a one year period.

The Port of Oakland has conducted some preliminary sampling and analysis of sediment within the Clinton Basin (Moffatt & Nichol, 2005). Based on this limited sampling, it was determined that the sediment within the basin if removed, may not be suitable for placement in San Francisco Bay, but some of which could potentially be used as a wetland foundation in marshland areas.

6th Avenue Area

The only investigation data available for properties in this area were the results of the Phase II investigations conducted by Lowney in 2002 on behalf of OHP. The Lowney investigations included six borings to approximate depths of 8 to 12 feet bgs, grab groundwater sampling, and soil vapor sampling. The results of these investigations indicate that lead and copper were detected in shallow soils (0 to 3 feet, bgs) at concentrations exceeding applicable screening levels and lead was detected from one sample that indicated the presence of likely soluble hazardous waste concentrations (Lowney, 2002a). PAHs were detected at concentrations of concern from the northeast corner near Embarcadero. TPH was detected at a concentration of concern in one shallow soil sample (0 to 4 feet, bgs) from the northeast corner near Embarcadero. Levels of methane gas were detected exceeding the lower explosive limit (“LEL”) of 5 percent in the southwestern corner, eastern area, and north corner of the 6th Avenue area.

Berkeley-Oakland Ready Mix (formerly Kaiser Sand and Gravel) Parcel Area

Lowney conducted investigations in the Berkeley-Oakland Ready Mix (BORM) Parcel area in 2002 on behalf of OHP. The Lowney investigations included 12 borings (K-7 through K-18) to approximate depths of 8 to 20 feet, bgs. Borings were drilled on the Golden State Diesel Marine property and on the accessible portions of the BORM property.

The results of these investigations indicate that lead and copper were detected in shallow soils (0 to 3 feet, bgs) at concentrations of concern in an area on the Golden State Diesel Marine property and in an area on the southeast portion of the parcel. PCBs were detected in shallow soils (0 to 2 feet, bgs) at concentrations of concern in one sample in the northeast area of the parcel. PAHs were detected in shallow soils (0 to 3 feet, bgs) at concentrations of concern in one sample from the central area of the parcel.

Pacific Dry Dock Yard II Area – 321 and 325 Embarcadero

Previous investigations performed by others on the Pacific Dry Dock parcel (Dry Dock) identified several potential environmental concerns. Lowney conducted an investigation on behalf of OHP in 2002. Lowney installed, sampled, and logged 17 borings to approximate depths of 4 to 16 feet. In addition, Lowney collected five shoreline sediment samples.

Four USTs were removed from the Dry Dock property in the 1990's. According to the available information, TPHd and PAHs were found at concentrations of concern around former locations of several of the USTs.

The results of the prior environmental investigations indicate that lead and copper were detected in shallow soils (0 to 3 feet, bgs) at concentrations of concern near a former UST and at the northern side of the former warehouse on the northeast corner of the property. PCBs were detected in shallow soils (0 to 2 feet, bgs) at concentrations of concern in the central portion of the parcel and along the northeast shoreline of the Lake Merritt Channel. PAHs were detected in shallow soils (0 to 3 feet, bgs) at concentrations of concern in one sample from the northeast corner of the parcel. PAHs were detected in soils (3 to 6 feet, bgs) at concentrations of concern in areas around the former USTs. TPH-impacted soil (0 to 4 feet, bgs) was detected at concentrations of concern in areas near the northeast corner of the parcel and in the central portion of the parcel. TPH-impacted soil was detected in soils (4 to 7 feet, bgs) at concentrations of concern around the former UST GF-12 and in areas on the northern portion of the parcel. TPH-impacted groundwater was encountered along the southern side of the parcel near the shoreline and was historically detected on the northern portion of the parcel. Chlorobenzene-impacted ground water (up to 2,200 parts-per-billion (ppb)) was detected on the northern portion of the parcel.

In August 1996, under an abatement order by the RWQCB, Crowley Marine Services (as the identified responsible party) removed approximately 720 tons of residual sandblast grit from three areas in the tidal zones. According to the *Sandblast Grit Removal Project Report*, dated February 1998, prepared by The Gauntlett Group, LLC for Crowley, the RWQCB approved the removal activities upon visual inspection.

Cash & Carry Area

Lowney conducted investigations in 2002 that included the installation and logging of 14 borings to approximate depths of 5 to 20 feet, bgs, collection of grab groundwater samples, collection of soil gas samples, and performance of a geophysical survey (Lowney, 2002a). Boring locations were selected to address potential areas of concern identified during Lowney's Phase I environmental site assessment and during previous soil quality evaluation around the Jack London Aquatic Center.

The results of the Lowney environmental investigations indicate that lead and copper were detected in soils (0 to 3 feet bgs) at concentrations of concern. PAHs were detected in shallow (0 to 2 feet bgs) and deeper soils (3 to 6 feet bgs) at concentrations of concern. TPH-impacted soils were identified in several areas. TPH-impacted groundwater was detected with floating hydrocarbon product (FHP). Lead was detected in groundwater at concentrations of concern. Concentrations of methane gas were detected exceeding the LEL of 5 percent. Two geophysical anomalies, possible USTs, were identified during geophysical survey.

Structural and Building Components

Asbestos

Asbestos is a naturally-occurring fibrous material that was used as a fireproofing and insulating agent in building construction before such uses were banned by the Environmental Protection Agency (EPA) in the 1970's, although some nonfriable[3] use of asbestos in roofing materials still exists. The presence of asbestos can be found in such materials as ducting insulation, wallboard, shingles, ceiling tiles, floor tiles, insulation, plaster, floor backing, and many other building materials. Asbestos and asbestos-containing materials (ASMs) are considered as both a hazardous air pollutant and as a human health hazard. The risk to human health is from inhalation of air born asbestos which commonly occurs when ASMs are disturbed during such activities as demolition and renovation. Due to the age of the buildings on the project site, it is very likely that ACMs are present.

Polychlorinated Biphenyls (PCBs)

PCBs are synthetic organic oils that were historically used in many types of electrical equipment, including transformers and capacitors, primarily as electrical insulators. Manufacture of PCBs was halted in 1977 due to the determination that PCBs build up in the environment and can cause adverse human health effects. PCBs bind strongly to soil and do not break down readily but rather remain in the environment for long periods of time.

PCBs were detected in shallow soil samples in the Ninth Avenue Terminal area, the Kaiser area, the Former Seabreeze Yacht Center area, and the Pacific Dry Dock area. The detections of PCBs in the subsurface indicates that PCBs may have been stored at the site and could potentially be encountered during demolition activities.

Lead and Lead-Based Paint

The presence of lead in soils above natural background levels can be a common occurrence in areas that were created by fill and in former industrial areas. Lead concentrations can also be

[3] Nonfriable asbestos refers to ACMs that contain asbestos fibers in a solid matrix that does not allow for them to be easily released.

elevated in fill materials similar to those that underlie portions of the project site because fill can originate from building and industrial rubble containing or affected by sources of lead such as piping, coatings, and other construction materials. Lead-based paint was common prior to 1978. The project site contains buildings with painted surfaces, such as drywall, ceilings, and exterior stucco, which could contain lead-based paint (LBP). It should also be noted that areas located adjacent to busy roadways or freeways can contain elevated lead in soils from times when lead additives were common in gasoline.

Underground Storage Tanks

As discussed above, the project site has had a long history of UST use. While some of these USTs have been removed and investigations of the potential impact to soil and groundwater have either been completed or are in progress, there is a potential for encountering previously unidentified USTs during construction activities. Commercial and industrial activities on the project site date back to times when record keeping for such matters as locations of USTs and UST removal practices (historically, it was not uncommon to abandon tanks in place) were not performed to today’s standards. In addition, the geophysical survey conducted in 2002 by Lowney Associates indicated the presence of suspected USTs.

Regulatory Framework

Hazardous Materials and Waste Handling

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

Throughout Alameda County, a Hazardous Materials Management Plan must be prepared and submitted to the County by businesses that use or store certain quantities of hazardous materials. The Federal Resource Conservation and Recovery Act of 1976 (RCRA) established a “cradle-to-grave” regulatory program for governing the generation, transportation, treatment, storage and disposal of hazardous waste. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as Federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous material waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Hazardous Materials Transportation

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

Soil and Groundwater Contamination

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

The project includes substantial environmental cleanup at the project site. The cleanup will be performed under the oversight of a lead oversight agency. DTSC is currently anticipated to serve as the lead agency pursuant to California Health & Safety Code 25395.60 et seq., the California Land Reuse and Revitalization Act (CLRRA). Under CLLRA, a project proponent, would enter into a contractual agreement with DTSC to complete an environmental assessment of the project site and to clean up the property in accordance with all applicable laws and regulations.

Under CLLRA, the environmental assessment of the site must include:

a) characterization of the hazardous materials released or threatened to be released at or from the site;

b) available information about the site;

c) a risk assessment, if appropriate, that evaluates the risk posed by any hazardous materials released or threatened to be released at or from the site;

d) information regarding "reasonably anticipated foreseeable uses of the site based on current and projected land use and zoning designations"; and

e) if the release has impacted groundwater, "reasonable characterization of underlying groundwater," including present and anticipated beneficial uses of the water.

For cleanup, CLLRA requires that the project proponent submit to the lead agency and agree to implement a response plan to clean up the property. The response plan must include:

a) identification of the releases or threatened releases at the site;

b) documentation that the plan is based on adequate characterization of the site;

c) identification of the response plan's objectives and the proposed remedy;

d) identification of the current and reasonably anticipated future land use of the site, including confirmation regarding such projections city or county in which the site it located;

e) a description of activities that will be used to control any endangerment that may occur during the response action;

f) a description of any land use control that is part of the response action;

g) a description of wastes other than hazardous materials at the site and how such wastes will be managed during the response action;

h) provisions for the removal of containment vessels and other sources of contamination, including soil and free product, that cause an unreasonable risk;

i) provisions for the agency to require further response actions based on the discovery of hazardous materials that pose an unreasonable risk to human health or the environment during the response action or subsequent development of the site; and

j) any other information required by the lead agency. Prior to approval by the lead agency or implementation by the project proponent, CLRRA further requires that, the response plan be subject to meaningful public notice and comment to permit the community and other state and local agencies to obtain information about and express their views regarding the proposed cleanup.

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

Worker Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the work place. The California Division of Occupational Safety and Health (Cal OSHA) and the federal Occupational Safety and Health Administration are the agencies responsible for assuring worker safety in the workplace.

Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. At sites known to be contaminated, a Site Safety Plan must be prepared to protect workers. The Site Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Emergency Response

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

Structural and Building Components

Asbestos

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

Polychlorinated Biphenyls (PCBs)

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

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

Lead and Lead-Based Paint

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

Underground Storage Tanks

State laws governing USTs specify requirements for permitting, monitoring, closure, and cleanup. Regulations set forth construction and monitoring standards for existing tanks, release reporting requirements, and closure requirements. Generally speaking, the ACEHD is the local agency designated to permit and inspect USTs and to implement applicable regulations. The ACDEH Local Oversight Program and the Oakland Fire Department also have regulatory authority for removal of USTs. A closure plan for each UST to be removed must be prepared and submitted to the County prior to tank removal. Upon approval of the UST closure plan by the County, the Oakland Fire Department would issue a permit for removal. The Oakland Fire Department Hazardous Materials Unit oversees the removal of USTs and the subsequent collection of subsurface soil samples beneath a removed UST.

Hazardous Materials Impacts Discussion

Introduction

Hazardous materials and hazardous wastes, if mishandled, could pose risks to the public. Potential health and safety impacts can stem from interactions of construction workers, the public and/or future occupants with hazardous materials and wastes encountered or generated during project construction activities or project operations.

Significance Criteria

A hazardous materials impact would be considered significant if it would result in any of the following, which are adapted from CEQA Guidelines, Appendix G, and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; or
- Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to hazardous materials and related effects, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Approach to the Analysis

This impact analysis focused on potential effects of hazardous materials or waste associated with the project site. The evaluation was made in light of project plans, current conditions at the project site, applicable regulations and guidelines, and previous environmental site assessments.

Project Construction Impacts

Impact H.1: Disturbance and release of contaminated soil during remediation, demolition and construction phases of the project, or transportation of excavated material, contaminated groundwater or dredged sediment could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling. (Potentially Significant)

***Contaminated Soils and Groundwater*:** Excavation for installation of project-related utilities, building footings, and regrading would occur at the project site. Soil disturbance at the project site during construction could further disperse existing contamination into the environment and expose construction workers or the public to contaminants.

If significant levels of hazardous materials in excavated soils should go undetected, health and safety risks to workers and the public could occur. Exposure to hazardous materials could cause various short-term and/or long-term health effects. Possible health effects could be acute (immediate, or of short-term severity), chronic (long-term, recurring, or resulting from repeated exposure), or both. Acute effects, often resulting from a single exposure, could result in a range of effects from minor to major, such as nausea, vomiting, headache, dizziness, or burns. Chronic exposure could result in systemic damage or damage to organs, such as the lungs, liver, or kidneys. Health effects would be specific to each hazardous material.

The results of the soil and groundwater investigations indicate that existing soil and groundwater quality at portions of the project site has the potential to cause risks to human health and ecological receptors. Concentrations of a variety of constituents including petroleum hydrocarbons, metals (including lead), PCBs, PAHs, VOCs, methane gas, and arsenic, were above either the ESLs[4] developed and assembled by the RWQCB, the City of Oakland-specific ESLs, or STLC and TTLC levels established by DTSC for hazardous waste classification (Lowney, 2002a).

Contaminated soil requiring offsite disposal could be generated from the project either as part of excavation activities associated with the construction or potentially as part of remediation activities (discussed below).

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4 ESLs are used to assess exposures of contaminants to buildings and occupants. Risk factors may be linked to an increase risk of an adverse health effect from an adverse building condition. Formerly known as Risk-Based Screening Levels (RBSLs).

Dredging. The proposed project includes providing adequate water depth for berthing within the Clinton Basin. Based on a 2002 hydrograph survey, the project would require removal of approximately 20,000 cubic yards of sediment. Preliminary sampling indicates that some of the sediment would be classified as a hazardous waste and require disposal at a Class I hazardous waste facility.

Grading and Utilities. Given the contaminated soil and groundwater conditions on the project site, proposed street grades would be elevated approximately three feet above existing grade to allow for excavation and placement of EBMUD water utility lines above the groundwater table. Building pads would be approximately 1.0 to 1.5 feet above the finished street elevations to allow building pads to drain to streets. New open spaces will generally vary from existing grades to approximately 5 feet above existing grades. EBMUD indicates that it will not install pipeline in contaminated soil or groundwater that meets hazardous waste criteria, that may be hazardous to the health and safety of construction or maintenance personnel, or that exceed specified limits for discharge to sanitary sewer systems of treatment plants. As EBMUD requires, the project sponsor would submit all necessary soil and groundwater quality reports and remediation plans to EBMUD prior to EBMUD's design or installation of pipeline on the project site. Additionally, since removal of all contaminated soils prior to construction activities would be prohibitive, the project proposes to excavate a utility trench for EBMUD utilities that will be backfilled with clean, imported material. The trench will allow required separation between the domestic and reclaimed water lines and laterals for fire hydrants and building services. Other deeper gravity utility lines (not regulated by EBMUD) may extend into Bay Mud and below groundwater level, with each such line installed with trench cutoff walls to control migration of potentially contaminated groundwater into the permeable backfill around utility pipes.

Mitigation Measure H.1a: The applicant shall retain a qualified environmental consulting firm to prepare a cleanup plan for the contaminated soil and groundwater which would be based on a comprehensive remedial investigation report for the project area. This plan shall be approved by the appropriate regulatory agencies which may include but not be limited to the DTSC and the RWQCB. The plan shall also include the preparation of a health and safety plan to protect the workers and the public during all remediation and construction activities proposed. Following agency approval of the plan, remediation and removal work shall be conducted according to all applicable OSHA worker safety regulations. Remediation activities at the site may include, without limitation, closure or removal of subsurface structures, excavation and disposal of contaminated materials, natural and enhanced bioremediation of soil and groundwater, restoration and improvement of shoreline structures, limited dredging of sediments, and institutional and engineering controls to prevent exposure to and migration of contaminated materials. Throughout the course of remediation and construction activities, the handling, transport, and storage of any hazardous waste or potentially hazardous waste shall be conducted appropriate to all local and state agency protocols.

Mitigation Measure H.1b: Prior to offsite disposal, the project applicant shall adequately profile excavated soils to establish the proper classification of the soils for hazardous or

non-hazardous waste disposal. The soils shall be handled, stored and transported according to all applicable regulations for the appropriate classification.

Mitigation Measure H.1c: Soil generated by construction activities shall be stockpiled onsite and sampled prior to reuse or disposal at an appropriate facility. Any reuse of soils shall be conducted by prior approval from the appropriate state oversight agency.

Mitigation Measure H.1d: Groundwater generated during construction dewatering shall be contained and transported offsite for disposal at an appropriate facility, or treated, if necessary, prior to discharge into the sanitary sewer to levels acceptable to the East Bay Municipal Utilities District.

Mitigation Measure H.1.e: Prior to dredging any materials from the Clinton Basin, the project applicant shall retain a qualified environmental consulting firm to prepare a Sampling and Analysis Plan (SAP) as described by the Corps of Engineers (PN 99-4). The SAP shall be approved by the Dredged Material Management Office (DMMO) and shall include a proposal for a disposal location and a disposal alternatives analysis. Following agency approval of the plan, sediment removal work shall be conducted in accordance with all applicable OSHA worker safety regulations. In addition, the handling, transport, and storage of any hazardous waste or potentially hazardous waste shall be conducted consistent with all local and state agency protocols.

Significance after Mitigation: Less than Significant.

Impact H.2: Disturbance and release of hazardous structural and building components (i.e. asbestos, lead, PCBs, USTs, and ASTs) during demolition and construction phases of the project or transport of these materials could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling. (Potentially Significant)

As discussed above, some of the existing buildings at the project site may contain asbestos, lead-based paint, and/or PCBs.

Asbestos

Asbestos could be encountered during structural demolition of the existing buildings and may require containment and disposal. A non-destructive survey for ACMs was completed for the Port of Oakland owned buildings in the project area for the purposes of tenant notification. A thorough ACM survey would have to be done for destruction purposes, however asbestos was detected in various building materials. Affected buildings would need appropriate abatement of identified asbestos prior to demolition or renovation. Asbestos-containing material is regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal-OSHA. The renovation or demolition of buildings containing asbestos would require retaining contractors who are licensed to conduct asbestos abatement work and notifying the Bay Area Air Quality Management District (BAAQMD) ten days prior to initiating construction and demolition activities.

Section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work.

Potential exposure to asbestos, and its related chronic adverse health effects, is possible throughout demolition and renovation if materials that contain asbestos are present during operations.

Lead and Lead-based Paint

Lead-based paint could be separated from building materials during the demolition process. Separated paint can be classified as a hazardous waste if the lead content exceeds 1,000 parts per million and would need to be disposed of accordingly. Additionally, lead-based paint chips can pose a hazard to workers and adjacent sensitive land uses. Both the Federal and California OSHAs regulate all worker exposure during construction activities that impact lead-based paint. Interim Final Rule found in 29 CFR Part 1926.62 covers construction work where employees may be exposed to lead during such activities as demolitions, removal, surface preparation for re-painting, renovation, clean up and routine maintenance. The OSHA-specified method of compliance includes respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance, training, etc.

Demolition and renovation work could create exposure to lead-based paint present in building structures. Dust generating activities that include removal of walls, sanding, welding, and material disposal could produce airborne quantities of lead-laden material. These materials could expose workers and persons in close proximity, including occupants of offsite locations. The project site contains buildings with painted surfaces, such as drywall, ceilings, and exterior stucco, which could contain lead-based paint (LBP). The project site is also underlain by artificial fill, which could contain lead. This is a significant impact of the project.

PCB-containing Materials

The presence of PCB-containing materials may be present within the existing structures on the project site. The detection of significant concentrations of PCBs indicates the former use and/or storage of PCBs at the project site. Demolition of these structures could disturb these materials and expose workers or the public to adverse effects. Similar to the concerns of ACM, an initial survey to determine the presence of PCBs would need to be conducted for the project site followed by implementation of appropriate measures to handle any materials with PCBs.

Underground Storage Tanks

There are both documented USTs and physical evidence indicating the potential presence of undocumented USTs on the project site. Prior to UST regulations that were established in the 1980's, USTs were commonly installed without any documented record. Therefore, additional undocumented USTs may be encountered during demolition and grading activities. If encountered, an older UST could expose the workers or public to adverse effects. This would be a significant impact.

The following mitigation measures address the potential impacts for the various structural and building components described above.

Mitigation Measure H.2a: A pre-demolition ACM survey shall be performed by a state-certified asbestos consultant prior to demolition of any of the structures located on the project site. The survey shall include sampling and analysis of suspected ACMs. Abatement of known or suspected ACMs shall occur prior to demolition or construction activities that would disturb those materials. Pursuant to an asbestos abatement plan developed by a state-certified asbestos consultant and approved by the City, all ACMs shall be removed and appropriately disposed of by a state certified asbestos contractor.

Mitigation Measure H.2b: The project applicant shall implement a lead-based paint abatement plan, prepared by a qualified consultant, which shall include the following components:

- **A pre-demolition LBP survey for all structures proposed for demolition at the project site. The survey shall include sampling and identification of suspected materials containing LBP.**
- **Development of an abatement specification plan which shall be based on survey work and detail proposed abatement work areas and procedures.**
- **A site Health and Safety Plan,.**
- **Containment of all abatement work areas to prohibit offsite migration of paint chip debris.**
- **Removal of all peeling and stratified lead-based paint on building surfaces and on non-building surfaces to the degree necessary to safely and properly complete demolition activities per the recommendations of the survey. The demolition contractor shall be identified as responsible for properly containing and disposing of intact lead-based paint on all equipment to be cut and/or removed during the demolition.**
- **Appropriately remove paint chips by vacuum or other approved method.**
- **Collection, segregation, and profiling waste for disposal determination.**

- **Appropriate disposal of all hazardous and non-hazardous waste.**

- **Mitigation Measure H.2c: A pre-demolition PCB survey shall be performed prior to demolition of any of the structures located on the project site. The survey shall include sampling and identification of suspected PCBs. Abatement of known or suspected PCBs shall occur prior to demolition or construction activities that would disturb those materials. In the event that electrical equipment or other PCB-containing materials are identified prior to demolition activities they shall be removed, and shall be disposed of by a licensed transportation and disposal contractor at an appropriate hazardous waste facility.**

- **Mitigation Measure H.2d: When known or previously unidentified USTs are encountered during construction, construction in the immediate area shall cease until the UST is removed with oversight from the City of Oakland Fire Department Hazardous Materials Unit or other applicable oversight agency. If there is any indication that the tank has leaked, then the lead agency shall direct any appropriate remediation measures. Removal of the UST shall include, to the extent deemed necessary by the lead agency, over-excavation and disposal of any impacted soil that may be associated with such tanks to a degree satisfactory to the oversight agency.**

Significance after Mitigation: Less than Significant.

Impact H.3: Hazardous materials used onsite during construction activities (i.e. solvents) could be released to the environment through improper handling or storage. (Potentially Significant)

Construction activities would require the use of certain hazardous materials such as fuels, oils, solvents, and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact soil, surface waters, or groundwater quality. However, the onsite storage and/or use of quantities of materials capable of significantly impacting soil and groundwater are not typically required for a project of the proposed size and type.

Mitigation Measure H.3: The use of construction best management practices shall be implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

- **Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction;**

- **Avoid overtopping construction equipment fuel gas tanks;**

- **During routine maintenance of construction equipment, properly contain and remove grease and oils.**

- **Properly dispose of discarded containers of fuels and other chemicals.**

Significance after Mitigation: Less than Significant

Project Operations Impacts

Impact H.4: Project operations would generate and involve the handling of general commercial/retail and household hazardous waste in small quantities, and therefore would not cause an adverse effect on the environment. (Less than Significant)

The project proposes to redevelop a maritime and industrial area on the Oakland Estuary into a mixed-use neighborhood with residential, commercial/retail, open space, and marina uses. The majority of existing commercial and industrial uses in the project area would be demolished to accommodate the project. Commercial/retail and building support activities would use hazardous chemicals common in other commercial/retail and support settings. These chemicals would include familiar materials such as toners, correction fluid, paints, lubricants, kitchen and restroom cleaners, pesticides and other maintenance materials. These common consumer products would be used for the same purposes as in any commercial/retail or support setting. Because general commercial/retail and household hazardous materials are generally handled and transported in small quantities and because the health effects associated with them are generally not as serious as industrial uses, implementation of the project would not cause an adverse effect on the environment with respect to the use, storage, or disposal of general office and household hazardous materials generated from proposed office and support building uses. In fact, in general the project would likely result in an overall decrease in the use, storage and disposal of hazardous materials and wastes and therefore the impact would be considered less than significant.

Mitigation: None Required.

Impact H.5: The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The project site is not within a quarter mile of any school. La Escuelita Elementary School is located at 1100 3rd Avenue, two-thirds of a mile to the north from the project site. Franklin Elementary School is located at 915 Foothill Boulevard, approximately 1.4 miles northeast of the project site. Oakland High School located at 1023 MacArthur Boulevard, approximately two miles from the project site. Laney College campus is about one-half mile to the northwest of the project site. Therefore, the operational practices of the project would not impact any nearby schools.

Mitigation: None Required.

Impact H.6: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

The project would result in an increased resident, employee and visitor population in the project area. Potential project impacts related to emergency vehicle access is discussed in Section IV.B, Traffic, Transportation, Circulation and Parking. Potential impacts related the provision of emergency police and fire (including hazmat) services to the project site is discussed in Section IV.L, Public Services and Recreation. Overall, the project would not impede an emergency access route and would continue to maintain the existing city grid system. Additionally, the project would not result in permanent road closures, and therefore, would not physically interfere with emergency response or evacuation plans. In addition, construction activities that would result in temporary road closures would include traffic control plans to ensure emergency vehicle access and therefore would not cause an impact.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

As discussed above, the project would result in potentially significant project-level hazardous material impacts related to construction and remediation activities. Hazardous material impacts typically occur in a local or site-specific context versus a cumulative context combined with other development projects. It is possible, however for combined effects of transporting and disposal of hazardous materials to be affected by cumulative development. Project vicinity (per the Oakland Cumulative Growth Scenario as refined for this EIR) was used as context for assessing cumulative impacts on the transporting and disposal of hazardous materials.

Hazardous Materials Cumulative Impacts

Impact H.7: Development proposed as part of the project, when combined with other foreseeable development in the vicinity, would not result in cumulative hazardous materials impacts. (Cumulative Impact: Less than Significant)

The project development, with implementation of the identified mitigation measures above, would have a less than significant hazardous materials impact to the public or the environment within the vicinity of the project area. Other foreseeable development within the area, although likely increasing the potential to disturb existing contamination and the handling of hazardous materials, would be required to comply with the same regulatory framework as the project. This includes federal and state regulatory requirements for transporting (Cal EPA and Caltrans) hazardous materials or cargo (including fuel and other materials used in all motor vehicles) on public roads or disposing of hazardous materials (Cal EPA, DTSC, ACEHD). Therefore, the effect of the project on hazardous materials, in combination with other foreseeable projects, would not be significant.

References – Hazardous Materials

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I. Biological Resources/Wetlands

This section describes 1) the environmental setting of the project site, with respect to its proximity to existing wetlands and tidelands, the shoreline of Lake Merritt Channel and the Inner Harbor of the Oakland Estuary, and Bay waters; 2) applicable federal, state, and, local laws and policies protecting biological resources; 3) potential impacts of the project; and 4) appropriate mitigation measures when necessary.

Setting

Regional Setting

The climate in the San Francisco Bay region is considered "Mediterranean," with cool, wet winters and hot dry summers. The majority of rainfall in this region occurs between November and March. The Oakland Estuary and surrounding inland areas are subject to microclimate conditions with temperatures being cooler toward the Bay and hotter inland, especially during the summer months. Climatic conditions within the San Francisco Bay area produce unusual biological conditions that create unique habitats for a variety of species.

The project site is located in the Oakland Estuary, which is part of the larger San Francisco Bay-Delta. The San Francisco Bay-Delta Estuary is the largest estuarine system on the West Coast of the United States. It drains over 40 percent of California's land and includes the waters of San Francisco Bay, San Pablo Bay, Suisun Bay, and the Sacramento-San Joaquin Delta (Goals Project, 1999).

The Oakland Estuary is an immensely productive ecosystem that supports a diverse community of plant, animal, and aquatic life. Half of the birds migrating along the Pacific Flyway use the estuary's wetlands for wintering. Pintails, canvasbacks, widgeons, and other waterfowl breed in the area, and in certain seasons the estuary's mudflats and saltflats support more than one million shorebirds.

As part of this system of interconnected water bodies and harbors, the Inner Harbor of the Oakland Estuary is narrow and separates the inland areas of Oakland from the island of Alameda. The Lake Merritt Channel connects the Inner Harbor with Lake Merritt and the Clinton and Brooklyn Basins. The Oakland Inner Harbor, the Lake Merritt Channel, and the two basins create much of the project site's shoreline.

Project Site Location and Description

Historically, the Oakland Estuary was a tidal slough that originated in a vast marsh that stretched from Lake Merritt to Brooklyn Basin. Most of the baylands in the Oakland Estuary were flat, tidal wetlands fringed by sandy beaches or open bay (Goals Project, 1999). At the turn of the century, the estuary was dredged, separating Oakland from Alameda and forming the Oakland Estuary as it is today. The area that is now referred to as the "Oak-to-Ninth District" (the project site and an additional nearly 40 acres located north of the Embarcadero). was predominantly tidal marsh and tidal mudflats with the Oakland Estuary extending east of the site.

The project site is currently a complex of roads, older mixed use development, industrial and commercial buildings constructed since the 1950s, and some vacant and ruderal (weedy) lots. Operations at the site include are primarily industrial and commercial services, such as concrete batch operations (Kaiser Sand and Gravel, Inc./Oakland-Berkeley Ready Mix), wholesale commercial warehouses, and bulk storage at the Ninth Avenue Terminal. Historically, this portion of the estuary waterfront primarily served as an industrial and warehousing support district, oriented to and served by the Union Pacific main line rail tracks and cargo handling facilities at the Ninth Avenue Terminal. Currently, the site is still primarily characterized by industrial use and dominated by warehousing/storage, manufacturing, distribution, and transportation activities. Although there are marine-related services on the site, historic waterfront industries have declined, and many waterfront properties have been converted to work-live uses and commercial uses within underused warehouse and industrial buildings.

Ground cover on the project site varies from pavement and rubble to relict landscaping. Although some natural characteristics still exist along the waterfront, they occur in small patches and are usually the result of abandoned properties or developments. The effects of abandonment, Bay fill, human-induced disturbance, and historical uses have made the project site very ruderal in nature and dominated by non-native vegetation. The native vegetation that does exist is found on soils clearly derived from fill, with concrete and asphalt visible in places. The exception is the Clinton Basin Wetland Restoration and Enhancement Project (implemented by the Port of Oakland and RWQCB in 2002) at the southwest edge of the mouth of Clinton Basin that consists of a sandy shoreline marsh zones and transitional areas for wildlife habitat. The project site is located approximately 3 miles north of natural and restored wetlands at Martin Luther King Jr. Regional Shoreline Park and San Leandro Bay.

Much of the development along the Bay front occupies Bay fill material. Placement of this fill material has resulted in the loss of tidal wetlands and marshes. Edges of the Bay front have been altered through riprapping, Bay fill, and other hard surfaces, thereby reducing the tidal ebb and flow through these reclaimed marshlands. The project site contains upland areas and pile-supported piers, and other in-water structures associated with upgraded marinas will protrude into the estuary.

Regulatory Framework

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533(c)). Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federal listed threatened or endangered species may be present in the project area and determine whether the proposed project may affect such species. In addition, the agency is required consult with the U.S. Fish and Wildlife Service (USFWS) to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536(3), (4)). Therefore, project impacts on listed or candidate species or their habitats would be considered "significant" in this EIR.

The USFWS also publishes a list of candidate species for listing and "Species of Concern."[1] Species on this list receive special attention from federal agencies during environmental review, although they are not otherwise protected under FESA. The candidate species are taxa which the USFWS has sufficient biological information to consider listing as Endangered or Threatened.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Game (CDFG) maintains a list of threatened species and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of "candidate species," which are species that the CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of "Species of Special Concern" which are roughly analogous to the federal Species of Concern described above. Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may affect a candidate species. Project impacts on species on the CESA endangered list or threatened list would be considered significant in this Environmental Impact Report (EIR). Impacts on Species of Special Concern would be considered significant under certain circumstances, as discussed in this section of the EIR.

Regulation of Wetlands and Other Waters

The regulations and policies of various federal agencies (e.g., U.S. Army Corps of Engineers [Corps]), U.S. Environmental Protection Agency [EPA] and USFWS) mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives (to filling wetlands) exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands on the project site under statutory authority of the Rivers and Harbors Act (Sections 9 and 10) and the Clean Water Act (Section 404).

Pursuant to Section 10 of the Rivers and Harbors Act, the Corps regulates the construction of structures in, over, or under, excavation of material from, or deposition of material into navigable waters. In tidal areas, the limit of navigable water is the mean high tide line; in non-tidal waters it is the ordinary high water mark (OHWM). Larger streams, rivers, lakes, bays, and oceans are

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1 "Species of Concern," "Species of Special Concern" and "special-status" species are terms-of-art used to describe the entire realm of taxa whose conservation status may be of concern for the USFWS or other resource agencies.. Project impacts on such species could, on a case-by-case basis, be considered "significant" in this EIR.

examples of navigable waters regulated under Section 10 of the Rivers and Harbors Act. Historically navigable waters are also subject to federal regulation. Historically navigable waters are those areas that are no longer navigable as a result of artificial modifications, such as levees, dikes and dams.

Section 404 of the federal Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the U.S., including wetlands, without a permit from the Corps. The CWA prohibits the discharge of any pollutant without a permit. Implicit in the CWA definition of "pollutant" is the inclusion of dredged or fill material regulated by Section 404 (22 USC 1362). The discharge of dredge or fill material typically means adding into waters of the U.S. materials such as concrete, dirt, rock, pilings, or side cast material that are for the purpose of replacing an aquatic area with dry land or raising the elevation of an aquatic area (Cylinder, et al. 2004). Activities typically regulated under Section 404 include the use of construction equipment such as bulldozers, and the leveling or grading of sites where jurisdictional waters occur.

The State's authority in regulating activities in wetlands and waters at the site resides primarily with the State Water Resources Control Board (SWRCB). The SWRCB, acting through the San Francisco Regional Water Quality Control Board (RWQCB), must certify that a Corps permit action meets State water quality objectives (Section 401, Clean Water Act). Any condition of water quality certification is then incorporated into the Corps Section 404 permit authorized for the project.

The SWRCB and RWQCB also have jurisdiction over waters of the state under the Porter-Cologne Water Quality Control Act (Porter-Cologne). This jurisdiction includes waters the Corps deems to be isolated or non-jurisdictional under Section 404 under *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC). The SWRCB and RWQCB authorize impacts on waters of the state by issuing Waste Discharge Requirements (WDR) or in some cases, a waiver of WDR.

The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over coastal activities occurring within the San Francisco Bay Area and Suisun Marsh. BCDC was created by the McAteer-Petris Act in 1965. BCDC regulates filling and dredging in the San Francisco Bay including San Pablo Bay, Suisun Bay and sloughs, and certain creeks and tributaries that are part of the Bay system. BCDC also has jurisdiction over a 100-foot shoreline band surrounding the Bay that extends from the mean high tide line inland. The Coastal Zone Management Act of 1972 (CZMA) requires that all applicants for federal permits and federal agency sponsors obtain certification from the state's approved coastal program that the proposed project is consistent with the state's program. In the San Francisco Bay, BCDC is charged with making this consistency determination

The CDFG has jurisdiction over certain aquatic resources and associated riparian habitats under California Fish and Game Code Sections 1600-1616 for Lake and Streambed Alteration Agreements. Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify the CDFG before beginning any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

CEQA Guidelines Section 15380

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

Other Statues, Codes, and Policies Affording Limited Species Protection

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act applies to whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the California Fish and Game Code (Section 3503.5, 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG. Any loss of fertile eggs or nesting raptors, or any activities resulting in nest abandonment, would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, burrowing owls, and other birds of prey. Project impacts on these species would not be considered "significant" in this EIR unless the species are known or have a high potential to nest on the site or rely on it for primary foraging.

Bald Eagle Protection Act

The federal Bald Eagle Protection Act prohibits persons within the United States (or places subject to U.S. jurisdiction) from "possessing, selling, purchasing, offering to sell, transporting, exporting or importing any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof."

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) of 1976 applies to fisheries resources and fishing activities in federal waters that extend to 200 miles offshore. Conservation and management of U.S. fisheries, development of domestic fisheries, and phasing out of foreign fishing activities are the main objectives of the legislation. When the MSFCMA was amended in 1996 to include habitat conservation issues, the designation of "Essential Fish Habitat" (EFH) was created. EFH is broadly defined by the MSFCMA as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 establishes a federal responsibility for the protection and conservation of marine mammal species by prohibiting the harassment, hunting, capture, or killing of any marine mammal. The primary authority for implementing the act belongs to the USFWS and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS).

California Plant Conservation Program

The legal framework and authority for the state's program to conserve plants is derived from various legislative sources, including CESA, the California Native Plant Protection Act (Fish and Game Code Sections 1900-1913), the CEQA Guidelines, and the Natural Communities Conservation Planning Act.

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS) (Skinner and Pavlik, 1995), but which may have no designated status or protection under federal or state endangered species legislation, are defined as follows:

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

In general, plants appearing on CNPS List 1A, 1B, or 2 are considered to meet the criteria of Section 15380 of the CEQA Guidelines, and effects on these species are considered "significant" in this EIR. Additionally, plants listed on CNPS List 1A, 1B or List 2 meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code.

City of Oakland Regulations

Tree Preservation and Removal Ordinance

This City ordinance (Oakland Municipal Code Chapter 12.36) requires a permit for removal of protected trees. A permit is also required if work might damage or destroy a protected tree. A "protected tree" is a coast live oak four inches or larger in diameter measured four-and-a-half feet above the ground (diameter at breast height), or any other species nine inches in diameter or larger at breast height, except eucalyptus and Monterey pine trees. Tree permits are reviewed and approved by the Public Works Agency. Tree planting plans are approved by the Tree Services Department of the Office of Parks and Recreation.

Creek Protection, Stormwater Management and Discharge Control Ordinance

Oakland updated its stormwater ordinance in 1997 to provide new and stronger provisions to safeguard and manage creeks. The ordinance is now called the Creek Protection, Stormwater Management and Discharge Control Ordinance and includes permitting guidelines for development and construction projects taking place on a creekside property.

Biological Resources At or Near the Project Site

The following describes the methods employed to identify biological resources on the project site and in the larger area, as appropriate, and discusses the findings in four categories: natural communities, wildlife habitats, wetlands, and special-status species.

Methods

The CDFG's California Natural Diversity Data Base (CNDDB, 2004) and the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California were reviewed for special-status species located within the U.S. Geological Survey Oakland West, San Quentin, Richmond, Briones Valley, San Francisco West, Oakland East, San Francisco South, Hunters Point, and San Leandro 7.5-minute quadrangles. For this assessment, habitat requirements for special-status species were evaluated and compared to habitats present in the project vicinity, including locations outside the project site. Factors such as habitat quality and species distribution were considered to evaluate the likelihood of special-status species occurrence. ESA biologists conducted reconnaissance-level surveys in the spring and fall of 2004 to inventory biological resources present at the site and identify habitats with potential to support special-status species. In addition, existing habitat and shoreline types were identified and delineated on maps of the study area.

LSA Associates, Inc. (LSA) conducted additional field surveys in 2004. Reconnaissance-level field surveys were conducted to identify biological resources and potentially jurisdictional features. Surveys were conducted by boat and on foot throughout the project area. An LSA wetland specialist identified potentially jurisdictional features along the shoreline and within the interior of the project area. An LSA wildlife biologist conducted land-based surveys to identify sensitive habitats along the shoreline and within the interior of the project site. Results of these surveys were presented in a report entitled *Biological Resources and Jurisdictional Areas, Oak to Ninth Project, Oakland, California* (LSA, 2004).

Natural Communities

Habitat in and around the project site can be characterized as aquatic or terrestrial. Terrestrial habitat is limited to non-native grasslands and small patches of weeds and other disturbance-adapted vegetation that grow upon the breakwaters and near site buildings. Aquatic habitat at the project site includes open waters along with "artificial reef" substrate, which is made up of pilings, dock structures, and breakwater rubble. The aquatic habitat is capable of supporting a variety of organisms ranging from open water and inshore species of fish and marine mammals to marine plants, animals, and invertebrates that use the "artificial reef" substrate created by existing pilings, dock structures, and breakwater rubble along the shoreline.

Vegetation on the project site consists of the following:

Non-Native Grassland/Ruderal Vegetation

The majority of the terrestrial plant species on the project site is comprised of a low diversity of non-native ruderal vegetation. The surrounding basins and shoreline have been completely altered by filling and development, limiting the diversity of aquatic plants found at the project site. Vegetation in the open lot areas, primarily near and adjacent to Clinton Basin, consists of a mixture of annual grasses, herbs, and turf grass. Small patches of ice plant (*Carpobrotus chilensis*), Henderson's angelica (*Angelica hendersonii*), seashore lupine (*Lupinus littoralis*), and other disturbance-adapted vegetation occur on top of the paved and dirt areas of the outer and inner breakwater structures.

Marsh Vegetation

Patches of marsh vegetation are found within the areas of riprap along the shoreline and in larger patches west of the Clinton Basin. The dominant species include pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), and dense-flowered cord grass (*Spartina densiflora*), which are found among the riprap at Estuary Park and in the remaining soft edges of Clinton Basin. There is a sparse distribution of Pickleweed throughout the project site, and no contiguous stands were observed during the site surveys conducted between fall 2004 and spring 2005.

Open Water (Marine) Vegetation

The open water areas within Clinton Basin and at the edge of the project site provide habitat for marine vegetation including patches of sea lettuce (*Ulva sp*.), brown alga (*Porphyra sp*.), and red alga (*Fauchea* sp.) covering pilings and breakwater structures up to the Mean Low Water (MLW) level.[2]

[2] Mean Low Water (MLW) level refers to the average low tidal levels for the previous 19 years.

Wildlife Habitats

Due to the urban setting of the project site and the lack of terrestrial and aquatic vegetation for food and cover, habitat value for other terrestrial wildlife species is limited. Species that would use the project area are those adapted to the urban environment and human disturbance.

The project site has the potential for limited terrestrial wildlife use by pocket gopher (*Thomomys bottae*), California voles (*Microtus californicus*), and ground squirrel (*Spermophyllus beecheyi*). Red-tailed hawks (*Buteo jamaicensis*) may forage on the site and, when the site is wet, great blue herons (*Ardea berodias*), great egrets (*Casmerodius albus*), and snowy egrets (*Egretta thula*) may occasionally use the site. Ornamental plants provide some habitat for birds adapted to urban environments, including northern mockingbird (*Mimulus polyglottos*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), mourning dove (*Zenaida macroura*), rock dove, house sparrow, and house finch. Due to the presence of public facilities (boat dock, outdoor seating) at the Jack London Aquatic Center/Estuary Park, several gull species may be found foraging at the site, including California gull (*Larus californicus*), western gull (*Larus occidentalis*), glaucous-winged gull (*Larus glaucescens*), and herring gull (*Larus argentatus*). The potential also exists for certain bat species to use older or abandoned buildings for roosting and nesting structures.

The open waters of San Francisco Bay provide habitat for large numbers of birds that migrate along the Pacific Flyway. Most of these birds use offshore Bay waters for resting, feeding, and wintering areas. The Oakland Estuary and associated waterfront are used by water and shorebirds such as mallard duck (*Anas platyrhynchos*), California gull (*Larus californicus*), brown pelican (*Pelecanus occidentalis*), common loon (*Gavia immer*), western grebe (*Aechmophprus occidentalis*), cormorant (*Phalacrocorax* sp.), black-crowned night heron (*Nycticorax nycticorax*), and great egret (*Casmerodius albus*), though these species do not nest in the local vicinity. Resident bird species in upland areas near the Oakland Estuary are typically urban-adapted and include rock dove (*Columba livia*), house sparrow (*Carpodacus mexicanus*), and European starling (*Sturnella neglecta*). The killdeer (*Charadrius vociferous*), a common ground-nesting plover, may nest in barren areas along the shoreline.

Marine mammals associated with the aquatic habitat in both the Oakland Estuary and San Francisco Bay include the harbor seal (*Phoca vitulina*) and the California sea lion (*Zalophus californianus*). Both species can be found foraging close to the shoreline and marina structures, and may be present at certain times in the Oakland Inner Harbor.

The “artificial reef” substrate likely harbors marine invertebrates such as the Bay mussel (*Mystiques edulis*), California mussel (*Mytilus californianus*), red barnacle (*Tetraclita squamosa rubescens*), red and white barnacles (*Megabalanus californianus*), hydroids (*Obelia* sp.), tunicates (*Styela* sp.), and rock crabs (*Pachygrapsus crassipes*) (Smith and Carlton, 1975). Some common marine fish that occur in Bay waters near the project area include pile perch (*Rhacochilus vacca*), barred surfperch (*Amphistichus argenteus*), topsmelt (*Atherinops affinis*), whitebait (*Allosemerus elongates*), striped bass (*Morone saxatilis*), pacific halibut (*Hippoglossus stenolepis*), and speckled sanddab (*Citharichthys sigmaeus*). An assortment of sharks, rays, and skates such as the leopard shark (*Triakis semifasciata*), spiny dogfish (*Squalus acanthias*), bat ray (*Myliobatis californica*), California skate (*Raja inornata*), and big skate (*Raja binoculata*) are likely to be found forging along the Bay floor and breakwater rubble (Gotshall, 1989).

Wetlands

Wetlands are lands where saturation with water is the dominant factor in determining the nature of soil development and the types of plants and animal communities living in the soil and on its surface (Cowardin, 1979). Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased as a result of their value as recharge areas and filters for water supplies and widespread filling and destruction to enable urban and agricultural development.

Clean Water Act Sections 404 and 401 Wetland Definition

Wetlands are a subset of “waters of the United States” and receive protection under Sections 404 and 401 of the Clean Water Act (CWA). The term "waters of the United States" as defined in Code of Federal Regulations (33 CFR 328.3[a] and [b]; 40 CFR 230.3[s]) includes wetlands, defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands falling under Corps jurisdiction must demonstrate the presence of three specific wetland parameters: hydric soils, hydrophytic vegetation, and sufficient wetland hydrology. Generally, wetlands include swamps, marshes, bogs, and similar areas.

Lakes, rivers, and streams are defined as “other waters” under Sections 404 and 401 of the CWA. Jurisdictional limits of these features are typically noted by the Ordinary High Water Mark (OHWM). The OHWM is the line on the shore or bank that is established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in soils, lack of woody or terrestrial vegetation, the presence of litter or debris, or other characteristics of the surrounding areas (33 CFR 328.3). Isolated ponds or seasonal depressions had been previously regulated as waters of the U.S. In *Solid Waste Agency of Northwestern Cook County v. United State Army Corps of Engineers et al.* (January 8, 2001), however, the U.S. Supreme Court ruled that certain “isolated” wetlands do not fall under the jurisdiction of the CWA and are no longer under the jurisdiction of the Corps.

Other Wetland Definitions

While the Corps definition of wetlands is most commonly used for regulatory purposes, definitions adopted by other state and federal agencies may also apply. The state’s authority in regulating activities in wetlands and waters at the project site resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). The USFWS and CDFG have adopted the Cowardin, et al. (1979) definition of wetlands. Under normal circumstances, the federal Corps definition of wetlands requires three wetland identification parameters to be met (as discussed above), whereas the Cowardin definition requires the presence of only two parameters. For this reason, identification of wetlands by the CDFG consists of the union of all areas that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present. The CDFG does not typically assert jurisdiction over wetlands unless the feature is subject to a Lake and Streambed Alteration Agreement (California Fish and Game Code Sections 1600-1616) or supports state-listed endangered species.

In California, most wetlands found in the "coastal zone" are regulated under the California Coast Act of 1976 (CCA) and the Coastal Zone Management Act (CZMA) and are within the jurisdiction of the California Coastal Commission. Under the CCA, wetlands are defined as "land within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats and fens" (Public Resources Code Section 30121). However, coastal management of the San Francisco Bay and Oakland Estuary is provided by BCDC under the McAteer-Petris Act. The McAteer-Petris Act does not define wetlands, but does outline BCDC's jurisdiction over "managed wetlands consisting of all areas which have been diked off from the Bay and have been maintained during the three years immediately preceding the effective date of the amendment of this section during the 1969 Regular Session of the Legislature as a duck hunting preserve, game refuge or for agriculture" (Government Code Section 66610(b)).

Potentially Jurisdictional Wetlands at the Project Site

In 2004, LSA wetland specialists conducted reconnaissance-level surveys to identify potentially jurisdictional features along the shoreline and within interior portions of the project site. In July 2005, the project sponsor submitted a draft potentially jurisdictional wetland delineation to the Corps for review and verification and remains under Corps review as of publication of this document. (The draft potentially jurisdiction wetland delineation is provided in **Appendix K.**) A description of these potentially jurisdictional features is provided below.

Shoreline Adjoining the Project Site

The shoreline surrounding the project site consists of rock and concrete riprap placed to prevent shoreline erosion. The physical structure of riprap varies from recently-constructed grouted riprap around Estuary Park to a loose conglomeration of concrete blocks, bricks, and other hard debris in other areas. Overall vegetation at the shoreline is sparse to non-existent, with small clumps of cordgrass (*Spartina* sp.), marsh gumplant (*Grindelia stricta*), and pickleweed (*Salicornia virginica*) occurring in scattered patches. Although small numbers of shorebirds occasionally forage along the rocks, riprap has little habitat value for local wildlife. The shoreline adjacent to the concrete batch operations is a steep concrete wall at the edge of the shoreline.

Areas along Clinton Basin consist of eroding fill that includes rock, gravel, soil, small blocks of concrete, and other debris that have eroded out of the adjacent to upland fill areas. Between 30 to 40 percent of the eroded fill shoreline is hardscaped, with the remaining areas covered by bare soil or stands of cordgrass, marsh gumplant, and small patches of pickleweed (LSA, 2004). The majority of the eroded fill is fairly steep, but in several areas shoreline erosion has created a gradually sloping profile, allowing for the establishment of vegetation.

Small stands of cordgrass occur in patches throughout the shoreline areas, but cordgrass occurs most notably along the western shoreline of the Clinton Basin. Larger stands of cordgrass occur along the shoreline west of the Clinton Basin. These stands are too small to support populations of tidal marsh wildlife species such as salt marsh common yellowthroat, but they do provide foraging habitat for some species of waterbirds and cover for common wildlife species that occur in the adjacent uplands.

The southwestern corner of Clinton Basin consists of a sandy shoreline where the Port of Oakland implemented a restoration project in 2002. The restoration of this area included construction of a tidal channel and grading to establish higher marsh zones and transitional areas to provide habitat for shorebirds and other wildlife. There is a small patch of cordgrass along the southern shoreline of the Ninth Avenue Terminal property. This patch of cordgrass is too small to support special-status rails or other nesting birds.

Interior Areas of Project Site

The interior areas of the project site have been subject to development and consist mostly of Bay fill. Non-native grassland is the dominant vegetation community, and ruderal vegetation (including pampas grass, Italian ryegrass, ripgut brome, and ornamental trees and shrubs) occurs in patches throughout the grassland areas.

As depicted in the preliminary wetland delineation (**Appendix K**), three potentially jurisdictional features occur within the interior areas of the project site. Two seasonal pools occur at the southeastern portion of the parcel east of Clinton Basin. These pools both contained approximately 6 inches of water at the time of the site survey in fall 2004 (LSA, 2004). Dominant vegetation in these pools consists of ruderal wetland plant cover, including Italian ryegrass, rabbit's foot grass, and Bermuda grass. The southernmost pool is approximately 600 square feet (0.014 acre) and the northernmost pool is approximately 400 square feet (0.009 acre).

A narrow ditch carries stormwater runoff into Clinton Basin from the residential uses within the Fifth Avenue Point area located to the west of Clinton Basin. This ditch is potentially jurisdictional. The ditch crosses the project area for a distance of about 40 feet before entering a culvert that leads directly to Clinton Basin. The bottom of the ditch is about 3 feet wide and is dominated by ruderal wetland plants, and therefore is potentially jurisdictional.

Open Water at Project Shoreline Edges.

The open water areas at the edges of the project shoreline, including Lake Merritt Channel and within Clinton Basin and Brooklyn Basin, are also considered jurisdictional waters.

Regulation of Activities in Wetlands

The regulations and policies of various federal agencies (e.g., Corps, EPA, and USFWS) mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives (to filling wetlands) exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands on the project site. In this regard, the

Corps acts under two statutory authorities: the Rivers and Harbors Act of 1899 (Sections 9 and 10) and the Clean Water Act (Section 404) The Corps requires a permit under the Rivers and Harbors Act for work in "navigable waters" and a permit under Section 404 for discharge of dredged or fill material in waters of the United States, including wetlands and other special aquatic sites. The EPA, USFWS, NMFS, and several other agencies provide comment on Corps permit applications. The EPA has provided the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands and other special aquatic sites.

The state's authority in regulating activities in wetlands and waters at the site resides primarily with the State Water Resources Control Board (SWRCB) through Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne). The SWRCB, acting through the nine Regional Water Quality Control Boards (RWQCB), must certify that a Corps permit action meets state water quality objectives.

BCDC is authorized by the McAteer-Petris Act to analyze, plan, and regulate San Francisco Bay and its shoreline. It implements the San Francisco Bay Plan and regulates filling and dredging in the Bay, its sloughs and marshes, and certain creeks and tributaries. BCDC jurisdiction includes all tidal areas of the Bay up to the mean high tide line, marshland up to the five-foot contour line, and a shoreline band that extends inland 100 feet from the mean high tide line. BCDC permits are required for all work within either the Bay or the shoreline band.

The CDFG is authorized under the State Fish and Game Code Sections 1600-16167 to develop mitigation measures and enter into a Lake and Streambed Alteration Agreement (SAA) with applicants that propose a project that would obstruct the flow or alter the bed, channel, or bank of a river, stream, or lake in which there is a fish or wildlife resource. The CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act.

Special-Status Species At or Near the Project Site

The CNDDB lists of special-status animal species were considered in this assessment and are included in **Appendix H**. Habitat requirements for each of the sensitive animal species were assessed and compared to habitats present at the project site. Factors such as onsite habitat quality and known geographic distribution of individual species were considered in evaluating the likelihood of a species' occurrence. Based on the results of that analysis, one special-status marine mammal species (harbor seal), two special-status birds (California brown pelican and Cooper's hawk), and nesting and roosting bats may be affected by project activities. The project site also provides suitable habitat for four species of special-status fish identified as having moderate potential to occur at the project site. The status, ecology, and distribution of each of these species are described below.

Special-Status Marine Mammals

The Pacific harbor sea (*Phoca vitulina*) l is a subspecies of the most widely distributed pinniped inhabiting both temperate and sub-arctic coastal areas in the northern Pacific Ocean and is protected from harassment under the federal Marine Mammal Protection Act (Seal Conservation

Society, 1998). Harbor seals are typically found along the coast of the Pacific states in protected harbors and bays (Ingles, 1965). Male and female harbor seals are similar in appearance. Males are slightly larger, measuring up to 6 feet in length and weighing up to 300 pounds. Harbor seals inhabit near-shore coastal and estuarine areas from Baja California, Mexico, to the Pribilof Islands in Alaska. They are earless, and their pelage is typically covered with whitish spots. Harbor seals hind flippers are in a fixed position and unlike sea lions, harbor seals do not climb on rocks. On land, harbor seals use their hind flippers to undulate themselves forward. In the water, they propel themselves by lateral undulations of the tail and hind flippers (Ingles, 1965). Harbor seals generally do not make extensive pelagic migration, although they have been known to travel hundreds of miles to find food or suitable breeding habitat.

Populations of the harbor seal are known to occur throughout San Francisco Bay. The harbor seal is the only species of marine mammal that breeds year-round in the Bay. There are 12 haul-out (resting) sites and rookeries (nesting, breeding and pupping areas) within the Bay. The largest haul-out sites are Mowry Slough, Yerba Buena Island (YBI), and Castro Rocks, all in the Central Bay (Spencer, 1977). The closest known haul-out site near the project area is at the Alameda Breakwater Gap, approximately five miles from the Oakland Inner Harbor. Harbor seals use the Bay for foraging, resting, and reproduction. They are opportunistic feeders and may feed on fish, mollusks, and crustaceans. They mainly prey on yellowfin goby (*Acanthogobius falvimanus*), and this introduced species is the most common species in the harbor seal's diet. Other important prey species include northern anchovy (*Engraulis mordax*), Pacific staghorn sculpin (*Leptocottus armatus*), plainfin midshipman (*Porichthys notatus*), white croaker (*Genyonemus lineatus*), and Pacific herring (Harvey and Torok, 1994).

Pupping season in San Francisco Bay begins in mid-March and continues until about mid-May. Pups nurse for only four weeks, and mating begins immediately after pups are weaned. In the Bay, mating occurs from April to July, and molting season is from June until August (Kopec and Harvey, 1995). No harbor seals were observed during field reconnaissance conducted for this analysis in fall 2004/spring 2005.

Special-Status Fisheries

The Pacific Fishery Management Council (PFMC) describes and defines "Essential Fish Habitat" (EFH) on the Pacific coast. In the San Francisco Bay Area, EFH for groundfish fisheries (e.g., rockfish, flatfish, roundfish, sharks, and skates), salmon (Chinook salmon and coho salmon), and coastal pelagics (e.g., northern anchovy, Pacific sardine, Pacific [chub] mackerel, jack mackerel, and market squid), includes the Pacific coast to a distance of 200 miles offshore and the entirety of San Francisco Bay. Specific commercial fish species from each of the three EFH categories are managed through Fishery Management Plans created by the PFMC.

The four special-status fish species that were identified as potentially occurring at or near the project site are 1) Pacific herring, 2) steelhead (Central California Coast ESU [Evolutionarily Significant Unit] and Central Valley ESU), 3) coho salmon (Central California Coast ESU), and 4) Chinook salmon (Central Valley winter-run ESU, Central Valley spring-run ESU, and Central

Valley fall and late fall-run ESU). The paragraphs that follow provide a general description of their status, ecology, and distribution.

Pacific Herring (Clupea harengeus). The Pacific herring is a small schooling marine fish that enters estuaries and bays to spawn. It is both a popular sport fish and a commercially important species. This species is known to spawn along the Oakland waterfront and attach its egg masses to eelgrass, seaweed, and hard substrates such as pilings, breakwater rubble, and other hard surfaces. Adult Pacific herring typically congregate near spawning grounds several weeks to months before spawning (Barnhart, 1988). Spawning usually takes place between October and March (Miller and Schmidtke, 1956) with a peak between December and February (Barnhart, 1988). After hatching, juvenile herring typically congregate in San Francisco Bay during the summer and move into deeper waters in the fall (Barnhart, 1988). In San Francisco Bay, eel grass is not abundant, and herring are known to broadcast eggs on rocks, rocky jetties, pilings, sandy beaches, and other submerged objects (Eldridge and Kaill, 1973). An individual can spawn only once during the season, and the spent female returns to the ocean immediately after spawning (Miller and Schmidtke, 1956). The aquatic habitat within the Oakland Estuary provides good spawning habitat for Pacific herring. This species is protected under the Magnuson-Stevens Fishery Conservation and Management Act.

It is presumed that Pacific herring are seasonally present in the area of the project site. There is potential for this species to spawn in the project area because the area is within or near spawning habitat, as described above, and marina structures (such as dock pilings) provide suitable substrates on which egg masses could be attached.

Central Valley and Central California Coast Steelhead (Oncorhynchus mykiss). Steelhead populations in the Central California Coast ESU and Central Valley ESU are listed by NMFS as threatened under the federal Endangered Species Act. Steelhead possess the ability to spawn repeatedly, maintaining the mechanisms to return to the Pacific Ocean after spawning in freshwater (unlike Chinook or coho salmon, which spawn only once). Juvenile steelhead may spend up to four years residing in fresh water before migrating to the ocean as smolts or "residents." Central Valley steelhead typically migrate through San Francisco Bay from November through May after spending one year in fresh water. Both steelhead ESUs migrate through Bay waters between breeding areas and the Pacific Ocean.

Due to the absence of fresh water spawning areas, steelhead breeding does not occur in any streams in the city of Oakland. Migrating adult and juvenile steelhead may travel through Bay waters near the East Harbor and West Harbor entrances between December and May as they move between breeding sites and the Pacific Ocean. The presence of this species in the Oakland Inner Harbor would be incidental occurrences during migration periods.

*Central California Coast Coho Salmon (Oncorhynchus kisutch).*State-listed as endangered and federal listed as threatened, the Central California Coast coho salmon (*Oncorhynchus kisutch)* ESU typically conduct their upstream spawning migration from mid-November to late January. Coho salmon usually move upstream after heavy fall or winter rains open sandbars that form at the mouths of coastal streams. Downstream migration of smolts to estuarine waters generally occurs in California populations between March and early June. Coho salmon typically spend their first year in fresh water and their next two years in salt water before returning to spawn in their natal streams. Some males, termed “jacks,” return to spawn after one season in the ocean.

Breeding is not expected to occur in any streams in the city of Oakland due to the absence of suitable fresh water spawning areas. Migrating adult and juvenile coho salmon, likely move through Bay waters near the Oakland Inner Harbor from November to May. This species may incidentally occur in the Oakland Inner Harbor during this period.*Central Valley Winter-Run, Fall-Run, and Spring-Run Chinook Salmon (Oncorhynchus tshawytscha).* The population of Chinook salmon in San Francisco Bay comprise four races: fall-run, late fall-run, spring-run, and winter-run. These races are distinguished by the seasonal differences in adult upstream migration, spawning, and juvenile downstream migration. Chinook salmon (*Oncorhynchus tshawytscha*) are anadromous fish, spending three to five years at sea before returning to fresh water to spawn. These fish pass through San Francisco Bay waters to reach their upstream spawning grounds. In addition, juvenile salmon migrate through the Bay when returning to the Pacific Ocean.

The Central Valley (Sacramento) winter-run Chinook salmon, state- and federally-listed as endangered, migrate through San Francisco Bay from December through July with a peak in March (Moyle, 2002). Spawning is confined to the mainstem Sacramento River and occurs from mid-April through August (Moyle, 2002). Juveniles emerge between July and October, and are resident in their natal stream 5 to 10 months followed by an indeterminate residency period in estuarine habitats (Moyle, 2002).

The state- and federally-listed threatened Central Valley spring-run Chinook salmon migrate to the Sacramento River from March to September with a peak spawning period between late August and October. Juvenile salmon emerge between November and March, and are resident in streams for a period of 3 to 15 months before migrating to downstream habitats (Moyle, 2002).

The Central Valley fall-run and late fall-run Chinook salmon are a federal candidate for listing and a California Species of Special Concern. These salmon enter the Sacramento and San Joaquin rivers from June through December and spawn from October through December, with a peak in November.

Spawning is not documented along the Oakland waterfront due to the lack of suitable breeding habitat (cold fresh water streams). However, it is presumed that adult and juvenile (smolts) winter-run, spring-run, and fall-run Chinook salmon occur in waters adjacent to the project area during migrations to upstream spawning habitat in the mainstem of the Sacramento River.

Special-Status Birds

The California brown pelican (*Pelecanus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*) and Cooper’s hawk (*Accipiter cooperii*) are the only known special-status bird species with the potential to occur in the vicinity of the project site.

Nesting colonies of California brown pelican are listed as endangered under both the state and federal Endangered Species Acts. The California brown pelican is a common migratory species along the Bay shoreline and a common visitor to the Oakland Estuary; however, no nesting colonies are documented in the Bay Area or in the project vicinity. A brown pelican was observed in flight at the project site during the October 2004 site visit by ESA biologists (ESA, 2004). The double-crested cormorant, a California species of special concern, is a resident species that breeds in dense colonies along rocky coasts and offshore islands. Rookery sites for this species are protected by the CDFG. The closest documented rookery site is at the San Francisco Bay Bridge. Based on lack of suitable nest sites within the project site, this species is not expected to nest in or near the project site.

The Cooper's hawk is a California species of special concern and is known to occur within the urban areas of Oakland and near Lake Merritt. CNDDB reports one known occurrence of Cooper's hawk at Lakeshore Park (CNDDB, 2005). The ornamental trees at Lakeshore Park and in and around the project area provide suitable habitat for this species. Small urban-adapted birds such as pigeons and mourning doves are common throughout the area and provide a prey base for Cooper's hawks.

Special-Status Bats

The abandoned buildings and warehouse type structures on the project site have the potential to provide nesting and roosting habitat for special-status bats. Bat species such as pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), and long-eared myotis (*Myotis evotis*) may be using older and/or abandoned buildings at the project site. There are no federally- or state-listed threatened or endangered bat species known to occur on the project site; however, wildlife nursery sites are recognized as a biological resource under Appendix G of the CEQA Guidelines, and destruction of any nursery sites that may occur on the site would have a significant effect on biological resources. No bat species were observed during field reconnaissance conducted for this analysis in fall 2004/spring 2005.

Special-Status Plants

Due to past urban development and land uses in and around the proposed project site, no intact natural habitats exist that could support special-status plants. No special-status plants were identified as occurring within the project vicinity, and none were observed during site reconnaissance conducted for this analysis in fall 2004/spring 2005.

Biological Resources Impacts Discussion

Significance Criteria

The CEQA Guidelines (Section 15206) specify that a project shall be deemed to be of statewide, regional, or areawide significance if it would substantially affect sensitive wildlife habitats including but not limited to riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species. In this EIR, a biological resources impact is considered to be significant if it would meet any of the following criteria, which are adapted from CEQA, Appendix G of the CEQA Guidelines and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan;

- Fundamentally conflict with the City of Oakland Tree Preservation and Removal Ordinance (Oakland Municipal Code [OMC] Chapter 12.36) due to removal of protected trees under certain circumstances. Factors to be considered in determining significance include the number, type, size, location, and condition of (a) the protected trees to be removed and/or affected by construction, and (b) the protected trees to remain, with special consideration given to native trees.[3]

  Protected trees include the following:

  Quercus agrifolia (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *Pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on City property and in development-related situations where more that five Monterey pine trees per acre are proposed to be removed are considered to be protected trees.

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

[3] Oakland Planning Code Section 17.158.280E2 states that "Development related" tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater *and* the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area.

CEQA Guidelines Section 15380 further provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists if, for example, it is likely to become endangered in the foreseeable future.

Evaluation of Impact Significance

For purposes of this EIR, the analysis considered the following three principal components of the guidelines and criteria outlined above:

- Magnitude of the impact (e.g., substantial/not substantial);
- Uniqueness of the affected resource (rarity); and
- Susceptibility of the affected resource to perturbation (sensitivity).

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small magnitude impact on a state- or federally-listed species would be considered significant because the species is very rare and is believed to be very susceptible to disturbance. Conversely, a plant community such as California annual grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to result in a significant impact.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to biological resources and wetlands, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold that the project must meet are addressed in this section.

Habitat Conservation Plan / Natural Community Conservation Plan

The potential for the project to "fundamentally conflict with a habitat conservation plan or natural community conservation plan" is discussed in Impact A.4, in Section IV.A, Land Use, Plans, and Policies, as it is a significance criterion for assessing land use consistency as well as biological resources. As discussed under Impact A.4, and supported by the analysis provided in this section, the project would not conflict with an applicable habitat conservation plan or natural community conservation plan, and the impact would be less than significant. The Clinton Basin Wetland Restoration and Enhancement Project (previously implemented by the Port of Oakland and RWQCB in 2002), exists at the southwest edge of the mouth of Clinton Basin and is intended for habitat conservation. As discussed in detail under Impact I.2, below, construction activities required for the project may adversely affect the restored area and result in a significant impact, Mitigation Measure I.2b (Wetland Avoidance) includes specific measures to reduce this potential impact to less than significant.

Project Impacts

Less than Significant and Beneficial Impacts

The CEQA Guidelines (Appendix G) specify that a project will normally have a significant impact on the environment if it will physically affect communities or species protected by adopted environmental plans and goals of the communities where it is located. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state. Impacts are considered beneficial if the action causes no detrimental impacts and results in an increase of habitat quantity and quality. As with the proposed project, existing contaminated conditions on portions of the project site may cause adverse health effects to biological resources (through the soils contamination and uncontrolled stormwater runoff over contaminated conditions and directly into the estuary). The project would result involve measures aimed at uncontrolled stormwater drainage conditions and at further reducing hazardous onsite conditions and would thus result in potentially beneficial effects on biological resources.

The proposed project would not have the potential to substantially reduce the habitat of a fish or wildlife species or cause a fish or wildlife species population to drop below self-sustaining levels, nor would it restrict the range of a rare or endangered plant or animal community or reduce the range of a rare or endangered plant or animal. Thus, the project would not have a significant impact on sensitive natural communities or interfere with fish or wildlife movement. The proposed project would not conflict with either the City of Oakland's Creek Protection Ordinance or the Tree Protection and Tree Preservation and Removal Ordinance. Implementation of mitigation measures recommended in this EIR section would further ensure that these impacts would be less than significant.

Construction Impacts on Marine Mammals

Impact I.1: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on special-status mammal species, specifically the Pacific harbor seal. (Less than Significant)

Incidental occurrences of Pacific harbor seal (*Phoca vitulina)* are known in the Oakland Inner Harbor. One known harbor seal haul-out site is located at the Alameda Breakwater Gap, approximately five miles from the project site. However, this site is not known as a breeding or pupping site (Caltrans, 2002).

Loud sounds, both in air and under water, could have adverse impacts on marine mammals, causing stress and increased risk of mortality (Gisiner, 1998). Pulsed sounds such as pile-driving can cause temporary hearing loss also known as Temporary Threshold Shifts (TTS) (Greene, 1998). Loss of hearing, either temporary or permanent, can affect the behavior of marine mammals and alter their ability to process acoustic signals used for migration and other behaviors (Gisiner, 1998).

Pile-driving associated with the construction/renovation of marina facilities and structures could result in a disturbance to marine mammals if they are present in the project area. The effects of elevated sound pressure levels (SPLs) on marine mammals may include avoidance of an area, tissue rupturing, hearing loss, disruption of echolocation, masking, habitat abandonment, aggression, pup/calf abandonment, annoyance, and helplessness. If present during pile-driving activities, harbor seals may temporarily cease normal activities, such as feeding, or raise their heads up above water in response to the noise. However, existing evidence shows that most marine mammals tend to avoid loud noises and will likely move away from the project site (Fed. Reg., 2003).

State and federal resource agencies have not developed specific guidance or significance criteria to establish the thresholds for determining potentially adverse noise impacts upon marine mammals. However, similar projects recently permitted and constructed in the Bay Area, including the Bay Bridge project, have established the significance criteria that are currently being used by the Corps and NMFS for relatively small marine projects that involve pile-driving.

Because the one known harbor seal haul-out site is located approximately five miles from the project site, and the site is not known as a breeding or pupping area, any individual Pacific harbor seals that occur within the Oakland Inner Harbor would be considered an incidental occurrence. Furthermore, it is anticipated that individual harbor seals would be deterred from entering the project work area due to noise and increased human presence from construction at the project area. Therefore, prolonged presence of harbor seals within the project area is not anticipated.

Mitigation: None Required.

Construction Impacts on Waters of the U.S. (Wetlands)

Impact I.2: Construction activities required for the project would result in a substantial adverse effect on potentially jurisdictional wetlands or waters of the U.S. under the jurisdiction of the Corps, waters of the state under the jurisdiction of the Regional Water Quality Control Board (RWQCB), and wetlands under the jurisdiction of BCDC. (Potentially Significant)

As described below, portions of the project site area support wetlands and “other waters of the U.S.” that are under the regulatory jurisdiction of the Corps, RWQCB, and BCDC. Disturbances would occur within drainages, wetland areas, and creek channels at points where excavation would be required. This disturbance would affect both areas classified as wetlands and channels that are considered “other waters of the U.S.”

Shoreline of the Project Site

Construction activities in and around Clinton Basin, the Ninth Avenue Terminal, and Lake Merritt Channel would temporarily affect potentially jurisdictional waters. The project would have temporary impacts on potentially jurisdictional waters along the Oakland Inner Harbor shoreline with the construction of new open spaces and Shoreline Park. Impacts on these potentially jurisdictional waters would include the removal of vegetation and impacts on water quality from sedimentation or other debris during grading.

The southwest edge of Clinton Basin, near the proposed South Park, has been restored in accordance with a restoration plan implemented by the Port of Oakland in coordination with the RWQCB. Construction activities within Clinton Basin and along the shoreline in this area have the potential to temporarily affect this restored area.

Interior Areas of Project Site

Site preparation for the project would permanently fill potentially jurisdictional waters within the project site, which consist of two seasonal pools at the southeastern portion of the parcel east of Clinton Basin and a narrow ditch that carries stormwater runoff into Clinton Basin. These waters would be filled or excavated during the grading and construction of residential and commercial structures.

Tidal Areas

Tidal areas in and around the project site fall under BCDC jurisdiction and under Corps jurisdiction in accordance with Section 10 of the Rivers and Harbors Act. Construction activities that would occur within the open water areas, including Clinton Basin, would include construction to upgrade the Clinton Basin Marina, relocation of the 5th Avenue Marina at the foot of 5th Avenue, and installation of the seawall at the proposed Shoreline Park. These activities have the potential to affect jurisdictional waters, which consist of Lake Merritt Channel and the waters within Clinton Basin and Brooklyn Basin. Potential effects include 1) impacts on water quality from dredging or pile-driving activities to install new marinas or remove existing marinas, 2) sedimentation in channels and in the Bay adjacent to the construction areas during demolition of existing structures, and 3) sedimentation in channels and in the Bay resulting from grading and land clearing activities and construction of new structures, roads, and open spaces.

Fill and excavation in areas considered to be jurisdictional waters would require permits and agreements from the appropriate regulatory agencies. Failure to proceed without permits or approvals would be in violation of these regulations.

Mitigation Measure I.2a: *Corps-Verified Wetland Delineation*. A preliminary identification of potentially jurisdictional areas was conducted in 2004 (LSA, 2004), and the project sponsor submitted the draft potentially jurisdictional wetland delineation to the Corps in July 2005. The project sponsor shall obtain Corps verification of the preliminary identification of jurisdictional areas prior to submitting permit applications. A verified wetland delineation would be required prior to the submittal of regulatory permit applications.

Mitigation Measure I.2b: *Wetland Avoidance*. Section 404 first requires that projects avoid or minimize adverse effects on jurisdictional waters to the extent practicable. To the extent feasible, the final project design shall minimize effects on wetlands and other waters in

accordance with Section 404 of the Clean Water Act . Areas that are avoided shall be subject to Best Management Practices (BMPs), as described in Mitigation Measure I.2.d below. Such measures shall include installation of silt fencing, straw wattles, or other appropriate erosion and sediment control methods or devices. Equipment used for the removal of debris and concrete riprap along the estuary edge will be operated from land using backhoes and cranes. Construction operations along Clinton Basin and Shoreline Park shall be barge-mounted or shall involve water-based equipment such as scows, derrick barges, and tugs.

Additionally, the existing restoration project at the southwest end of Clinton Basin, implemented by the Port of Oakland, shall be protected during construction activities. The extent of this area shall be clearly marked by a qualified biologist prior to the start of any grading or construction activities and a buffer zone established. All construction personnel working in the vicinity of the restoration area shall be informed of its location and buffer zone.

Mitigation Measure I.2c: *Obtain Regulatory Permits and other Agency Approvals.* Prior to the start of construction activities for the project, the project applicant shall obtain all required permit approvals from the Corps, the RWQCB, BCDC, and all other agencies with permitting responsibilities for construction activities within jurisdictional waters of other jurisdiction areas. Permit approvals and certifications shall include but not be limited to Section 404/Section 10 permits from the Corps, Section 401 Water Quality Certification from the RWQCB, and BCDC permit.

Section 404/Section 10 Permits. Permit approval from the Corps shall be obtained for the placement of dredge or fill material in waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.

Construction along the estuary edge below MHW elevation will be considered dredging by the Corps and will require a Section 10 permit. In addition, dredging of Clinton Basin will also require a Section 10 permit.

Section 401 Water Quality Certification. Approval of Water Quality Certification (WQC) and/or Waste Discharge Requirements (WDRs) shall be obtained from the RWQCB for work within jurisdictional waters. Preparation of the Section 401 Water Quality Certification applications will require an application and supporting materials including construction techniques, areas of impact, and project schedule.

BCDC Permit. Permit approval from BCDC shall be obtained for placement of solid material, pilings, floating structures, boat docks, or other fill in the Bay, and/or dredging or other extraction of material from the Bay and within the 100-foot shoreline band inland from mean high tide line along the length of the project site. Project activities subject to this permit approval would include dredging for rebuilding the marina in Clinton Basin and replacement of the 5th Avenue Marina with a new marina that would contain approximately 170 boat slips. The proposed project would include the removal of approximately 33,780 square feet of solid Bay fill as part of the shoreline design and the placement of 74,110 square feet of solid Bay fill for the creation of a village green at Clinton Basin. The project would also include the removal of approximately 129,920 square feet of pile-supported fill with the removal of a portion of the Ninth Avenue Terminal wharf. Additionally, floating fill would be required to create the two proposed marinas.

The project would be required to comply with all BCDC permit conditions, which typically include requirements to construct, guarantee, and maintain public access to the Bay; specified construction methods to assure safety or to protect water quality; and mitigation requirements to offset the adverse environmental impacts of the project.

Mitigation Measure I.2d: *Best Management Practices (BMPs)*. The project applicant shall implement standard BMPs to maintain water quality and control erosion and sedimentation during construction, as required by compliance with the General National Pollution Discharge Elimination System (NPDES) Permit for Construction Activities and established by Mitigation Measure D.1 to address impacts on water quality. Mitigation measures would include, but would not be limited to, installing silt fencing along the edges of the project site to protect estuarine waters, locating fueling stations away from potential jurisdictional features, and isolating construction work areas from the identified jurisdictional features. The project applicant shall also implement BMPs to avoid impacts on water quality resulting from dredging activities within the Bay, as identified in the *Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region* (LTMS) (Corps, 2001). These BMPs include silt fencing and gunderbooms or other appropriate methods for keeping dredged materials from leaving the project site.

Mitigation Measure I.2e: *Compensatory Mitigation*. The project applicant shall provide compensatory mitigation for temporary impacts to, and permanent loss of, waters of the U.S., including wetlands, as required by regulatory permits issued by the Corps, RWQCB, and BCDC. Measures shall include but not be limited to 1) onsite mitigation through wetland creation or enhancement, 2) development of a Mitigation and Monitoring Plan, and 3) additional wetland creation or enhancement or offsite mitigation.

***Onsite Mitigation through Wetland Creation or Enhancement*.** The project applicant shall further enhance the shoreline from Lake Merritt Channel to Clinton Basin. The primary objective of the enhancement shall be to improve the habitat value for shorebirds, gulls, ducks, and other avian life that frequent the area. Components of the restoration plan shall include 1) restoration of the tidal marsh, 2) enhancement of roosting areas for shorebirds and water birds, and 3) increase in habitat diversity. Shoreline enhancements shall include removal of debris, including concrete riprap, and . excavation of the shoreline at Channel Park to create marsh vegetation along this area. Excavation shall provide a shoreline slope that falls between the MTL elevation (approximately -2.4 mean sea level) to the MHW”) to allow for the colonization of marsh habitat and the creation of high marsh habitat.

Mitigation and Monitoring Program Prior to the start of construction or in coordination with regulatory permit conditions, the project applicant shall prepare and submit for approval to the Corps, RWQCB, BCDC and CDFG a mitigation and monitoring program that outlines the mitigation obligations for temporary and permanent impacts to waters of the U.S., including wetlands, identified in this EIR. The program shall include baseline information from existing conditions, anticipated habitat to be enhanced, thresholds of success, monitoring and reporting requirements, and site-specific plans to compensate for wetland losses resulting from the project.

The Oak to Ninth Project Mitigation and Monitoring Plan shall include, but not be limited to, the following:

- Clearly stated objectives and goals consistent with regional habitat goals.
- Location, size, and type of mitigation wetlands proposed.
- A functional assessment of affected jurisdictional waters to ensure that the EPA's "no net loss of wetland value" standard is met. The functional assessment shall also ensure that the mitigation provided is commensurate with the adverse impacts on Bay resources in accordance with BCDC mitigation policies. The assessment will provide sufficient technical detail in the project design including, at a minimum, an engineered grading plan and water control structures, methods for conserving or stockpiling topsoil, a planting program including removal of exotic species, a list of all species to be planted, sources of seeds and/or plants, timing of planting, plant locations and elevations on the mitigation site base map, and maintenance techniques.
- Documentation of performance, monitoring, and adaptive management standards that provide a mechanism for making adjustments to the mitigation site. Performance and monitoring standards shall indicate success criteria to be met within 5 years for vegetation, animal use, removal of exotic species, and hydrology. Adaptive management standards shall include contingency measures that shall outline clear steps to be taken if and when it is determined, through monitoring or other means, that the enhancement or restoration techniques are not meeting success criteria.
- Documentation of the necessary long-term management and maintenance requirements, and provisions for sufficient funding.

Additional Wetland Creation or Enhancement or Offsite Mitigation. If permanent and temporary impacts on jurisdictional waters cannot be compensated for onsite through the restoration of wetland features incorporated within proposed open space and park areas, the project applicant shall negotiate additional compensatory mitigation for these losses with the applicable regulatory agencies. Potential options include the creation of additional wetland acreage onsite or the purchase of offsite mitigation.

Significance after Mitigation: Less than Significant.

Construction Impacts on Fisheries

Impact I.3: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on fisheries resources in the Oakland Inner Harbor. (Potentially Significant)

Construction activities within Clinton Basin and along the shoreline edge have the potential to affect fisheries resources within the Oakland Inner Harbor. Specifically, dredging and pile-driving have the potential to cause direct impacts to Pacific herring and migrating salmonids if these species were to occur. Occurrences of Pacific herring are known within the Oakland Inner Harbor, and suitable herring spawning habitat is known to occur within this area. Incidental occurrence of migrating salmonids may also occur during migration periods as these species move from the ocean to their fresh water spawning habitat. Potential short-term, construction-related impacts to these species could occur during on-land and in-bay pile-driving activities, dredging, grading and excavation, construction of the new breakwater, the removal of existing marinas, and the installation of new marinas. Removal of existing marinas and associated dredging activities could result in increased sediment and other solids being brought into the water column within Clinton Basin and in the Oakland Inner Harbor.

In particular, pile-driving associated with the construction of new marinas in Clinton Basin and construction of a seawall east of the Ninth Avenue Terminal could indirectly affect migrating salmonids and other fish in the proposed project area. Potential impacts that may be associated with these activities include harmful sound pressure levels associated with pile-driving; increased turbidity due to construction of the seawall or other in-water construction and dredging; water quality degradation from the use of pressure-treated wood used in pilings, docks, and boardwalks; and increased predation on native fisheries including juvenile salmonids due to the addition of cover for predatory fish species.

Potential Impacts of Dredging on Fisheries

Dredging activities may occur within Clinton Basin and could cause temporary increase in turbidity. If a listed salmonid is found in the project area, increases in turbidity may interfere with migratory behavior of adult and juvenile fish, but the fish are likely to avoid these areas and return when concentrations of solids are lower (NMFS, 2001). Therefore, any impacts are expected to be temporary and minor.

Potential Impacts of Pile-Driving Activities on Fisheries

If listed salmonid species are present in the project area, increased sound pressure levels during pile-driving activities could result in significant impacts to such species if sound pressure levels exceed 180 decibels. Several salmonid species, including coho salmon, Chinook salmon, and steelhead, are potentially present in the project area between the period between November 1 and May 31 during migratory periods as they move from the ocean to freshwater spawning areas.

Indirect Impacts on Salmonids Due to Increased Predation

NMFS indicated that the addition of new docks, pilings, breakwaters, and other in-water structures may provide increased opportunities for predatory fish to prey upon juvenile listed salmonids. The project would largely replace the existing pilings, docks, and other in-water features with equivalent structures and would not substantially increase the number of in-water structures. Therefore, an increase in the number of predatory fish is not expected. Similarly, the composition of fish species using the shallow-water aquatic habitats is not expected to change following project implementation.

Mitigation Measure I.3: *Protection of Fish and Migrating Salmonids*. The project applicant shall implement measures for protection of salmonids and Pacific herring during dredging projects and for indirect impacts on the San Francisco Bay "Essential Fish Habitat" (EFH) that are identified in the *Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region* (LTMS) (Corps, 2001).

The Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region (LTMS) (Corps, 2001) identifies specific work windows and Best Management Practices (BMPs) to protect salmonids and Pacific herring during dredging projects and to reduce indirect impacts to the San Francisco Bay EFH. The LTMS was developed during formal consultation among the NMFS, USFWS, and CDFG to address impacts on sensitive fisheries and designated critical habitats under their respective jurisdictions and to standardize mitigation for dredging projects. The Biological Opinion (BO) resulting from the LTMS presents specific restrictions on the timing and design of dredging and disposal projects. As the LTMS states, if the dredging project can be accomplished during the identified work windows, the project is authorized for incidental take under the federal Endangered Species Act of 1973, as amended. The LTMS serves as the federal and state pathway for determining potential impacts of dredging and dredge disposal projects on fish species, with timing of construction as the single significance criterion.

As identified in the LTMS, restricting dredging and other in-water construction activities to the specified work periods would avoid the direct and indirect impacts on juvenile or adult herring or salmonids that would otherwise result from dredging-related increases in turbidity or changes in water quality. Impacts of dredging operations on coho salmon, Chinook salmon, steelhead, and Pacific herring would therefore be less than significant, provided that dredging activities are conducted within the work windows identified in the LTMS. For waters in central San Francisco Bay, the construction work window for dredging activities in Pacific herring habitat is between March 1 and November 30 (Corps, 2001). The dredging work window for salmonid species in central San Francisco Bay is June 1 through November 30. These work windows are summarized in **Table IV.I-1**.

Implementation of BMPs and adherence to construction timing as outlined in the LTMS would reduce impacts on special-status fish species. As feasible, BMPs, including silt curtains and gunderbooms, shall be implemented to isolate the work area and prevent silt and sediment from entering the estuary.

Potential impacts resulting from pile-driving activities in the estuary would be avoided or reduced to a less-than-significant level by either avoiding pile-driving activities between November 1 and June 1 or assuring that pile-driving would result in noise levels below 150 decibels at 10 meters. Proposed construction work windows for pile-driving activities are also presented in **Table IV.I-1.** Any pile-driving work occurring outside of these work windows would be conducted in accordance with NMFS directives and Corps permits to reduce potential impacts on fish species.

The quantity of in-water features (such as pilings and pier structures) under the proposed project would be comparable to existing conditions, therefore an increase in the number of predatory fish is not expected. Similarly, the composition of fish species using the shallow-water aquatic habitats is not expected to change following project implementation.

TABLE IV.I-1

CONSTRUCTION WORK WINDOWS FOR IN-WATER PILE-DRIVING AND OTHER IN-WATER ACTIVITIES

Fish Species	Work Activity	Construction Work Windows for Project Activities, by Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pacific herring	Pile-driving						W	W	W	W	W	(W)	
	Other In-Water Activities			W	W	W	W	W	W	W	W	W	
Chinook salmon	Pile-driving						W	W	W	W	W	(W)	
	Other In-Water Activities						W	W	W	W	W	W	
Steelhead	Pile-driving						W	W	W	W	W	(W)	
	Other In-Water Activities						W	W	W	W	W	W	

"W" indicates work window when the identified construction activities will minimize impacts to fisheries, in accordance with specific guidance provided by the LTMS (Corps, 2001) for dredging and dredge disposal related activities.

"(W)" indicates possible work window. Frank Filice with the San Francisco Department of Public Works indicated that a letter from NMFS (on another project) established a June 1 to November 30 work window for pile-driving activities (Filice, personal communication). The actual project construction work window will be determined by the Corps in consultation with NMFS during the permitting phase of the project.

Significance after Mitigation: Less than Significant.

Construction Impacts on Nesting Habitat

Impact I.4: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on nesting habitat for breeding raptors and passerine birds, including Cooper's hawk. (Potentially Significant)

Construction activities in and around the project area may temporarily affect birds and raptors. Temporary impacts would result from ground clearing, grading, pile-driving, excavation, demolition, tree removal, and general human presence. Direct impacts may include mortality to individual birds and raptors from building demolition or tree removal. Indirect impacts may include nest failure or nest abandonment from construction noise and increased human presence in the area.

Raptors and passerine birds (song birds) nest throughout the project area, including in ornamental trees located on the project site. California Fish and Game Code Sections 3503 and 3503.5, and the Migratory Bird Treaty Act, protect raptors and passerines and their eggs and nests from incidental "take." Disturbance due to construction could result in reproductive failure for raptors and birds within the project corridor.

Three special-status birds have at least moderate potential to occur in the project area. Two of these, double-crested cormorant and brown pelican have moderate or high potential to occur on the site (LSA, 2004) However, the special-status designation for cormorants only applies to rookeries (nesting colonies) and there has been no evidence of rookeries within the project area (LSA, 2004). Additionally, brown pelicans are known to occur within the area and could roost on numerous docks, piers, and shoreline areas within and adjacent to the project area Brown pelicans would be temporarily affected by project development but could continue to forage and roost along the project shoreline after development.

Cooper's hawks could be directly and indirectly affected by the proposed project if they were to occur within the vicinity of the construction. The larger ornamental trees on the site provide suitable habitat for Cooper's hawks. This species is known to nest within the urban areas of the East Bay (Pericoli and Fish, 2004) and the CNDDB reports one known occurrence at Lakeside Park along the north end of Lake Merritt, less than five miles from the project site (CNDDB, 2005).

Mitigation Measure I.4a: *Timing of Construction.* To the extent feasible, construction activities shall be conducted outside the breeding season for birds and raptors (August 1-January 30) Trees and shrubs that could provide potential nesting habitat may be removed during this period to avoid future nesting within the project site.

Mitigation Measure I.4b: *Preconstruction Surveys.* If seasonal avoidance is infeasible, the following measures shall be required to avoid potential adverse effects on nesting special-status raptors and other nesting birds:

- **A qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction activities. Preconstruction surveys should occur no later than two weeks prior to the start of construction activities.**

- **If active nests of raptors or other bird species are found during preconstruction surveys, a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction <u>shall be determined in consultation</u> with the CDFG and shall be based on existing noise and human disturbance levels at the project site.**

- **If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees, shrubs, and buildings that have been determined to be unoccupied by special-status birds or that are located more than 500 feet from active nests may be removed.**

Significance after Mitigation: Less than Significant.

Project Impacts on Nesting and Roosting Bats

Impact I.5: The project could have a substantial adverse effect, either directly or through habitat modifications, on special-status nesting and roosting bats. (Potentially Significant)

Existing abandoned or underused buildings (i.e., buildings containing uses with low activity, such as the Ninth Avenue Terminal building) on the project site could provide nesting or roosting habitat for special-status bat species, including pallid bat (*Antrozous pallidus*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysansodes*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), and Townsend's western big-eared bat (*Corynorhinus townsendii*).

Bats are known to use abandoned buildings, mines, caves and other darkened structures as nursery and roosting sites. Although the project site lacks suitable foraging habitat and/or fresh water that would pose as an attractant for insects that bats might forage, it is likely that Lake Merritt or its channel to the estuary could provide ample foraging opportunities for any species of bat likely roosting on the project site. Given the proximity of Lake Merritt to the project site, and the presence of abandoned or underused structures that exist in the area, it is possible for bats to be located on the project site.

Mitigation Measure I.5: Before demolition of abandoned or underused buildings on the project site, such as the Ninth Avenue Terminal building, a qualified biologist who is familiar with bat biology and who is able to recognize signs of bats using abandoned buildings shall conduct pre-demolition building surveys in order to adequately make a determination on the presence of bat nurseries.

If abandoned or underused buildings slated for destruction are being used by bats as nursery sites, demolition shall be postponed until young are reared and able to forage on their own. This determination shall be made by a qualified biologist specializing in bat biology.

If bats are found to be roosting in abandoned or underused buildings on the project site, the bats shall be actively relocated to a temporary roosting structure (preferably onsite) during demolition activities. In addition, permanent bat roosting structures ("bat boxes") shall be created in order to properly mitigate the effects of a loss of roosting structure. The design of the bat boxes shall conform to the specifications appropriate to the species of bats found on the project site and vicinity, and shall be approved by a qualified bat biologist knowledgeable in the design of bat boxes. The bat boxes shall conform to the architectural design of the project buildings to reduce the visibility and obtrusiveness of the boxes and to avoid vandalism or disturbance to bat colonies.

Significance after Mitigation: Less than Significant.

Project Lighting and Shadow Impacts

Impact I.6: Increased lighting and shading associated with the new project buildings could have a substantial adverse effect, either directly or through habitat modifications, on biological resources. (Less than Significant)

The project would develop new residential and retail land uses and new public parks, increasing the overall lighted area on the project site. New development could pose an attractant to migrating/flying birds and have adverse effects on other wildlife species. Various studies have examined the potential hazards of lighting on flying birds (e.g., Kerlinger, 2000; Dewey and Campbell, 2000; California Energy Commission, 1995). Many of the studies have focused on relatively large structures such as wind turbines and wind farms, which have been identified as a hazard to migratory and flying birds. Despite the recognized threat that such structures can pose to migratory birds, many structures and much urban lighting poses no recognized threat to flying birds (Dewey and Campbell, 2000). Factors other than the mere presence of lighting on structures generally contribute to the degree of hazard to flying birds. The primary factors contributing to bird impacts are the geographic location of the structure relative to preferred migratory routes and the altitude and intensity of lighting.

The project would incorporate relatively low-height, low-intensity lighting on docks, with standard exterior lighting on new and remodeled buildings. Project lighting would be consistent with existing lighting at Jack London Square, along the Oakland Embarcadero, and along the Bay shoreline. This existing lighting has not been demonstrated to pose a significant hazard to flying birds. As a result, outdoor lighting associated with the proposed project is not expected to pose a strike hazard to migratory and flying birds. Because an increased bird strike or wildlife hazard is not anticipated, no specific mitigation measures are proposed.

The project would also include construction of buildings and other structures significantly taller than existing structures on the site. Increased building height would cause larger shaded areas in the terrestrial and aquatic environment in the vicinity of the project area. Increased shading could reduce water temperatures in open water areas. Currently, there is insufficient peer-reviewed information on the effects of shading on biological resources on open water areas to reach a conclusion about the nature and extent of potential impacts of building shade on such areas. Open water areas are subject to wind and tidal action, which are much stronger determinants of biological conditions. Effects on wetland vegetation, however, are somewhat better known and discussed below.

Plants have the ability to survive under various light and shade regimes. Wetland species occupy the full range of these conditions, usually based on photosynthesis pathways. Quantifying effects of shade on any individual species is poorly understood due to the interaction of multiple factors in nature. For example, Callaway (1992) determined that shade was critical to the survival of blue oak (Quercus douglasii) seedlings, but that at least one other factor (acorn predation) was reduced by shade and protection from herbivores may have been as important as shade tolerance. Due to the obvious complexity of the physical phenomenon of moving shade, and the equal complexity of plant interaction, scientific studies of shade relevant to a CEQA process are limited.

San Clements (2003) studied the effects of shading by bridges on estuarine wetlands in an attempt to improve environmental analysis and quantify impacts. Although performed in North Carolina, the study sites occupied the same range of brackish wetlands that might be expected in extant vegetation and restored wetlands in the Oak to Ninth Project area. The species used in the thesis was principally *Spartina*, a different species from the Bay Area's native spartina but one that has the same ecological light requirements. The San Clements study measured photosynthetically available light, soil nitrogen and attributes of plant vigor such as numbers of flowers and stems. Results only identified effects when the Height-to-Width ratio (HW) of the shadow source (e.g., building, bridge, etc.) was less than 0.5, and there was no measurable effect when the ratio was greater than 0.7. Thus the shade of a bridge 100 ft wide, by this standard, would have no effect on wetland vegetation if higher than 70 ft (0.7 HW). The study showed that at a certain distance from the source of the shadow, shade has no effect. Furthermore, San Clements' effects were limited to the area immediately under and adjacent to the bridges under study, i.e. the direct vertical projection of the shade at noon during the summer solstice. Extrapolating to the current project, measurable effects would only be likely immediately adjacent to buildings because that is where the shadow lasts the longest. **Figure IV.K-21** and **Figure IV.K-27** (see Section IV.K, Visual Quality) show that the wetland restoration area would not be shaded at noon even during the seasons when shadows are longest (spring and autumn) and would be outside the area of measurable impact. The conclusion is therefore, that building shade cast on habitats, primarily the wetland restoration area, is a less than significant impact. (Overall potential shadow impacts associated with the project are discussed in EIR Section IV.K, Visual Quality.)

Mitigation: None Required.

Tree Preservation and Removal

Impact I.7: The removal of any protected trees identified within the project site would be conducted in compliance with the City of Oakland's Tree Preservation and Removal Ordinance and would not result in a significant impact. (Less than Significant)

The Oakland Tree Preservation and Removal Ordinance (Oakland Municipal Code Chapter 12.36) requires the project sponsor to obtain a permit from the City of Oakland Office of Parks and Recreation for the removal of protected trees or if work associated with project construction might damage or destroy a protected tree. A "protected tree" is a coast live oak four inches or larger in diameter measured four-and-a-half feet above the ground (diameter at breast height), or any other species nine inches in diameter at breast height or larger, except eucalyptus and Monterey pine trees. The removal of a protected tree would require that an appropriate replacement tree be planted on the project site.

Most of the project site is expansive paved area and developed with commercial, industrial, and storage-related structures. Unpaved areas and vegetation on the site is minimal. Approximately five to six mature trees exist on the project site, and several mature street trees existing along the Embarcadero, primarily along the frontage of the Jack London Aquatic Center parking lot. Ornamental trees also exist along Estuary Park. The project would remove existing trees and would replace and protected trees removed, pursuant to a detailed landscape plan that the project sponsor would be required to prepare and submit to the City for review and approval. As depicted in the illustrative development plan, **Figure III-3** in the Project Description (Chapter III), the project would provide extensive new trees (and other landscaping) throughout the project site, including along new public streets and open spaces. Tree removal and characteristics of replacement trees (e.g., species, size, location) would require approval by the Public Works Agency and the Office of Parks and Recreation, respectively, consistent with the City's Tree Preservation and Removal Ordinance. The project sponsor would obtain a tree permit for the removal and replacement of any protected trees for the project and comply with the City's Tree Preservation and Removal Ordinance, and therefore the impact would be less than significant.

Temporary and or direct impacts to birds and raptors that could result from tree removal are addressed in Impact I.4, above.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

The geographic context used for the assessment of cumulative biological resources impacts consists of the areas of Lake Merritt and Lake Merritt Channel, the Oakland Estuary, and central San Francisco Bay.

Cumulative Impacts on Biological Resources

Impact I.8: Construction activity and new development resulting from the project, in conjunction with other foreseeable development in the city and along its shoreline, could result in impacts on wetlands, other waters of the U.S., and special-status species. (Less than Significant)

Assuming concurrent implementation of the project with other reasonably foreseeable future projects in the vicinity, adverse cumulative effects on biological resources could include construction impacts on wetlands, other waters of the U.S., and special-status species. The project and other future projects in the area would be required to comply with local, state, and federal laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources, specifically wetlands, other waters of the U.S., and special-status species. Additionally, new projects would be required to demonstrate that they would not have significant effects on these biological resources, although it is possible that some projects may be approved even though they would have significant, unavoidable impacts on biological resources. Therefore, the effect of the project on biological resources, in combination with other foreseeable projects, would be less than significant.

Mitigation: None Required.

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J. Population, Housing, and Employment

This section addresses existing conditions, trends, and impacts of the project related to population, housing, business activity, and employment. Specifically, the analysis focuses on the inducement of population growth and on displacement of housing, people, businesses, and jobs, as well as on potential indirect physical impacts. Appropriate mitigation measures are identified when necessary.

Introduction

The following setting identifies existing conditions and trends for the project site, and then focuses on surrounding areas of Oakland. The citywide and regional context for population, housing, and employment is presented, along with identification of the relationship between jobs and housing. Project housing, population, and employment are quantified and described along with the project's contributions to citywide growth, providing the context for considering and understanding potential physical environmental impacts analyzed in this and other sections of the EIR.

As initially indicated above, the impact assessment of the project focuses on the inducement of population growth and on displacement of housing, people, businesses, and jobs. The impact analysis also considers the potential for indirect physical impacts, such as through ripple effects that could result in physical deterioration and urban decay due to the retail development proposed for the project. The discussion also addresses potential indirect impacts associated with potential housing market effects of the project.

Setting

Project Site

Property on the project site is owned by the Port of Oakland and occupied by 21 tenants. Those establishments provide employment for about 230 workers. There is no housing or residential population located on the project site.

Given the expanse of the project site, five geographic "subareas" (**Figure IV.J-1**) have been identified to organize the setting discussion of existing businesses and employment for the project site and outparcels encompassed by the project site.

Existing Business Activity and Employment

There is a mix of primarily industrial business activities on the project site. They include warehouse and wholesale activities, boat building and repair, equipment and container storage, cotton storage, a ready-mix concrete plant, construction storage, metal recycling, glass fabrication, longshore training, and retail furniture liquidation. There also is a small office for the Oakland Police Department. Overall, the largest number of tenants and business activities on the project site are industrial and marine-related support uses.

Most of the 231 workers employed at the project site are involved in the industrial business activities there and work in the more traditional blue-collar occupations. They include workers involved in production, transportation, material-moving, and maintenance and repair occupations. They also include onsite managers. In addition, there are workers employed in the retail and wholesale business activities on the site, including those in the sales and related (inventory/stock clerks, movers) occupations, and in the managerial and clerical/record-keeping occupations.

The business activities and associated employment are located throughout the large Oak to Ninth project site, as summarized in **Tables IV.J-1** and **IV.J-2** and in the map presented in **Figure IV.J-1**. At the western end of the site, there are four business operations located in subareas 1 and 2 of the project site, on both sides of Lake Merritt Channel. Employment of 91 workers is estimated for these parts of the project site, 51 jobs in subarea 1 (west side of Channel) and 40 jobs in subarea 2 (east of Channel to Fifth Avenue area). In addition to the business operations, subarea 1 also includes the Jack London Aquatic Center and Estuary Park with a small amount of associated employment.

TABLE IV.J-1

EMPLOYMENT ON THE OAK TO NINTH PROJECT SITE

Subarea[a]		**Employment (2004)**[b]
1	West of Channel	51
2	Channel to Fifth Avenue Area	40
4	East of Fifth Avenue Area and West of Clinton Basin	45
5	East of Clinton Basin	95
Total Project Site		**231**

[a] The subareas are identified on the map in Figure IV.J-1. Subareas 1, 2, 4, and 5 include property owned by the Port of Oakland and define the project site. Subarea 3 is privately-owned property in the Oak to Ninth Avenue area that is not included within the project site.
[b] Estimated by Hausrath Economics Group based on data for properties, tenants, and leases from the Port of Oakland and on field work.

SOURCE: Hausrath Economics Group, July-August 2004.

There are 16 tenants/uses in the eastern parts of the project site, on either side of Clinton Basin, including 14 businesses and two local government entities (the Oakland Police Department and the Port of Oakland). Employment for 140 workers is estimated for these areas, 45 jobs in subarea 4 (west of Clinton Basin and east of Fifth Avenue area) and 94 jobs in subarea 5 (east of Clinton Basin). The maritime and marine-related business activities are primarily located in

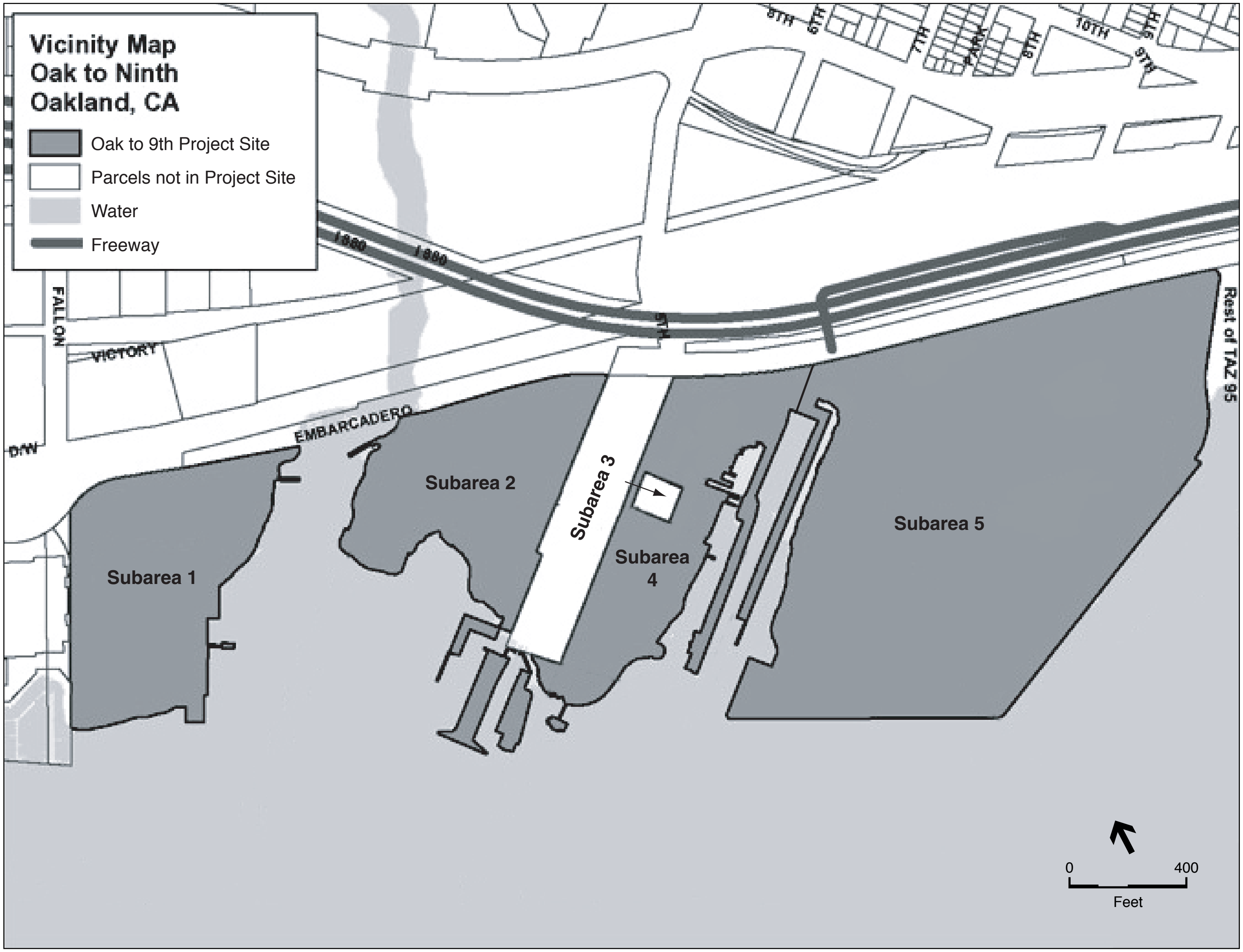
TABLE IV.J-2

PROJECT SITE TENANTS, BUSINESS ACTIVITIES, AND EMPLOYMENT

Subarea[a]	Number of Tenants/ Uses[b]	Estimated Employment[c]	Tenant/Business Names[b]	Business Activities/Uses[b]
1	2	51	Cash & Carry	Wholesale grocery
			Jack London Aquatic Center/Estuary Park	Public park and aquatic center
2	3	40	Golden State Diesel Marine	Marine engine repair and storage
			Telemedia Communications Systems Inc.	Telecommunications equipment sales and storage
			Kaiser Sand and Gravel Co./Berkeley-Oakland Ready Mix	Concrete and cement plant and storage
4	7	45	East Bay Glass Co.	Fabrication, manufacturing, and storage
			KTVU	Equipment storage
			Port of Oakland	Storage
			Philbrick Boat Works	Boatbuilding and storage
			Thunderbird Properties	Boat repair and storage
			Ship Shape Marine	Marine storage
			Oakland Marine Service	Floating barge/storage
5	9	95	Air-Sea Containers	Container storage; warehouse/ office
			Morespace	Storage
			National Furniture Liquidators, Inc.	Retail furniture operation
			Oakland Police Dept.	Office
			Pacific Maritime Association	Training for longshore personnel
			Lakeside Non-Ferrous Metals, Inc.	Recycling of non-ferrous metals
			Pacific Rim Transportation, Inc.	Container trucking and storage
			Vortex Marine Construction, Inc.	Marine construction yard and docking of barge
			Transmeridian Warehouses, Inc./ Ninth Avenue Terminal	Cotton storage
Total	**21**	**231**		

[a] The subareas are identified on the map in Figure IV.J-1.
Port of Oakland, July 2004 and field work by Hausrath Economics Group, August 2004.
[c] Estimated by Hausrath Economics Group using square footage data for properties and tenants/leases from the Port of Oakland and field observations.

SOURCE: Hausrath Economics Group and Port of Oakland, July-August 2004.



SOURCE: Hausrath Economics Group, 2005

Oak to Ninth Avenue . 202622
Figure IV.J-1
Oak to Ninth Subareas

these parts of the project site. The Ninth Avenue Terminal, formerly operated as a breakbulk terminal by the Port of Oakland, is located on the east side of Clinton Basin in subarea 5.

Trends in Activity

Historically, the Oak to Ninth District of the Estuary waterfront developed as an industrial and warehousing district oriented to and served by the mainline railroad and the cargo-handling facilities at the Ninth Avenue Terminal. Today, the area continues to be dominated by industrial uses, although the cargo-handling industries and levels of industrial activity have declined. The Ninth Avenue Terminal remained in use by the Port of Oakland as a breakbulk terminal until its closure in 1998.

The industrial business activities currently located on the project site value the location because of the large open land areas available for outside storage and various industrial activities, the area’s good access to I-880 with proximity to the central parts of the region, and because of the site’s relative isolation from residential and commercial uses. There continues to be market interest in the area for industrial business activities.

Little change has occurred in the facilities and physical conditions of the project site in recent years. The site’s landowner, the Port of Oakland, has continued to hold the land and lease it as-is, in anticipation of reuse and redevelopment of this waterfront property for new uses in the future.

Tenure of Businesses and Lease Terms

The length of time that existing businesses have been operating on the project site ranges from two to 40 years. Of the 18 business tenants located on the site (excluding the Aquatic Center/Estuary Park, the Port of Oakland, and the Oakland Police Department), five businesses have been at this location for two to five years, six business for five to 10 years, five businesses for 10 to 16 years, and two businesses for about 40 years. The long-term tenants include the Cash & Carry wholesale grocery operation in subarea 1 west of the Channel and the sand and gravel and ready-mix concrete operations on the east side of the Channel in subarea 2.

Almost all of the businesses on the project site are now on month-to-month or short-term leases. Many had longer-term leases that have expired and converted to a month-to-month basis. Businesses accept the lack of long-term location security and choose to remain in the area and continue operations there for as long as possible. The two tenants with operations in the area since the mid-1960s have longer-term leases that extend to 2009 in one case (the Cash & Carry wholesaler) and to 2015 in the other (the sand and gravel and ready-mix concrete operations).

Adjacent Fifth Avenue Point Area

There are privately-owned parcels near the middle of the Oak to Ninth District (see subarea 3 on the map in **Figure IV.J-1**) that are not included in the project site although they are surrounded by it. The area is an enclave of artist studios, artisan workshops, and small businesses occupying the older industrial building stock there. It is estimated that about 108 people work in this area in a mix of arts and crafts, manufacturing, light industrial, professional service, and water-related business activities (see **Table IV.J-3** below).

TABLE IV.J-3

EMPLOYMENT AND POPULATION FOR FIFTH AVENUE POINT AREA ADJACENT TO THE PROJECT SITE

Subarea[a]		Employment[b]	Households[c]	Population[c]
3	Fifth Avenue Point Area	108	17	33

[a] See map in Figure IV.J-1. Subarea 3 is privately-owned property in the Oak to Ninth Avenue area that is not included within the project site.
[b] Estimated by Hausrath Economics Group based on property data from the Port of Oakland and the Alameda County Assessor and on field work.
[c] 2000 Census data. Current conditions are assumed to be the same as identified by the most recent Census data.

SOURCE: Hausrath Economics Group, July-August 2004.

The 2000 Census identified 17 households residing in the artist and artisan work-live studios in the area with a population of 33 residents. That same population continues to reside in the area today.

The levels and types of business activity, employment, and residential population in this area evolved over time and have remained fairly stable. Most of the businesses and residents are tenants, who rent the studios and other space in the area.

Surrounding Areas

The project site is somewhat separated from surrounding areas of Oakland by the I-880 freeway and rail lines and railroad property to the north and by the waters of the Estuary on its east and south sides. Beyond those separations, surrounding areas include the rest of the Oak to Ninth Avenue District, other parts of the Estuary waterfront to the west (the Jack London District) and to the east (the San Antonio/Fruitvale Waterfront District), downtown Oakland to the northwest (above I-880 to Grand Avenue and north to I-580), and the San Antonio area neighborhoods to the north and northeast (above I-880 between Lake Merritt and the Channel and Fruitvale Avenue). Employment, households, and population in these surrounding areas are summarized in **Tables IV.J-4** and **IV.J-5** and described in this section. **Table IV.J-4** identifies existing conditions and **Table IV.J-5** summarizes future trends. Background on the estimates and more detailed data for surrounding areas are provided in **Appendix D.4**.

Estuary Waterfront

Oakland's Estuary waterfront extends from the Jack London District on the west to 66th Avenue on the east, including all of the lands on the waterside of I-880. The area includes three districts: the Jack London District, the Oak to Ninth District, and the San Antonio/Fruitvale District. In total, approximately 13,420 people are employed in a wide range of commercial and industrial

TABLE IV.J-4

EMPLOYMENT, HOUSEHOLDS, AND POPULATION FOR OAK TO NINTH PROJECT SITE AND SURROUNDING AREAS, 2005

	Employment	Households	Population
Estuary Waterfront (South of I-880, Brush St./MLK Jr. Way east to 66th Avenue)[a]			
Oak to Ninth District			
Project Site	231	-	-
Rest of District	613	17	33
Jack London District	7,180	1,350	2,430
San Antonio/Fruitvale District	5,400	640	1,490
	13,424	2,007	3,953
San Antonio, north of I-880 (North of I-880 to I-580, Lake Merritt and Channel east to Fruitvale Ave.) [b]			
Lower San Antonio	6,300	11,630	37,420
Rest of Area	5,510	10,820	30,100
	11,810	22,450	67,520
Downtown Oakland, north of I-880 (North of I-880 to I-580, I-980 east to Lake Merritt and Channel)			
I-880 to Grand Ave.	61,860	8,170	18,150
Grand Ave. to I-580	13,810	10,500	18,420
	75,670	18,670	36,570
Total Project Site and Larger Surrounding Area	**100,904**	**43,127**	**108,043**
City of Oakland Overall	**198,470**	**155,400**	**417,350**

[a] The extreme western end of the area covered by the *Estuary Policy Plan*, between Adeline Street and Brush Street inland of the railroad and maritime facilities, is not included in the data for surrounding areas.

[b] The data shown here for the San Antonio covers an area that extends east to Fruitvale Avenue and that includes a part of the adjacent Fruitvale District, between 28th Avenue and Fruitvale Avenue in the vicinity of International Boulevard. The data for the Lower San Antonio subarea covers an area that approximates the Lower San Antonio neighborhood using the cumulative scenario database.

SOURCE: Oakland Cumulative Growth Scenario as updated for *Oak to Ninth Avenue Project EIR*, November 2004.

business activities along the Estuary waterfront. Approximately 3,960 people now live in this area in 2,010 households. The Oak to Ninth project site is located in the central portion of the Estuary waterfront.

Jack London District

To the west of the project site, this formerly industrial district is now a major destination for retail, dining, and entertainment activities in Oakland and is poised for growth of these activities with the redevelopment of Jack London Square that has just begun. The District also has become a desirable office location for professional service firms and other office businesses, and the Port of Oakland's offices are in this area. The historic wholesale produce market remains in the Jack London District along with selected industrial and distribution uses, although those business

TABLE IV.J-5

**TRENDS FOR SURROUNDING AREAS AND THE CITY OF OAKLAND, 2000, 2005, AND 2025
(without Oak to Ninth Avenue Project)**

	2000	2005	2025	2005–2025 Change	2005–2025 Percent
Employment					
Estuary Waterfront	12,940	13,420	17,740	4,320	32%
San Antonio, north of I-880	11,520	11,810	12,590	780	7%
Downtown Oakland, north of I-880	70,620	75,670	91,660	15,990	21%
City of Oakland	185,160	198,470	240,950	42,480	21%
Households					
Estuary Waterfront	640	2,010	3,330	1,320	66%
San Antonio, north of I-880	22,190	22,450	23,060	610	3%
Downtown Oakland, north of I-880	17,790	18,670	25,810	7,140	38%
City of Oakland	150,790	155,400	171,980	16,580	11%
Total Population					
Estuary Waterfront	1,420	3,950	6,510	2,560	65%
San Antonio, north of I-880	66,310	67,520	68,390	870	1%
Downtown Oakland, north of I-880	31,790	36,570	49,150	12,580	34%
City of Oakland	399,480	417,350	448,460	31,110	7%

NOTE: The numbers presented above for 2025 reflect the No Project scenario, where existing conditions on the Oak to Ninth project site are assumed to remain as-is (2005) in the future.

SOURCE: Oakland Cumulative Growth Scenario as updated for *Oak to Ninth Avenue Project EIR*, November 2004.

activities have been declining over time as the area transitions to higher-density uses. Employment in the Jack London District in 2005 is estimated at 7,180. It is projected to increase to 10,960 jobs by 2025, reflecting a 53 percent increase in employment in this area over the next 20 years.

The eastern parts of the Jack London District have been transforming into a new urban neighborhood. The conversion of industrial buildings to work-live and residential lofts along with the development of new loft housing will have increased the population in the District from 248 households and 396 residents at the time of the 2000 Census to approximately 1,360 households and 2,440 residents by the end of 2005. This growth is part of a larger trend of higher-density new housing development in downtown Oakland, attracting new residents to downtown and infusing new vitality into Oakland’s central area. Additional housing growth is anticipated in the Jack London District over the next 20 years, with projections showing 2,380 households and 4,160 residents in the District by 2025.

The western end of the Oak to Ninth project site (subarea 1) is adjacent to the Jack London District and to the loft district in the eastern parts of that District.

Rest of Oak to Ninth District, North of Embarcadero (Not Part of Project Site)

In addition to the Oak to Ninth project site and the Fifth Avenue Point area on land that extends to the Estuary on the south side of the Embarcadero, the Oak to Ninth District also includes inland areas north of Embarcadero, between Oak Street, I-880, and Lake Merritt Channel. This relatively small area includes a mix of active, light industrial business activities with current employment of about 410 jobs. The area is expected to remain active and stable in the future with no major changes anticipated.

San Antonio/Fruitvale District of Estuary Waterfront

Beyond the Oak to Ninth project site to the east lies the San Antonio/Fruitvale District of the Estuary waterfront. This large district with several subareas includes a broad mix of commercial and industrial business activities as well as residential uses. Overall, current employment in this District is estimated at approximately 5,400 jobs. There also are about 640 households with 1,490 people residing in this District by the end of 2005, most in the Kennedy Tract subarea along the waterfront in the vicinity of 29th and Fruitvale Avenues.

Immediately to the east of the Oak to Ninth project site is the Embarcadero Cove subarea with a mix of largely water-oriented commercial uses. There is a mix of restaurant, hotel/motel, boat-sales, and office business activities oriented to the waterfront and a small boat marina. There also are light industrial businesses and larger-scale office uses. There is potential in this subarea for intensification of activity and new development for commercial and recreation-oriented activities in the future.

Beyond Embarcadero Cove to the east, are several subareas, that move from heavy industrial and light industrial activities with some commercial activities in the Brooklyn Basin and Con Agra subareas to a mix of residential, warehousing, service-oriented uses, and artisan work-live spaces in the Kennedy Tract. Of note is the recent development of new loft housing along the waterfront in the Kennedy Tract subarea, accommodating 260 additional households and about 500 new residents in that area. Beyond, the waterfront extends further east from the large Owens Brockway industrial facility to the 42nd Street and High Street area with a mix of warehouse, light industrial, commercial, and big-box retail uses, to the Tidewater area with light industrial and service-oriented uses.

Overall, the San Antonio/Fruitvale District of the waterfront includes many older industrial uses and facilities and much of the area remains isolated from the rest of the City by the I-880 freeway, the railroad tracks and rail rights-of-way, and the lack of access inland. The area also is bisected by through connections to Alameda via the Park Street and High Street bridges. Throughout this district, there are potentials for change and redevelopment to a mix of commercial, residential, recreational, and light industrial uses in the future with improved access to and along the shoreline and increased recognition of the waterfront amenities available there.

San Antonio District

The San Antonio District of Oakland is located across the I-880 freeway and the railroad rights-of-way to the north and northeast of the project site.[1] The San Antonio is a largely residential community extending from the east side of Lake Merritt and the Channel to approximately Fruitvale Avenue and 28th Avenue, and north to I-580.[2] The parts of this District located south of East 22nd Street and east of approximately Park Boulevard and 3rd Avenue are known as the Lower San Antonio.

The San Antonio neighborhoods include mixed housing types with single family detached and attached units and apartment buildings. There are approximately 22,400 households residing in the San Antonio, north of I-880, with a population of 67,500 residents. About 52 percent of these households and 55 percent of the population reside in the Lower San Antonio community, in the southern parts of the area. (See **Table IV.J-4**.)

The neighborhood-oriented commercial activities in the San Antonio are concentrated along the transportation corridors. They include the Eastlake Business District along International Boulevard. and East 12th Street at the western end of the District,[3] and the San Antonio Commercial District located further east on the same streets. Commercial uses also occur along Foothill Boulevard, and there is a community shopping center and surrounding neighborhood commercial district near Lake Merritt, in the vicinity of East 18th Street and Park Boulevard. The San Antonio also includes older industrial properties south of East 12th Street near the railroad and freeway. Employment in the San Antonio currently is estimated at approximately 11,800, as shown in **Table IV.J-4**.

The San Antonio is characterized by the diversity of its population which contributes to its multi-cultural character. The 2000 Census identified that the largest shares of the area's population are represented by Asian residents (34 percent), Hispanic or Latino residents (27 percent), and black or African-American residents (23 percent), followed by the share for white, non-Hispanic residents (12 percent). The Eastlake Business District includes an eclectic and diverse selection of businesses including many Southeast Asian-owned stores oriented to the growing Asian population nearby. Many of the Hispanic or Latino residents reside in the eastern portions of the area, adjacent to the nearby Fruitvale District.

Compared to Oakland's population overall, the San Antonio includes proportionally more family households and a younger population with more children, particularly in the Lower San Antonio.

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[1] Parts of the larger San Antonio located below the I-880 freeway and along the Estuary are included in the San Antonio/Fruitvale District of the Estuary Waterfront described in the prior subsection.

[2] The data describing population and employment for the San Antonio as part of the surrounding areas covers an area that extends east to Fruitvale Avenue and that includes a part of the adjacent Fruitvale District between 28th Avenue and Fruitvale Avenue in the vicinity of International Boulevard.

[3] More description of the Eastlake Business District is provided later in this section as part of the assessment of potential indirect physical impacts of retail development proposed for the project. Further consideration of the Eastlake District including analysis of retail sales data for the District, also is provided in Appendix D.2: Analysis of Potential for Indirect Physical Impacts from Retail Development Proposed for the Oak to Ninth Avenue Project.

Household incomes of residents in the San Antonio are below citywide median income, and a larger share of San Antonio residents are renters than is true for the city overall.[4]

Through the combined efforts of the local community and the public and nonprofit sectors, streetscape improvements are providing pedestrian enhancements and new landscaping in parts of the area, and there are business retention and attraction efforts, a façade improvement program, and various business assistance, workforce development, and community education efforts underway to support neighborhood and economic development in the area. There also are efforts underway to preserve affordable housing for existing residents of the Lower San Antonio, including financial and education assistance for residents and the identification of potential sites and other incentives to encourage affordable housing development in the neighborhood.

Further growth in the area over the next 20 years is anticipated to include some additional housing on infill sites and improvement of business activity in the commercial districts which will support some employment growth over time.

Downtown Oakland

Downtown Oakland is located to the north and northwest of the project site. It includes the Jack London District described above and other districts in the central parts of downtown extending inland from the I-880 freeway to Grand Avenue, including the County/Metro Center/Museum area extending west from Lake Merritt Channel, Chinatown, Old Oakland, City Center area, Kaiser Center area, and the Uptown District. Downtown Oakland is the major employment center in Oakland and represents the largest concentration of business activity and employment in the Bay Area outside of downtown San Francisco. (Concentration measured in terms of total amount and density of employment within a definable area.)

Currently, there are approximately 62,000 people employed in the central parts of downtown Oakland from I-880 north to Grand Avenue. Office employment in both private sector and government office activities represents over three-quarters of all employment downtown. The rest includes employment in retail, restaurant, entertainment, and hotel activities and employment in various service, education, cultural, manufacturing and wholesale, auto-related, and non-office public sector activities. The larger Downtown/Oakland Central area extending further north from Grand to I-580 includes additional business activity and employment in office, retail, auto-related, and medical/hospital uses, bringing total employment for the larger area from I-880 to I-580 to approximately 76,000. Downtown employment represents a significant share, about 38 percent, of total employment in Oakland.

Business activity and employment in downtown Oakland are anticipated to continue to grow in the future, given the area's central location in the region, its good transportation accessibility, and its role and competitive position within the region's office market. Employment downtown is anticipated to increase by about 21 percent, or 16,000 jobs, by 2025, to a total of approximately

[4] The population and household characteristics summarized are based on 2000 Census data for Census Tracts that approximate the boundaries of the San Antonio and Lower San Antonio areas. Tables including the Census data referenced are included in Appendix D.1 of this EIR. See Tables D.1-1 and D.1-2.

92,000 in the larger Downtown/Oakland Central area from I-880 to I-580. With the Jack London District included, employment in the total Downtown/Oakland Central area in 2025 is forecast at approximately 103,000.

In addition to its role as an employment center, downtown Oakland is becoming increasingly desirable as a location for higher-density new housing development. This growth is part of a larger trend back to urban living that is bringing new residents downtown and creating new vitality for Oakland's central area. New housing since the 2000 Census has added about 900 households to downtown's collection of neighborhoods including Chinatown, Old Oakland, Lake Merritt, and other parts of downtown. By 2010, an additional 2,000 to 2,400 households are anticipated to be added downtown in housing projects that are under construction, already approved, or currently in the planning process. The new housing covers a range of housing prices and rents, including new units at affordable levels. By 2025, another 4,700 to 5,000 additional households are forecast for the Downtown/Oakland Central area from I-880 to I-580, which by then would be home to about 49,000 residents.

City of Oakland and the Region

Oakland is the third largest city in the Bay Area region and the largest city in the East Bay. Population, housing, and employment growth is occurring in Oakland and projected to continue in the future, bolstering Oakland's role as a centrally-located place of residence and place of employment within the large Bay Area region.

Population and Housing

Existing Conditions and Trends

The 2000 Census identified 399,480 people living in Oakland, about six percent of the total population of the Bay Area (see **Table IV.J-6**). The number of people occupying housing in the city (household population) totaled 392,310 in 2000, with an additional 7,170 people living in group quarters such as dormitories, group homes, nursing homes, shelters, correction facilities, etc. There were 150,790 households in Oakland in 2000 and an average household size of 2.6 persons per household.

The 2000 census also identified 157,510 housing units in Oakland (see **Table IV.J-7**). Of the occupied housing units (150,790), 59 percent were renter-occupied and 41 percent owner-occupied. From 1990 to 2000, Oakland's housing stock increased by 2,771 units. However, the number of households in the city grew by 6,269 during the 1990s, reflecting increased occupancy of the existing housing stock, as the overall housing vacancy rate declined from 6.6 percent in 1990 to 4.3 percent in 2000 (see **Table IV.J-7**). The city's population increased by 27,240 residents during that period as a result of household growth and an increase in the population in existing households.

TABLE IV.J-6

POPULATION, HOUSEHOLDS, AND EMPLOYMENT FOR OAKLAND, INNER EAST BAY, AND BAY AREA REGION: 1990, 2000, AND 2025 (Without Oak to Ninth Avenue Project)

				1990–2000		2000–2025		
	1990	**2000**	**2025**	**Change**	**Annual Rate**	**Change**	**Annual Rate**	
Total Population								
Oakland [a]	372,240	399,480	448,460	27,240	0.71%	48,976	12%	0.46%
Inner East Bay [c]	649,840	688,220	768,760	38,380	0.58%	80,550	12%	0.44%
Total Bay Area [d]	6,020,150	6,783,760	8,222,660	763,610	1.20%	1,438,900	21%	0.77%
Households								
Oakland [a]	144,520	150,790	171,980	6,270	0.43%	21,190	14%	0.53%
Inner East Bay [c]	260,350	271,400	303,310	11,050	0.42%	31,910	12%	0.45%
Total Bay Area [d]	2,245,870	2,466,020	2,981,330	220,150	0.94%	515,310	21%	0.76%
Employment								
Oakland [b]	173,270	185,160	240,950	11,890	0.67%	55,790	30%	1.06%
Inner East Bay [c]	353,640	368,890	476,230	15,250	0.45%	107,340	29%	1.03%
Total Bay Area [d]	3,201,010	3,744,880	4,930,040	543,870	1.58%	1,185,160	32%	1.11%

a U.S. Census data for 1990 and 2000. For 2025, Oakland Cumulative Growth Scenario as updated for Oak to Ninth Avenue Project EIR, November 2004, assuming the No Project scenario.
b Oakland Cumulative Growth Scenario as updated for Oak to Ninth Avenue Project EIR, November 2004, assuming the No Project scenario.
c Inner East Bay includes Oakland and nearby cities of Albany, Berkeley, Emeryville, Piedmont, Alameda, and San Leandro. Data and projections for nearby cities from ABAG, Projections 2002.
d Totals for the Bay Area are from ABAG, Projections 2002 except data and projections for Oakland per note a above substitute for the ABAG figures for Oakland.

SOURCES: U.S. Census; ABAG Projections 2002; Oakland Cumulative Growth Scenario, November 2004.

TABLE IV.J-7

CHANGES IN HOUSING STOCK IN OAKLAND, 1990–2000

	1990		2000		Change
Total Housing Units	154,737		157,508		2,771
Occupied Housing Units	144,521	93.4%	150,790	95.7%	6,269
Vacant Housing Units	10,216	6.6%	6,718	4.3%	(3,498)
Owner-occupied Housing	60,153	41.6%	62,489	41.4%	2,336
Renter-occupied Housing	84,368	58.4%	88,301	58.6%	3,933

SOURCE: U.S. Census, 1990 and 2000.

New Housing Development in Oakland

Since 2000, the city's housing supply has been increasing substantially with about 5,000 new units (4,980) anticipated to be developed in Oakland by the end of 2005 (see **Table IV.J-8**). This represents a substantial change from past trends where very little new housing was developed in Oakland in prior decades. In the 1970s and 1980s, housing development bypassed Oakland and other inner city areas in favor of the suburbs. In the 1990s, regional trends began to change. Household and population growth occurred in existing housing in Oakland, decreasing the city's vacancy rate and increasing persons per household. Most of the 2,771 units added in Oakland during the 1990s were built in the latter part of the decade as the region's housing market began to rediscover Oakland. Strong regional housing demand, fewer remaining locations for development in the suburbs, renewed interest in center city living particularly in proximity to employment centers, and a relatively affordable land supply for such a central Bay Area location were all factors in favor of renewed housing development in Oakland. In addition, new housing development has been encouraged in Oakland by regional and local Smart Growth land use policies and by other local efforts such as the Mayor's 10K Housing Initiative to attract new housing development to downtown Oakland and bring 10,000 additional residents downtown.

TABLE IV.J-8

HOUSING GROWTH IN OAKLAND
(without Oak to Ninth Avenue Project)

	Additional Housing Units	Annual Average
1990–2000[a]	2,771	277
2000–2005[b]	4,980	996
2006–2025[c]	17,220	861

a 2000 Census.
b Housing units in projects anticipated to be completed by the end of 2005.
c Housing in approved projects, in projects in pre-development and planning, and housing on housing opportunity sites and other sites considered likely to be developed by 2025, without the proposed Oak to Ninth Avenue Project.

SOURCE: City of Oakland Housing Element; Oakland Cumulative Growth Scenario, November 2004.

As identified in Oakland's Housing Element, new housing is being built in downtown Oakland and in many other parts of the city, including West Oakland, East Oakland, North Oakland, and along the Estuary waterfront. Most of the new housing is multi-family housing. New housing development is focused around the city's BART stations, along transit corridors, in the downtown area, and in mixed-use neighborhoods. Lofts and other new housing are also being built in older industrial areas of the City. New housing in Oakland includes units covering a range of prices and rents, reflecting Oakland's land use policies encouraging higher-density development and the investment of substantial public funding for affordable housing.

The market success of recent housing developments in Oakland and the continuing demand for housing have increased developer interest in building additional new housing in Oakland. About 6,300 new units are now anticipated to be built over the next five years, 2006 to 2010, in projects already approved, in projects in the pre-development and planning process, or on sites considered likely to be developed in this timeframe. Beyond 2010, projections anticipate additional housing development of about 11,000 units (without the proposed project) through 2025. By 2025, the projections include development of the housing opportunity sites identified in Oakland's Housing Element as well as new housing on other, additional sites. In total, the development of about 22,200 new units by 2025 (without the proposed project) would increase Oakland's housing supply by 14 percent over the housing stock identified in the 2000 Census.

Population and Household Projections

Population projections for Oakland indicate growth of approximately 21,200 households and 49,000 residents from 2000 to 2025 without the proposed project (see **Table IV.J-6**). This growth reflects the continuing development of new housing in Oakland (described above) and projected demographic trends. In both the city and the region, average household size is projected to decline over time, reflecting the aging of the population, particularly the increase in the proportion of the population over age 55. In Oakland, the development of higher-density housing in the downtown area and other locations also is anticipated to attract households with fewer people and smaller than average household sizes. Thus, population is projected to increase by 12 percent through 2025, while households and housing units are projected to grow by 14 percent.

Regional Market Context for Housing Prices and Rents

Recent Trends

Throughout the state and the region, housing production has not kept pace with the demand for housing associated with employment growth, in-migration, and household formation. Between 1990 and 2000, about 187,000 housing units were added in the nine Bay Area counties (an eight percent increase). During the same period, the number of employed residents increased by 456,000 (14 percent) and the number of jobs increased by 548,000 (17 percent). Housing prices and rents also increased, reflecting this imbalance.

More recently, housing production levels have increased at the same time that employment opportunities have fallen off dramatically. Nevertheless, historically low mortgage rates have contributed to maintaining for-sale housing demand, price levels, and price increases, in spite of the significant slowdown in economic activity in the region. Apartment rents, however, leveled off in 2001 and have declined in most parts of the Bay Area as a result of the slow economy and the ability of some renters to become homebuyers because of low interest rates. Rental unit vacancy rates also have increased.

Housing Prices and Rents

Housing prices in the Bay Area are among the highest in the country. In 2004, prices for new and existing homes in the Bay Area averaged $543,875. From 1993 through 2004, average house prices in the region more than doubled, increasing 110 percent. Average home prices in Oakland and Alameda County are below those in the higher-priced markets, with prices for new and existing homes averaging $483,166 for Alameda County in 2004. However, increases in home prices in Alameda County were similar to regional trends, with prices increasing by 113 percent from 1993 through 2004. Housing price increases in parts of Oakland have actually exceeded regional trends in recent years, as relatively lower-priced housing in Oakland is "discovered" and becomes more desirable *vis-à-vis* higher-priced housing in surrounding areas. For example, over the four years from April 2000 to April 2004, market prices for existing single family homes increased by 77 percent in East Oakland, 69 percent in Oakland overall, and 66 percent in Alameda County overall, showing larger increases in prices for areas with relatively lower-priced housing. (Real Estate Research Council of Northern California, 2004.)

Information for larger rental apartment complexes show average apartment rents for the Bay Area at $1,278 per month at the end of 2004, and average rents for apartments in Alameda County at $1,194 per month, just below the regional average (Real Estate Research Council of Northern California, 2004). In both cases, rents peaked in 2001, and have declined thereafter as rental vacancy rates have increased. This trend has also occurred in Oakland. In 2005, average apartment rent in Oakland was $1,200 per month, and apartment vacancy rate was 6.9 percent (City of Oakland CEDA web site, 2005).

Oakland's Housing Market Reflects Regional Context

Housing market conditions in Oakland reflect the broader regional housing market context. While housing prices and rents in Oakland have generally been below those in many other parts of the Bay Area, regional housing demand and higher prices and rents in other areas have been increasing demand for housing in Oakland and putting upward pressure on Oakland's housing prices and rents. Increasing market interest in higher-density urban living and in housing in closer-in locations with access to employment centers are also supporting demand for housing in Oakland and providing the market for new housing now under development in Oakland.

Employment

Employment in Oakland was estimated at 185,160 in 2000, representing about five percent of all employment in the region (see **Table IV.J-6**). Business Activity and employment grew substantially in Oakland in the late 1990s, reflecting strong economic trends throughout the region and an enhanced market position for Oakland, particularly within the region's office market. While regional trends favored growth in the suburbs in prior decades, recent trends "back to the center" are now recognizing the value of Oakland's central location, its good transportation/transit accessibility, and its relative affordability as a business location. These factors are anticipated to become increasingly important in the future, enabling Oakland to retain and enhance its competitive position as a business center for the region.

Since 2000, employment in Oakland has remained relatively stable with job growth occurring locally in some sectors despite the downturn in the region's economy. During this period, employment declined substantially in other parts of the region, particularly in the South Bay and in San Francisco, due primarily to declines in the region's high technology industries. The diversity of Oakland's economy has lessened the effects of the region's economic downturn and helped maintain relatively high occupancy rates for the city's office, commercial, and industrial space markets.

As the region's economy rebounds from its recent slowdown, economic growth is forecast for the future. Projections for Oakland show growth of about 56,000 jobs from 2000 to 2025 (see **Table IV.J-6**). That growth represents about a 30 percent increase in employment in Oakland, and a rate of growth similar to that forecast for the region overall. Downtown Oakland is anticipated to remain strong and to grow as a major office center. Growth is anticipated in the transportation-related sectors centered on the city's growing airport and seaport, and in medical and health services, in retail, restaurant, and entertainment activities, and in professional and personal services. Activities in existing and new neighborhood commercial districts are anticipated to grow, supported by the growth of housing and population in the city.

Employed Residents and Jobs/Housing Relationship

Employed Residents and Places of Work

In 2000, 174,740 people living in Oakland were employed according to the U.S. Census, representing 62 percent of the working age population (the population 16 years of age and older) and 95 percent of the civilian labor force (those 16 years of age and older working or looking for work). It is estimated that the number of employed residents in Oakland has increased since 2000, to about 181,200 employed residents in 2005, as new housing and population have been added in the city. In the future, the number of employed residents is anticipated to increase at a faster rate than the growth of population, due to the growth of higher-density new housing in Oakland with proportionally more adult residents in their working years and to regional demographic trends related to the overall aging of the population and higher labor force participation rates.

Census data indicate that in 2000, about 39 percent of the employed residents of Oakland held jobs in Oakland. Another 16 percent worked in nearby cities of the Inner East Bay, and 18 percent worked in San Francisco. About 19 percent worked elsewhere in Alameda and Contra Costa counties outside the Inner East Bay, and the remaining eight (8) percent worked in other locations, most in other Bay Area counties. (ABAG, 2000 Census.)

Oakland residents working in Oakland in 2000 held 37 percent of the jobs in Oakland. Residents of nearby cities and other parts of Alameda and Contra Costa counties held another 46 percent of the City's jobs, and residents of other Bay Area communities held the remaining 17 percent of jobs. (ABAG, 2000 Census.)

Relationship of Jobs and Housing

As described above, Oakland is both a place of residence and a place of employment. The total number of jobs in the city (185,200 in 2000) is relatively similar to the total number of employed residents (174,700 in 2000) (see **Table IV.J-9**). The overall relationship between jobs and employed residents in an area identifies the extent to which a community enjoys a balanced mix of land uses thereby offering job opportunities to local residents and housing opportunities for workers employed in local jobs. The resultant mix of who lives in Oakland and who works in Oakland and the extent to which these are the same individuals results from a complex set of interactions and decision factors that determine where people choose to live and work, how much they spend for housing, and their travel patterns. Jobs/housing balance evolves over time and reflects the role and location of particular areas within the larger regional context. Regional planning efforts in the Bay Area seek to "balance" the number of jobs and the number of employed residents, or to improve existing imbalances, for purposes of achieving goals related to improved housing availability and affordability, commute distances, congestion, and air quality.

Data and projections for Oakland indicate that Oakland has a good balance of jobs and housing as it continues to have a relatively similar number of jobs and employed residents. In the future, the rate of growth of employed residents is anticipated to exceed the rate of growth in the number of jobs so that the city's ratio of jobs to employed residents becomes even more "balanced" over time, as shown in **Table IV.J-9**. The substantial growth of housing that is projected for Oakland in the future will increase the city's role as a place of residence. The relationship of jobs to employed residents in Oakland is very similar to that for the nine-county Bay Area overall. Data for the Inner East Bay, including Oakland and its nearby cities, show that this larger surrounding area has a somewhat higher ratio of jobs to employed residents than Oakland alone.

TABLE IV.J-9

TRENDS IN JOBS AND EMPLOYED RESIDENTS: 1990-2025
(without Oak to Ninth Avenue Project)

				1990-2000		2000-2025	
	1990	**2000**	**2025**	**Change**	**Annual Rate**	**Change**	**Annual Rate**
Total Jobs							
Oakland [a]	173,270	185,160	240,950	11,890	0.67%	55,790	1.06%
Inner East Bay [c]	353,640	368,890	476,230	15,250	0.42%	107,340	1.03%
Total Bay Area [d]	3,201,010	3,744,880	4,930,040	543,870	1.58%	1,185,160	1.11%
Employed Residents							
Oakland [b]	162,490	174,740	229,090	12,250	0.73%	54,350	1.09%
Inner East Bay [c]	312,070	320,020	411,190	7,950	0.25%	91,170	1.01%
Total Bay Area [d]	3,147,610	3,611,370	4,646,590	463,760	1.38%	1,035,220	1.01%
Ratio Jobs-to-Employed Residents							
Oakland	1.07:1	1.06:1	1.05:1				
Inner East Bay	1.13:1	1.15:1	1.16:1				
Total Bay Area	1.02:1	1.04:1	1.06:1				
Employed Residents as Percent of Population							
Oakland	44%	44%	51%				
Inner East Bay	48%	46%	53%				
Total Bay Area	52%	53%	57%				

[a] Oakland Cumulative Growth Scenario as updated for *Oak to Ninth Avenue Project EIR*, November 2004; assuming the No Project scenario.
[b] U.S. Census data for 1990 and 2000. For 2025, Oakland Cumulative Growth Scenario as updated for *Oak to Ninth Avenue Project EIR*, November 2004 assuming the No Project scenario.
[c] Inner East Bay includes Oakland and nearby cities of Albany, Berkeley, Emeryville, Piedmont, Alameda, and San Leandro. Data and projections for nearby cities from ABAG, *Projections 2002*.
[d] Totals for the Bay Area are from ABAG, *Projections 2002* except data and projections for Oakland per note a above substitute for the ABAG figures for Oakland.

SOURCES: U.S. Census; ABAG *Projections 2002*; Oakland Cumulative Growth Scenario, November 2004.

Project Population and Employment and Contributions to Citywide Growth

This discussion quantifies and describes the growth and other changes in population and employment associated with the proposed project. Growth and change are considered from the perspectives of the project site and of citywide growth of housing, population, and employment in Oakland. Population and employment changes in and of themselves, are not normally considered to be significant environmental effects under CEQA. However, these changes and effects can be indicators of other impacts, and they can have influence on the significance of those impacts. Thus, the description of population and employment changes that follows is included to provide context for considering and understanding potential physical environmental impacts associated with changes in housing, population, and employment that are analyzed later in this section and in other sections of this EIR (*e.g.*, traffic, public services, and air quality). In addition, the description also identifies beneficial aspects of the project in terms of expanded housing choices, increased business activity, and employment opportunities.

Housing and Population

The project would increase the supply of housing in Oakland, and expand the housing choices available. The 3,100 units proposed would be built in four phases over approximately 11 years. The new housing would include one-bedroom, two-bedroom, and three-bedroom units, with the largest number being two-bedroom units. There would be a mix of types of housing including one-level condo/apartment-style units and flats, two-level townhouse-style units, and higher-ceiling loft-style housing. The project is anticipated to include both ownership and rental housing, with the majority of units being offered for sale. The project proposes market-rate housing covering a range of prices and rents depending on the size, type, and location of units as well as views and other amenities.

The new housing would accommodate a mix of types and sizes of households. At full development, the project is anticipated to accommodate 2,976 households, assuming a long-term average vacancy rate of four percent, consistent with citywide data. Project population is estimated to include 5,061 people, reflecting an average household size of 1.7 persons per household (see **Table IV.J-10**). (Background on the population estimates and more detailed tables are provided in **Appendix D.3**.)

The project would create a new residential neighborhood along the Estuary waterfront. Because the neighborhood would consist entirely of new higher-density housing in multi-family development, the number of persons per household would be smaller than average for Oakland overall. In addition, project households are anticipated to include proportionally more adults and fewer children. A relatively high percentage of project residents are anticipated to be workers.

TABLE IV.J-10

SUMMARY OF POPULATION AND EMPLOYMENT ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT

	Housing Units [a]	Households [b]	Population [c]	Employed Residents [c]	Sq. Ft. Space [a]	Employment [d]
Built and Occupied by 2010	1,139	1,093	1,859	1,316	69,000	208
Built and Occupied after 2010	1,961	1,883	3,202	2,269	131,000	415
Total Project	3,100	2,976	5,061	3,585	200,000	623

[a] OaklandHarborPartners,September21,2004.
[b] Assumes long-term average vacancy of approximately four percent, consistent with citywide data.
[c] Estimated by Hausrath Economics Group considering Census data, data and information for new housing developments, and data and projections from the Association of Bay Area Governments (ABAG) and State Department of Finance (DOF).
[d] Estimated by Hausrath Economics Group considering potential uses as described by Oakland Harbor Partners and employment densities for similar uses and developments.

SOURCE: Oakland Harbor Partners; Hausrath Economics Group.

Housing on the project site would have a strong appeal to workers because of its central location and its proximity to places of employment in downtown Oakland, elsewhere in Oakland, in nearby cities of the Inner East Bay, in downtown San Francisco, and in other closer-in parts of the region around San Francisco Bay.

Project residents are anticipated to include existing Oakland residents attracted by the types of new housing offered in the project and its location along the waterfront. The project would provide opportunities for Oakland renters seeking to become first-time homebuyers and for single family homeowners desiring to downsize.

It is anticipated that Phase 1 of the project that would occur to the east of Clinton Basin (in northern section of subarea 5 in the map in **Figure IV.J-1**) could be completed by 2010. Representing about 37 percent of project housing, Phase 1 would include 1,139 new housing units occupied by 1,093 households and a population of 1,859 people. The rest of the project (Phases 2 through 4) (in the rest of subarea 5 and in subareas 4, 2, and 1 in the map in **Figure IV.J-1**) would be completed after 2010 and would include 1,961 housing units occupied by 1,883 households and a population of 3,202 people. **Table IV.J-10** above summarizes the household and population estimates for the project.

The project and associated changes in land uses and density for the project site would increase the supply of land for large-scale, higher-density residential development in Oakland. Given the strong demand for housing in the region and the relative shortage of land for housing development, the project would increase the amount of housing developed in Oakland and the growth of households and population in the city in the future. Thus, from a citywide perspective, housing developed in the project would represent additional housing in Oakland over and above what would otherwise be built. **Table IV.J-11** presents the cumulative growth projections for Oakland with the project. These are the projections used for the citywide cumulative analyses in this EIR. (Background on the Cumulative Growth Scenario and more detailed tables are provided in **Appendix D.4**.)

TABLE I.J-11

HOUSING, HOUSEHOLDS, POPULATION AND EMPLOYMENT FOR OAKLAND WITH THE OAK TO NINTH AVENUE PROJECT

					2000-2025		
	2000	2005	2010	2025	Change	Percent	Annual Rate
Housing Units	157,510	162,490	169,880	182,810	25,300	16%	0.60%
Households	150,790	155,400	162,530	174,950	24,160	16%	0.60%
Population	399,480	417,350	431,670	453,520	54,040	13.5%	0.51%
Employed Residents	174,740	181,230	198,340	232,680	57,940	33%	1.15%
Jobs	185,160	198,470	231,770	241,340	56,180	30%	1.07%
Ratio Jobs-to-Employed Residents	1.06:1			1.04:1			

SOURCES: U.S. Census 2000; Oakland Cumulative Growth Scenario with Project, November 2004.

Business Activity and Employment

In addition to new housing, the project also proposes 200,000 square feet of retail/commercial space located throughout the project, nearly all of it to be developed as ground-floor space in residential buildings. The retail/commercial space is anticipated to accommodate a wide variety of types of businesses and other activities involved in retail, service, small office, cultural, and recreational activities. **Table IV.J-12** identifies the types of uses and business activities that are anticipated. The goods and services and shopping opportunities to be provided would serve project residents and other residents of Oakland as well as residents of nearby communities.

It is estimated that business activities in the retail/commercial space in the project would support employment of about 574 people. In addition, onsite employment involved in project management and maintenance would include 49 people. In total, employment in the project is estimated at 623 (see **Table IV.J-12**). This total includes entrepreneurs and small business owners as well as individuals hired to work in businesses and other uses located in the project. Employment opportunities would cover a range of types of occupations and skill levels, potentially including jobs involved in retail sales, food service, personal services, professional services, educational and health services, accounting and record-keeping, management, real estate leasing and sales, maintenance, and arts and crafts/creative endeavors.

TABLE IV.J-12

RETAIL/COMMERCIAL USES AND EMPLOYMENT ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT

Use	Sq. Ft. Space	Employment

Retail/Commercial: neighborhood streets	41,000	117
Flexible ground-floor space on interior streets for smaller retail and commercial uses. Could accommodate eating places, local service uses, small offices, galleries, and small retail shops.		
Central area neighborhood retail	42,000	112
Centrally-located retail space for neighborhood commercial uses along the project's Main Street. Could accommodate neighborhood-serving grocery, specialty food tenants, a drug store, and retail shops.		
Waterfront retail/restaurant	79,000	264
Water-oriented retail space around Clinton Basin for visitor-serving retail and restaurant uses. Active eating, drinking, and retail uses along the waterfront and new marina are envisioned. Small offices for the harbor master and marina could be included.		
Retail/commercial: park-oriented	20,000	51
lexible, ground-floor space in the vicinity of Estuary Park, the Aquatic Center, and Channel Park. Could accommodate services for outdoor activities and expansion space for the Aquatic Center.		
Community, cultural, recreation uses	18,000	30
Reuse of a portion of the Ninth Avenue Terminal shed building. Space could accommodate community, cultural, and recreation-oriented service uses.		
Project management and maintenance	n.a.	49
Onsite employment associated with project leasing and management, building and grounds maintenance, and parking area management and maintenance.		
TOTAL PROJECT	**200,000**	**623**

NOTE: Amount of space and description of uses based on inputs from Oakland Harbor Properties as of September 2004. Employment estimates developed by Hausrath Economics Group considering potential uses and employment density factors for comparable retail uses and other retail developments.

SOURCE: Oakland Harbor Partners, September 2004; Hausrath Economics Group.

About one-third of the retail/commercial space and associated business activity and employment would be included in parts of the project anticipated to be completed by 2010 (Phase 1) and two-thirds in the rest of the project to be developed after 2010. Thus, employment estimates for the project include 208 jobs by 2010 and 415 jobs after 2010, with a total of 623 jobs at full development (by 2025) (see **Table IV.J-10**).

It is anticipated that the project would accommodate additional business activity and employment in Oakland. Project businesses and other uses would serve project residents and capture additional spending that the new residents would bring to Oakland. The new retail/commercial businesses also would add to the total retail/commercial offerings available in Oakland, attracting spending that would otherwise occur outside the city. The project's retail/commercial space would add to the supply of space for small businesses, entrepreneurs, and artisans, encouraging more of those activities and providing options for them to locate/remain in Oakland.

Changes in Business Activity and Employment as the Project Replaces Existing Industrial Uses on the Site

Development of the project would replace the primarily industrial business activities currently on the project site. The site would be needed for new development over time so that complete clearance of the project site initially prior to development is not anticipated.

As the new development would begin at the eastern end of the project site, the land located in areas east of Clinton Basin (in subarea 5 in the map in **Figure IV.J-1**) would be the first needed for development. As of the analysis for this EIR, there are nine tenants with 95 employees located east of Clinton Basin. Project development would continue to proceed from east to west, with industrial uses (remaining at that time) having to move from the project site as land is needed for development. Based on the EIR analysis of existing uses, there are an additional 12 tenants with 136 employees in the remainder of the site that would eventually leave the site except for the Jack London Aquatic Center which would remain.

Table IV.J-13 shows the net changes in employment on the site over time. An overall net increase of 393 jobs is identified, after accounting for employment in new uses in the project, existing employment at the Aquatic Center that would remain, and employment in existing types of industrial uses that would leave the project site.

Transition of land uses and business activities as would occur on the project site is already underway along the Estuary waterfront. A large share of formerly industrial and warehouse uses in the Jack London District to the west have already transitioned to retail, dining, entertainment, and loft housing uses. To the east, parts of the waterfront remain in industrial use while other parts once used for industrial activities are now occupied by hotel, office, retail, work-live, and new residential uses and development. While industrial uses still remain on the project site, the levels of industrial activity there have declined over time. The City's *Estuary Policy Plan* also anticipates the transition of the Oak to Ninth waterfront from former cargo-handling industrial and warehouse uses to a mix of new uses in the future.

TABLE IV.J-13

CHANGES IN EMPLOYMENT ON THE PROJECT SITE AS A RESULT OF PROJECT DEVELOPMENT

		Project Site Employment	Change in Employment
2004/05	Existing Uses [a]	231	
	2004/05–2010:		
	Existing uses leaving (subarea 5) [b]		(95)
	New uses in project (phases 1, 2, and 3) [c]		+208
			+113
2010	Existing Uses Remaining and Project (Phases 1, 2, and 3)	344	
	2010–2025:		
	Existing uses leaving (subareas 1, 2, and 4) [b,d]		(135)
	New uses in project (phases 3-8) [c]		+415
			+280
2025	Project and Existing Aquatic Center	624	
	Net Change in Employment		+393

[a] See Table IV.J-1 earlier in this section.
[b] Based on project phasing from Oakland Harbor Partners, September 2004.
[c] See Table IV.J-10
[d] The existing Aquatic Center remains in Subarea 1 on the project site.

SOURCE: Oakland Harbor Partners; Hausrath Economics Group.

Construction Period Employment and Business Activity

As the project is developed, it would support construction employment and generate construction spending (for building materials, equipment, supplies, services, etc.). The large size of the project and its phased development would provide a source of employment over 10 to 12 years. It is estimated that approximately 4,950 person-years of construction employment would be required to develop the project over the eight phases. This direct employment would include jobs involved in preparing the site, constructing the project, and managing project construction (both onsite and offsite at developer's and builder's offices). The construction job opportunities generated would span a range of skills from unskilled laborers to highly-skilled trades. Construction project management would support supervisory, administrative, and clerical jobs in addition.

Construction activity and associated employment and spending would also generate indirect and induced economic activity that would support additional business activity and employment. Increases in *indirect* business activity and employment would result from the purchase of building materials, equipment, and supplies for construction, the delivery of materials and supplies to the construction site, the services involved in the design and planning of the project (engineering, architectural, etc.), and additional business activity and employment as these suppliers and service providers increase their levels of activity, resulting in ripple effects throughout the economy. Increases in *induced* business activity and employment would be generated by the additional household spending of direct and indirect construction period workers, and would include the ripple effects as the increased consumer spending reverberates throughout the economy.

It is estimated that project construction would support approximately 5,940 indirect and induced person-years of employment, in addition to direct construction employment. The indirect and induced employment generated would represent a range of job opportunities for different occupations and skill levels. The economic activity associated with these jobs would also benefit a range of types of businesses in many sectors of the economy.

The employment and spending benefits generated by the project's construction activity would occur in Oakland, elsewhere in Alameda County, and in other parts of the region. Construction workers likely to be employed on the project would live in Oakland, in other parts of the East Bay, and in communities throughout the greater Bay Area. The indirect benefits of construction sector spending would support economic activity and employment where those sources of materials, supplies, and services are located. The induced benefits from household consumption spending would occur near the places of residence and places of work of those employed by the construction firms and linked businesses.

A summary of construction period employment for the project is provided in **Table IV.J-14**.

Population, Housing, and Employment Impacts Discussion

Significance Criteria

Appendix G of the CEQA *Guidelines* and the City of Oakland identify criteria related to population and housing for use in evaluating whether the project would have a significant impact on the environment under CEQA. These criteria focus on the inducement of population growth and the displacement of population and housing necessitating the construction of replacement housing. In addition, the potential for displacement of businesses and employment necessitating the construction of replacement facilities or increasing distances traveled is a related consideration relevant to the project.

TABLE IV.J-14

ESTIMATED CONSTRUCTION PERIOD EMPLOYMENT FOR PROPOSED OAK TO NINTH PROJECT

	Construction Period Employment (Person-years)
Direct Employment	4,950
Construction labor and management [a]	
Indirect Employment	3,010
Resulting from construction spending for materials, equipment, supplies, services, etc. [b]	
Induced Employment	2,930
Resulting from household consumer spending of direct and indirect employment [c]	
Total Construction-related Employment	10,890

[a] Based on SRRI study results showing 1.35 direct jobs per housing unit built in the Oakland PMSA in 2003, adjusted upward to 1.5 direct jobs per unit to reflect higher-than-average per-square-foot construction costs for the higher-density construction types proposed for the project. The SRRI study results were used to derive a factor of 1.5 jobs per 1,000 sq. ft. of commercial space for estimating direct employment for the retail/commercial space in the project (including employment for tenant improvements).

[b] Based on SRRI study multipliers for the region, resulting in 0.6074 indirect jobs per direct job, and 0.3687 induced jobs per direct and indirect jobs.

NOTE: The construction period employment estimates are based on the results of the recent SRRI study identified as the source below. The employment estimates do *not* include estimates of jobs associated with site clean-up or other work not typically involved in residential development. That employment would be in addition to the estimates in this table.

SOURCE: Sacramento Regional Research Institute (SRRI), *The Economic Benefits of Housing in California*, March 2004; Hausrath Economics Group.

Although a project's social and economic effects, *per se*, are not considered to be significant environmental effects under CEQA, those aspects of a project might affect other conditions in an area that are evaluated for environmental impacts under CEQA. Thus, this section also assesses whether socioeconomic implications of the project may or may not result in indirect changes in the physical environment, such as through ripple effects that could lead to physical deterioration and urban decay. The assessment focuses on the potential for indirect physical effects as a result of the retail development proposed for the project and as associated with potential housing market effects of the project.

Based on both City of Oakland significance criteria and the CEQA *Guidelines*, a project would have a significant effect on the environment if it would:

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, in excess of that contained in the City's Housing Element.

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, in excess of that contained in the City's Housing Element.

- Displace substantial numbers of businesses and jobs, necessitating the construction of replacement facilities elsewhere, in excess of that contemplated in the City's *General Plan*; or displace businesses and jobs, increasing distances traveled between industrial uses and the markets they serve.

- Induce substantial population growth in a manner not contemplated in the *General Plan*, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads and other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed.

- Have social and economic effects that result in indirect changes in the physical environment, such as in ripple effects that would lead to physical deterioration and urban decay.

The project is evaluated relevant to the above criteria in the rest of this section.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to housing, jobs, and related effects, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies.

Project and Cumulative Impacts

Displacement of Substantial Housing, People, Businesses, or Jobs

Impact J.1: The project would not displace substantial numbers of existing housing units; nor would the project displace substantial numbers of people, necessitating construction of replacement housing. (No Impact)

There is no existing housing and no residential population on the project site. Therefore, development of the project would not require the demolition of any housing units nor displace any people residing on the project site.

Mitigation: None Required.

Impact J.2: The project would displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities, or resulting in substantial increases in distances traveled. (Less than Significant)

Development of the project would require that existing industrial businesses located on the project site find new locations for their business operations as leases expire and are not renewed or are terminated because sites are needed for development. The EIR analysis identified 18 existing businesses and two public agencies employing 230 workers that would be required to move as a result of project development (assuming that they still remain on the site until it is needed for development). Although the length of time that existing businesses have been operating on the project site ranges from two to 40 years, all but two of the 18 business tenants have leases that are now on a month-to-month or short-term basis. With such lease arrangements, business owners are aware of the lack of long-term security at this location. Nevertheless, the Oak to Ninth Avenue location has made good economic sense for these business operations. Two of the tenants with operations in the area since the mid-1960s have longer-term leases that extend to 2009 in one case and to 2015 in the other. If those properties are needed for development prior to lease expirations, financial arrangements with business leaseholders would be required to "buy out" remaining lease terms.

As the new development would occur in phases over time, complete clearance of the project site prior to project development is not anticipated. In the short term, some existing businesses might choose to move from the project site before the time that their location is needed for development. Those that remain would eventually be required to relocate. It is not anticipated that existing types of industrial businesses could be accommodated in the project.

There could be economic implications for businesses and business owners. Businesses required to relocate would incur expenses associated with searching for a new location and moving to a new site. They also could incur expenses associated with re-establishing themselves at a new location. Space costs are likely to be higher at a comparable new location, as well. The need to relocate also could result in a business closure.

It could be difficult for some of the existing types of industrial businesses to find comparable locations for their business operations. The marine-oriented businesses (boat building, boat repair, uses with barges, etc.) seek locations near the water, the maritime-support uses desire proximity to the Port of Oakland, and the construction-related uses value proximity to construction projects in the central parts of the region. In Oakland, there is increasing competition for older, industrial locations from higher-value uses, resulting in higher industrial space costs and fewer remaining industrial location options for these types of businesses.

The City's General Plan designates areas for industrial uses along the I-880 corridor in East Oakland and for Port of Oakland operations and ancillary uses in the harbor area, and there is land along the waterfront that still remains in industrial use. Thus, some of the businesses relocating from the project site may be able to find other locations in Oakland. Other potential options for relocation could include locations in older industrial areas along the I-880 corridor in San Leandro or Hayward, or along the I-80 corridor in Richmond. It is unlikely that replacement facilities would be developed to accommodate industrial uses relocating from the project site. Instead, it is more likely that businesses would relocate to existing, older facilities, thereby lowering vacancies in remaining industrial areas in Oakland and other central parts of the East Bay.

There is the potential that distances traveled could increase between industrial uses relocated elsewhere and the markets they serve. To the extent such effects occurred, the impacts of the project are anticipated to be less than significant. A main reason is that most of the industrial businesses are likely to relocate to older industrial areas in Oakland and other central parts of the

East Bay along the I-80/I-880 corridor within proximity of Oakland, thereby minimizing changes in travel distances as much as possible. The areas designated for industrial uses in Oakland's General Plan are located close to the project site. Another reason is that there would be a relatively small number of businesses affected, from a citywide and subregional perspective. From the perspective of impacts of the project, it also can be noted that the City's *Estuary Policy Plan* anticipates the transition of the Oak to Ninth waterfront from former cargo-handling industrial and warehouse uses to a mix of new uses in the future.

From a cumulative regional perspective, the transition of older industrial areas in the central parts of the region to residential uses (as proposed by the project) raises policy issues of balancing the benefits of locating higher-density housing in central locations like Oakland with the benefits of retaining locations for industrial and goods movement uses in central areas within proximity of the growing population and business markets that they serve.

Mitigation: None Required.

Inducement of Substantial Population Growth

Impact J.3: The project would not induce substantial population growth directly by proposing new housing, or indirectly through infrastructure improvements. (Less than Significant)

Project Population Growth

The project would add 3,100 housing units to Oakland's housing stock, increasing households by approximately 2,976 and increasing population by approximately 5,061. For comparison, the population growth accommodated in the project would represent just over one percent of the city's population, both currently (2005) and as projected for 2025 under the Oakland Cumulative Growth Scenario, as shown in **Table IV.J-15**. Similarly, population growth in the project would be within about one percent of ABAG's projections for Oakland. Therefore, the project would not directly result in substantial population growth over and above that which currently exists in Oakland or that which is anticipated for Oakland in the future.

TABLE IV.J-15

PROJECT POPULATION GROWTH COMPARED TO EXISTING AND PROJECTED FUTURE POPULATION IN OAKLAND

	Households	Population
Proposed Project	2,976	5,061
City of Oakland, 2005 [a]	155,400	417,350
Project as Percent of City	1.9%	1.2%
City of Oakland, 2025 [b]	174,950	453,520
Project as Percent of City	1.7%	1.1%
ABAG *P2002* for Oakland, 2025 [c]	168,640	449,500
Project as Percent of City	1.8%	1.1%

[a] Assumes occupancy of new housing anticipated to be completed by the end of 2005.
[b] Oakland Cumulative Growth Scenario including the project, as analyzed in this EIR.
[c] Association of Bay Area Governments, *Projections 2002*.

SOURCE: Oakland Cumulative Growth Scenario, November 2004; Hausrath Economics Group.

Infrastructure-induced Population Growth

The project would involve the redevelopment of an older industrial area with low-density existing uses. Project development would require onsite infrastructure improvements to accommodate the proposed higher-density residential and retail/commercial development and provide access for recreational use of the waterfront. The infrastructure improvements would be specific to the project site and existing, abutting roadways and to development of the proposed project. The infrastructure improvements would not induce substantial additional population growth in other areas.

The project represents redevelopment of an underutilized site within an already developed urban area located at the center of the region. Compared to the development of vacant land in outlying locations that would require the construction of new roads, sewer lines, and other infrastructure extending to the new development, the infrastructure required for the project would involve primarily onsite improvements to accommodate redevelopment to higher densities than existing uses. The relative isolation of the project site from surrounding properties also would mean that infrastructure improvements on the site would not be available to connect to nearby areas. The project site is largely surrounded by the waters of the estuary and by the I-880 freeway and adjacent rail yards and tracks.

The only adjacent area to potentially benefit from infrastructure improvements on the project site would be the privately-owned Fifth Avenue Point area that is within the Oak to Ninth District south of Embarcadero and surrounded by the project site (subarea 3 in the map in **Figure IV.J-1** earlier in this section). Potentially, circulation and utility improvements for the project could make it easier to undertake and extend such improvements in the Fifth Avenue Area. Such benefits could facilitate upgrading and additional development in this adjacent area in the future, potentially including additional housing and population growth. Because of the smaller size of the Fifth Avenue Area relative to the larger project site, however, additional population growth would be relatively small compared to growth on the project site and to population in the city of Oakland overall. Thus, potential effects of project infrastructure on development in the adjacent Fifth Avenue Area would not induce substantial population growth under the threshold for a significant impact.

Mitigation: None Required.

Impact J.4: The project would not induce substantial population growth in a manner not contemplated in the General Plan, with infrastructure requirements not previously considered or analyzed. (Less than Significant)

The project proposes a higher density of development and more population growth in the Oak to Ninth area than contemplated in the *Estuary Policy Plan* and Oakland General Plan. The additional growth would result in a higher level of population growth in Oakland than previously analyzed until this EIR. Population growth in the project would represent an increase in citywide population growth 2005 to 2025, of about 16 percent under Oakland's Cumulative Growth Scenario. However, as described above, the additional population growth in the project would not be considered as substantial induced growth as it would represent just over one percent of the city's total population both currently (2005) and as projected for 2025 under Oakland's Cumulative Growth Scenario and the ABAG projections (see **Table IV.J-15**).

The significance of the additional population growth for other potential environmental effects (such as potential transportation and public service impacts, for example) are evaluated in other sections of this EIR.

Development of the project site as contemplated in the Estuary Policy Plan and General Plan focuses on commercial and recreational uses and does not reflect the higher-density housing development now proposed. In either case, however, infrastructure improvements would be required to redevelop the site for new uses. The project would not require additional infrastructure that differs substantially from that previously considered or analyzed.

Mitigation: None Required.

Impact J.5: The project would not induce substantial population growth as a result of business and employment growth proposed in the project. (Less than Significant)

Retail/commercial businesses and recreational, cultural, and other activities to be accommodated by the project would support 623 jobs. That level of employment growth would represent less than one percent (0.3 percent) of total jobs in Oakland, both currently and as projected by the City's Cumulative Growth Scenario and the ABAG projections through 2025. Thus the project would not result in substantial growth of employment over and above that which currently exists in Oakland or which is anticipated in Oakland in the future.

Employment growth accommodated in the project would support the growth of households and population to provide the additional workers. The housing to be developed in the project, however, would accommodate 2,976 additional households in Oakland with 3,585 additional employed residents. By comparison, the increase in employed residents in the project would be nearly six times larger than the increase in jobs in the project. Thus, the project would not indirectly induce additional population growth (beyond that accommodated by the project) as a result of employment growth in the project.

Mitigation: None Required.

Potential for Indirect Physical Impacts

This section considers whether social and economic effects of the project may or may not result in indirect changes in the physical environment, such as through ripple effects that could result in physical deterioration and urban decay. Although a project's social and economic effects are not considered to be significant environmental effects under CEQA (CEQA Guidelines, Section 15064(e)), those aspects of a project might affect other conditions in an area that are evaluated for environmental impacts under CEQA. The assessment in this section focuses first on the potential for indirect physical effects as a result of the retail development proposed for the project. It then addresses the potential for indirect physical effects associated with potential housing market effects of the project.

Potential Indirect Impacts of Proposed Retail Development

Analysis was done to addresses the retail market effects of the project and whether the proposed addition of 200,000 sq. ft. of retail/commercial space in the project could cause ripple effects of store closures and consequential long-term vacancies that would result in physical deterioration and urban decay. Public comments on the Notice of Preparation raised concerns about the potential effects of project retail development on existing neighborhood commercial districts and corridors in Oakland, and specifically on the Eastlake District located along International Boulevard and East 12th Street north of the project across the I-880 freeway.

A recent Court of Appeals decision concerning proposed shopping center development (*Bakersfield Citizens for Local Control v. City of Bakersfield, et. al. (2004) 124 Cal. App. 4th 1184)* reconfirmed that CEQA requires analysis of a project's potential to indirectly cause physical deterioration and urban decay. The Court held that certain retailers, including Supercenters, large-scale retailers (such as big-box stores and "category killers"), retailers operating 24 hours a day seven days a week, and others may pose unique potential indirect environmental impacts. The retail development in the project does not propose to include those types of large-scale or discount retail uses. However, the potential for indirect physical impacts is still assessed in this EIR as public concerns have been raised about the potential for physical deterioration and urban decay in neighborhood retail districts and corridors as a result of the retail development proposed in the project.

In assessing the potential impact of the proposed retail development, the analysis addressed the following:

- Extent that Oakland is currently underserved or overserved by retailing;
- Types of retailing envisioned for the project, and the retail sales likely to occur in retail businesses to be located there;
- Additional retail spending to be contributed by residents of new housing in the project;
- How additional spending from project residents would compare to additional sales in project businesses;
- Whether the types of retailing in the project would compete with or complement the types of retailing in the Eastlake District and other surrounding neighborhood retail districts and corridors in Oakland;
- Extent and potential significance of other retail development anticipated in Oakland; and
- Conclusions about the potential for indirect physical impacts of the retail development proposed for the project.

The subsections that follow summarize the results of the retail analysis which is presented in more detail in **Appendix D.2**.

Market Context: Oakland Is Underserved By Retailing

Compared to Alameda County and the Bay Area overall, Oakland has substantially less retailing than would be anticipated for a city of its size. Per capita retail sales data summarized in **Table IV.J-16** provide a comparative measure of overall retail activity at the state, regional, and county levels and for retailing in Oakland and its nearby cities of the Inner East Bay. The data show that total retail sales per capita in Oakland are substantially lower (about 40 percent lower) than total sales per capita for Alameda County and the Bay Area overall. Among the different types of retailing, per capita sales in Oakland are low in all categories except service stations. The differences are quite substantial in many of the retail categories.

The low retail sales per capita in Oakland indicate that there is substantial "leakage" of spending by Oakland residents to retail establishments outside of Oakland because of the limited retail opportunities available locally. It also indicates the likelihood that Oakland residents may be spending less overall on retailing because of the lack of retail options within convenient access. Per capita sales data for the Inner East Bay, combining Oakland with its neighboring cities, shows that the Inner East Bay overall is also underserved with retailing relative to other parts of Alameda County and the rest of the region.

Given this market context, new retail development does not necessarily mean competition for sales from existing merchants in Oakland. Retail development is needed in Oakland to better serve the retailing needs of local residents. City economic development efforts are focused on attracting additional retailing to Oakland to improve retail opportunities for residents and to keep more local spending in Oakland.

Mix of Retailing and Other Uses Envisioned for New Space in the Project

A mix of retail and other commercial uses are envisioned to occupy the 200,000 sq. ft. of retail/commercial space proposed for the project, along with community, cultural, and recreational uses. Just over two-thirds of the space is anticipated to be occupied by retail uses, potentially including a neighborhood-serving grocery, specialty food tenants, a drug store, smaller retail shops, galleries, restaurants, cafés and other eating places, and snack shops. Retail sales for these types of retail tenants are estimated to total approximately $37 million annually. Other uses and tenants in the rest of the space are envisioned to include small offices (health-related, professional services, real estate, financial services, project office), local service uses (dry cleaning, laundry, hair salon/barber shop), a fitness center or health club, the harbor master/marina office, space for Aquatic Center expansion and/or other recreation-oriented activities, community facilities, and cultural uses/exhibit space. A potential scenario for the retail, commercial, and other space is summarized in **Table IV.J-17**.

TABLE IV.J-16
2003 PER CAPITA TAXABLE RETAIL SALES, SELECTED AREAS

	California	Bay Area	Alameda County	Inner East Bay /a/	Oakland	Berkeley	Emeryville	Alameda	San Leandro
2003 Total Population (January 1)	*35,612,116*	*6,960,314*	*1,487,685*	*702,878*	*408,513*	*103,954*	*7,492*	*74,295*	*80,879*
Retail Category									
Apparel stores	426	498	349	299	118	422	6,713	141	705
Home furnishings and appliances	424	519	536	583	253	660	24,807	116	532
Other retail stores	1,529	1,817	1,689	1,656	1,146	2,486	30,029	1,000	1,708
General merchandise stores /b/	1,419	1,513	1,280	907	322	477	2,185	794	4,714
Food stores /b/	545	552	493	483	417	586	2,402	489	660
Eating and drinking places	1,125	1,277	1,037	1,098	903	1,736	7,863	954	1,147
Bldg. materials and farm implements	862	917	1,000	736	512	893	n/a	225	2,455
Auto dealers and auto supplies	1,883	1,813	1,970	1,480	1,308	1,490	n/a	1,140	3,293
Service stations	778	762	762	713	760	496	1,904	557	1,033
Total Taxable Retail Sales /b/	**$8,992**	**$9,669**	**$9,116**	**$7,955**	**$5,740**	**$9,247**	**$75,903**	**$5,417**	**$16,247**

NOTE: The 2003 data were the most current available at the time of the analysis in March 2005.

/a/ Inner East Bay taxable sales data available for Alameda, Berkeley, Emeryville, Oakland, and San Leandro. Inner East Bay population also includes Piedmont and Albany.
/b/ The retail sales data are for taxable sales. However, not all sales in food stores and drug stores are taxable, so that total retail sales in those categories are higher than shown above. It is estimated that taxable sales represent about 30 percent of total sales in food stores, and approximately 46 percent of sales in drug stores.

Source: State of California, Department of Finance, E-5 City/County Population and Housing Estimates, 2004, Revised 2001-2003, with 2000 DRU Benchmark. Sacramento, California, May 2004; State Board of Equalization Taxable Sales in California Annual Report 2003; Hausrath Economics Group.

TABLE IV.J-17

POTENTIAL RETAIL/COMMERCIAL SCENARIO FOR OAK TO NINTH PROJECT, BY USE AND TYPE OF RETAILING

	Total Space (Sq. Ft.)	Retail Space (Sq. Ft.)	Estimated Retail Sales ($ 2004/05)
By Type of Space and Use			
Retail/commercial: neighborhood streets (on interior streets)	41,000	15,000	$2.2 mil.
Central area neighborhood retail (along project's Main Street)	42,000	42,000	14.1 mil.
Waterfront retail/restaurant (around Clinton Basin and Marina)	79,000	71,000	19.9 mil.
Park-oriented/recreational uses (in vicinity of Estuary Park and Channel Park)	20,000	5,000	0.6 mil.
Community, cultural, recreation uses (reuse of portion of Ninth Avenue Terminal)	18,000	3,000	0.4 mil.
Total Project	**200,000**	**136,000**	**$37.2mil.**
By Type of Retailing			
Convenience Retail/Groceries		45,500	$14.6 mil.
Eating and Drinking		58,000	16.8 mil.
Comparison/Specialty Retail		32,500	5.8 mil.
Total Project		**136,000**	**$37.2 mil.**

Source: Oakland Harbor Properties; Hausrath Economics Group.

Project Residents Would Contribute Additional Retail Spending

The Oak to Ninth Avenue project is primarily a residential development that includes retail/commercial space. The additional households to reside in the new housing units in the project would generate additional spending for a variety of retail goods and services. It is estimated that retail expenditures by project residents would total approximately $95 million annually. Their estimated expenditures by type of retailing are summarized in **Table IV.J-18**.

Overall Net Addition of Retail Spending from the Project

Overall, the additional retail spending to be contributed by project residents (approximately $95 million) is estimated to be larger than the amount of retail sales to be captured by the retail development in the project (approximately $37 million). Thus, in the aggregate, the project would contribute a net addition of retail spending to the overall market context. This net addition would support additional retail business activity over and above the amount of retail activity to be accommodated in the project.

TABLE IV.J-18

ESTIMATED RETAIL SPENDING BY PROJECT RESIDENTS

Retail Category	Average Annual Spending per Household /a/ ($ 2002/03)	Total Spending ($ 2002/03)
Groceries and Convenience	$8,359	$24.9mil.
Eating and Drinking	4,418	13.1mil.
Comparison and Specialty		
Apparel and Footwear	3,401	10.1mil.
Household Furnishings and Equipment	3,579	10.7mil.
Specialty and Other Comparison Goods	2,223	6.6 mil.
	9,203	27.4mil.
Vehicle-related	9,606	28.6mil.
Building Materials	360	1.1mil.
Total Retail Spending	**$31,946**	**$95.1mil.**

/a/ Data from U.S. Bureau of Labor Statistics, *2002-2003 Consumer Expenditure Survey for U.S. Western Region* " for consumer units" or households with income of $70,000 or more. The estimates of spending may be conservative for the purposes of this study as the survey data from 2002-03 has not been inflated. More recent data on retail expenditures are limited, and it is possible that 2004/05 expenditures have not increased very much from 2002/03 levels.

SOURCE: U.S. Bureau of Labor Statistics, *2002-2003 Consumer Expenditure Survey*; Hausrath Economics Group.

Spending and Sales By Types of Retailing and Consideration of Spending Patterns for the Project

Not all of the spending of project residents would occur in the project and not all of the sales by project retail businesses would come from project residents. People tend to buy groceries and do other convenience shopping close to home. Given the types of convenience retail tenants anticipated for the project, the spending of project residents for groceries and other convenience items (drugs and drug store items, personal care products, paper products, alcoholic beverages, etc.) would provide the primary market support for the convenience retail tenants in the project. The convenience spending of project residents also would support retailers outside the project, primarily those in nearby parts of Oakland. Potentially, about half of the convenience retail expenditures of project residents could be spent within the project and about half outside the project (as evidenced by the comparison of project retail sales and additional spending by project residents in **Table IV.J-19**).

Spending for eating and drinking out and for comparison/specialty retailing typically occur over a larger area than convenience retail spending. The eating and drinking and comparison/specialty retail uses to be located in the project would be supported by spending of project residents and by others, particularly those attracted by the visitor-serving waterfront retail and restaurant uses. People employed in the project also would provide market support for the eating and drinking uses as would people coming to the project site for recreation. Much of the additional expenditures of project residents for eating and drinking out and comparison/specialty retailing would be spent outside the project, elsewhere in Oakland, in nearby cities, and beyond. This additional spending would represent substantial support for restaurants, other eating places, and comparison/specialty retailers in nearby and other areas, as shown by the data in **Table IV.J-19**.

TABLE IV.J-19

COMPARISON OF RETAIL SALES IN THE PROJECT AND ADDITIONAL RETAIL SPENDING BY PROJECT RESIDENTS

Type of Retailing	Estimates Sales in Project Retail Space (2004/05 $)	Estimated Retail Spending by Project Residents (Based on 2002/03 expenditure patterns)
Convenience Retail/Groceries	$14.6 mil.	$24.9 mil.
Eating and Drinking	16.8 mil.	13.1 mil.
Comparison/Specialty Retail	5.8 mil.	27.4 mil.
Vehicle-related	–	28.6 mil.
Building Materials/Supplies	–	1.1 mil.
Overall Totals	**$37.2 mil.**	**$95.1 mil.**

SOURCE: See prior Tables and associated text.

The additional expenditures of project residents also include vehicle-related spending (for vehicle purchases, gas and oil, and auto parts and supplies) and spending for home maintenance/building materials and supplies, as shown in **Table IV.J-19**. As those types of retailing are not anticipated to be located in the project, the additional spending would occur in surrounding areas and elsewhere in Oakland and nearby cities.

Project Retailing Would Complement Retailing in the Eastlake District and Other Neighborhood Retail Corridors; Spending of Project Residents Would Likely Provide Market Support for Neighborhood Districts

Specific consideration was given to potential effects of the project on the Eastlake District and other neighborhood retail corridors in surrounding parts of Oakland. A key issue is how the market orientation and types of retail tenants in the neighborhood districts compare to those for the retailing envisioned for the project. The analysis found that there are notable differences in the types of retailing between surrounding neighborhood retail districts/corridors and the retail proposed for the project. The differences occur because of the rich ethnic and cultural diversity in surrounding Oakland neighborhoods which is clearly reflected in the types and market orientations of businesses in the neighborhood retail districts. Thus, rather than competing, the project and surrounding neighborhood districts are anticipated to be complementary, in that each district would offer different types of goods and services with its own particular market orientation. In addition, project residents could provide market support for retail establishments in surrounding neighborhood areas, particularly for ethnic-oriented foods and eating places and other goods and services of types not available in the project.

The Eastlake Business District is comprised of a unique mix of businesses, many of which are Southeast Asian owned and operated. The area includes Southeast Asian restaurants and other eating places and markets specializing in Southeast Asian produce and other foods. There also are ethnically-oriented apparel and specialty stores. These retailers are catering to neighborhood residents and others seeking the types of specialized foods and other goods and services available here. The unique ethnic character of retailing in the Eastlake District differentiates it from the types of retailing envisioned in the project. As a result, the retail development in the project is not anticipated to adversely affect retailing in the Eastlake District by drawing customers and tenants away from the area. Further, the specialized character of retailing in the Eastlake could attract spending from project residents, providing merchants with additional market support as a result of the project. In addition, auto-related businesses in the Eastlake also could attract spending from project residents.

Further to the east is the larger Fruitvale Business District. The Fruitvale District has emerged as an active multicultural commercial area with a strong Latino identity. The Fruitvale District includes a rich business mix offering ethnic foods, music, jewelry, and clothing from Mexico, El Salvador, and other countries. Retailing in this district serves nearby residents and others from surrounding areas who are attracted by the ethnic orientation and specialty foods and other goods and services available here. Like the Eastlake, the Fruitvale District has a specific ethnic market orientation that makes it unique and different from retailing anticipated in the project and from that located in other parts of Oakland. Here again, retail development in the project is not anticipated to compete with retailing in this area. Instead, it is likely that project residents could contribute additional spending in the Fruitvale District.

Anticipated To Be Market Support for Other New Retail Developments in Addition to the Project and Existing Retailing

In addition to the retail space in the project, there are other new retail developments underway in Oakland. They include: the Hegenberger Gateway Project (Hegenberger and I-880) under development for a Wal-Mart store and other retailers (245,000 sq. ft. in total) and other potential retail development on a nearby six-acre site (up to 90,000 sq. ft.); rebuilding of an Albertson's grocery store near Lake Merritt (East 18th Street near Lakeshore Avenue) into a larger, modern store (37,000 sq. ft. after expansion); a new Whole Foods grocery store (56,000 sq. ft.) near downtown Oakland (Harrison Street/27th Street/Bay Place); and the Jack London Square redevelopment to include additional space for restaurant, retail, and possible entertainment uses (up to 260,000 sq. ft.) plus a new hotel, conference facility, cinema, and office space to be developed over the next five to 10 years.

Evaluation of these new retail uses within the context of existing retailing, resident spending patterns, growth of retail spending, and development of the project indicates that there is anticipated to be sufficient market support for the project and the other new retail developments as well as for existing retailing. Substantial growth of retail spending is projected for Oakland in the future as a result of the growth of households and population and the real growth of household incomes over time. Growth of spending as well as reduction in leakage of sales could support substantial additional retail activity in Oakland.

Conclusion: Project retail development would not lead to significant indirect physical impacts. (Less than Significant)

Based on the retail market context and analysis of the potential effects of the project, the proposed addition of retail development in the project is not anticipated to create competition for existing retail districts in Oakland, draw customers and tenants from existing areas, and cause ripple effects of store closures and consequential long-term vacancies that would result in physical deterioration and urban decay. The project is not expected to have such effects on existing neighborhood commercial districts and corridors in surrounding areas of Oakland, and specifically not on the Eastlake District.

Potential Indirect Impacts From Housing Market Effects of the Project

The following analysis addresses the potential housing market effects of the project and whether those effects could result in indirect physical environmental impacts. The housing market effects, *per se*, are economic and social effects that are not considered to be significant environmental effects under CEQA.

Public comments on the Notice of Preparation raised concerns about the potential effects of the project on the supply of affordable housing in Oakland and on housing rents and prices in existing neighborhoods surrounding the project. Some of the comments raised concerns about economic and quality of life implications of potentially higher housing rents/prices as a result of the project. Those socioeconomic effects, while important public policy considerations, are not environmental impacts under CEQA. However, other comments expressed concerns that higher housing rents and prices could lead to residential displacement, an increase in homeless families/persons, and requirements for additional shelter beds and the need to build new shelters. Comments also expressed concern about increased physical deterioration of housing and neighborhoods because of overcrowding (due to higher rents/prices) and inability to provide for adequate upkeep, maintenance, and repairs (because housing rents/prices require large shares of household income reducing ability to make expenditures for upkeep, maintenance, and repairs). These latter concerns raise questions of indirect physical impacts as a result of economic and social effects. Thus, the potential housing market effects of the project are addressed in this section as the basis for evaluating whether those effects could be anticipated to result in indirect physical environmental impacts.

The analysis summarized below first addresses the *direct* effects of the project on the overall supply of housing in Oakland, on the supply of affordable housing, and on the relationship between jobs and housing. Second, consideration is given to the potential for *indirect* effects on housing rents and prices in Oakland and particularly in surrounding neighborhoods. Then, the potential for *indirect physical impacts* is addressed focusing on residential displacement and increased physical deterioration of housing and neighborhoods.

Additions to the Housing Supply in Oakland

The project would increase the supply of housing in Oakland by 3,100 units and expand the housing choices available to Oakland residents and others in the housing market. The new housing units would include a mix of sizes and types of multi-family housing. Both ownership and rental housing is anticipated, with the majority of units to be offered for sale. The project proposes market-rate housing covering a range of prices and rents depending on size, type, and location of units within the project. From a citywide perspective, the housing developed in the project would represent additional housing in Oakland over and above what would otherwise be built without the project.

Development of Affordable Housing

The project also would result in additional affordable housing development in Oakland. Because the project site is located within two redevelopment project areas, development of the project would generate tax increment monies to the Redevelopment Agency, 25 percent of which are to be used to increase, improve, and preserve the supply of low- and moderate-income housing. These funds would be used by the Agency to assist the private and nonprofit sectors in providing affordable housing in the redevelopment project areas. The portions of the project site east of Lake Merritt Channel are located within the *Central City East Redevelopment Plan* (CCERP) Project Area, and the portion of site west of Lake Merritt Channel is within the *Central District Urban Renewal Plan* (CDURP) Project Area.

In addition, state law requires that at least 15 percent of all housing developed in redevelopment project areas adopted after 1975 be affordable to very-low-/low- and moderate-income households.[5] Of these affordable units, at least 40 percent must be affordable to very-low-income households. The Redevelopment Agency is obligated to meet this provision for a redevelopment project area in the aggregate, over a 10-year period. Under this law, development of the project would require at least 420 low- to moderate-income units in the Central City East Redevelopment Project Area, at least 168 to be affordable to very-low-income households (based on the 2,800 units proposed east of Lake Merritt Channel). The affordable units could be included in the project (as part of the 2,800 units) or developed elsewhere in the Central City East Redevelopment Project Area. Project housing proposed for development in the Central District Urban Renewal Plan Project Area (300 units proposed west of Lake Merritt Channel) would not be subject to this affordable housing requirement.[6]

Provision of the required affordable units would be supported by the tax increment monies generated for affordable housing in the Central City East Redevelopment Project Area in the future (from development of the project, other new development, and increases in values of existing property over time) and by other affordable housing development in the Redevelopment Area besides that funded by the tax increment. It also could require funding from the project to the extent that the requirement for affordable housing could not otherwise be met.

Improvement of City's Jobs/Housing Relationship

The large amount of housing to be developed in the project would increase the housing opportunities in Oakland relative to the number of jobs in the city. The projections show that the 3,100 housing units to be developed in the project would accommodate 2,976 additional

5 The 15 percent inclusionary requirement covers all new and substantially rehabilitated dwelling units developed by private, non-profit, or public entities or persons other than the Redevelopment Agency; housing development by the Agency would be subject to other inclusionary housing requirements, pursuant to Health & Safety Code Section 33413(d)(1).)

6 The Central District Urban Renewal Plan was adopted in 1969 prior to the effectiveness date for this affordable housing requirement, and, pursuant to the Plan as amended, the affordable housing production requirements apply only to project areas adopted after January 1, 1976 (Health & Safety Code Section 33413(d)(1)).

households with 3,585 additional employed residents. By comparison, job growth in the project would accommodate 623 workers, indicating a net increase of 2,962 or nearly 3,000 employed residents in Oakland as a result of the project. Affordable housing development from tax increment monies generated by the project would increase the additional housing resulting from the project as well as the number of households and employed residents residing in Oakland. Thus, the project would improve the overall relationship between jobs and employed residents and housing in Oakland.

Potential Effects on Housing Rents and Prices in Oakland and in Neighborhoods Surrounding the Project

In order to evaluate the project's potential to affect rents and prices for housing in Oakland and to determine whether such effects, if anticipated, could have physical effects subject to CEQA analysis, it is important to identify the factors involved and the different types of effects that could occur.

As described below, there are broader citywide and regional housing market factors and trends that will be more important than the project in determining housing rents and prices in Oakland. Within that context, however, the project would affect both the *supply* of and *demand* for housing. On balance, the large amount of housing to be added in the project is anticipated to have the more influential effect overall, and would contribute to easing upward pressures on housing rents and prices over what would otherwise exist without the project. In specific nearby areas, the project also could have effects on housing demand and rents/prices that would not be evidenced in other areas or at the overall citywide level.

Competitive Regional Housing Market Context is Influencing Housing Rents and Prices in Oakland. As described in the Setting section, housing market conditions in Oakland reflect the broader regional housing market context of the Bay Area. While housing prices and rents in Oakland have generally been below those in other, central parts of the Bay Area, strong regional housing demand, higher prices and rents in other areas, and renewed interest in center city living have been increasing demand for housing in Oakland and putting upward pressure on housing prices and rents. These conditions are supporting new housing production in Oakland, which has recently reached historically high levels. There also has been increased demand for existing housing in Oakland's neighborhoods, particularly relatively lower-cost housing, because of the difficulties of producing new units at lower price/rent levels. Market pressures will continue to increase for housing in Oakland, particularly older housing at prices/rents below the average for housing in the central parts of the region.

Housing demand and prices and rents have been increasing in neighborhoods surrounding the project site as a result of these broader citywide and regional housing market factors and trends. These market forces and recent trends are anticipated to continue, independent of whether or not the project is developed.

Within this broader housing market context, the project would affect the supply of housing in Oakland and the demand for housing in some parts of Oakland, as described below. From the broader market perspective, however, the project would be a relatively small part of the bigger picture of cumulative growth and change and other factors influencing housing market conditions (such as interest rates, state/federal housing policies, local and regional land use policies, regional economic growth, etc.). Thus, the broader housing market context will be more important than the project in determining housing rents and prices in Oakland in the future.

The Project Would Increase Housing Supply and Reduce Upward Pressures on Housing Prices and Rents. As described above, the project would increase the supply of housing in Oakland with the addition of a large number of market-rate housing units. It also would support the development of additional affordable housing, and would improve the jobs/housing relationship, meaning more housing opportunities relative to jobs. Greater housing supply would mean less competition for available housing. New housing opportunities in the project would capture demand that otherwise would focus on existing housing and other new housing development. Greater housing availability and less competition for housing would mean less upward pressures on housing rents and prices over what would otherwise exist without the project. Thus, from an overall housing market perspective, the project would provide benefits for housing availability and affordability in Oakland.

The Project Would Have More Focused Effects on Housing Demand, Increasing Market Interest in Housing Nearby. Development of the project would create a new neighborhood with park and waterfront amenities along the Estuary and would enhance the attractiveness of that part of Oakland. It would continue the redevelopment of the Estuary waterfront that is already occurring in Oakland. The success of the project, its large scale, and the attractiveness of the park and waterfront improvements there, would enhance potentials for additional new housing development by increasing market interest from both households/housing consumers (increasing demand) and housing developers (seeking locations to increase supply). The additional interest in housing is anticipated to focus on the adjacent Fifth Avenue Point area and on other locations along the Estuary waterfront and could extend inland to locations along Lake Merritt Channel. In this context, the project would affect the prices and rents that households are willing to pay for new housing in other similar waterfront settings nearby, increasing market interest and the willingness to pay for similar types of higher-density new housing. (Also see discussion of Growth Inducing Impacts in Chapter VI.)

The project also could enhance the desirability of existing housing in adjacent and nearby areas that offer proximity and access to the waterfront park areas and other amenities in the project. However, such effects would be limited by the relative isolation of the Oak to Ninth waterfront. The project site is actually somewhat distant and is physically separated from inland neighborhoods in surrounding areas by the I-880 freeway and the rail lines and railroad rights-of-way. Thus, the project is not anticipated to noticeably increase demand for existing housing in surrounding inland neighborhoods or to noticeably affect housing rents and prices there.

As the potential housing demand effects of the project would vary by location and have different implications in different areas, consideration is given below to potential effects in each of the nearby and surrounding areas. The evaluation focuses on potential effects that could increase rents and prices for existing housing or encourage new housing development that would replace existing housing, as those are the types of housing market effects that could lead to displacement and indirect physical impacts on the environment.

- **Adjacent Fifth Avenue Point Area -** In this adjacent area, the project's potential effects would be those focused on increases in housing demand. Creation of a new neighborhood on the project site (along with development of park and waterfront amenities) would enhance the desirability of the privately-owned Fifth Avenue Area surrounded by the project site. Market values of property would increase as would interest in additional new development there in the future. Although not a residential area, there are a small number of existing work-live studios that could become more desirable depending on the condition of the older structures, and rents for existing space could be higher in the future as a result of the project.

- **Surrounding Estuary Waterfront and Lake Merritt Channel -** The project would continue the redevelopment of the Estuary waterfront that is already occurring in the Jack London District to the west and along Embarcadero Cove and the Kennedy Tract to the east. The project would further enhance existing potentials for additional new housing development along the waterfront by increasing market interest from both households/housing consumers and landowners and housing developers. Additional new housing development along the waterfront in the future is anticipated to occur on sites with older industrial uses. The effect of the project in enhancing housing demand along the waterfront is not anticipated to substantially affect existing housing areas. Most older, existing housing along the waterfront is in the Kennedy Tract area, where new housing is already being developed, independent of the project.

  The project also is likely to increase market interest and demand for new housing in the vicinity of the Lake Merritt Channel, particularly if improvements are made along the Channel to connect Lake Merritt to the Estuary. Oakland's Housing Element identifies housing opportunity sites on both sides of the Channel. The project could encourage development of these sites sooner than would occur without the project. The new residential development would not replace or substantially affect existing housing as development sites are outside of or on the fringes of existing neighborhoods.

- **San Antonio District, North of I-880 -** Concerns about potential housing demand effects of the project in the San Antonio District to the north and northeast of the project site, arise because of the large stock of older housing in the area and the demographic characteristics of residents. Compared to Oakland's population overall, the San Antonio includes proportionally more family households, household incomes are below citywide median income, and a larger share of residents are renters.

  Consideration of potential effects indicates that while the project could increase demand for housing in the western parts of the district, it is not anticipated to noticeably affect housing rents and prices in the San Antonio District overall. There are several factors that provide explanation.

One is that housing demand and housing prices and rents have been increasing in the San Antonio as a result of broader citywide and regional housing market factors and trends. In addition, renewed interest in downtown Oakland is already enhancing the desirability of parts of the San Antonio that border the downtown to the west. Existing market forces and recent trends are anticipated to continue, independent of the project. To some extent, the project also could contribute to enhancing demand for existing housing at the western end of the San Antonio District, in the vicinity of Lake Merritt Channel as there are connections to the project site at this end and the potential that additional new higher-density housing would be eventually developed here (to be encouraged by project development as discussed above).

Secondly, most of the housing in existing San Antonio neighborhoods would not have proximity and access to the project and the park areas and waterfront amenities to be available there. San Antonio neighborhoods are actually somewhat distant from the Oak to Ninth waterfront and are physically separated from the project by the I-880 freeway, the rail lines and railroad rights-of-way, and industrial and other business uses near the railroad and freeway. Thus, demand effects of the project would be limited by the lack of proximity and access.

Third, the large amount of new housing to be developed in the project (and in nearby downtown Oakland and eventually in the vicinity of Lake Merritt Channel) would capture demand that could otherwise focus on existing housing in the San Antonio, thereby easing upward pressures on prices and rents in the District, including broader market pressures independent of the project as well as any pressures that might result from potential effects of the project. Further, additional affordable housing to be developed as a result of the project could be built in the San Antonio District and/or in nearby areas. Increasing affordable housing opportunities in the district and nearby would further help to offset any potential demand effects of the project.

- **Downtown Oakland, North of I-880 -** Housing demand effects of the project also would be limited in downtown Oakland to the north and northwest of the project site. Much of the downtown is somewhat distant from the project site, with the areas near Lake Merritt Channel and parts of Lake Merritt being the most likely to have connections to the project. If anything, the project could further enhance the desirability of new higher density housing development downtown which is already occurring in numerous downtown locations and being encouraged under the Mayor's 10K Housing Initiative.

Conclusion: Project housing market effects would not lead to significant indirect physical impacts. (Less than Significant)

As described above, the project would have effects on both the supply of and demand for housing. The large amount of housing to be added in the project as well as the additional affordable housing to be developed, are anticipated to have the most influential effects on housing market conditions overall and would contribute to easing upward pressures on housing prices and rents in Oakland.

In specific nearby areas, the project would have effects on housing demand that would not be evidenced in other areas or in the city overall. In some cases, the demand effects would enhance already existing market potentials and encourage additional new housing development sooner than it would otherwise occur. In some limited areas, the project would increase demand contributing upward pressures on prices and rents of existing housing. These demand effects are not anticipated to be substantial enough or widespread enough to significantly reduce housing options for individuals and households leading to displacement and homelessness and the need to construct replacement housing and/or new homeless shelters. Similarly, these demand effects are not anticipated to lead to increased physical deterioration of housing or neighborhoods. Further, the development of a large amount of additional affordable housing as a result of the project would provide options to help offset such effects.

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K. Visual Quality and Shadow

This section discusses existing visual conditions on the project site and the surrounding area and analyzes the potential for the project to affect those conditions. The section focuses on the visual character of the project area, views from surrounding public areas, internal views of the project site, and effects associated with light and glare, and shadow.

Setting

Visual Character and Views[1]

Project Site

The project site is located in a developed urban area along the Inner Harbor of the Oakland Estuary, southeast of downtown Oakland. This assessment of visual character focuses on the built environment as well as the estuary and its shoreline, important elements of the area's scenic quality.

The project area is predominantly industrial in nature characterized by expanses of open land interspersed with functioning and vacant commercial and industrial warehouses. The Embarcadero (the site's northern boundary) and elevated and at-grade portions of Interstate 880 (I-880) create a visual and physical edge between the project site and light industrial and institutional uses north of I-880. (See Section IV.A, Land Use, Plans, and Policies, for detailed description of specific land uses.) The estuary shoreline, which varies from natural marshes to broken concrete riprap and concrete seawalls (and timber piers), forms the project site's southern boundary and is not immediately visible from most sections of the Embarcadero due to existing site buildings and topography.

Throughout the project site and surrounding areas, buildings are generally built to the property lines and very little or no vegetation exists, except street trees along portions of the Embarcadero (primarily at the Jack London Aquatic Center) and ornamental trees and lawn area in Estuary Park. The visible west boundary of the site is a commercial warehouse (Cash & Carry) at Fallon Street, and the visible east boundary is the prominent Ninth Avenue Terminal building, which is not immediately visible from the Embarcadero due to existing site buildings. The project site is described below in three sections, Fallon Street o Lake Merritt Channel, the Channel to Clinton Basin, and Clinton Basin to Brooklyn Basin (Ninth Avenue Terminal).

Fallon Street to Lake Merritt Channel

West of Lake Merritt Channel, the visual environment is characterized by Estuary Park, the Jack London Aquatic Center, and a large commercial warehouse. Estuary Park is an approximately 7.7-acre public open space that contains a 3.5-acre grassy playfield, seating areas, walkways and

[1] The Setting section describes the existing characteristics of the project site and vicinity. More detailed descriptions of the existing site and vicinity are provided in the "Project Impacts" discussion, supported by photographs of existing conditions.

paths, and a boat launch facility and dock. The Jack London Aquatic Center is located in a two-story building (24 to 30 feet tall) north of the park, and is set back from the Embarcadero behind a surface parking lot and landscaping. Paved paths provide pedestrian access to boat launches that extend into the estuary and the channel. Immediately west of the Aquatic Center is a 25-foot-tall, 80,000 square-foot warehouse (Cash & Carry) that fronts the Embarcadero and is similar in appearance to warehouse buildings north and northwest of the Embarcadero, along Oak Street in the Mixed Use District defined in the Estuary Policy Plan. This building occupies the general location of proposed Project Parcel N.

Channel to Clinton Basin

The visual character of the central part of the project site, between Lake Merritt Channel and Clinton Basin, is defined by industrial and heavy manufacturing uses and one- to two-story warehouse/office buildings. Oakland-Berkeley Ready-Mix, a sand and gravel operation, is visible from the Embarcadero and the west side of Lake Merritt Channel, as well as from several viewpoints across the estuary and I-880. The sand and gravel operation is distinguished by its pair of silos and a long, angled conveyor belt that rises over 70 feet angled toward the estuary. The operation is partially concealed by a fence along the Embarcadero, but gravel piles, outdoor storage containers, and a fleet of concrete mixing trucks are visible from the Embarcadero. A low-rise 6,000-square-foot warehouse/office building (marine repair/storage and telecommunications) sits north of the sand and gravel operation and fronts the Embarcadero. These facilities occupy the general location of the proposed project Parcel M.

To the east of the sand and gravel operation is Fifth Avenue Point (not part of the project site). Fifth Avenue Point is an approximately six-acre work-live artist community that includes a mix of primarily light industrial and commercial work-live/office buildings and marina uses concentrated along 5th Avenue and an unnamed street to the west. This area is a dense collection of small-scale (8,000- to 15,000-square-foot) buildings that range in height from about 8 to 30 feet and that are oriented inward toward narrow roadways. The area’s character reflects the surrounding light industrial landscape, with a mix of corrugated metal buildings and wood-shingled buildings, one of which is prominent at the intersection of 5th Avenue and the Embarcadero. Surrounding the larger buildings are low, flat-roofed portables, overhead utility lines, cyclone fencing, miscellaneous metal equipment, and dry boat storage.

At the foot of 5th Avenue, berthed boats are visible in the Fifth Avenue Marina. A large swath of vacant land with ruderal vegetation extends from 5th Avenue to Clinton Basin and is the site of a former PG&E power plant. Immediately north of this vacant parcel, large (12,000- to 18,000-square-foot), 20-foot-tall warehouses are visible from the Embarcadero between 5th and 6th Avenues. Smaller (4,000- to 8,000-square-foot) buildings front the Embarcadero, east of 5th Avenue, in the area of proposed project Parcels K and L.

Clinton Basin to Brooklyn Basin (Ninth Avenue Terminal)

From Clinton Basin to the easternmost end of the project site (Brooklyn Basin), the visual character consists of warehouses and offices of varied sizes, with the most prominent being a three-story, 45,000-square-foot warehouse (furniture sales) fronting the Embarcadero at 9th

Avenue and an adjacent two-story, 34,000-square-foot building (metal recycling). Smaller metal and concrete buildings house industrial, marine-related service and retail sales. From the Embarcadero, boat slips are visible in the closed Clinton Basin Marina. Dilapidated, unusable berths in a restricted access area are visible from viewpoints farther south where large debris is visible on the west shore of Clinton Basin. East of Clinton Basin and around 7th Avenue, shipping containers are stacked near the waterfront.

The Ninth Avenue Terminal is the largest structure in the area. The approximately 180,000-square-foot building is 40-foot-tall and 1,000-foot-long and is located at the easternmost portion of the site. Its expansive, paved wharf (or pier) fronts the estuary from Clinton Basin to Brooklyn Basin. The Terminal's bulkhead (the Embarcadero-facing facade) expresses a 1920s industrial vernacular. (See Section IV.E, Cultural Resources, for a detailed description of the Ninth Avenue Terminal.) Cyclone fencing separates general parking areas primarily for the Terminal offices from restricted areas where active loading occurs at the Terminal's docks. In these restricted areas, semi-trucks and containers are visible within the expansive paved areas, and heavy equipment for a marine construction operation and barges are visible in the estuary along the south edge and east site boundaries.

Project Vicinity

Most buildings and uses in the immediate project vicinity are of similar industrial character to those on the project site: mostly low- and mid-rise buildings industrial-type buildings.

North of the Project Site

I-880 lies north along the project site, running parallel, adjacent to, and above the Embarcadero starting at 5th Avenue, and reaching grade at about 9th Avenue. North of I-880 are large, low-rise Peralta Community College District office buildings, Bay Area Rapid Transit (BART) maintenance shop facilities, the Laney College campus, and the continuation of the Union Pacific Railroad line east of 5th Avenue. The San Antonio district is a neighborhood with residential uses of various densities and commercial uses along the east-west major corridors of International Boulevard and East 12th Street. Public storage warehouses are located on the north side of Embarcadero, across from the Jack London Aquatic Center.

West of the Project Site

The tallest and densest development in the vicinity is located approximately four to six blocks northwest of the project site, between Oak Street and Broadway. Just west of Fallon Street (the project site's western boundary), a contemporary four-story residential condominium complex known as The Portobello is visible. Low-rise buildings farther west (The Landing condominiums, television station buildings, restaurant/nightclub) are set back from the Embarcadero behind surface parking lots or obscured by restricted access gates.

Northwest of the project site, the Waterfront Warehouse District and Mixed Use District identified by the Estuary Policy Plan contain new multifamily residential projects, along with industrial and warehouse buildings that have been converted to multifamily units or work-live lofts. Converted and new buildings in this area range from four the seven stories and the architectural character ranges from modern to historic traditional. Development in this area is generally built to lot lines and very little or no vegetation exists in public areas.

Farther west, one- and two-story warehouse buildings exist within the few blocks of the Produce Market District, as defined in the Estuary Policy Plan. A variety of building types and heights ranging from one to four stories (generally 12 to 48 feet) are located east of Broadway, in the Lower Broadway and Off-Price Retail District, as defined in the Estuary Policy Plan.

The nearby Jack London District, as defined in the Estuary Policy Plan, contains structures ranging from about 60 feet to 110 feet in height. These include Alameda County buildings; the 311 Oak, Allegro, 4th Street Lofts, and Safeway Lofts residential and live-work buildings; the Port of Oakland building at the Embarcadero and Washington Street; the Washington Street parking garage across from the Jack London Cinema; and the Amtrak pedestrian bridge at the Oakland Amtrak station, approximately four blocks east of the project site. The construction of recently approved buildings – namely the mixed-use Jack London Square Redevelopment Project, the 3rd and Broadway project in the Jack London District, and residential projects at 426 Alice and 300 Harrison in the Waterfront Warehouse District will add to the number of taller buildings in the vicinity.

East and South of the Project Site

East of the project site, low-rise (one- to three-story) buildings containing primarily hotel and marina uses front the Embarcadero and are closely bound by Brooklyn Basin on the south. The relatively new, three-story Homewood Suites hotel abuts the project site at 10th Avenue. Smaller, low buildings that contain a number of boat-related uses (sales, repair, berths/marina) extend eastward along the Embarcadero. Development in this area is less concentrated and industrial in nature than development on the project site and to the west and northwest. Landscaping and vegetation are more evident and public improvements to serve the newer development (roadway paving, curbs, sidewalks, landscaping) exist along this stretch of the Embarcadero east of the project site. The west end of Coast Guard Island lies approximately 600 feet east of the project site across Embarcadero Cove/estuary. This part of the island currently contains stacked shipping containers, which are the only structures on the island that are visible from the project site.

South of the project site approximately one-half mile across the estuary, marina facilities and low-rise, modern office buildings are visible along the city of Alameda’s north shore.

View Corridors

View corridors are formed by buildings or other physical elements that guide lines of sight and control view directions available to pedestrians and motorists. View corridors include the total field of vision from a specific viewpoint. Public view corridors are areas in which views are available from publicly accessible places, such as city streets and parks.

To understand the extent to which the project would affect view corridors, photographs of existing views have been closely compared with photographic simulations of the project. Existing view corridors in the project area (the existing setting) are discussed in detail in the Project Impacts section below. The analysis considers four categories of views of the site: short-range (up to 1,000 feet from the site), medium-range (1,000 to 1,500 feet from the site), long-range (more than 1,500 feet from the site), and internal views looking "through" the project site from points within the site. Representative public view corridors are from viewpoints along I-880, the Embarcadero, surrounding arterial streets, Estuary Park, San Antonio Park, and the city of Alameda shoreline.

As reported in the Initial Study Checklist prepared for the project (**Appendix A**), there are no designated scenic highways near the project site, and therefore there are no views of the project site from such locations.

Light and Glare

Sources of light and glare in the project area are generally limited to the interior and exterior lights of buildings and lighting visible through windows, in parking lots, and on city streets. These sources of light are typical of a developed urban area. Particularly intense light sources at the project site include isolated security lighting in the Jack London Aquatic Center parking lot, the Oakland-Berkeley Ready-Mix operation, Clinton Basin Marina, and throughout the paved wharf/pier around the Ninth Avenue Terminal.

Automobiles and water craft traveling in the area represent a source of glare, although nighttime traffic within and immediately adjacent to the project site is relatively low given the types of land uses on and near the site which generate daytime activity. Glare from I-880 traffic is not visible from the project site since the lanes of traffic traveling toward the site are elevated or oriented away from the site.

Shadow

Existing buildings on the project site and nearby are generally one to two stories (14 to 25 feet) in height and cast relatively minimal shadow. The tallest onsite buildings include the Cash & Carry warehouse (25 feet tall), the National Furniture Liquidators, Inc. warehouse (35 feet tall), and the Jack London Aquatic Center (24 feet tall), all located along the Embarcadero, and the Ninth Avenue Terminal (40 feet tall) along the eastern boundary of the project site. The conveyor belt and silos for the sand and gravel operation close to the shoreline are approximately 70 feet tall but not bulky enough to cast substantial shadow. Existing buildings in the Fifth Avenue Point community (not part of the project site) range from two to three stories in height. Shadow is cast by and upon buildings throughout this densely developed area during most of the day due to the relatively narrow width of 5th Avenue and its unnamed parallel roadway west of the buildings along 5th Avenue, coupled with the proximity and row configuration of the buildings. Overall, the extent of shadow from the existing low-rise development on the project site is relatively minimal, and shadows from existing development generally do not affect public parks or open spaces (Estuary Park or the existing shoreline) or historic resources (Ninth Avenue Terminal building). No solar collector facilities have been identified in the area.

Project Impacts

Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines, the project would have a significant visual quality impact related to visual character, views, light and glare, or shadows, if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area;
- Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors (in conflict with California Public Resource Code Section 25980-25986);
- Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors;
- Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space;
- Cast shadow on an historic resource, as defined by CEQA Section 15064.5(a) such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics of the resource that convey its historical significance and that justify its inclusion on or eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, local register of historical resources, or a historical resource survey form (DPR Form 523) with a rating of 1-5; or
- Require an exception (variance) to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses;

The analysis of the project's effect on area-wide visual character focuses on changes to the existing aesthetic quality of the area that would result from the project. The analysis considers the project's overall design elements, including massing, articulation (to the extent it is specified), height, tower location, and ground-floor treatment. The analysis also considers the public improvements that would occur as part of the project, including new and improved open spaces, streets, and landscaping and streetscape treatments.

A significance determination considers the extent of change in the appearance of the project site from key public viewpoints due to the project, as well as the degree of visual contrast and/or compatibility in scale and character and the sensitivity of the affected view.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to visual quality (views, shadow, aesthetics, etc.) and related effects, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Project Impacts Discussion

The project was determined not to have a significant impact on scenic resources within a state scenic highway, since no state scenic highways exist near the project site (see Initial Study Checklist, **Appendix A**). Therefore, this analysis focuses on whether the project would substantially degrade the existing visual character of the site, nearby scenic vistas, and well as light and glare and shadow impacts. The analysis of project impacts on scenic vistas as viewed from publicly accessible viewpoints is supported by visual simulations of the project in its surroundings.

Impacts on Visual Character and Quality

Impact K.1: The project would construct new buildings that would be taller and have more bulk than existing buildings in the area along pedestrian and vehicular routes and adjacent to the Oakland Estuary, and would substantially demolish the Ninth Avenue Terminal building. This would substantially, but not adversely, alter the existing visual character and quality of the project area. (Less than Significant / Beneficial)

Overall Proposed Changes

The project would demolish most of the existing buildings on the project site and involve site grading, construction of new buildings, shoreline improvements (both natural and constructed), and the addition of publicly accessible open spaces for active and passive recreation. The project would replace existing visual elements on the site that have neutral or low aesthetic value. These include expansive paving, vacant swaths of unkempt open land, some deteriorated buildings, debris on land and along the shoreline, and cyclone fencing. Replacement of these elements has the potential to enhance the visual quality of the project site and the surrounding estuary area. New development and improvements would alter the site's existing visual character from a predominantly industrialized waterfront to a mixed-use residential area with retail, marina, and expansive open spaces. As a result, the project would not result in a demonstrable negative change in the visual character of the project site or its surroundings.

New Buildings and Towers

In general, the project's residential buildings would be six to eight stories (65 to 86 feet tall), with residential towers of 18 to 24 stories (180 to 240 feet) proposed on five parcels (Parcels A, H, J, K, and M) (see Figure III-5 in Chapter III, Project Description). With a maximum building height of up to 86 feet (excluding the five tower elements), the project buildings would be taller than most existing structures on the site and in the immediate vicinity: the low-rise buildings east on the Embarcadero, the three-story hotel east of the project site on the east, the three-story Portobello condominiums immediately west, and existing and approved buildings in the Waterfront Warehouse District and Mixed Use District which range from 40 to 100 feet in height. Project buildings would be similar in scale to existing and approved buildings at nearby Jack London Square where approved buildings will range from approximately 111 to 175 feet tall.

While the proposed project buildings would be taller and more massive than most existing buildings in the immediately nearby area, the height of the buildings in and of itself would not degrade visual quality. It is anticipated that each building would be designed to include variations in street frontages and would employ architectural treatments such as facade articulation, cornices, varied massing, and upper level setbacks, particularly near Clinton Basin, to reduce bulk and apparent building height from long-range vantage points. The proposed site plan and building massing are intended to provide architectural variation, an attractive pedestrian- and community-scaled environment, and a distinctive architectural profile when viewed from distant viewpoints. The project buildings would create a new skyline along the linear, waterfront site. They would provide new orientation points and increase the area’s physical distinction by introducing a well-planned development that would add variety and contrast to an expansive area that currently has little visual distinction.

The project would develop incrementally, likely multiple parcels at a time, over a period of approximately 11 years. The project sponsor proposes to develop the initial project phase(s) in the easternmost portion of the site, with subsequent phases likely to be constructed by other developers. As a result, while the overall mass, height, and site layout of later development phases would be consistent with the proposed Preliminary Development Plan (PDP), the project would incorporate varied and complementary architectural schemes.

Street-Level Design and Character

Aside from design considerations and physical impacts related to tower buildings (potential view obstruction and shading effects, discussed below), the way future buildings meet the street would define the aesthetic character of the pedestrian realm. Mid-rise residential buildings would be set back about 8 feet from the street, and the podiums of the tower buildings would be set back approximately 15 feet from the street. Residential buildings would be accessible from individual and shared entries at street level. Individual entryways visible from the street would reinforce the residential character of the buildings and create activity and visual interest at the building edge. There would also be landscaped areas along building frontages.

The project proposes streetscape improvements along all project streets. Sidewalks would range from approximately 9 to 16 feet wide. They would include decorative light stands and outdoor seating and would accommodate outdoor dining areas for restaurants. Additionally, public rights-of-way would be landscaped with street trees, which could add substantial amounts of greenery where there is currently little.

Clinton Basin Promenade

The project would create Harbor Lane as an east-west pedestrian promenade around and extending from each side of Clinton Basin. The promenade would include a mix of ground-floor pedestrian-oriented retail uses, outdoor seating in a "café zone," and streetscape treatments and landscaping. For commercial uses, project buildings would include double-height storefronts that would provide glass facades to maximize sunlight access to interior spaces. The project would promote a new sense of "place" by creating an identifiable center for the project area, with retail, dining, recreation, and neighborhood commercial development at primary public gathering areas (Gateway Park, and the Clinton Basin Marina) from which there would be views of the estuary and/or major open spaces.

Conclusion of Visual Character and Quality Impacts

Although visual quality is subjective, it can reasonably be concluded that the proposed buildings would not result in a substantial, demonstrable negative aesthetic effect. The project would result in noticeable changes in visual character due to the construction of new buildings, adaptive reuse of the Ninth Avenue Terminal Bulkhead Building, creation of large open spaces, and an overall intensification of development. The project would improve the visual quality of the area by redeveloping unsightly vacant and underused areas and surface parking lots, providing new parks and publicly oriented recreation venues, and implementing a streetscaping program (paving, landscaping, lighting, etc.) for new public streets throughout the project site and along the Embarcadero. The project would also further enhance existing, attractive facilities, such as the Jack London Aquatic Center and parking area.

In conclusion, while the proposed project would result in aesthetic changes within the estuary area, these changes are not necessarily adverse but would be considered a beneficial effect, particularly with implementation of design standards adopted as part of the project. Based on the above evaluation of the project's physical character, massing, and height relationships to other surrounding buildings, the project would not substantially degrade the existing visual character or quality of its site or its surroundings.

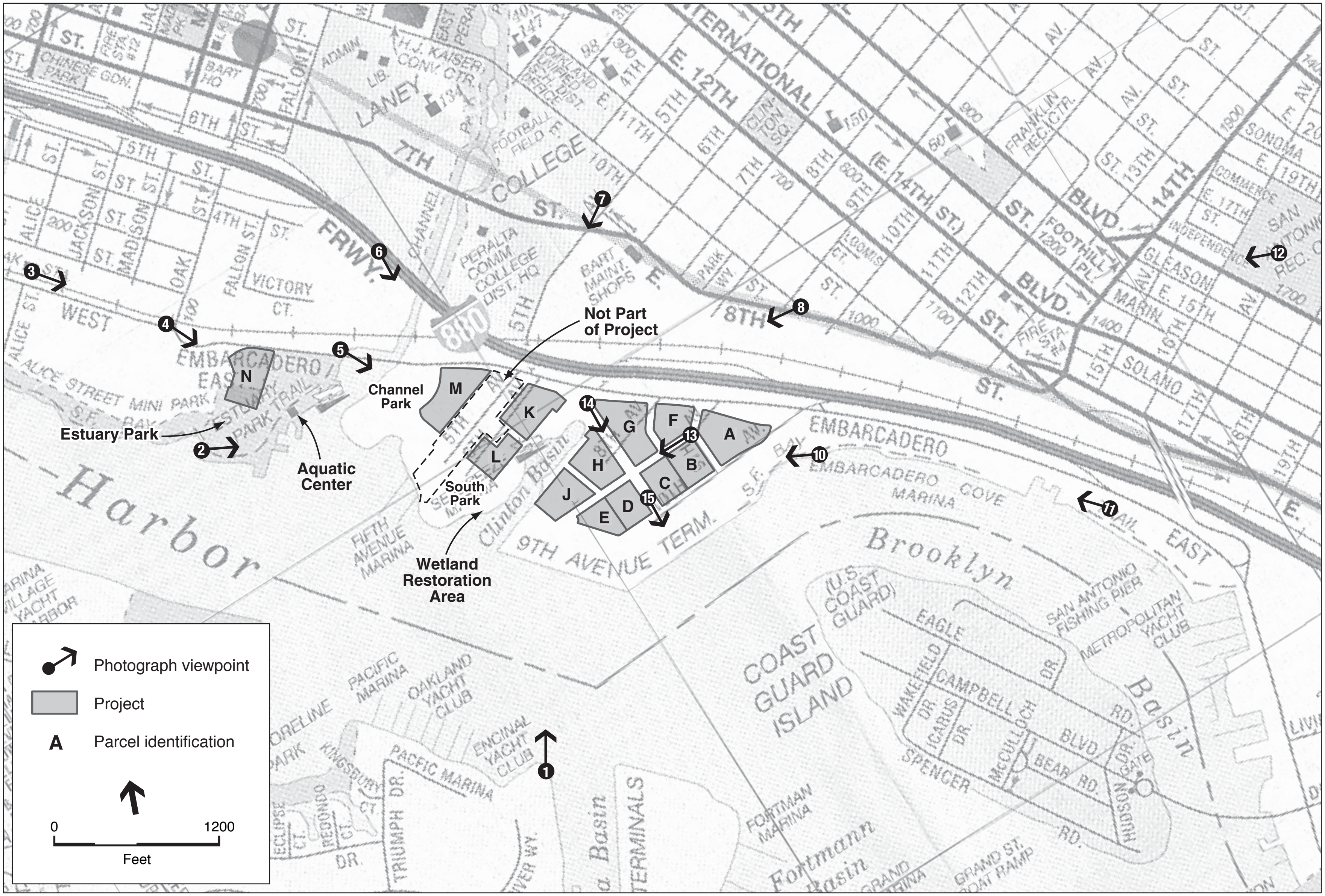
Mitigation: None Required.

Impacts on Views and Scenic Vistas

Impact K.2: The project would construct new buildings that would be taller and have more bulk than existing nearby buildings which would result in changes to views from nearby public viewpoints, but that would not adversely affect scenic vistas of which the project site is a part. (Less than Significant)

The project would change the visual environment on the project site and would alter existing short-range views (up to 1,000 feet from the site), medium-range views (1,000 to 1,500 feet from the site), and long-range views (more than 1,500 feet from the site) from exterior public viewpoints, as well as from within the site's interior (Estuary Park and points along the Embarcadero). The following analysis evaluates changes from specific public viewpoints and within scenic corridors and vistas.

Computer-generated visual simulations illustrating "before" and "after" visual conditions at the project site as seen from representative public viewpoints are presented as part of this analysis. **Figure IV.K-1** (p. IV.K-11) shows the viewpoint locations. Digitized photographs and computer modeling and rendering techniques were used to prepare the simulation images, which are based on plans and other design descriptions provided by the project sponsor. It is important to note that the images of the project shown in the simulations are intended to convey the general mass, height, and interrelationships of project buildings, individually and collectively, and are not intended to represent the architectural detail of the project. Also, to assess the worst-case impacts on views and scenic vistas, the simulated project depicts a maximum height and massing scenario (86-foot maximum podiums/buildings on most parcels and towers at a maximum 240 feet on Parcels A, H, J, K, and M), however the project that is ultimately constructed would not likely be built to these maximum heights.



SOURCES: Environmental Vision, Environmental Science Associates

Oak to Ninth Avenue . 202622

Figure IV.K-1
Viewpoint Location Map

Comparison of Existing and Proposed Views

From Alameda Shoreline: Figure IV.K-2 (Viewpoint 1 on p. IV.K-13) illustrates a view of the site from the Alameda shoreline looking north. In the existing view from this location, the project site is visible in long-range panoramic views. Foreground views are of a landscaped shoreline band. Mid-ground views encompass the Oakland Estuary's Inner Harbor waters. Oakland's downtown skyline is visible in the distance to the west. Looking directly to the north, beyond the project site, an elevated span of I-880 is visible, as are a few large buildings near Lake Merritt. The project site's maritime-industrial shoreline is characterized by cranes, the Oakland-Berkeley Ready-Mix silos and conveyer, finger piers, boats, and the Ninth Avenue Terminal building to the east. In the distance, the East Bay hills create a natural, though developed, backdrop.

The Viewpoint 1 simulation shows that with development of the project, the existing long-range views of the downtown Oakland skyline and portions of the East Bay hills in the background would remain. The maritime-industrial character of the project site would be replaced with a residential-commercial character, with more substantial landscaping in the proposed South Park at the mouth of Clinton Basin. Heavy machinery, cranes, and containers along the waterfront would be replaced by project buildings set behind publicly accessible parkland. New public open space would also be visible over the pier at proposed Shoreline Park (shown on the right side of the simulation).

The project's proposed towers on Parcels H, J, and K would be clustered and would create a visual focus at the center of the site, obstructing background views of a small portion of the East Bay hills; Tower M would be set in front of distant mid-rises near Lake Merritt. The height (65 to 86 feet) of the project's mid-rise buildings on Parcels B, C, D, and E (visible on the right side of the simulation, beyond Shoreline Park) would fall just below the ridgeline of the East Bay hills, which would still be distinguishable in the distant background. Overall, from Viewpoint 1, the project would result in noticeable changes to the existing view from this viewpoint but would not substantially affect any scenic vista, including long-range views of the East Bay hills or the downtown Oakland skyline.

From Estuary Park Shoreline: Figure IV.K-3 (Viewpoint 2 on p. IV.K-15) presents the existing view from Estuary Park looking east. Existing foreground views are characterized by expanses of lawn with benches, palm trees, and riprap lining the waterfront. In the mid-ground, a framed seating area is set in front of a stand of trees that currently lines the channel-side walkway to the pier (visible at the right side of the simulation). Masts of sailboats in the Fifth Avenue Marina are visible against the outline of the hills in the distance. The sand and gravel operation on the project site is visible in the background, behind the park's seating area.

As is apparent in the simulation from Viewpoint 2, mid-range views from Estuary Park would change with construction of the project. Foreground views would not change, but project towers on Parcels H, J, K, and M would be visible in the background and would rise above existing trees along Lake Merritt Channel. Other project buildings would be visible and would replace the view of the Berkeley-Oakland Ready Mix sand and gravel operation and equipment. The project would also change views beyond the expanded Fifth Avenue Marina, where trees and

Existing view from Alameda shoreline at Wind River office building looking north (VP1)

Visual simulation of proposed project

SOURCE: Environmental Vision

Figure IV.K-2
Simulation

landscaping in the proposed South Park would be visible. Sailboats and other marine craft would be visible and would continue to contribute to the maritime character of the site under project conditions. Project buildings would partially block long-range views of the East Bay hills at this location. However, although there would be noticeable changes to the existing mid- and long-range views, this would not be considered a substantial affect to any scenic vista, including existing long-range views of the East Bay hills.

From Amtrak Pedestrian Bridge at Jack London Square: Figure IV.K-4 (Viewpoint 3, on p. IV.K-17) provides a view from the Amtrak pedestrian bridge over the Embarcadero, looking east toward the project site. Foreground views are of offsite warehouse buildings on the north side of the rail tracks and the four-story Landing residential development south of the tracks and the Embarcadero. The slight curve of the tracks draws the eye to the mid-ground of the view, which consists of heavy machinery and conveyors of the sand and gravel operation, with the project site visible beyond. There are no substantial views of the estuary from this viewpoint. The ridgeline of the hills in the distance establishes the horizon.

With the project, buildings would replace industrial equipment from Viewpoint 3 and create a view of more intensive development. The four-story building on Parcel N (currently Cash & Carry warehouse) would be visible in the foreground, set against four of the project's towers in the background (on Parcels H, J, K, and in the distance and farthest north [left], Parcel A). The position of the project building on Parcel N in relation to the Embarcadero would create a strongly-defined street wall. From this vantage point, the height of the Parcel N building would appear similar to The nearby Landing residential development. The project's taller buildings would block some existing views of the distant hills although, as shown in the simulation, some hillside vistas would continue to exist at the left side of the view. Overall, from Viewpoint 3, the project would result in noticeable changes to the existing view but would not substantially affect any scenic vista, including the long-range views of the East Bay hills.

Existing view from Estuary Park shoreline looking east (VP2)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-3
Simulation

From Oak Street at the Embarcadero: Figure IV.K-5 (Viewpoint 4, p. IV.K-18) presents existing views from the intersection of Oak Street and the Embarcadero. This is the initial view of the project site as approached from Oak Street or Jack London Square and is characterized by the westward curve of the Embarcadero in the foreground. The project site is visible in the mid-ground, adjacent to the four-story Portobello residential condominium complex. From this vantage point, the loading docks of the existing single-story warehouse (Cash & Carry) on the project site are visible on the south side of the Embarcadero; the warehouse frontage is visible just beyond the roadway curve. Some street trees are visible along the Embarcadero. Long-range views or views of the estuary are not available from this vantage point.

As simulated from Viewpoint 4, the project would alter short-range views due to the demolition of the Cash & Carry warehouse and construction of a residential building (Parcel N). The new building on Parcel N would be up to approximately 65 feet tall along the Embarcadero, up to 86 feet tall at portions set back from the Embarcadero, and approximately 30 to 50 feet tall at its central portion. The building would be larger than the warehouse it would replace, and portions would be taller than the adjacent Portobello residential complex. Its configuration would allow for views into its interior courtyard from the eastbound Embarcadero travel lanes, along which street trees and landscaping would be introduced. No other project buildings would be visible from this viewpoint. Overall, from Viewpoint 4, the project would result in noticeable changes to the existing view but would not affect any scenic vista.

Embarcadero at Lake Merritt Channel Bridge: Figure IV.K-6 (Viewpoint 5, p. IV.K-19) illustrates the existing view from the Embarcadero at Lake Merritt Channel looking southeast directly toward the project site. Foreground views are of the channel waters. Mid-ground views are of the project site and include the large vacant area on the east shore of the channel. A single-story building fronts the Embarcadero, and the silos and conveyor belt of the industrial sand and gravel operation on the project site are clearly visible in the background, as is one of the larger industrial sheds within the Fifth Avenue Point outparcel. Given the relatively low elevation of this viewpoint, there are no substantial views of distant hills or the estuary.

As simulated from Viewpoint 5 the proposed mid-rise podium building and highrise tower on Parcel M would be most visible. In the background, the towers on Parcels H and K would be visible above the Parcel M podium. From this viewpoint, the visual character of the shoreline would shift from predominantly industrial to a park setting (Channel Park). The channel edge would be lined with new contoured riprap, with

Existing view from Amtrak pedestrian bridge looking southeast (VP3)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-4
Simulation

Existing view from Oak Street at Embarcadero looking southeast (VP4)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-5
Simulation

Existing view from Embarcadero at Lake Merritt Channel looking southeast (VP5)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-6
Simulation

meandering pedestrian pathways and new landscaping. Overall, from Viewpoint 5, the project would result in noticeable changes to the existing view but would not affect any scenic vista.

Interstate 880 Southbound: Figure IV.K-7 (Viewpoint 6, p. IV.K-21 presents existing views from southbound (eastward) I-880, near the Oak Street on-ramp looking southeast. This view is experienced as part of a dynamic view sequence while entering the freeway. In the foreground, an offsite surface parking lot, utility poles, and shipping containers are visible just below the freeway on-ramp. In the mid-ground, a narrow bridge over Lake Merritt Channel can be seen. To the southeast, industrial warehouses, the silos and conveyor of the sand and gravel operation, as well as other structures, are visible on the project site and in the Fifth Avenue Point outparcel (not part of the project site). Long-range views of the estuary or hills are not available from this location.

As simulated from Viewpoint 6, the project would not affect foreground views as the parking lot below the freeway and warehouses north of the Embarcadero are not located on the project site and would still be visible. As motorists continue southbound on I-880 and approach the project site, views would include the project site set behind the foreground parking and the channel shoreline. Nearing the site, the mid-rise buildings on Parcels K and M would come into view. Farther to the south, project towers would become more prominent, with towers on Parcels A, K, and M being most visible given their proximity to I-880. High-speed motorists along the freeway would catch fleeting views of project buildings while traveling southbound. Overall, from Viewpoint 6, the project would result in noticeable changes to the existing view but would not affect any scenic vista.

5th Avenue at 8th Street: **Figure IV.K-8** (Viewpoint 7, p. IV.K-22 presents existing views from 5th Avenue at 8th Street, looking south. In this expansive view, the wide intersection dominates foreground views, set in front of the collection of single-story BART maintenance buildings located on 7th Avenue in the mid-ground. The project site is set behind the BART maintenance shops and I-880. In the distance, an elevated portion of I-880 crosses over 5th Avenue, its height aligning with the horizon line in this view. The tops of crane equipment, utility lines, and taller buildings on the project site are visible above and below the freeway.

As simulated from Viewpoint 7, the project's mid-rise buildings (portions of the buildings on Parcels G, H, and K) would be seen behind the BART maintenance buildings and above the elevated portion of I-880. The four project towers closest to 5th Avenue and Clinton Basin (Parcels H, J, K, and M) would also be visible from this location and would create a varied, urban skyline where there is currently none. Overall, from Viewpoint 7, the project would result in noticeable changes to the existing view from this viewpoint, but would not substantially affect any scenic vista.

Existing view from Interstate 880 southbound near Oak Street on-ramp looking southeast (VP6)

Visual simulation of proposed project

SOURCE: Environmental Vision

Figure IV.K-7
Simulation

Existing view from 5th Avenue at 8th Street looking south (VP7)

Visual simulation of proposed project

SOURCE: Environmental Vision

Figure IV.K-8
Simulation

East 8th Street at 10th Avenue: **Figure IV.K-9** (Viewpoint 8, p. IV.K-24 presents existing views from East 8th Street looking west from 10th Avenue. The offsite Amtrak and Union Pacific Railroad tracks characterize the predominantly industrial visual setting from this viewpoint looking toward the project site. When trains are not passing this location, or on the infrequent occasions when freight train cars are not stored in this area (as depicted in **Figure IV.K-9)**, long-range views of the project site, the Oakland Estuary, and San Francisco would likely be seen from Viewpoint 8.[2]

As simulated from Viewpoint 8, almost the entire expanse of the project, including five towers and four mid-rise structures, would be visible from this location. The tower on Parcel A would be located toward the foreground in this view, and the towers on Parcels J, H, K, and M would be visible in the distance. The crane equipment and taller buildings on the project site are partially visible in the distance, located behind cyclone fencing and railcars in the foreground. Although I-880 and the railroad right-of-way would remain in the immediate view, the project buildings would partially obstruct views of the Oakland Estuary and of the city of San Francisco beyond during the infrequent occasion that freight train cars are not stored in front of the project site. Overall, from Viewpoint 8, the project would result in changes to the existing view but would not substantially affect any scenic vista.

Interstate 880 Northbound: **Figure IV.K-10** (Viewpoint 9, p. IV.K-25 presents the existing view of the project site from northbound I-880 looking southwest. Views of the project site from this location are experienced as part of a dynamic view sequence while driving along the freeway in either the northbound or southbound direction (see southbound I-880 view, **Figure IV.K-7**, Viewpoint 6). Currently, the visual setting near this portion of I-880 is relatively undefined, with foreground views of the lane of southbound traffic and the offsite (unused) railroad track spur that parallels Embarcadero, and mid-ground views of two warehouses on the project site (furniture sales and metal recycler) and the Ninth Avenue Terminal on the east edge of the project site. Long-range views across the estuary are not available from this location.

As shown in the simulated view from Viewpoint 9 (**Figure IV.K-10**), almost the entire expanse of the project site frontage would be visible. The view would include the towers on Parcels A, H, K, and M as well as the intervening mid-rise structures. Project buildings would obstruct some existing, intermittent views of the project site, such as views of the Ninth Avenue Terminal Bulkhead Building that remain visible behind existing trees, that would also remain or be replaced. High-speed motorists along the freeway would catch fleeting views of project buildings while traveling northbound. Immediate views of the lower levels of project buildings, which would be within the northbound motorists' primary vantage point, would be screened by trees and landscaping that would be planted along the Embarcadero as part of the project. Overall, from Viewpoint 9, the project would result in substantial changes to the existing view but would not substantially affect any scenic vista.

2 Although 24-hour observation was not conducted from Viewpoint 8 (or any other viewpoint), possible views of the estuary or the San Francisco skyline from this viewpoint could not be confirmed during regularly conducted observations between January to August 2005.

Existing view from East 8th Street at 10th Avenue looking southwest (VP8)

Visual simulation of proposed project and cumulative Jack London Square (JLS) development to the right

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-9
Simulation

Existing view from Interstate 880 northbound looking southwest (VP9)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-10
Simulation

Existing view from Shoreline trail near Homewood Suites looking west (VP10)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-11
Simulation

Shoreline Trail at Homewood Suites, along Brooklyn Basin: Figure IV.K-11 (Viewpoint 10, p. IV.K-26) presents existing views looking southwest from the shoreline trail near the Homewood Suites, immediately east of the project site. Foreground views from the edge of the trail are of the estuary and the marina at Embarcadero Cove. The waterfront (rear) elevation and landscaped lawn of the three-story Homewood Suites hotel are visible to the north (at the right side of the view). In the mid-ground, the "front" facade of the Ninth Avenue Terminal is visible. Some long-range views of the Alameda shoreline and office buildings are available from this viewpoint.

Viewpoint 10 shows that the project would alter short- and mid-range views from this viewpoint. The building on Parcel A would be visible behind the Homewood Suites hotel. The proposed mid-rise buildings on Parcels B and C would be partially visible and would appear slightly taller than the retained Ninth Avenue Terminal Bulkhead Building. Also, the proposed tower on Parcel J would be visible above and between the buildings on Parcels B and C. Most of the Ninth Avenue Terminal would be demolished, but this alteration would not be apparent from this viewpoint. Nor would views of the Alameda shoreline be obscured. Overall, from Viewpoint 10, the project would result in minimal changes to the existing view and would not substantially affect any scenic vista.

Embarcadero at 16th Avenue: Figure IV.K-12 (Viewpoint 11, p. IV.K-28) presents existing views from 16th Avenue, near the Executive Suites hotel, looking southwest. Foreground views are dominated by the Embarcadero. The Oakland Estuary is visible to the west of the Embarcadero, its shoreline landscaped with street trees and light stands adjacent to the Bay Trail. Mid-range views are available of Embarcadero Cove Marina. Long-range views are characterized by the Ninth Avenue Terminal Bulkhead Building, with glimpses of Alameda and the San Francisco skyline in the distance.

Viewpoint 11 illustrates that under project conditions, short-range views would be defined by views of Embarcadero Cove and the estuary. As shown in the simulation, the project would remove most of the Ninth Avenue Terminal building, opening up mid- and long-range views to the distance. This would result in more expansive views of Alameda and the San Francisco skyline. Although new buildings in this view would be visible under project conditions, these buildings would not substantially obstruct any existing or newly created views of the estuary or long-range views of Alameda or the San Francisco skyline.

San Antonio Park Overlook: **Figure IV.K-13** (from Viewpoint 12, p. IV.K-29) presents existing views from the overlook at the highest elevation of San Antonio Park at East 19th Street and 17th Avenue, approximately 1.5 miles northeast of the project site. From this vantage point, the project site, framed by surrounding vegetation in the center of this long-range view, is barely discernable, though a small portion of the estuary is visible to the south (left) of the project site. Views terminate at Alameda and the northern extent of the Pacific Coastal Range on the distant horizon.

Existing view from Embarcadero near the Executive Inn looking southwest (VP11)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-12
Simulation

Existing view from San Antonio Park looking southwest (VP12)

Visual simulation of proposed project

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-13
Simulation

From Viewpoint 12, five of the project's towers on Parcels A, H, J, and M would be visible above the horizon. The towers on Parcels A and J would be clustered, whereas the towers on Parcels H, K, and M would be viewed as separate elements on the skyline. The mid-rise portions of project buildings would also be discernable and appear larger than the pattern of surrounding homes in the foreground. While the project's proposed buildings would be taller and more noticeable on the horizon than other buildings currently visible from this vantage point, the project would not have a substantial adverse affect on a scenic vista.

Internal Private Viewpoints

Three viewpoints are included below to illustrate changes in views from internal points on the proposed project site. Although internal to the site, these views are from public vantage points (new public streets) and simulate the types of views that could be available to future site residents and visitors.

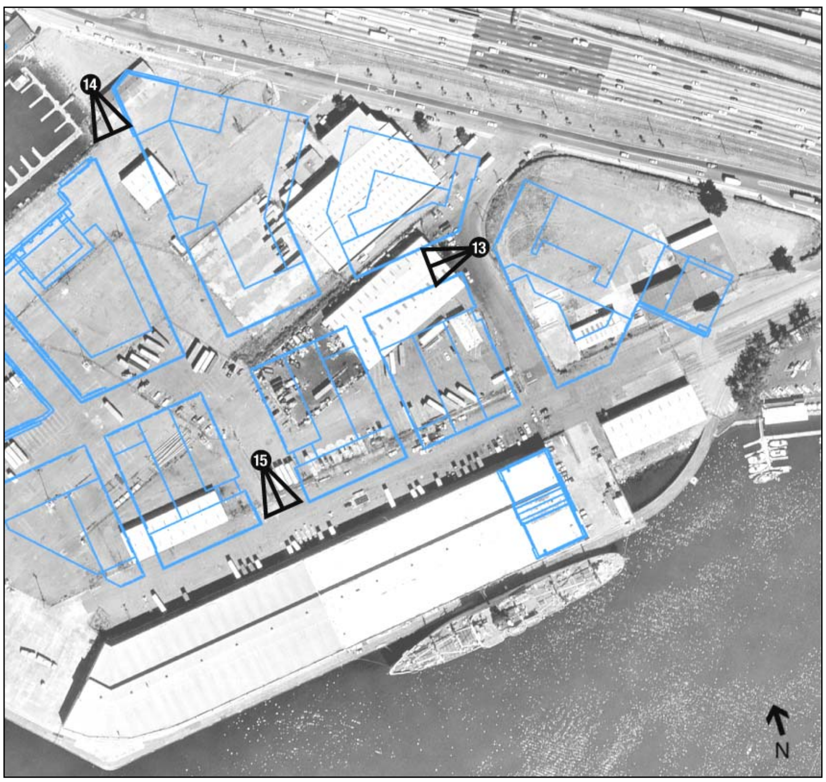


Figure IV.K-14 (Viewpoint 13, p. IV.K-31) presents an existing view from a new northeast-southwest public street (8th Avenue) looking southeast. This short-range view currently dead-ends into the side of single-story corrugated metal storage shed. The project would alter views from this location, by creating a new view corridor along the future 8th Avenue across the entire depth of the site. Several project buildings would be visible from this viewpoint.

Existing internal view looking southwest (VP13)

Visual simulation of proposed project along 8th Avenue

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-14
Simulation – Internal View

Existing internal view looking southeast (VP14)

Visual simulation of proposed project along Main Street (6th Avenue)

SOURCE: Environmental Vision

Figure IV.K-15
Simulation – Internal View

Existing internal view looking southeast (VP15)

Visual simulation of proposed Shoreline Park from Main Street (6th Avenue)

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-16
Simulation – Internal View

Views would include the project site's waterfront edge. The project would create a new long-range view corridor through the site to the Oakland Estuary and Alameda marina in the distance. These views do not currently exist.

Figure IV.K-15 (Viewpoint 14, p. IV.K-32) presents an existing view from Clinton Basin Marina looking southeast. This view is similar to Viewpoint 13, and currently dead-ends into the side of single-story corrugated metal storage shed. The project would alter views from this location by creating a new, elongated view corridor to the southeast across the entire depth of the site. The Main Street roadway alignment would define future views from this point –buildings G, H, C, and D would all have a regulated setback. The new Main Street view corridor would provide views through the project site to the proposed Shoreline Park. Brooklyn Basin would not be visible due to the rise in elevation compared to the viewpoint elevation.

Figure IV.K-16 (Viewpoint 15, p. IV.K-33) illustrates a short-range view looking southeast. Existing views are of loading bays along the north/west elevation of the Ninth Avenue Terminal building. As depicted in the photograph, parked trailer trucks are visible set in front of the double-height shed. Under project conditions, this viewpoint would frame views across Brooklyn Basin, and portions of the bases of buildings C and D would be visible from this location. Similar to the effects described above from the Viewpoint 14, the removal of the Ninth Avenue Terminal building under project conditions would establish a new view across the site, providing an unobstructed long-range water view from across the site to Brooklyn Basin and beyond.

View Impacts of Increased Building Height Variant

As described in the Project Description (Chapter III), the project variant would increase maximum building heights (excluding the high rise towers[3]) on Parcels B, C, D, E, and H from a maximum 86 feet tall (as proposed by the project) to a maximum 120 feet tall. The effect of the increased height on these parcels would be visible most clearly from Viewpoint 1, Viewpoint 10, and Viewpoint 11.

Figure IV.K-17 (from Viewpoint 1, p. IV.K-36) illustrates a view of the site from the Alameda shoreline looking north. For the project variant, the simulation of this view shows that the project would alter long-range, panoramic views from this viewpoint, similar to the changes expected under the proposed project (**Figure IV.K-2**). The difference between the variant's effects on views from this viewpoint, compared to those of the project, relate to the amount of distant hillside that would be visible. With the variant, taller building heights on Parcels B, C, D, and E obstruct some views of the East Bay hills from Alameda. However, distant hillside/horizon views would continue to be available between the proposed towers on Parcels M and J, as well as between Parcel B and to the east of the proposed tower on Parcel A. This partial obstruction of the East Bay hills from this long-range vantage point would not substantially affect any scenic vista.

3 The Increased Building Height Variant would increase only the building podium heights by 34 feet (from 86 feet to 120 feet maximum). The maximum height of the overall structure (including the highrise towers) would remain 240 feet).

Figure IV.K-18 (from Viewpoint 10, p. IV.K-37) presents existing views looking southwest from the shoreline trail near the Homewood Suites, immediately east of the project site. For the project variant, the simulation of this view shows that the project would alter short- and mid-range views from this viewpoint, similar to the changes expected under the proposed project (Figure IV.K-11).

The tops of buildings on Parcels B, C, and D would extend above the roofline of the retained Terminal Bulkhead Building. Similar to the proposed project, the Terminal's demolition would not be visible from this viewpoint, nor would views of the Alameda shoreline be obscured. Additionally, buildings on Parcels B, C, and D would appear taller than proposed for the project, these buildings would almost completely block views of the proposed tower on Parcel J behind them. While the project variant's taller buildings on Parcels B, C, and D would create a stronger visual edge along Brooklyn Basin at the eastern edge of the project site, it would not substantially affect any scenic vista.

Figure IV.K-19 (from Viewpoint 11, p. IV.K-38) shows existing views from 16th Avenue, near the Executive Suites hotel, looking southwest. Compared to the visual impacts of the proposed project from this viewpoint (Viewpoint 11), variant buildings on Parcels C, D, and E would appear taller than those proposed by the project. However, similar to the project, the buildings along the project waterfront boundary would be set back from the shoreline, and would create a taller visual edge than the project would from this location. The project's proposed towers would continue to be visible on Parcels J, H, and A, set back from the waterfront. However, while the project variant's taller buildings on Parcels B, C, D, E (and H, though not visible from this viewpoint) would create a taller visual edge along Shoreline Park, this would not substantially affect any scenic vista.

Existing view from Alameda shoreline at Wind River office building looking north (VP1)

Visual simulation of project variant and approved development at Jack London Square

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-17
Simulation–
Increased Height Variant

Existing view from Shoreline trail near Homewood Suites looking west (VP10)

Visual simulation of project variant

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-18
Simulation–
Increased Height Variant

Existing view from Embarcadero near the Executive Inn looking southwest (VP11)

Visual simulation of project variant

SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-19
Simulation–
Increased Height Variant

Conclusion of View and Scenic Vista Impacts

Construction of new project buildings would result in changes to short- and medium-range views from the public access areas along the Oakland shoreline, estuary waters, I-880, and the Embarcadero, and would change long-range views from the city of Alameda shoreline and inland Oakland areas.

Most of the project buildings would be approximately 65 to 86 feet in height (six to eight stories). The five proposed highrise towers would be as tall as 180 to 240 feet and would have smaller floor plates compared to their broader, six- to eight-story podium bases. The tall buildings avoid significantly obstructing views of the hills or the few existing immediate view corridors to the estuary from the Embarcadero (i.e., Lake Merritt Channel bridge, through Clinton Basin, and around 18th Avenue near Executive Inn). Partial existing long-range views of the East Bay hills (viewed from south of the project site) and of the estuary (viewed from northeast of the project site from San Antonio Park) would also remain after construction of the project. The project would establish a new skyline that would be slightly lower than the natural horizon line established by the East Bay hills in the distance (viewed from the Alameda shoreline), and would thereby preserve most views of the hills from long-range viewpoints. The new skyline would be in line with the downtown Oakland skyline and future Jack London Square development skyline, as viewed from the Alameda shoreline (**Figure IV.K-2** and **Figure IV.K-17**). The project would thus extend the existing city skyline, as well as the future skyline that will emerge with approved development at Jack London Square.

At locations along the freeway and nearby arterial streets, the project would create a backdrop of taller new buildings closer into the observer's field of vision. The project could obstruct some views of the estuary and the distant San Francisco skyline**,** although very few substantial views of these attributes exist across the project site due to existing development and differences in elevation between the estuary and public viewpoints. Existing views of open spaces and the water's edge from locations close to or within the project site (i.e., Estuary Park, east shore of Lake Merritt Channel, Clinton Basin) would be preserved. In addition to substantial public improvements proposed by the project, new, sizeable public parks would "enhance opportunities for visual access to the waterfront and its activities," as called for by Oakland General Plan Land Use and Transportation Element (LUTE) Policy W3.4, by establishing new public viewing locations offering long-range views of Oakland's downtown skyline and the city of Alameda shoreline.

Based on the above evaluation of the project's impact on existing views and scenic vistas from public vantage points, the project would alter views of and across the site from nearby locations, but these changes would not be substantial or adverse. Therefore, the project's effect on scenic vistas would less than significant.

Mitigation: None Required.

Light and Glare Impacts

Impact K.3: The project would increase the amount of light and glare emitted from the project site but would not result in substantial adverse effects to day or nighttime views. (Less than Significant)

The project would result in substantially more development than the existing, relatively smaller-scale warehouse and commercial buildings in the area. As discussed in the Setting section above, existing sources of light are typical of urban commercial and industrial uses, with isolated high-wattage security lighting being the most intense sources of light and glare. The increased amount of occupied building area and building mass would result in more light and glare sources, particularly during nighttime hours. The amount of light and glare from the project would be comparable to light and glare from other urban development in the area would not substantially increase overall ambient light levels. The light and glare produced from the project would be comparable to light and glare levels from The Portobello and The Landing residential developments, residential mixed-use projects in adjacent areas such as the Waterfront Warehouse District, and the Jack London District. Lighting associated with new open spaces and recreational uses would be comparable to lighting provided in nearby public parks.

Existing work-live uses in the Fifth Avenue Point outparcel would front 5th Avenue and would be located close to new buildings on Parcel K, and to a lesser extent, Parcel L. Landscaping and the orientation of exterior building lighting and street lighting would minimize the potential for any substantial adverse effects on these adjacent uses due to increased light or glare. The project site adjoins local roadways and a major elevated freeway where street lighting and through-traffic create sources of glare at night.

The project would not include any large, surface parking areas, nor would its residential, commercial, or recreational areas necessitate extensive outdoor lighting for operational or security purposes that would create substantially increased and adverse light or glare. The project would likely include some fixed, indirect exterior lighting, particularly at building entrance points, along public streets and walkways, and in open space areas, to promote resident, visitor, and driver safety. The project's overall lighting system would generally be designed with downward-pointing lights, side shields, and visors. Occasional up-lighting may be used to highlight selected landscaping or building features, but would be limited to acceptable lighting levels consistent with the City's Outdoor Lighting Standards (City of Oakland, 2002) and the Port of Oakland's Dark Skies Program (Port of Oakland, 2003). Also, City would ultimately review project lighting and the reflective properties of building materials as part of the Final Design Review required for the project. The light and glare from new buildings is not expected to exceed that of the existing high-watt security lighting currently used by businesses and warehouses on the project site and adjacent to 5th Avenue, in particular.

Since the project would consist of development and lighting treatments typical of residential mixed-use buildings and open spaces in the general area, and would be consistent with City standards for outdoor lighting, it would not result in new sources of substantial adverse light or glare impacts.

Mitigation: None Required.

Shadow Impacts

Criteria Overview

This subsection describes the project's shadow effects compared to the shadow-related criteria prescribed by CEQA and the City of Oakland's significance criteria (listed on pages IV.K-6). The discussion addresses all shading that would result from the project and specifically highlights elements identified in the significance criteria (solar collectors, public open space, and historic resources). In relation to these criteria, it should be noted that no solar collectors or solar heat collectors are known to exist on adjacent parcels that might be affected by project shadows. Additionally, Estuary Park is the only existing public open space near the project site. The existing Ninth Avenue Terminal, which would be largely demolished as part of the project and the retained Bulkhead Building are the only historic resources on or near the project site.

The discussion also addresses areas that are potentially sensitive to shading effects but that are not identified in significance criteria under CEQA. These areas consist of the existing Fifth Avenue Point outparcel buildings that contain work-live uses; the wetlands restoration area at the mouth of Clinton Basin; proposed new open spaces (Shoreline Park, Gateway Park, South Park, and Channel Park); and existing waterways (Oakland Estuary and Lake Merritt Channel). Shadow effects on the biological resources of the wetlands restoration area are also addressed in EIR Section IV.I, Biological Resources.

Representative and Worst-Case Shadows

The project's shadow effects were analyzed for representative times of day (9:00 AM, 12:00 PM [noon], and 3:00 PM) during the four seasons of the year:

- June on the summer solstice, when the sun is at its highest and shadows are at their shortest;
- March at the spring equinox, when shadows are midway through a period of shortening;
- September at the fall equinox, when shadows are midway through a period of lengthening; and
- December on the winter solstice, when the sun is at its lowest and shadows are at their longest.

Shadows on any other day of the year would be within the range of shadows presented during the seasons and times of day described above. **Figures IV.K-20** through **IV.K-33** provide an overview of the shading patterns associated with the entire project for the aforementioned times of day and seasons. These pattern diagrams are generalized, though accurate, and convey the relative shadow effects overall. The analysis discussion is organized by season, with the applicable shadow diagrams for the three times of day immediately following the discussion of each season.

As with the previous assessment of views and scenic vistas, a maximum height and massing scenario for the project (86 foot maximum on most parcels and towers at a maximum 240 feet on Parcels A, H, J, K, and M) is used to consider worst-case shadow impacts. However, the project that is ultimately constructed would not likely be built to these maximum heights.

The maximum worst-case shadow effects that could occur from locating the residential towers anywhere within the designated residential "Tower Zones" are depicted. Because the detailed designs of individual buildings are not finalized,[4] the exact tower locations within Parcels A, H, J, K, and M (the parcels on which towers are proposed have not yet been determined. Therefore, a "Tower Zone Shadow" outlines the maximum extent of any shadow that could be cast from a particular tower that could be located anywhere within its identified parcel. No tower shadow would be as large as the area depicted by the tower zone shadow.

Project Shadow Impacts

Impact K.4: The project would create additional shadow on adjacent areas west and north of the project site, however, the project would not cast shadow on historic resources (retained Ninth Avenue Terminal Bulkhead Building), would not introduce landscaping conflicting with the California Public Resource Code; would not cast shadow on buildings using passive solar heat, solar collectors for hot water heating, or photovoltaic solar collectors; and would not cast shadow that impairs the use of any public or quasi-public park, lawn, garden, or open space. (Less than Significant)

Spring

As illustrated in **Figure IV.K-20** (p. IV.K-44), in spring during the morning hours (around 9:00 AM), substantial project shadow would fall to the west of project buildings. The wetlands restoration area would be in shadow until mid-morning, and would be in full sun by late morning (see **Figure IV.K-21**, discussed below). Additionally, as discussed in Impact I.6 (see Section IV.I, Biological Resources), morning shading of terrestrial and aquatic environments (e.g., vegetation and wetlands) in the project area would not result in a measurable effect. This conclusion is based on the San Clements study (San Clements, 2003) of shade effects on vegetation, finding that measurable effects would only be likely to occur immediately adjacent to shade sources (i.e., buildings, bridges) during midday hours (noon) because that is where and when the shadow lasts the longest (as well as autumn). As shown in **Figure IV.K-21**, the wetland restoration area would not be shaded at noon during spring when shadows are longest and would be outside the area of measurable impact.

Buildings in the easternmost portion of the project site would shade most of the internal streets and walkways. The project building on Parcel N would cast some shadow on the Portobello residential complex to its east. Project shadows from Parcel H and the tower on Parcel G would shade much of the proposed Gateway Park near the project's Embarcadero entrance, and shadow from proposed towers on Parcels H and J would extend across much of Clinton Basin. Shadow

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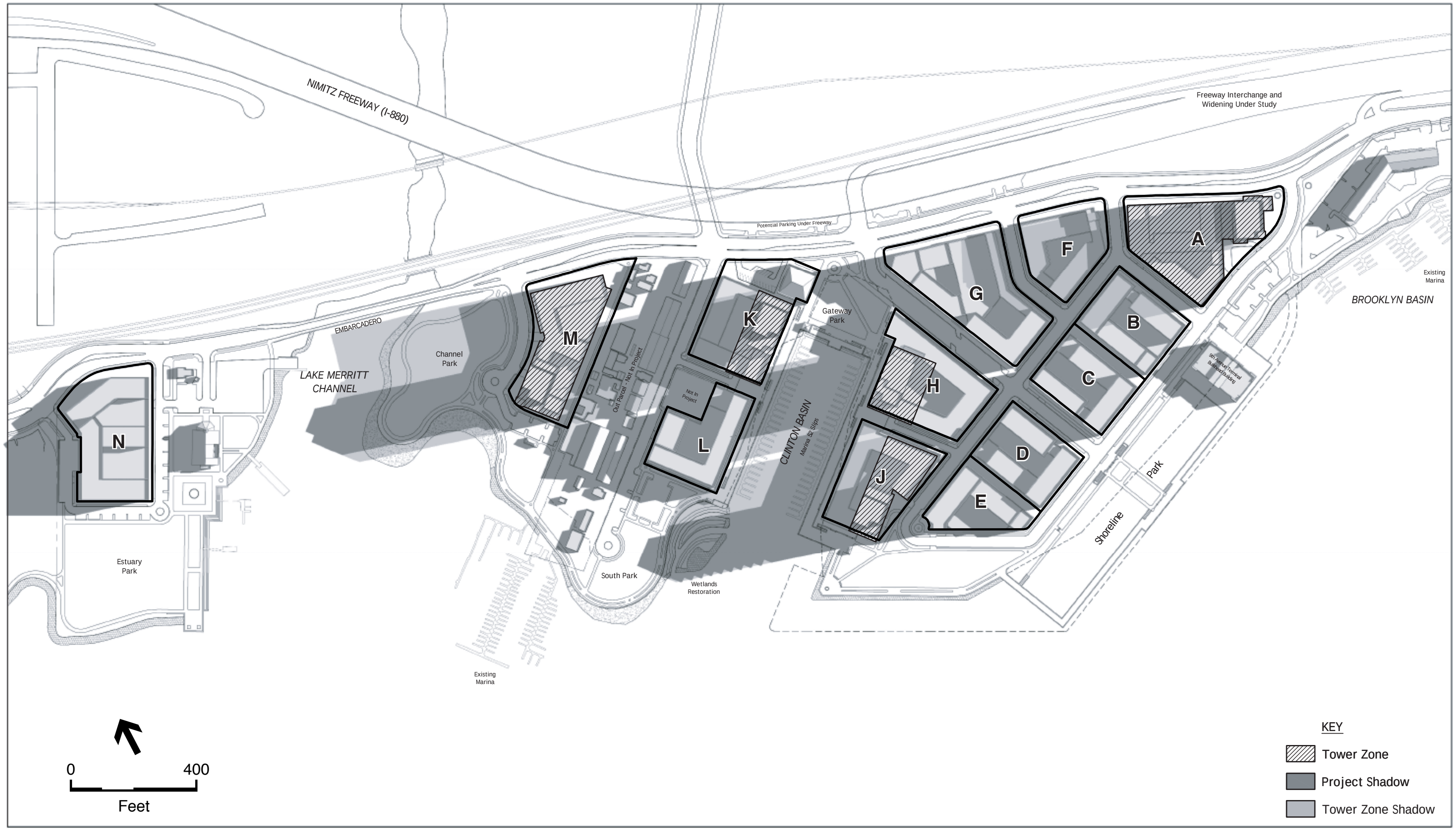
[4] Final project building designs will be considered during the City's Final Design Review process (see Section IV.A, Land Use, Plans, and Policies) and may also be influenced by this environmental review.

from the proposed tower on Parcel K would span the northern portion of the Fifth Avenue Point outparcel, however, this area would be in full sun by mid- to late morning (see **Figure IV.K-21**, discussed below). The Parcel M building would cast shadow over pathways along the southern portion of the proposed Channel Park, as well as a small portion of Lake Merritt Channel.

During springtime morning hours, the renovated Ninth Avenue Terminal Bulkhead Building would cast minimal shadow on the northern portion of the proposed Shoreline Park. The project would not shade the existing Estuary Park or its shoreline..

Figure IV.K-21 (p. IV.K-45) shows that at midday in spring (around 12:00 PM), project shadows would be relatively short and would fall to the north. Project buildings would cast minimal shadow on the Embarcadero and Clinton Basin, and half of the proposed Gateway Park and most of proposed Channel Park would be in sunlight. The proposed project would not cast shadow on the existing Estuary Park or its shoreline during spring midday hours.

Figure IV.K-22 (p. IV.K-46 shows that during the afternoon hours (around 3:00 PM), project shadows would lengthen and fall to the northeast on the Embarcadero and the project's internal streets and walkways. Project shadow would not affect the Fifth Avenue Point outparcel, Clinton Basin, the wetlands restoration area, the Fifth Avenue Point outparcel buildings, or any parks or shoreline during spring afternoon hours.

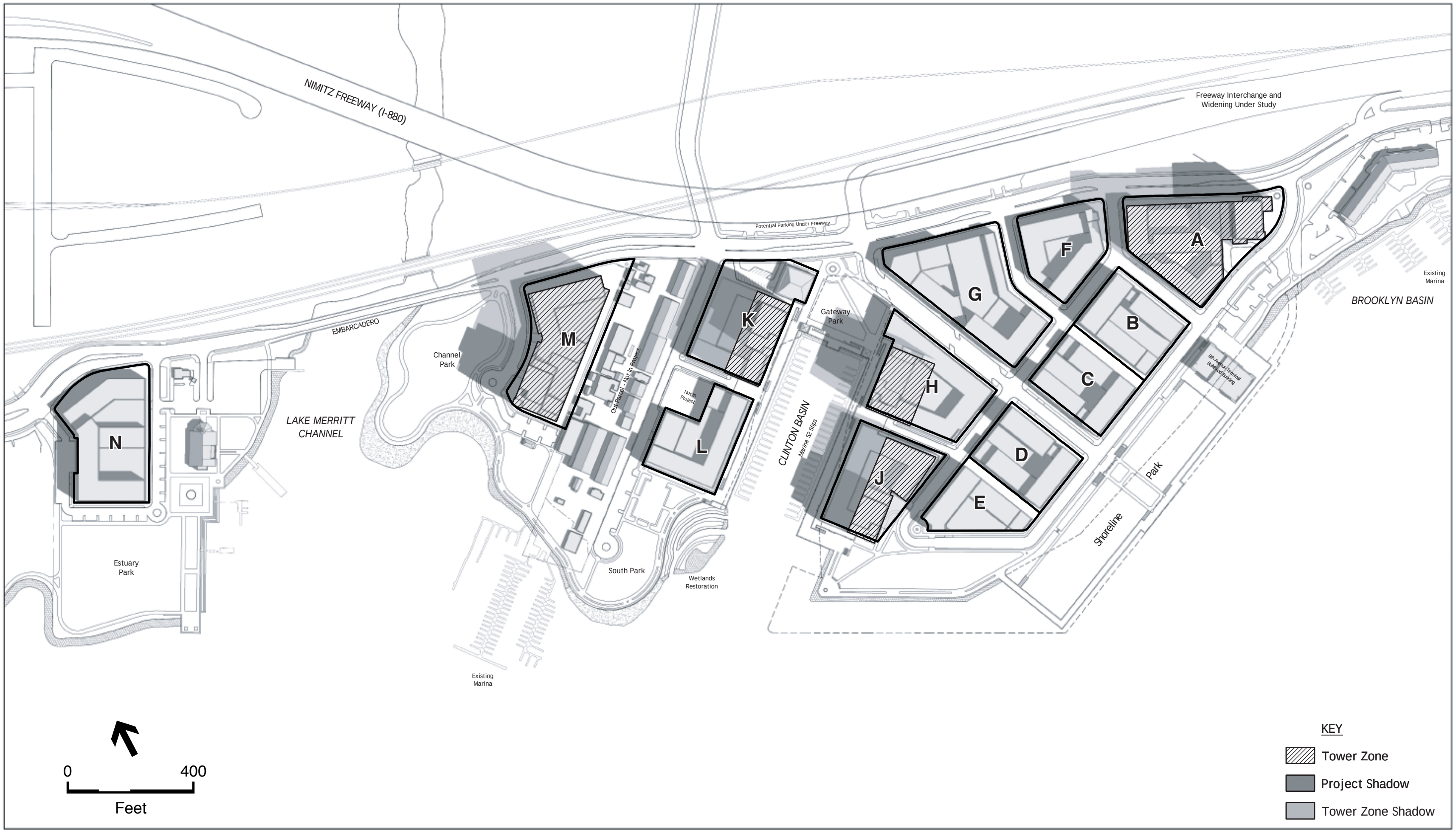


SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-20

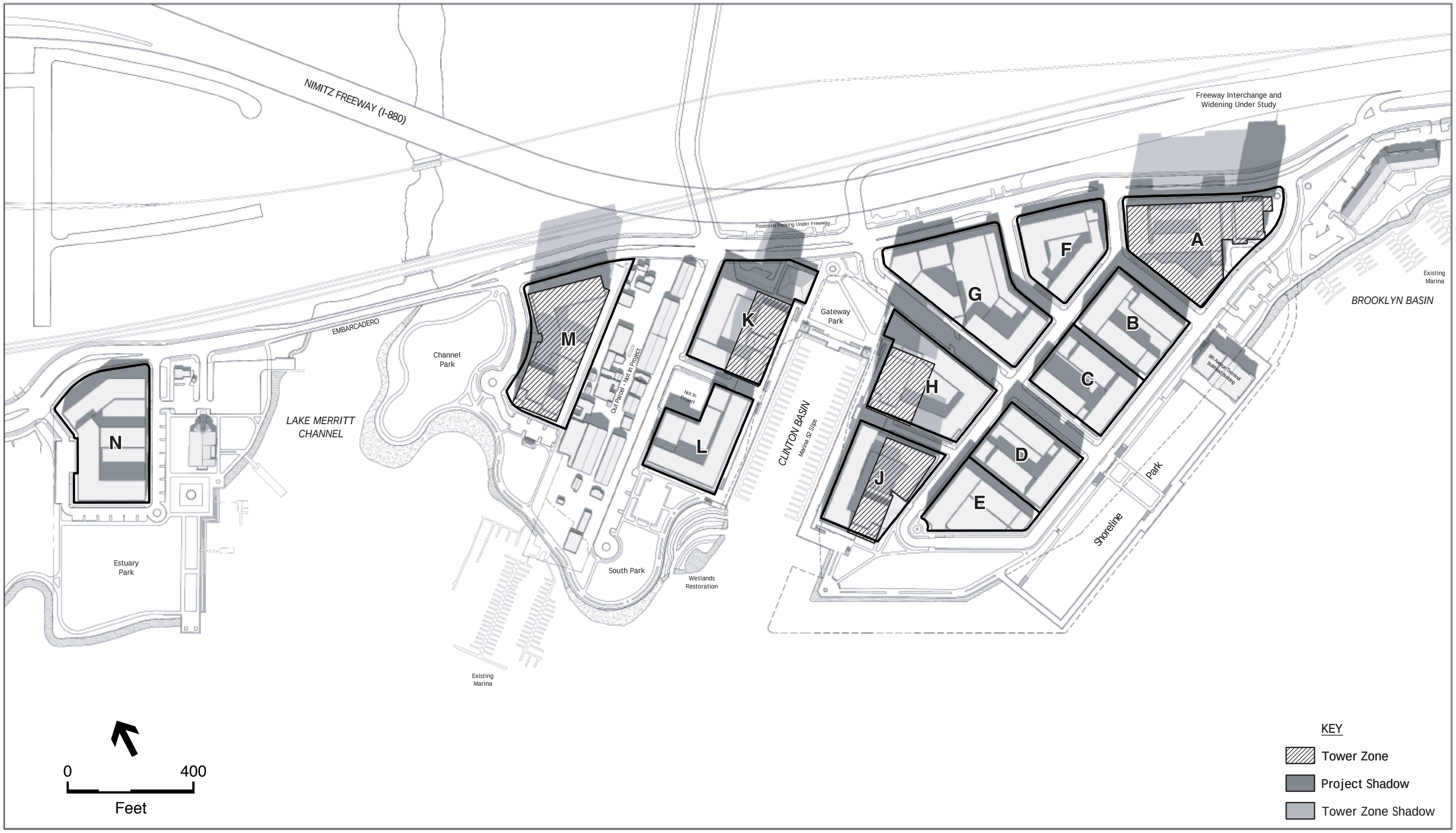
March Shadow Patterns: 9 am



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-21
March Shadow Patterns: 12 noon



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

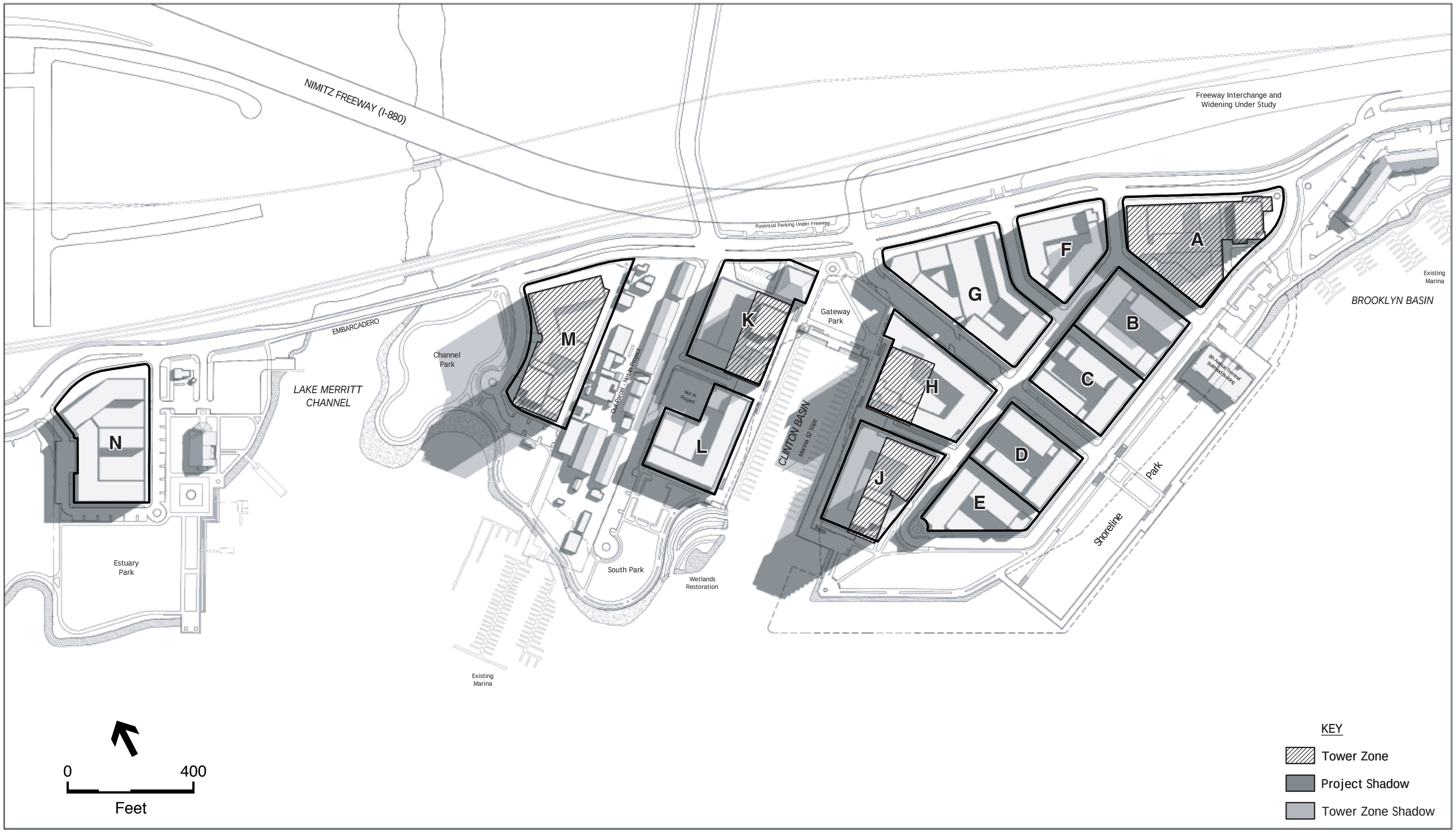
Figure IV.K-22
March Shadow Patterns: 3 pm

Summer

As shown in **Figure IV.K-23** (p. IV.K-48), during the summer solstice, project shadows are at their shortest, and morning shadows fall to the east in the morning hours. Shadow from the project would fall mainly on the project's internal streets and walkways. The proposed towers on Parcels H and J east of Clinton Basin would shade some portions of Clinton Basin Marina. A small portion of the proposed Gateway Park would be shaded, as would parts of the paths along the waterfront of the proposed Channel Park. Shadows from the proposed tower on Parcel K and the mid-rise building on Parcel L would fall on some of the Fifth Avenue Point outparcel buildings, but much of this area experiences existing shadow during this time of day in summer; shadow on these buildings would subside by mid-morning. The project would not cast shadow on the existing Estuary Park or its shoreline, or on the wetlands restoration area during morning hours in the summer.

Figure IV.K-24 (p. IV.K-49) shows that during midday in summer, relatively little shading would occur within the project area because the sun's position would be high overhead. Short shadows would fall to the north and would mainly shade pedestrian walkways adjacent to project buildings. Most project streets would remain in sunshine throughout the afternoon, and the project would shade a small portion of Clinton Basin in the summer midday hours. The project would not cast shadow on the existing Estuary Park or its shoreline during midday in the summer. Project buildings would not shade the Fifth Avenue Point outparcel buildings, nor would shade occur on the wetlands restoration area or other proposed open spaces.

Figure IV.K-25 (p. IV.K-50) shows that during the late afternoon in summer, shadows would fall to the northeast and would be relatively short. Most project shading would occur on internal sidewalks. The project would not shade the Fifth Avenue Point outparcel buildings, nor would it shade any existing or proposed open spaces in the summer afternoon hours.

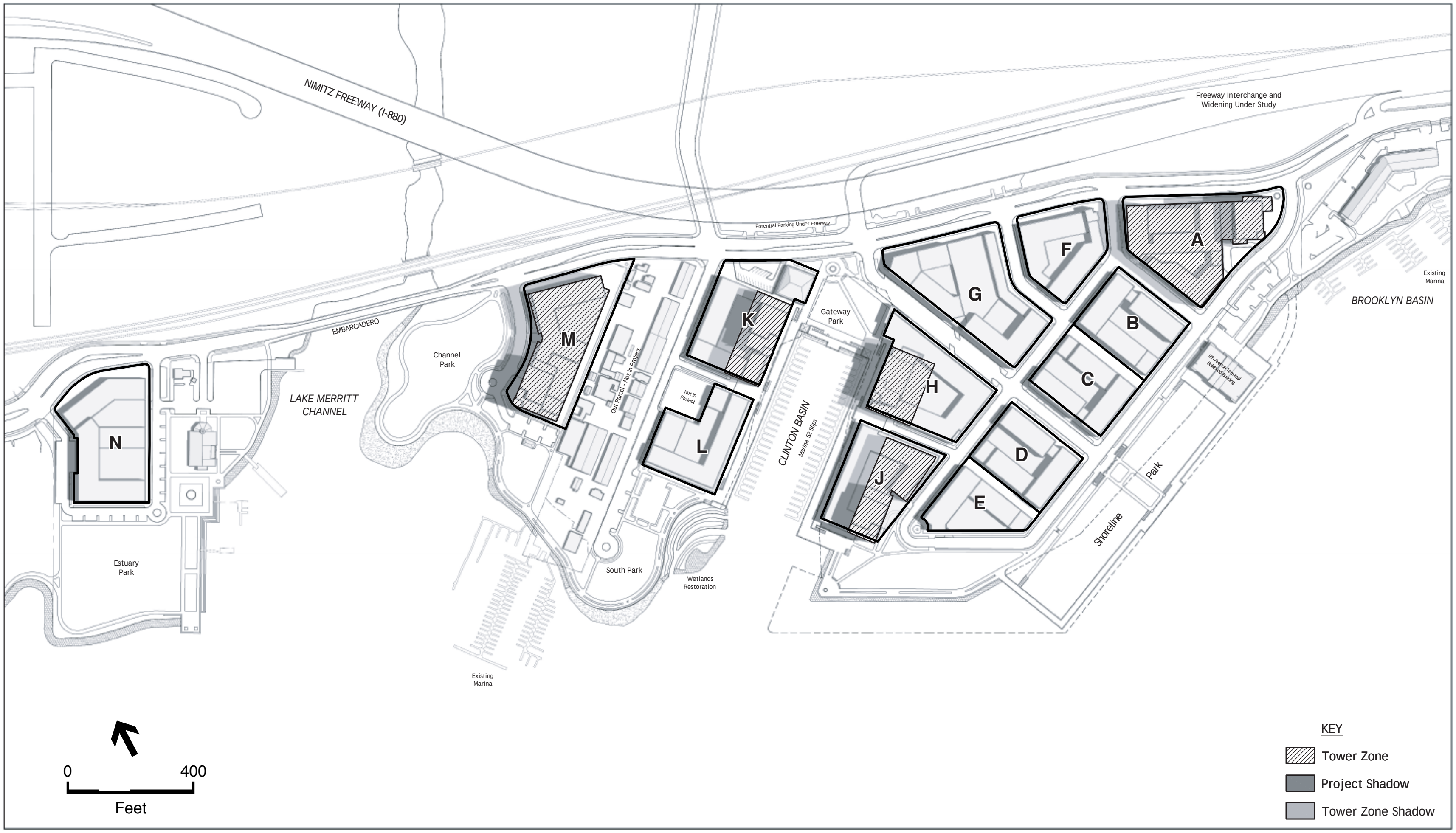


SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-23

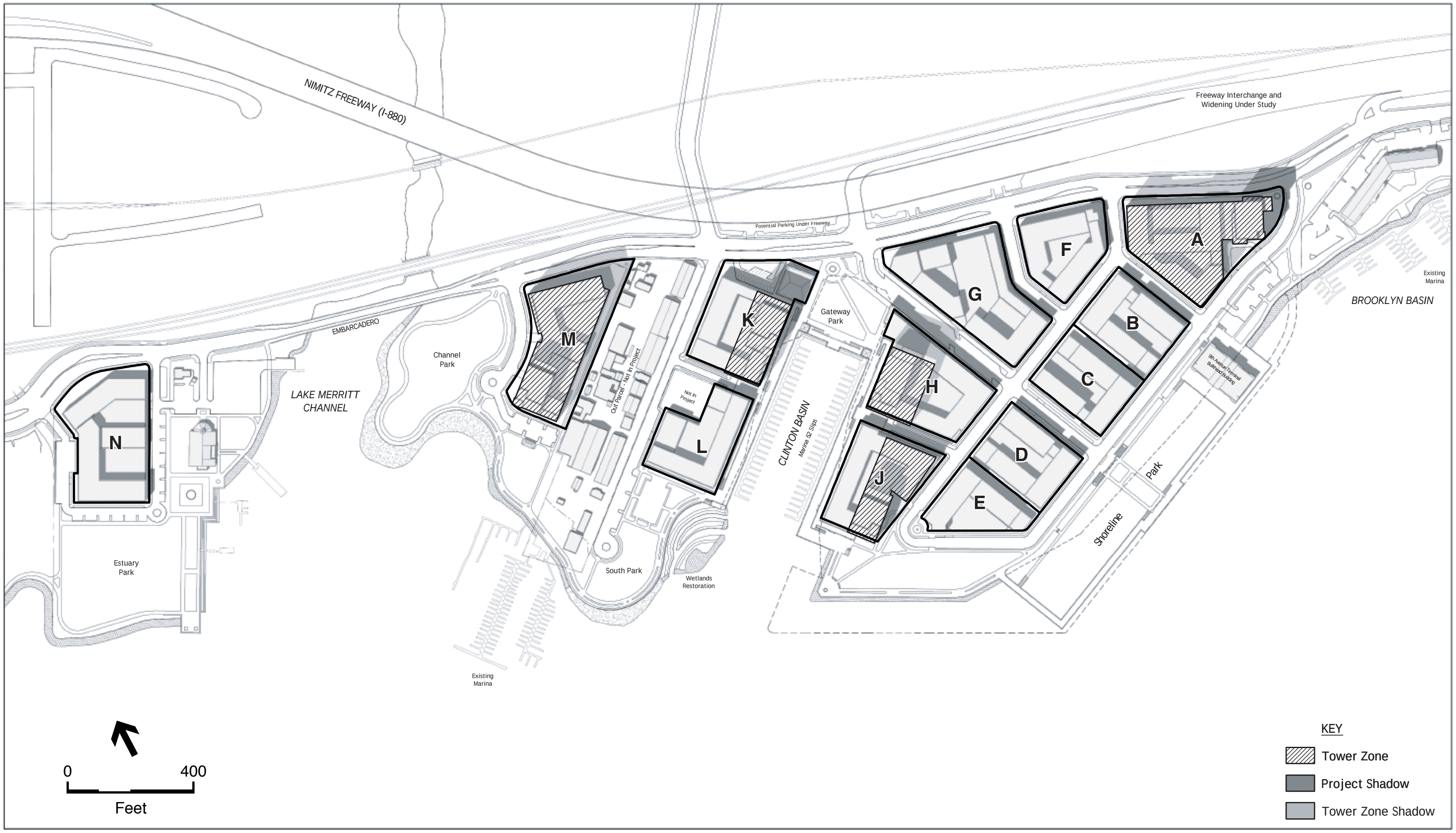
June Shadow Patterns: 9 am



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-24
June Shadow Patterns: 12 noon



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-25
June Shadow Patterns: 3 pm

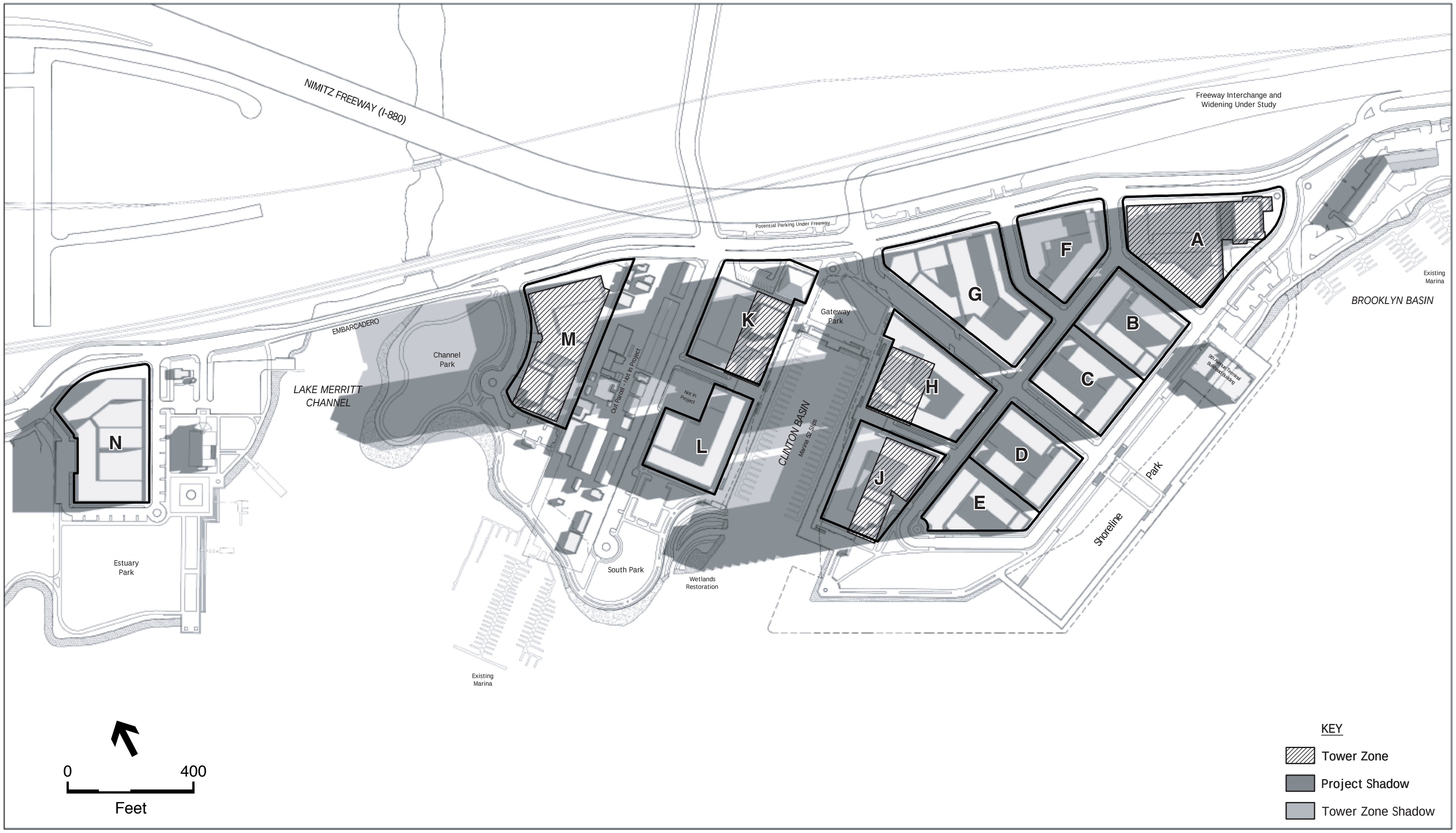
Autumn

Figures IV.K-26 through **IV.K-28** (pp. IV.K-52 to 54) show that by the fall equinox, shadows are longer. New autumn shadow caused by the project would extend generally to the west during the mid-morning, and to the northeast through mid-afternoon. The autumn morning shadow pattern is very similar to that of spring mornings (**Figures IV.K-20** through **IV.K-22**), allowing sensitive uses to be in full sun by mid-morning (see **Figure IV.K-27**, discussed below). As in spring mornings, the wetlands restoration area would be in shadow until mid-morning, and would be in full sun by late morning. As previously discussed under spring morning patterns, the morning shading of this area would not be considered a measurable affect (see Section IV.I, Biological Resources) based on the finding of the San Clements study (San Clements, 2003) that measurable effects would only be likely to occur immediately adjacent to shade sources (i.e., buildings, bridges) during midday hours (noon) because that is where and when the shadow lasts the longest. As shown in **Figure IV.K-27**, the wetland restoration area would not be shaded at noon during autumn when shadows are longest (as well as spring) and would be outside the area of measurable impact.

The project building on Parcel N would cast some shadow on The Portobello residential complex to its east. Morning shadows would also affect a portion of the southern edge of Lake Merritt Channel and would subside by mid-morning. Project shadow in the morning hours would fall on project streets and the northern portion of the Fifth Avenue Point outparcel, and would extend over most of Clinton Basin and portions of the proposed South Park, and these shadows would subside by mid-morning. The project would not cast shadow on the existing Estuary Park or its shoreline during the morning in autumn.

As shown in **Figure IV.K-27** (p. IV.K-53), midday autumn shadows would cover portions of some internal project streets and walkways and the Embarcadero. Project towers would shade a southeast portion of the proposed Gateway Park and Channel Park, and minimal shadow would fall on the north and east sides of Clinton Basin. The project would not shade the wetlands restoration area or the proposed South Park during autumn midday hours. The project would not shade the proposed Shoreline Park or the existing Estuary Park or its shoreline during these hours.

Figure IV.K-28 (p. IV.K-54) shows that during the late afternoon hours in autumn, shadow would affect sidewalks and streets, including the Embarcadero. The project would not cast shadow on Fifth Avenue Point outparcel buildings during this time, nor would it shade existing Estuary Park or its shoreline or other proposed open spaces.

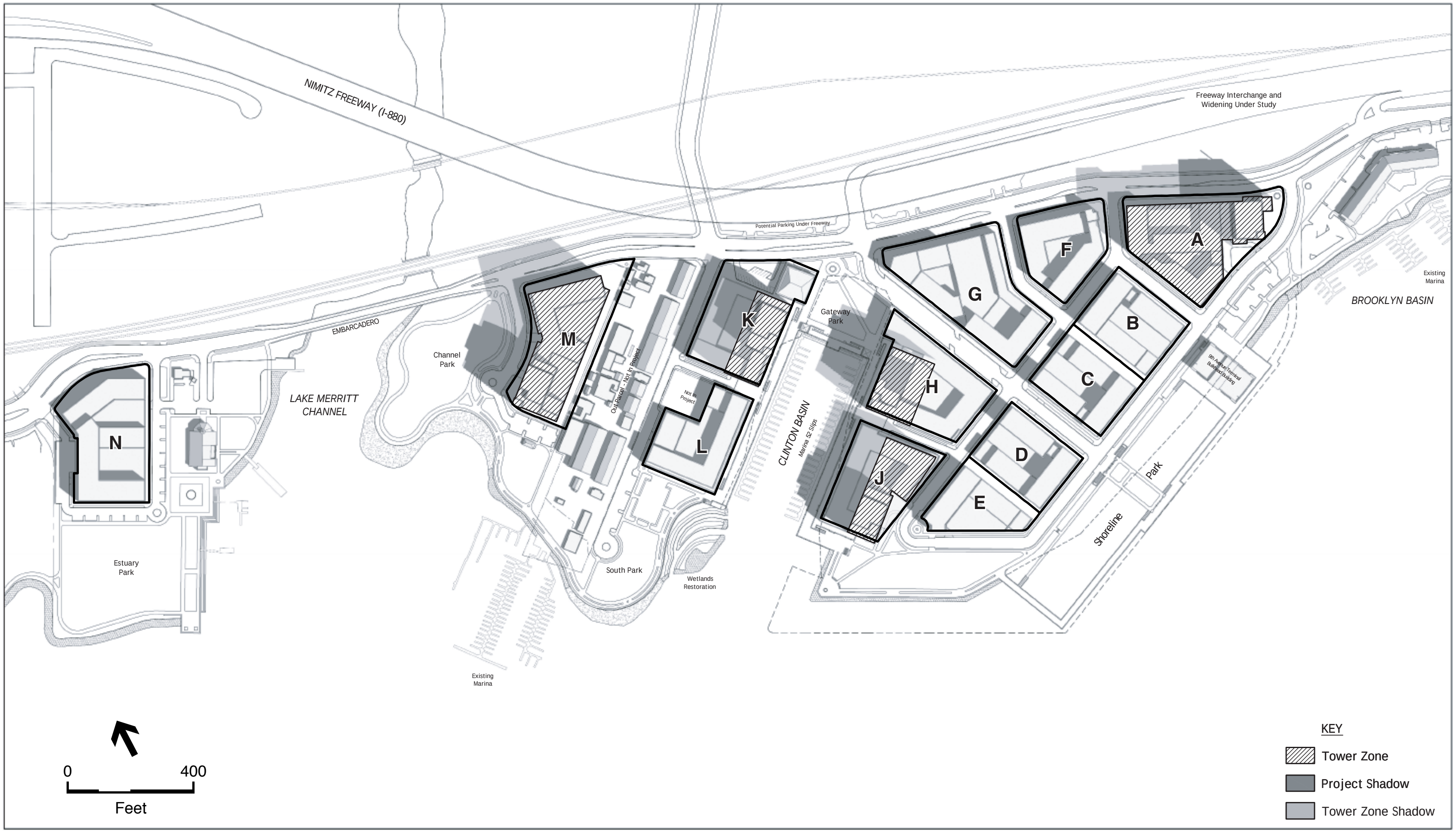


SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

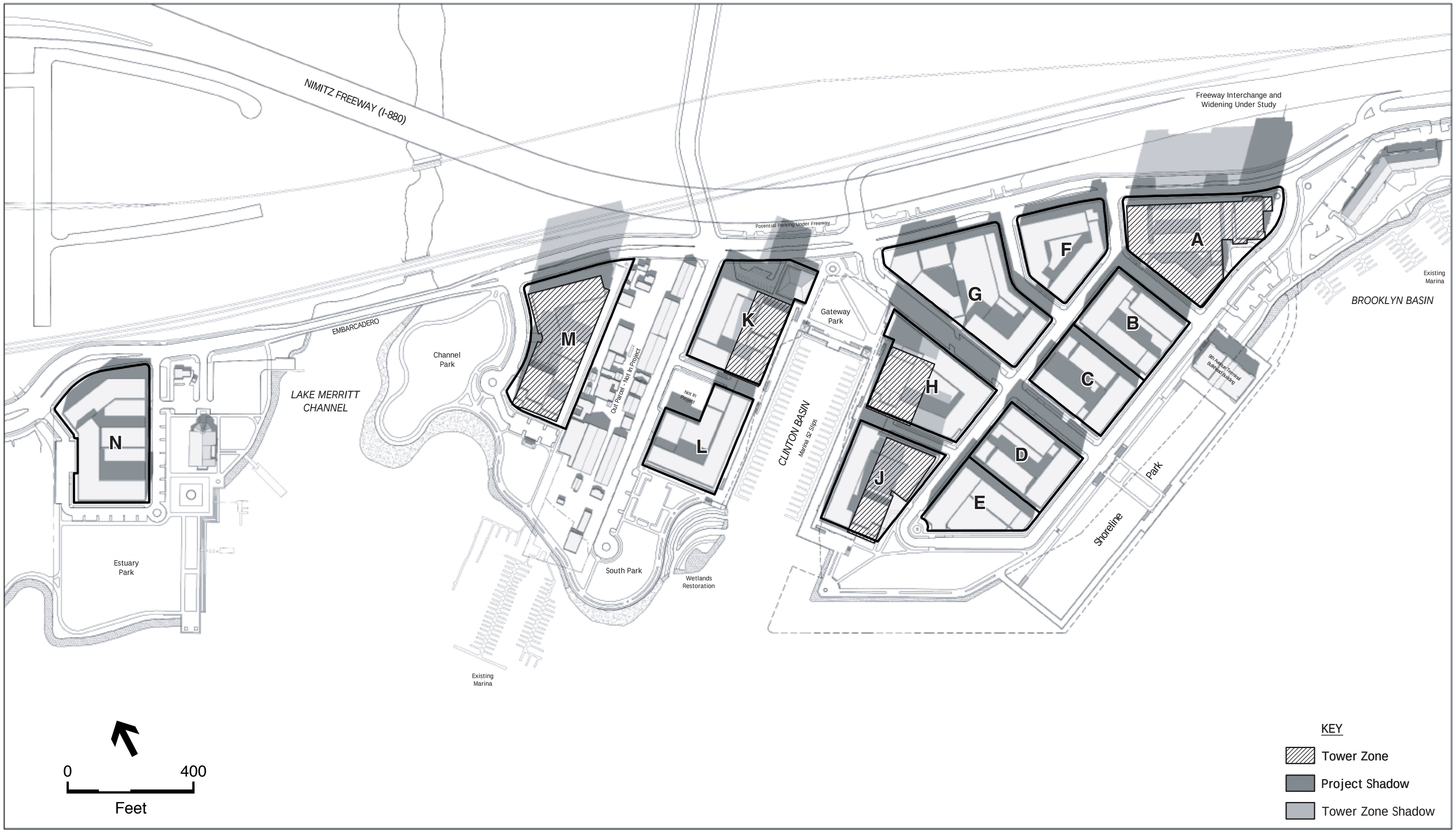
Figure IV.K-26

September Shadow Patterns: 9 am



SOURCE: Environmental Vision

Figure IV.K-27
September Shadow Patterns: 12 noon



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

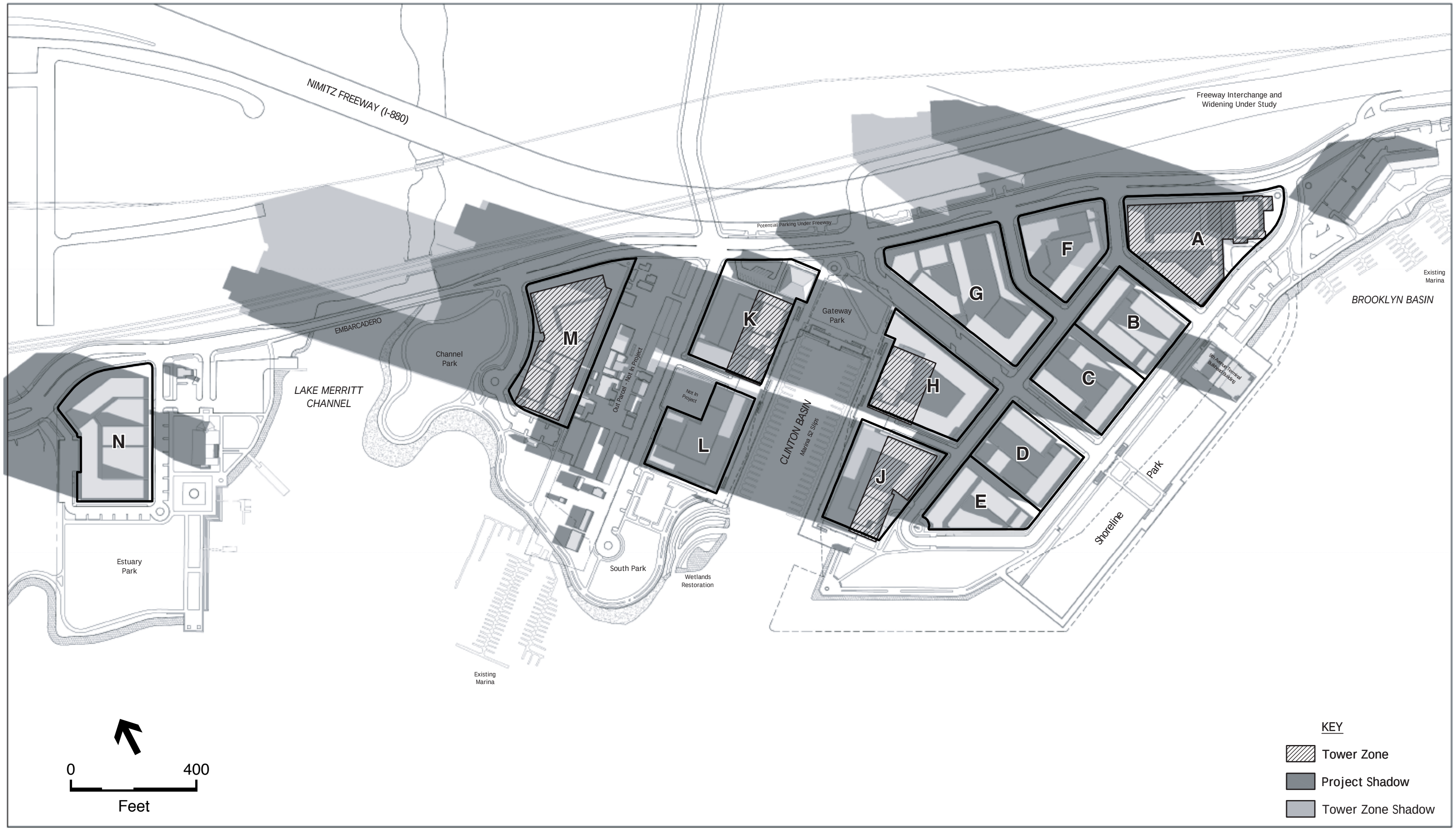
Figure IV.K-28
September Shadow Patterns: 3 pm

Winter

As shown on **Figure IV.K-29** (p. IV.K-56), shadows are at their longest during the winter solstice, and shadow cast by the project would reach its furthest extent to the north during winter mornings. Considerable shadowing would extend across the Embarcadero and would shade portions of I-880. Most of the internal project streets and walkways would be shaded throughout winter mornings. Additionally, the proposed project building on Parcel N would cast shadow on The Portobello residential complex to its east. The proposed towers on Parcels H and J would shade most of Clinton Basin. Project shadow would also extend into the Fifth Avenue Point outparcel, although substantial existing shadow currently occurs in this area during winter mornings). The project would shade most of the proposed Channel Park and Gateway Park in the morning since they are located immediately west of project buildings. The existing Estuary Park and wetlands restoration area and the proposed Shoreline Park and South Park, all located south or east of the project buildings, would not be shaded in the winter morning hours.

Figure IV.K-30 (p. IV.K-57) shows that at midday during winter, project shadows would become shorter and fall to the north on the internal streets and walkways. The project's towers would also shade the proposed Gateway Park and much of Clinton Basin, though project shadow would not extend to the Fifth Avenue Point outparcel buildings. Project shading would extend across about half of the proposed Channel Park, but no shading would occur on the other open spaces, including existing Estuary Park or its shoreline, the proposed Shoreline Park, South Park, or the wetlands restoration area.

Figure IV.K-31 (p. IV.K-58) shows that late afternoon in winter, shadows would lengthen and reach their northeastern-most extent. Much of the new shadow cast by project buildings would fall on the Embarcadero and beyond to industrial and rail uses that are not sensitive to shade. The proposed project would not shade any of the existing or proposed open spaces or the Fifth Avenue Point outparcel buildings during the late afternoon hours in winter.

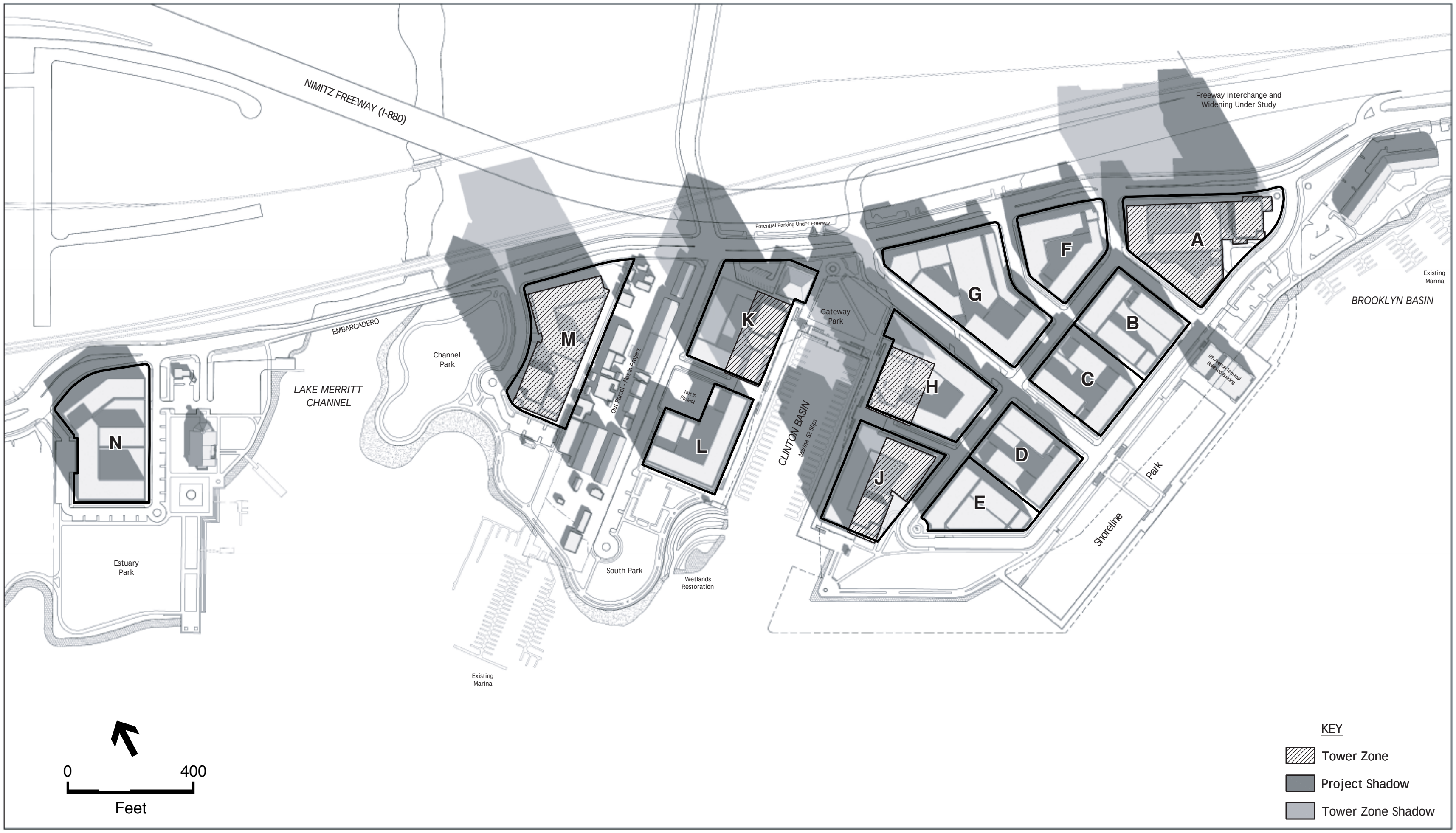


SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-29

December Shadow Patterns: 9 am

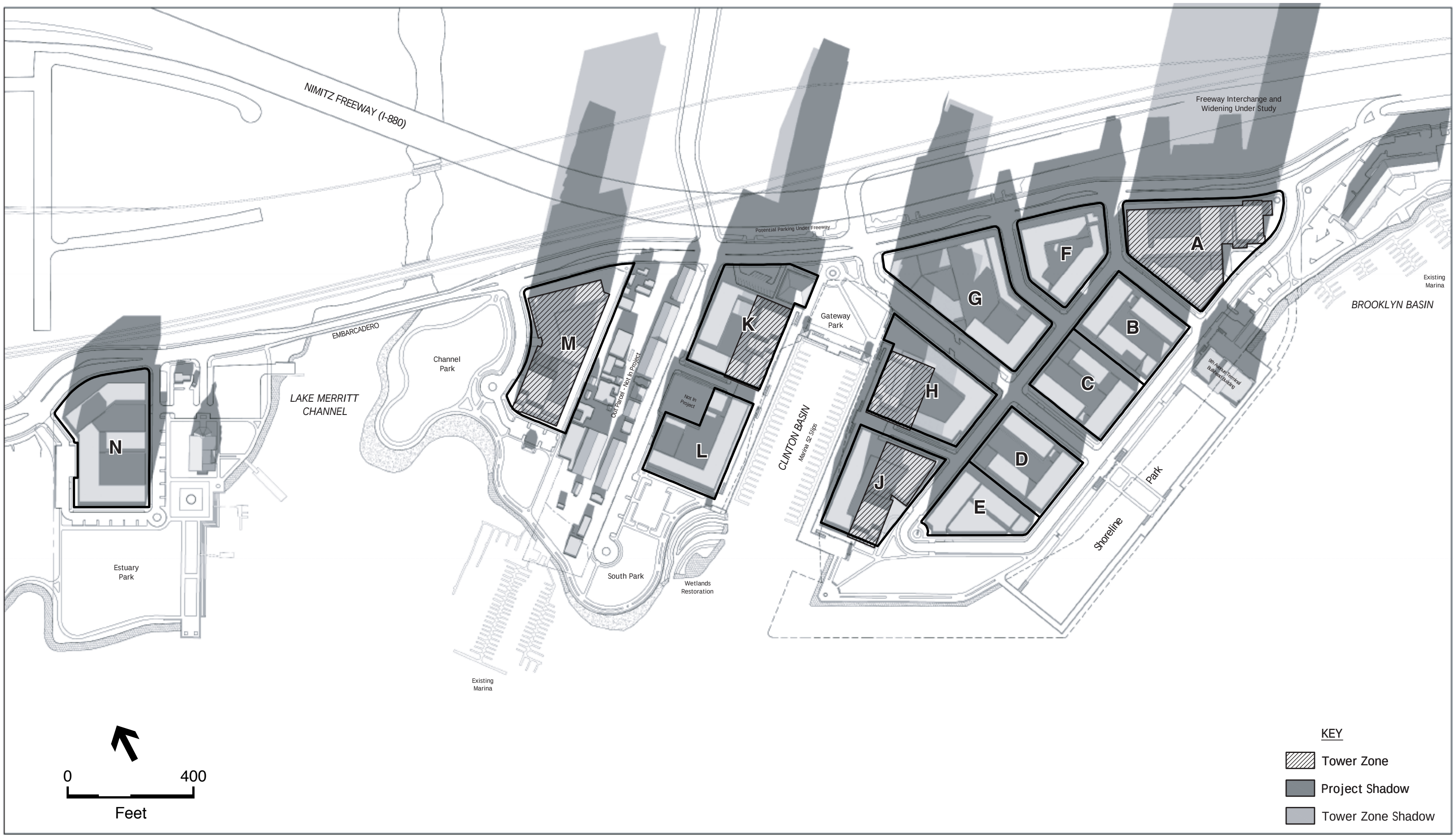


SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-30

December Shadow Patterns: 12 noon



SOURCE: Environmental Vision

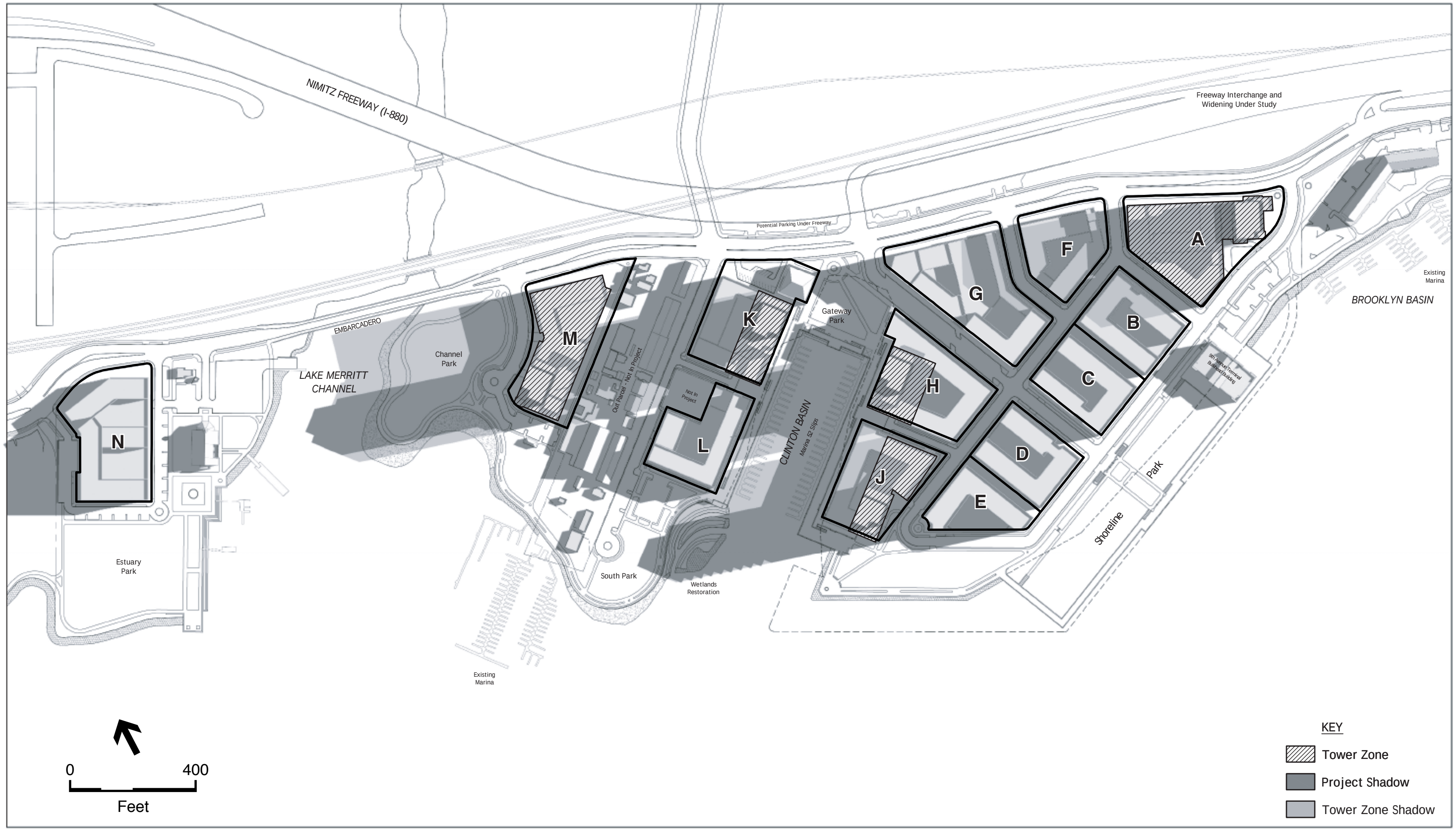
Oak to Ninth Avenue . 202622

Figure IV.K-31
December Shadow Patterns: 3 pm

Shadow Impacts of the Increased Building Height Variant

The Increased Building Height variant of the project would increase maximum building heights (excluding the highrise towers) on Parcels B, C, D, E, and H from a maximum 86 feet tall (as proposed by the project) to a maximum 120 feet tall. Project buildings on these parcels are located along the eastern portion of the site would cast shadows east and northward around Clinton Basin, including around the wetland restoration area, as would the project. The above assessment of project shadow impacts indicates that the worst-case shading of shadow-sensitive areas would occur during morning hours (around 9:00 AM) in March and September (**Figure IV.K-20** and **Figure IV.K-26**, respectively), and that at midday (around noon), these sensitive areas are within or close to full sun under project conditions (**Figure IV.K-21** and **Figure IV.K-27**).

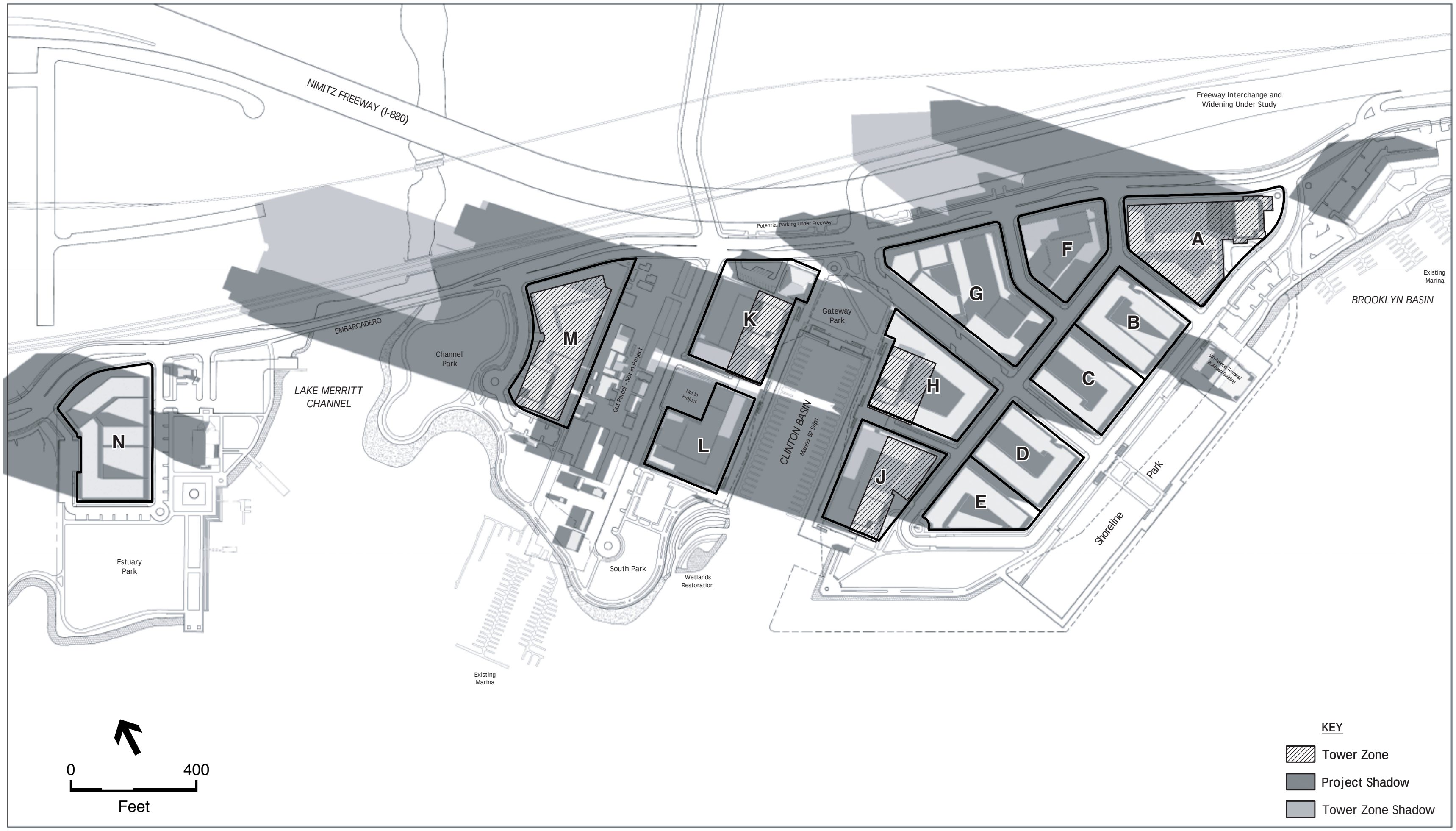
Figure IV.K-31 and **Figure IV.K-32** (pp. IV.K-60 and 61) illustrate the shadow cast by the Increased Building Height variant during these worst-case conditions (morning hours in March and September) in order to assess the worst possible variant shadow impacts. Overall, no noticeable change or increase in shadow is evident under the variant conditions because variant shadow (as a result of the additional 34 feet in height on building podiums on Parcels B, C, D, E, and H) falls on areas that would be already shaded by the project during morning hours in March and September: Clinton Basin Marina would continue to experience significant shade during these times (due to Parcel H podium and tower), and internal streets east of Clinton Basin would be in full shade (due to buildings on all parcels in this area) during these time. Under both the variant and the project, Clinton Basin Marina and internal streets would be in or close to full sun by late morning to noon. No change would occur to shadow cast on the wetland restoration area (due to Parcel J building) compared to the project shadow since the variant would not change the height of Parcel J. As with the project, the wetlands restoration area would be in full sun by mid-morning under the variant, and the affect of morning shading on this area would be considered a less than significant impact (see Section IV.I, Biological Resources, Impact I.6).



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-32
Increased Height Variant–
March Shadow Patterns: 9 am



SOURCE: Environmental Vision

Oak to Ninth Avenue . 202622

Figure IV.K-33

Increased Height Variant–
December Shadow Patterns: 9 am

Conclusion of Shadow Impacts

The project would not result in significant shadow impacts as a result of new construction.

Regarding existing work-live and residential uses, the project would cast shadow on some of the easternmost buildings in the Fifth Avenue Point outparcel and The Portobello residential complex (immediately west of the project site) during the morning hours (9:00 AM) during most of the year. In all cases, however, shading would subside by mid-morning to noon. Project shadows therefore would not result in an unreasonable blockage of light to these buildings.

Some of the future parks that would be developed as part of the project would be shaded at various times of the day. In general, the greatest amount of project shadow would occur on the proposed 3.1-acre Gateway Park at the main entry to the project site during the mornings in spring, fall, and winter. Gateway Park would, however, be in mostly sun by late morning and noon, except in winter, when it would remain mostly shaded until early afternoon.

Under project and variant conditions, no shading would occur on the existing Estuary Park, the west shore of Lake Merritt Channel, the retained Ninth Avenue Terminal Bulkhead Building (an historic resource), or on the proposed South Park and Shoreline Park during any times of year. In each of these cases, these areas would experience no or minimal shading because they are located south of the new project buildings or west of the Lake Merritt Channel and therefore would avoid shading even when shadows are oriented southward to the fullest extent (in summer mornings). Shading would occur, however, on the wetland restoration area in the morning hours (around 9:00 AM) in spring and autumn, but would be in full sun by mid-morning and the remainder of the day throughout the year, would not have an adverse impact on biological resources (as discussed in Section IV.I, Biological Resources).

In conclusion, based on the above evaluation, the project would result in less-than-significant shadow effects.

Mitigation: None Required.

Impact K.5: The project would require approval of a general plan amendment and rezoning (among other discretionary approvals), but would be consistent with the policies and regulations addressing the provision of adequate light to appropriate uses. (Less than Significant)

The project would require approval of a general plan amendment and rezoning among other discretionary approval, pursuant to the Oakland Zoning Regulations (as proposed for amendment by the Planned Waterfront Development Zoning District). The proposed project does not appear inconsistent with the General Plan regarding the overall orientation of residential development (LUTE N3.9) and provision of useable open space (OSCAR OS4.1). The project would comply with building heights, setbacks and design standards proposed in the PWD-1 District. Through the Final Design Review process and final building plan approval and permitting process for each building, the City will ensure project consistency with the light and ventilation section (Section 1203) of the Uniform Building Code, the City's Outdoor Lighting Standards (City of Oakland, 2002), and the Port of Oakland's Dark Skies Program (Port of Oakland, 2003). Although the project would cast shadow on nearby buildings, particularly during the spring, fall, and winter seasons at certain times of the day, indirect sunlight would still be available to windows of nearby buildings. Also, the project would be generally consistent with relevant policies that address the provision of adequate light and ventilation, as discussed in Section IV.A, Land Use, Plans, and Policies.

The project is consistent with relevant policies and regulations regarding the provision of light and therefore would not have a significant impact.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

The geographic context used for the cumulative assessment of visual quality and shadow impacts is the Oakland Estuary and surrounding area, generally located between the Embarcadero to the north, Jack London Square to the west, and Embarcadero Cove to the east. Implementation of the project with other reasonably foreseeable future projects in the Oakland Estuary, namely the mixed use development approved at Jack London Square, as well as other approved (though not yet constructed) projects visible in the vicinity of the Oak to Ninth Project site, would result in changes to the existing visual character and views of the project area. The Jack London Square Mixed Use Project would develop nine sites in the Jack London district (generally between Clay, Jackson, 2nd Streets and the Embarcadero) with a total of 960,700 square feet of new office, retail and/or restaurant space, hotel, conference/banquet space, theatre, and supermarket uses, plus associated parking. The Jack London Square Mixed Use Project is anticipated to be completed in two phases, with full occupancy of the second phase by the year 2020. Building heights would range from 24 feet to 175 feet, with the average height of just under 100 feet. The cumulative scenario including simulation of the approved Jack London Square mixed use development is depicted in **Figure IV.K-1** and **Figure IV.K-8** (and **Figure IV.K-17** for the Increased Building Height variant).

Figure IV.K-1 presents a simulated view across the Oakland Estuary from Alameda Island that includes the project site development and the future Jack London Square development. The simulation illustrates that the Oak to Ninth Avenue Project, in combination with the development proposed for Jack London Square, would intensify existing views looking north along the waterfront. These developments would create more distinctive elements in the panoramic views from mid- and long-range viewpoints, with clusters of Oak to Ninth and Jack London Square buildings serving as an extension of the downtown Oakland skyline. **Figure IV.K-8** illustrates foreseeable changes at the project site and vicinity in views from East 8th Street at 10th Avenue looking southwest. The project's towers on Parcels A, H, and K would be the most dominant features in the foreground. The proposed highrise (up to 175 feet tall) hotel in Jack London Square is visible and in the distance to the west (approximately one-quarter mile west of the project site). While these buildings would be evident in mid- and long-range views, the cumulative changes would not substantially degrade existing scenic resources or adversely affect scenic views or vistas.

In terms of shadows, **Figures IV.K-19** through **IV.K-30** illustrate that the project's potential shading effects would fall to areas immediately adjacent to the project site. Therefore, because no foreseeable development has been identified on immediately adjacent, the project's shadow effects are not cumulatively considerable. Thus, there would be no significant cumulative aesthetic impacts, nor would the effect of the project in combination with other foreseeable projects be cumulatively considerable.

Mitigation: None Required.

References – Aesthetics

California Department of Transportation, California Scenic Highway Program, http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm, accessed October 22, 2004.

City of Oakland, Oakland City Council Resolution No. 77571 C.M.S., Resolution Establishing Outdoor Lighting Standards for New Lighting Facilities and Energy, adopted November 21, 2002.

Port of Oakland, Port of Oakland Sustainability Program Annual Report, 2003.

San Clements, M. Effects of Shading by Bridges on Estuarine Wetlands. M.S. Thesis, North Carolina State University. 56 p., 2003.

L. Public Services and Recreation Facilities

This section describes existing public services in the project vicinity. It also evaluates the potential impact of the project on the delivery of public services, and possible adverse physical impacts on the environment that could result from a need to provide new or physically altered facilities. As necessary, appropriate mitigation measures are identified. The analysis reviews police services, fire protection and emergency medical response, public schools, and parks and recreational facilities.

Setting

Police Services

Facilities and Staffing

The Oakland Police Department, headquartered at 455 - 7th Street in downtown Oakland, and approximately 1.7 miles from the project site, provides police protection services throughout the city. In addition to the police headquarters, there is one sub-station located at 2651 73rd Avenue, approximately 6.6 miles from the project site.

The Police Department is authorized to have 802 full-time, sworn police officers, as of August 2005, and about 439 civilian (non-sworn) employees. Currently, there are 741 sworn police officers and a civilian staff of about 380 (Poulson, 2005). The current ratio of police officers per 1,000 residents is approximately 2.0, based on the city’s population of 399,484 from the 2000 U.S. Census.

The City of Oakland is divided into six geographical areas, called Police Service Areas (PSA), each commanded by a Lieutenant of Police. PSA one, which includes the project site, has three problem-solving officers, while the all other PSAs have two problem-solving officers assigned to each area. Problem-solving officers do not respond to calls for service, and are responsible for conducting projects in the community that patrol police officers frequently are unable to handle. Projects vary depending on the needs of the community. Each PSA also has one Crime Reduction Unit whose responsibilities include violence reduction and narcotics enforcement. The Crime Reduction Unit is comprised of about six to seven officers and one sergeant that work between the hours of 12:00 p.m. and 10:00 p.m. The City is divided into 35 patrol beats, each of which generally includes an area with 5,000 to 7,000 residents. Each patrol beat is assigned a neighborhood services coordinator, and a neighborhood services coordinator handles multiple patrol beats. Neighborhood service coordinators are civilian employees who serve as a liaison between the community and the Police Department, and work with residents, businesses, schools, and other institutions to set priorities and develop strategies to improve public safety and reduce crime. In November 2004, Oakland voters approved Measure Y, the Violence Prevention and Public Safety Act of 2004. Measure Y proposed a new parcel tax and parking surcharge (on parking in commercial parking lots) in order to fund violence, crime, and fire prevention programs. One of the permitted purposes of the tax revenues from Measure Y is the hiring and maintaining 63 new sworn police officers, including at least one officer for each existing community policing beat, for community and neighborhood policing efforts and targeting truancy, crime reduction, domestic violence, and child abuse intervention.

The project site is located within patrol beats 19X and 1X. Beat 19X is bounded by Foothill Boulevard to the north, the estuary to the south, 23rd Avenue to the east, and Lake Merritt Channel to the west. Beat 1X encompasses an area bounded by 5th Street to the north, the estuary to the south, Lake Merritt Channel to the east, and, to the west, an imaginary line drawn by connecting Castro Street southbound to Embarcadero West eastbound to Union Street southbound to the estuary.[1] Patrol beats 1X and 19X each have one officer assigned 24 hours a day. Officers generally work ten-hour shifts four times each week. At any one time, citywide, there are 35 officers, a watch commander, and up to six supervising sergeants on duty, all of whom are sworn personnel. The Traffic Operations Unit staffs between six to eight officers throughout the day, with additional staff available for special events and periods of special staffing needs. The Port of Oakland currently has security officers that monitor the site, however this service would be eliminated from the site once the developer acquire the property.

Service Demand

All emergency (911) and non-emergency calls for police services are received through the Police Department's communications center located at 1701 Edgewater Drive. Calls for fire and medical services are routed to the Oakland Fire Department for dispatching. Priorities for responding to police calls are set by a computer-aided dispatch system that may be overridden by dispatchers. Police officers are dispatched from the police communications center by radio and/or laptop computers mounted in police vehicles.

Citywide, approximately 244,286 calls were handled in 2004, which equates to a ratio of about 612 calls per 1,000 residents, based on the city's population of 399,484 from the 2000 U.S. Census. The Police Department's response times to calls for police services are recorded for the City of Oakland as a whole; the department does not track response times for individual service areas. Response times generally reflect the perceived seriousness of the call. The department ranks incoming calls for police services as follows: Priority 1 means imminent danger of death or serious injury, felonies in progress, or serious public health hazards; Priority 2 refers to disputes with potential for violence, misdemeanor crimes in progress, stolen vehicle reports, and similar matters; and Priority 3 calls are reports of incidents that do not present danger to life or property. Dispatch times vary, although generally 63 percent of Priority 1 calls are dispatched within five minutes (Grieve, 2005).

In 2004, there were 1,199 reported crimes in beat 19X, which covers the majority of the project site. This total represents about four percent of the total number of crimes reported citywide during the same period. Within beats 19X and 1X, approximately 1,386 crimes were reported in

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1 Nearly 52 acres of project site area east of the Lake Merritt Channel (85 percent) is in beat 19X, and the remaining 10 acres west of the channel (15 percent) is in beat 1X.

2004. Over 75 percent of the total crimes reported were burglary,[2] larceny, and stolen vehicles. According to the Police Department, the project area has a low incidence of crime relative to the entire city (Poulson, 2004). **Table IV.L-1** summarizes reported crimes in beats 19X and 1X in 2004.

TABLE IV.L-1

REPORTED CRIMES IN THE PROJECT VICINITY JANUARY THROUGH DECEMBER 2004

Crime	Beat 1X [a]	Beat 19X [a]
Murder	1	1
Robbery[b]	4	81
Arson	1	3
Assault[c]	8	118
Larceny	69	187
Burglary[d]	31	203
Stolen Vehicles	30	204
Rape[e]	2	7
Prostitution	2	181
Narcotics	12	122
Disturbing the peace.	10	24
Vandalism	17	68

[a] Includes portions of the project site.
[b] Includes armed robbery, attempted robbery, and residential robbery.
[c] With a deadly weapon.
[d] Includes commercial, residential, and locked auto burglary.
[e] Includes attempted or forcible rape.

SOURCE: City of Oakland Police Department, 2004.

Fire Protection and Emergency Medical Services

Facilities and Staffing

The Oakland Fire Department provides fire protection services and emergency medical services throughout the city. The Fire Department operates 25 fire stations, and currently maintains 25 engine companies with approximately four personnel per engine, and 7 truck companies with four to five personnel per truck. The actual number of assigned personnel depends on the location of the emergency. Total Fire Department staffing consists of 562 personnel, of whom 492 are sworn personnel (fire suppression and emergency medical personnel). Approximately 100 of Oakland's firefighters are also trained as paramedics (Sierra, 2004), and many are trained as Emergency Medical Technicians (EMTs).

The Fire Department is organized into four divisions and three battalions. While the divisions focus on department functions, the battalions are organized by geographical districts, providing

2 Includes commercial, residential, and locked auto burglary.

requested fire and emergency medical services. Battalion 2 serves West Oakland and North Oakland, Battalion 3 serves the area from Seminary Boulevard east to the city of San Leandro, and Battalion 4 serves central Oakland. (There is no Battalion 1.) Each battalion consists of seven to ten stations. The project site falls within the response boundaries of the following stations:

- Fire Station 1 at 1605 Martin Luther King Jr. Way, approximately two miles from the project site;
- Fire Station 3 at 1445 14th Street, approximately three miles from the project site;
- Fire Station 4 at 1235 International Boulevard, approximately one mile from the project site; and
- Fire Station 12 at 822 Alice Street, approximately one mile from the project site.

In addition to firefighting and emergency medical response capabilities, the Fire Department also has a hazardous materials unit that operates from Station 3 at 1445 14th Street and responds citywide to emergencies involving hazardous materials.

Water supply and fire flow for fire suppression purposes are discussed in Section IV.M, Utilities and Service Systems.

Service Demand

Fire and medical emergency calls are received by the public communications center at 1605 Martin Luther King Jr. Way and then routed through a computer-aided dispatch system. The Fire Department responded to approximately 58,485 citywide calls in fiscal year 2003. The four fire stations serving the project area responded to approximately 10,105 calls in 2003. The majority of these calls (about 70 percent of the total area calls) pertained to medical emergencies, and about 9 percent of total area calls pertained to structural fires.

The Fire Department’s response time goal is seven minutes or less, 90 percent of the time. Response time is measured from the time a call is received in the Fire Dispatch Center until the time the first unit arrives on the scene of the emergency, 90 percent of the time (Sierra, 2004).

Public Schools

School Facilities and Attendance

The Oakland Unified School District (OUSD) operates the public school system within Oakland’s city limits. The OUSD administers 70 elementary schools, 18 middle schools, and six high schools. It is also responsible for two alternative schools and two special education schools. Total school enrollment for elementary and secondary students for the 2003/2004 academic year was 50,437, showing a decline in enrollment from 52,501 students in 2002/2003 and 53,545 students in 2001/2002 (California Department of Education, 2004b).

Since the analysis of potential impacts on public schools is based on the estimated the number of students who reside in Oakland, for context, it is worth noting the approximate ratios of students that reside in Oakland but attend private schools. On a statewide basis, an estimated 11 percent of all Kindergarten through grade 12 students attend private school. During the 2002/2003 academic year, over 27,916 Kindergarten through grade 12 students in Alameda County attended private schools, an estimated 13 percent of the school population.[3] In the City of Oakland, there are 52 private elementary and secondary schools, attended by an estimated 8,787 students located throughout Oakland (California Department of Education, 2004a). These students do not necessarily live within the city where the private school is located. In addition, students living within Oakland can attend private schools in other cities. Private schools within Oakland provide a wide range of options that include Montessori schools, schools sponsored by religious institutions, and college preparatory schools.

Despite existing demand, the OUSD recognizes that it continues to experience a decreasing student enrollment and therefore is not planning construction of new schools in the foreseeable future. These plans are subject to change depending on future student enrollment (Chambers, 2004). Given the existing funding shortage for school facility needs districtwide, however, the OUSD has “predicted continued overcrowding and capacity constraints in much of the District” (Central City East Redevelopment Plan EIR,2003).

Student Generation

To estimate the number of students generated by new housing development, the OUSD uses student generation rates developed by the California State Department of Education.[4] The California State Department of Education estimates that one dwelling unit would generate an average of 0.7 student, consisting of 0.5 elementary or middle school student and 0.2 high school student (Chambers, 2004). The state’s student generation rates are routinely used by school districts that have not developed rates for their local jurisdictions. The state rates are a result of statewide sampling that incorporates widely varying dwelling unit types, households, and other demographic characteristics across the state. The state rates therefore may not reflect the actual characteristics of the local area.

A second estimate for student generation was prepared as part of the demographic analysis for the proposed project to estimate on-site population.[5] The demographic analysis indicates an average of up to 0.1 school-age children per household for the project, based on the types and sizes of higher-density, multi-family housing units that are proposed for comparable areas of Oakland with similar types of multi-family housing.

3 This estimate is based on 2002–2003 California Department of Education estimates of private school enrollment in Alameda County, and 2002-2003 estimates of the number of Kindergarten through grade 12 public school students in Alameda County.

4 The OUSD uses the statewide average student yield factors as defined in Section 1859.2 of the State Allocation Board (SAB) Regulations.

5 Demographic analysis and population and employment estimates for the project were prepared by Hausrath Economics Group. Background is provided in Appendix D.3 of this EIR.

Project Area Schools

The project area is located within the service areas of La Escuelita and Franklin Elementary Schools, Westlake Middle School, and Oakland High School. La Escuelita Elementary School is located at 1100 3rd Avenue, less than one mile north of the project site. Franklin Elementary School is located at 915 Foothill Boulevard, approximately 1.4 miles northeast of the project site. Westlake Middle School is located at 2629 Harrison Street, approximately 2.4 miles from the project site, and Oakland High School is located at 1023 MacArthur Boulevard, approximately two miles from the project site. The elementary schools and middle school that would serve the project site are close to downtown, and therefore experience a high demand because “numerous households bring their children to those schools that are near the offices where they work” (Central City East Redevelopment Plan EIR, 2003)**.**

Senate Bill 50

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), restricts the ability of local agencies such as the City of Oakland to deny land use approvals on the basis that public school facilities are inadequate. SB 50 establishes the base amount of allowable developer fees at $2.24 per square foot of residential construction and $0.36 per square foot of commercial construction.[6] These fees are intended to address local school facility needs resulting from new development. Public school districts can, however, impose higher fees provided they meet the conditions outlined in the act. Private schools are not eligible for fees collected pursuant to SB 50.

Parks and Recreational Facilities

The City of Oakland’s Office of Parks, Recreation (OPR) manages the City’s parks and recreation centers within the city boundaries. Oakland’s Public Works Agency (PWA) maintains the parks and park facilities. As of May 2005, Oakland has approximately 2,257 acres of parkland, not including parkland within the East Bay Regional Parks District (EBRPD), discussed below (Combs, 2005).

Oakland’s parks are categorized by size and intended service area. Generally, local-serving parks “meet the active recreational needs of the community” surrounding the park, rather than the city as a whole. Region-serving parks are 25 acres or larger, and include Lakeside, Joaquin Miller, and portions of Redwood-Roberts Parks. Community parks, such as Montclair Park and Dimond Park, range in size from five to 20 acres and serve a one-mile radius in hill areas and a 0.5-mile radius in flatlands. Neighborhood parks range in size from one to 10 acres and serve a 0.5-mile radius in the hills and a 0.25-mile radius in the flatlands. Oakland also has several classifications of miniparks, which are generally less than one acre in size and serve a 0.25-mile radius in the hills and 0.125-mile radius in the flatlands. Linear parks vary in size and service area and are intended to protect and provide linear access to a natural feature, such as a creek or shoreline, and

6 These are current base fees adopted by State Allocation Board (SAB), which is the policy-level body for the programs administered by the Office of Public School Construction within the State Department of General Services. The SAB is authorized by Government Code Section 65995(b)(3) to increase the base fee every two years. In order to levy the fees, school districts must prepare a “nexus” analysis demonstrating why the fees are required and how they will be used.

connection between two points. Special use parks also vary in size and service area (typically citywide), and generally are areas for specialized of single-purpose activities. Estuary Park and Jack London Aquatic Center that exists on the project site is classified as a “special use park.”

The East Bay Regional Park District (EBRPD), although responsible primarily for acquiring and developing regional parks, open spaces, and regional trails throughout the East Bay, also provides open space and recreational facilities within Oakland’s city limits. EBRPD parks in Oakland include the 271-acre Leona Canyon Regional Open Space Preserve, the 1,220-acre Martin Luther King, Jr. Regional Shoreline Park, the 660-acre Robert Sibley Volcanic Regional Preserve, and the 100-acre Roberts Regional Recreational Area.

The project site is located on the southeast edge of the Central Planning Area and abuts the east boundary of the San Antonio Planning Area, as defined in the OSCAR Element of the Oakland General Plan. Within one-half mile of the project site is the region-serving Lakeside Park (75 acres), as well as Peralta Park (3.8 acres), Clinton Park (2.26 acres), Franklin Park (2.05 acres), and Vantage Point Park (0.4 acres). The project site itself contains Estuary Park and Jack London Aquatic Center (approximately 7.7 acres). The Central Planning Area and San Antonio Planning Area as a whole contain one 12-acre community park (San Antonio), 14 neighborhood parks, four miniparks, five linear parks, and seven special use parks.

The City’s Department of Parks and Recreation also operates several community-based centers located throughout city. The centers offer various public programs, including recreation, sports, arts and culture, computers, general learning, and after-school activities. In close proximity to the project site are the Franklin Recreation Center at 1010 East 15th Street, the San Antonio Recreation Center at 1701 East 19th Street in San Antonio Park, and Lincoln Square at 250 10th Street.

Service Standards

For residential land use, the OSCAR Element uses a level of service standard of 10 acres of parkland and 4 acres of local-serving parks per 1,000 residents to determine where there are unmet needs and to set priorities for future capital investments. The series of connected parks and open space proposed by the project would be region-serving, as well as local-serving, given its proximity to nearby residential and mixed use neighborhoods near downtown and Lake Merritt. The analysis in this EIR uses the General Plan (OSCAR) service standard for local-serving parks (4 acres per 1,000 residents); the General Plan does not prescribe a service standard for region-serving parks.

According to the OSCAR Element, which was prepared in 1995/1996, the estimated 3,073 total acres of parkland within Oakland’s city limits, including region-serving parks managed by EBRPD, provided about 8.26 acres of parkland per 1,000 residents, based on the Oakland population at that time.[7] Local-serving parks provide an estimated 1.33 acres per 1,000 residents,

7 Assuming that the 3,073 total acres of parkland within Oakland’s city limits has not changes significantly since preparation of the OSCAR Element, the ratio would be 7.69 acres per 1,000 units based on the year 2000 Oakland population of 399,484, which is cited elsewhere in this section.

well below the City's service standard goal. Oakland's per capita standards for parks identified in the OSCAR Element are based on National Recreation and Park Association guidelines, "with modifications made to reflect the fact that Oakland is a mature, relatively dense city with a limited supply of vacant land" (City of Oakland, 1996).

Neither of the planning areas in which the project site is located meets the adopted citywide goal of 4 acres of local-serving parkland per 1,000 residents. According to the OSCAR Element**,** the Central Planning Area contains 1.65 acres of local-serving park acres per 1,000 residents (discounting Lakeside Park because it serves a much broader region than the Central Planning Area). This acreage exceeds the current citywide ratio of 1.33 acres per 1,000 residents but is below the citywide goal of 4 acres per 1,000 residents. The San Antonio Planning Area contains 0.78 acre of park/schoolyard area per 1,000 residents, which is well below the current citywide ratio (1.33 acres per 1,000 residents) and the citywide goal of 4 acres per 1,000 residents. Both planning areas have an existing shortage of park space and do not meet the adopted citywide goal (excluding regional open spaces and special purposes parks) of 4 acres per 1,000 residents. The OSCAR Element recognizes that achieving the 4-acre-per-1,000 standard in these areas would be impossible without massive development of relatively flat land, but that major gains could be made through expansion of existing parks and shoreline access improvements**.**

Measure DD

In November 2002, the Oakland voters approved Measure DD, a bond measure to finance the preservation and acquisition of open space, parks renovation, Estuary waterfront parks and trails, water quality improvements related to Lake Merritt, restoration of Oakland's creeks, renovation and creation of new youth and public recreation facilities, rehabilitation of open space and other safety and maintenance facilities, and provision of safe public access to Lake Merritt, Lake Merritt Channel, and the estuary. These projects involve facilities on or near the project site, such as Estuary Park.

Libraries

Library Facilities

The City of Oakland's Public Library system operates a Main Library plus 15 branch libraries, a Second Start Adult Literacy Program, the Bookmobile, and an African-American Museum and Library. The project site is equidistant from the Main Library (125 14th Street) and the Asian Branch Library (388 9th Street), both about 1.4 miles northwest of the project site. The Main Library serves residents from all of Oakland, with heavy use by residents around Lake Merritt and in the downtown area. The Main Library is one of the largest public library facilities in the Bay Area, including collections of non-fiction and fiction books, magazines and newspapers, sheet music, maps, government publications and compact discs, videocassettes, DVDs and audiobooks. The Main Library houses the Oakland History Room, the Children's Room, the Teen Zone, and a meeting room that can accommodate up to 121 persons. The Main Library also provides 22 computers with internet access, basic internet classes, and adaptive technology to assist persons who are blind or have low vision or learning disabilities (Oakland Public Library, 2005). The Asian Branch Library houses eight Asian languages (Chinese, Japanese, Korean, Vietnamese, Thai, Cambodian, Tagalog and Laotian) in major reference titles and general subject titles, an Asian Studies collection and an Asian American collection in English. The Asian Branch Library also includes computers and a computer lab with multilingual interface for instructional purposes (Oakland Public Library, 2005).

Impacts and Mitigation Measures

Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines, the project would have a significant public service impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives for any of the following public services:
  - Fire protection;
  - Police protection;
  - Schools; and
  - Other public facilities.
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to the various public services and related topics, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Police Services Impacts

Impact L.1: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for police protection services. (Less than Significant)

The majority of the project site is within patrol beat 19X, and the area west of Lake Merritt Channel is within beat 1X.[8] While patrol beats 1X and 19X each have one officer assigned 24 hours a day, the project site currently receives very little police service (Poulson, 2004).

The project would redevelop the site and substantially increase the daytime and nighttime population in the project area. The estimated 5,061 new residents and 623 new jobs (or employees) could result in an increase in reported crimes.

Increases in the number of reported crimes could lead to an increase in response times, which depend on the Police Department having adequate staff. Given the amount of new daytime and nighttime population anticipated from the project, however, the Police Department does not anticipate the need for any new physical facilities because of the proposed development. The project site would be served by police personnel who work in the main police station at 455 7th Street, approximately one mile from the project site (Poulson, 2004). Additionally, the increased economic base that the project would introduce could increase tax revenue and create greater financial resources for police services.

The topic of emergency vehicle access to the project site is discussed fully in Section IV.B, Transportation, Traffic, Circulation and Parking. In the case of an emergency during which access to the project area south of the Embarcadero via 5th Avenue and/or Oak Street would obstructed by a passing train, which, as discussed in Section IV.B, Traffic, Transportation, Circulation and Parking, are expected to continue to occur “intermittently at irregular intervals.” Oakland police would still have access to the estuary area south of the Embarcadero (including the Oak to Ninth project site) as it has historically via alternative routes on adjoining streets that do not directly cross the rail tracks. These alternative access routes are discussed in Section IV.B. The availability of alternative routes would not necessarily minimize delays in response time. As is current practice when responding to emergency calls south of Embarcadero during which access is obstructed by a passing train, responding officers would not necessarily know if a train was blocking the primary access route the project site prior to arriving at the respective train-crossing intersection. In the event that the route was blocked by rail activity, time would be required for the officer to re-route to an alternative approach to the site, call for another response unit, or wait until the primary route was cleared for access (Poulson, 2004). Pursuant to the significance criteria, and as determined by the Oakland Police Department, an anticipated delay in response time would not require the construction of new or physically altered facilities in order to maintain acceptable response times or other performance objective (Poulson, 2005). Therefore the potential delay in response time that may occur in these instances would be not be considered a significant impact.

Although the City has not indicated whether a new police facility would be warranted for the project, locating a new facility south of the Embarcadero is one way to address increased police-response times that could occur during rail activity in the project area. The project proposes to

8 Beat 1X is bounded by 5th Street to the north, the Estuary to the south, Lake Merritt Channel to the east, and Castro Street and Union Street to the south. Beat 19X is bounded by Foothill Boulevard to the north, the Estuary to the south, 23rd Avenue to the east, and Lake Merritt Channel to the west.

prepare an emergency response and security plan for the project in coordination with the Oakland Police Department to address key issues related to the potential delay in police response time to the project site. Aspects of the plan would include the preventive design measures discussed below and could incorporate measures aimed at advanced notification to dispatched units of train activity in the project area.

As discussed in the Estuary Policy Plan EIR, increased employment, economic activity, and public activity resulting from the project may have a beneficial effect on the safety of the area. Existing underused areas that have low daytime and nighttime population, and that are often difficult to police, would be replaced with high-density residential uses and other daytime and nighttime activities. This would introduce more street surveillance and activity and reduce the number of underused and vacant lots. Also, the project site plan and building designs could reduce the potential for crimes such as vandalism and vagrancy.

The Oakland Police Department recommends that preventive design measures, such as appropriate exterior building materials (e.g., anti-graffiti materials at the ground levels), landscaping, lighting, and security alarms and door locks, be incorporated into final project building designs for all new development. As part of standard development practices, the project plans would be reviewed by the Police Department, and the project applicant would be required to incorporate the Police Department's recommendations into the final project design.

To ensure that the project would not adversely affect the ability of the Oakland Police Department to deliver adequate services to the project area and vicinity, the project applicant would incorporate design standards, such as adequate public lighting, landscaping and buffering that provides visual access and "safe" places (in addition to compliance with the Uniform Building Code) into project plans. These features would be required as part of the City's conditions of approval to the project.

Any large event on the project site would require an Oakland Police Department Special Event Permit which would allow event-specific police needs (i.e., traffic management, public safety, etc.) to be identified and a case-by-case basis.[9] Specific issues addressed by the Police Department Special Event Permit include the availability of onsite and offsite parking availability at the event location, estimated number and target age of attendees, and the provision of private security.

Mitigation: None Required.

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9 Large, public events held in public parks also require a Park Use Permit obtained from the Oakland Office of Parks and Recreation.

Fire Protection and Emergency Medical Services Impacts

Impact L.2: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for fire protection and emergency medical services and facilities. (Less than Significant)

The project site is within the response boundaries of Fire Stations 1, 3, 4, and 12, which are generally located nearby the project site in the vicinity of downtown, to the south and southeast of the downtown area, and in West Oakland: 1605 Martin Luther King Way, 1445 14th Street, 1235 International Boulevard, and 822 Alice Street.

The approximately 5,061 new residents and 623 new jobs (or employees) resulting from the project could increase the number of calls for fire and emergency service. However, the Fire Department indicates that it would be able to provide adequate fire suppression and emergency medical response services to the project site, with existing staff, and that the project would not require development of new or physically altered facilities. In accordance with the California State Fire Code, the Fire Department would require that fire prevention measures, such as automatic sprinklers, smoke detectors, fire alarm systems, and fire resistant construction, be incorporated into final project plans for each building. All appropriate building and fire code requirements would be incorporated into project construction. The Fire Department would review the project, including provisions for onsite access, exits, and any necessary special equipment to assist firefighters on-site. The project applicant would be required to incorporate the Fire Department's recommendations into the final project.

The Fire Department's first concern with new development is adequate access and the availability of water supply during emergency situations. (See Section IV.B, Traffic, Transportation, Circulation and Parking, for discussion of emergency vehicle access; see Section IV.M, Utilities and Service Systems, for a discussion of water and water supply.) Emergency vehicle access to the estuary area south of the Embarcadero, and specifically the project site, is discussed fully in Section IV.B, Transportation, Traffic, Circulation and Parking. To provide emergency fire service to the estuary area south of the Embarcadero when passing trains would obstruct the 5th Avenue and/or Oak Street crossings at the Embarcadero, the Fire Department would continue its current practice of dispatching two companies to the area. The department would dispatch one company from a station within the designated service area, and would dispatch a second company from a station that would reach the project area via routes not obstructed by the train (Williams, 2005). The four primarily fire stations identified above would respond to an emergency at the project site, and given their locations, available alternative routes that an emergency vehicle can use to access the site are the at-grade crossing on Oak Street (to the north) and the overcrossing on 16th Avenue (to the south).

As discussed in Section IV.B, Traffic, Transportation, Circulation and Parking, blockages at both 5th Avenue and Oak Street at the Embarcadero are expected to continue to occur "intermittently at irregular intervals." Although train obstruction at both or either crossing may negatively affect response times (Williams, 2004), the construction of new or physically altered facilities would not be required, and thus the project would not have a significant impact.

As discussed under Police Service, the project sponsor would coordinate with the Oakland Fire Department to prepare an emergency response and security plan for the project that addresses issues related to the potential delay in fire and emergency response time to the project site in the event that rail activity obstructs emergency access to the project site. In addition to methods of advanced notification to dispatched units of train activity in the project area, the project would incorporate, as recommended by the Fire Department, onsite emergency equipment, such as Automatic Emergency Defibrillators (AED) and special equipment to assist firefighters in performing fire suppression and emergency response operations. Also, to further reduce the need for emergency response and new staff to serve the project site, the project sponsor would provide occupants (residents and non-residential tenants) with fire prevention and public education information to reduce hazards and risks. These features would be required as part of the City's conditions of approval to the project and would supplement the standard fire prevention measures required by the California State Fire Code.

Mitigation: None Required.

Public Schools Impacts

Impact L.3: The students generated by the project would not require new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives at local public schools. (Less than Significant)

At build-out, the project would have up to 3,100 new housing units. These units would house an estimated 2,170 new students, based on the student generation rate of 0.7 student per housing unit employed by the Oakland Unified School District (OUSD) (Chambers, 2004).[10] Of the 2,170 new students, about 1,550 students would be elementary or middle school age, and 620 new students would be high school age. School-age children living at the project site would live within attendance areas of the following OUSD public schools: La Escuelita and Franklin Elementary Schools, Westlake Middle School, and Oakland High School.

Grade-school children (Kindergarten through grade 5) living at the project site would attend La Escuelita and Franklin Elementary Schools. La Escuelita Elementary School, located at 1100 3rd Avenue less than one mile north of the project site, currently serves 258 students and is within its capacity of 285 students. Franklin Elementary School, located at 915 Foothill Boulevard approximately 1.4 miles northeast of the project site, currently serves 714 students and is within

10 To provide the most conservative analysis of school impacts, this analysis assumes that all school-age children living at the project site would attend public schools. Because there are several private schools within the vicinity of proposed site, however, it is reasonable to assume that some children living at project site would attend private schools. The 2000 U.S. Census estimated that approximately 13.6 percent of all elementary and high school students in Oakland attended private schools.

its capacity of 920 students. La Escuelita and Franklin Elementary Schools have average class sizes of about 23 and 21 students, respectively (Chambers, 2004 and California Department of Education, 2004b). Middle school students (grades 6 through 8) living at the project site would attend Westlake Middle School at 2629 Harrison Street, approximately 2.4 miles from the project site. Westlake has an average class size of 31 students, currently serves 638 students, and is within its operating capacity of 1,053 students (Chambers, 2004). The 1,550 new elementary and middle school students would not exceed available capacity of 648 students at La Escuelita Elementary School, Franklin Elementary School, or Westlake Middle School. This is primarily because the project would be developed and occupied in multiple phases over a period of approximately 10 to 11 years, however, and therefore the increased number of elementary and middle school students generated from the project and the impact on Oakland High School would occur incrementally.

High school students residing at the project site would be within the attendance area of Oakland High School located at 1023 MacArthur Boulevard, approximately two miles from the project site. Oakland High School currently serves 2,129 students in grades 9 through 12 and is above its operating capacity of 1,955 students (Chambers, 2004). Therefore, it is unlikely that 620 new students could be accommodated at Oakland High School, if introduced within a short period of time. As explained for elementary and middle school capacities, the project would be developed and occupied in multiple phases over a period of approximately 10 to 11 years, however, and therefore the increased number of high school-age students generated from the project and the impact on Oakland High School would occur incrementally. If classroom capacity within the Oakland High School Attendance Area (HSAA), as delineated in the Central City East Redevelopment Plan EIR (City of Oakland, 2004), was not available at the time students from the project would enter the school system, the OUSD may accommodate these students at schools outside the Oakland High School service boundaries**.** Additionally, given existing low enrollments in the area where the project is proposed, the OUSD indicates that it would be able to provide teaching stations for the estimated number of students from the project (Chambers, 2004).

Alternate Estimate of Student Generation

As discussed above, under Student Generation, another estimate of the number of students generated by the new housing in the project was prepared as part of the demographic analysis for estimating population in the new housing. That estimate indicates an average of up to 0.1 school-age children per household for the project, based on the types and sizes of higher-density, multi-family housing units that are proposed. Development of this estimate was based on a number of considerations including: the density and types of multi-family housing proposed, average household sizes for project households, current shares of population represented by school-age children for comparable areas of Oakland with similar types of multi-family housing, and trends in the age distribution of the population. Because the project would consist of new higher-density housing in multi-family development along the waterfront, the number of persons per household is estimated to be smaller than average for Oakland overall. In addition, project households are anticipated to include proportionally more adults and fewer children, and a relatively high percentage of project residents are anticipated to be employed.

At build-out, the project would include up to 3,100 housing units and 2,976 households assuming average vacancy of four percent consistent with citywide data. The number of school-age children would be 298 based on the rate of 0.1 school-age children per household (compared to 2,170 based on the SAB rate of 0.7). With no vacancy assumed, the number of school-age children would be 310. Of the 298 new students, about 209 students would be elementary or middle school age, and 89 new students would be high school age.

Also, pursuant to Senate Bill 50 (SB 50), the project sponsor would be required to pay school impact fees established to offset potential impacts on school facilities. Therefore, although the project could result in additional students and overcrowding within OUSD facilities, payment of the fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of the fees is deemed full and complete mitigation. Therefore, no mitigation is required.

Mitigation: None Required.

Parks and Recreation Impacts

Impact L.4: The project would create new parks, and the increased population resulting from the project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, nor would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. (Less than Significant)

The project would increase the permanent on-site daytime and nighttime populations at the site, thus increasing the demand for parks and recreation facilities. At build-out, it is anticipated that the project would result in an on-site resident population of 5,061 and provide 623 jobs (see Section IV.J, Population, Housing, and Employment)..

As discussed in Chapter III, Project Description, approximately 44[11] percent of the project site (nearly 28.4 acres) would be developed into a mix of active and passive open space uses. This permanent open space would be designed as a series of connected parks and trails to enhance the City’s existing approximately 7.7-acre Estuary Park and Jack London Aquatic Center that lies within the project site and would be improved with re-vegetation as part of the project. New parks

[11] 44 percent includes the existing 7.7-acre Estuary Park and Aquatic Center. With these existing facilities and associated site area included, a total of 28.4-acres of open space would exist on the project site, which would result in approximately 37 percent of the project site as open space.

that would be developed as part of the project include Shoreline Park (9.7 acres), Channel Park (5.5 acres), Gateway Park (3.1 acres), and South Park (2.3 acres).[12]

The project open space would include a continuous public trail system along the project site's estuary edge that would extend the existing Bay Trail segment, which currently ends at Estuary Park.

No existing parks or open spaces would be removed by the project. As shown in **Table IV.L-2**, the project would provide approximately 60 percent of the almost 36 acres of total *new* open space (per Table III.D-1 in the Estuary Policy Plan EIR) analyzed for the slightly larger Oak-to-Ninth Avenue District[13] delineated in the Estuary Policy Plan EIR. However the Estuary Policy Plan does not include a park and open space program by acreage.

Approximately 20.7[14] of the 28.4 total acres of permanent open space that would exist on the project site at buildout would be new, usable park area that does not currently exist. Assuming new 5,061 project residents, the 20.7 acres of new park area would equate to 4.1 acres of new local-serving parks per 1,000 residents on the project site. This ratio would exceed the City's adopted standard of 4 acres of local-serving parks per 1,000 residents, or 20.2 acres.[15] As a more conservative estimate that also considers the approximately 623 new employees at the project, about 3.64 acres per 1,000 residents and employees would be provided.

[12] The area defined as Channel Park in the project is called Open Meadow Park in the Estuary Policy Plan. The area defined as Channel Park in the Estuary Policy Plan is a linear park on both sides of Lake Merritt Channel, primarily north of the Embarcadero, and is not part of the project site. South Park is the southernmost portion of Clinton Basin Park, as defined in the Estuary Policy Plan.

[13] The Estuary Policy Plan delineates the Oak to Ninth Avenue District as approximately 120 acres south of I-880, east of Oak Street, and west of Brooklyn Basin.

[14] 28.4 acres total proposed, less 7.7 acres of the existing Estuary Park and Aquatic Center.

[15] 5,061 residents divided by 1,000 equals 5.061; 4 acres per 1,000 residents (based on the Oakland General Plan standard) is therefore 4 x 5.061 residents, or 20.24 demanded park acres.

TABLE IV.L-2

PROPOSED PARK ACREAGE ESTUARY POLICY PLAN EIR AND PROPOSED PROJECT

	Existing (acres)	Estuary Policy Plan EIR (Oak-to-Ninth Avenue District) (acres)	Proposed Project (acres)
New Parks			
Open Meadow	0	11.0[a]	5.52 (Channel Park)[b]
Clinton Basin	0	8.4	2.30 (South Park)[c]
Crescent Park	0	11.0	9.74 (Shoreline Park)
			3.12 (Gateway Park)
Subtotal		***30.4***	***20.68***
Improved/Expanded Parks			
Estuary Park	7.7[d]	13.0	7.7[0d]
Total	**7.7**	**43.4**	**28.38**

a The area defined as Open Meadow Park in the Estuary Policy Plan includes the six-acre Fifth Avenue Point community, an area not included in the proposed project.
b The area defined as Channel Park in the proposed project is called Open Meadow Park in the Estuary Policy Plan. The area defined as Channel Park in the Estuary Policy Plan is a linear park on both sides of Lake Merritt Channel, primarily north of the Embarcadero, and is not part of the proposed project site.
c South Park is the southernmost portion of the Clinton Basin Park defined in the Estuary Policy Plan.
d Based on the 2005 project site survey prepared by BKF Engineers for the Oak to Ninth Project.

SOURCE: Estuary Policy Plan EIR, Table III.D-1
Oakland Harbor Partners, 2005.

The proposed new park areas would increase the service ratios in the Central Planning Area (which would remain above the current citywide average of 1.33 acres) and the San Antonio Planning Area (which would remain below current citywide average of 1.33 acres). Overall, however, both areas would remain below the adopted citywide standard, which the Open Space, Conservation, and Recreation (OSCAR) Element of the Oakland General Plan recognizes would be impossible to attain without massive development of relatively flat land. As discussed in Section IV.A., Land Use, Plans, and Policies, the 20.7 acres of new park and open space area proposed by the project would be consistent with the objectives of existing park expansion and shoreline improvements outlined in the OSCAR Element, as well as overall goals and policies in the LUTE and Estuary Policy Plan that call for additional public parkland along the waterfront.

In addition to new parks and open spaces and Bay Trail, the project would add approximately 170 boat slips by rebuilding the Clinton Basin Marina and expanding the Fifth Avenue Marina. New facilities would allow for greater water-oriented activities through the improvement of waterfront access to allow for recreational boating such as sailing, rowing, canoeing, and kayaking. The proposed park space and amenities associated with the project would benefit both on-site residents and the larger citywide population.

The project sponsor will be responsible for installing the improvements within the project open space and providing for the maintenance of the project open space in a manner that meets or exceeds minimum standards provided by the City. Maintenance by the project sponsor may be accomplished through the establishment of 1) a project homeowners' association, 2) a Community Facilities District or Community Services District (in conjunction with the City), or 3) other mechanism approved by the City.

The project would carry out a number of projects identified in the November 2002 Measure DD local bond measure, including improvements to Estuary Park and the development of Channel Park (referred to as "Meadows Park" in Measure DD and the Estuary Policy Plan), Shoreline Park, and connecting segments of the Bay Trail.

The Planned Unit Development (PUD) regulations (Section 17.122 of the Oakland Planning Code) require the project to incorporate private and group open space into the project design to serve its residents. Additionally, the PUD regulations allow the City to require that suitable areas for public open spaces be set aside, improved, and dedicated for public use.

As part of the project approval process, the City of Oakland would review the adequacy of the provision and public access to public parks, open spaces, and recreation facilities on the project site. Furthermore, because the project site falls under the jurisdiction of the Bay Conservation and Development Commission (BCDC), the project would be subject to additional review by the BCDC to ensure that adequate access to and along the shoreline has been incorporated into project. These review processes are not conducted as part of the environmental review of the project. Adequate overall site access to and within the project is discussed in Section IV.B, Traffic, Transportation, Circulation and Parking.

Physical effects on the environment that may result from the proposed demolition of most of the Ninth Avenue Terminal to create a new 9.7-acre park, shoreline alterations, dredging, and fill required to create new parks and recreational facilities (i.e., marinas) are all addressed within other sections of this EIR. See EIR Section IV.I, Biological Resources; Section IV.F, Geology, Soils and Seismicity; and Section IV.H, Hydrology and Water Quality.)

Mitigation: None Required.

Library Impacts

Impact L.5: The project would increase the on-site resident population and increase the demand for library services; however, the increase in demand for such services would not result in the need to construct or expand libraries, the construction of which could cause significant environmental effects. (Less than Significant)

The proposed project would increase the resident population on the project site, which in turn would increase the demand for library services. The Oakland Main Library and the Asian Branch Library would most likely provide services to project residents because of their proximity to the project site (each about 1.4 miles from the project site). The Oakland Public Library and the City of Oakland are currently working towards the development of a Master Facilities Plan for the Oakland Public Library system. The Master Facilities Plan is intended to assess community needs for library services, covering all aspects of library operations, and make recommendations for future library sites and services. Development of the plan is funded by a bond measure (Measure Q, reauthorization of the Library Services Retention and Enhancement Act of 1994 (Measure O) passed in March 2004.

The draft Master Facilities Plan includes a study of proposed population growth throughout the City, and reports 2020 population projections that show a decline within the Main Library service area and an increase in the Asian Branch Library service area. These service area population changes are due to proposed changes in library service area boundaries. The draft plan includes a proposal to increase building space and services, such as additional books, seating areas, computers, and expanded program rooms at both the Main Library and the Asian Branch to meet existing and future demand.

The proposed service ratio for library facilities is between 0.7 and 0.9 square feet per capita (Oakland Public Library, 2005). The current ratio of existing facilities is 0.43 per city of Oakland capita[16], below the recommended ratio. At 2025 buildout of the Oak to Ninth Project, the project population would constitute approximately 1.1 percent of the city's total population (as discussed in Section IV.J, Population, Housing, and Employment), and assuming an additional 168,260 square feet of additional total library facilities by 2020, as proposed in the draft Master Facilities Plan, the citywide service ratio would be 0.8 square feet per 2025 city of Oakland capita[17] in 2025 (as well as per 2020 total service area population[18], per the draft Master Facilities Plan).

The draft plan also discusses changes in population and facilities by service area or neighborhood for 2020. The estimated 2020 neighborhood service ratios would be approximately 1.2 square feet per person (approx. 12,000 s.f. / 10,442 persons) for the Asian Branch. A neighborhood-level service ratio for the Main Library is less relevant since it serves an expanded citywide geographic area, however, its floor area is planned to double to approximately 160,000 square feet by 2020,

[16] Based on year 2000 Oakland population of 399,484, which is cited elsewhere in this section. (Approximately 10 percent of Oakland Public Library patrons reside outside of the city of Oakland.) Existing total square footage in the library system is 170,740 square feet (OPL, 2005).

[17] Oakland Cumulative Growth Scenario for this project (see Appendix D) estimates a 2025 citywide population of 453,520, with the project. Total 2025 planned square footage in the library system is 353,600 square feet.

[18] Including Emeryville and Piedmont: 463,108 persons.

while its total service area population is projected to increase 11 percent (2000 to 2020), and its neighborhood level service area population is expected to decrease 72 percent (2000 to 2020).

It is reasonable to assume that the new population from the Oak to Ninth Project (5,061 persons) primarily would patronize the Main Library and the Asian Branch since they are located closest to the project site. An additional 2,530 persons would result in a neighborhood service ratio of 0.9 square feet per person at the Asian Branch. The draft Master Facilities Plan proposes a new branch library in the San Antonio neighborhood. The project site is in proximity to the San Antonio Library service area. However, the location of the new library has not been identified, though the 22nd-23rd Avenue corridor at International Boulevard (approximately 2.0 miles from the project site) has been considered (OPL. 2005). It is also possible that some project residents would patronize the proposed San Antonio Branch, however, the San Antonio Branch is intended to meet existing service need in the San Antonio / Eastlake neighborhoods and would have a 2020 service ratio of approximately 0.4 square foot per person (approx. 19,000 s.f. / 43,516 persons), below the recommended citywide service ratio. The service ratio would remain 0.4 with an additional 1,687 persons (one-third of 5,061) from the project (the remaining two-thirds attributed to the expanded Main Library and Asian Branch).

Therefore, because there are significant planned improvements to the Main Library (doubling of square footage to 160,000 square feet), the Asian Branch (increased 30 percent to 12,000 square feet), as well as a new 19,000 square San Antonio Branch nearby, it is not expected that the increase in population resulting from the proposed project would result in a significant impact due to the need for new or expanded library facilities based on anticipated citywide population or neighborhood level population. The project would not necessitate any unforeseen expansion or construction of new library facilities beyond those already planned. Therefore, the project would have a less-than-significant impact on library services.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

As discussed above, the project would not result in significant project-level effects on the ability of service providers to provide adequate police services, fire protection and emergency medical services, public schools, and parks and recreation facilities to the project area and vicinity. Considered in combination with other foreseeable development, there would likely be an increased demand for public services. Overall, the city of Oakland and its surrounding areas (per the Oakland Cumulative Growth Scenario as refined for this EIR) was used as context for assessing cumulative impacts on police services, fire protection and emergency medical services, public schools, and parks and recreational facilities. The cumulative assessment context for public schools was also assessed for the project vicinity based on localized study areas defined by the OUSD for the Central City East Redevelopment Plan EIR.

Impact L.6: The increased population and density resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in a cumulative increase in the demand for public services and parks. However, the project's contribution to such impacts would not be cumulatively considerable. (Less than Significant)

Police Services and Fire Protection/Emergency Medical Services

The increased population and density resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in a cumulative increase in demand for police services and fire protection/emergency medical services. This cumulative increase could result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives. However, future development would occur pursuant to General Plan policies and mitigation measures adopted for the Land Use and Transportation Element (LUTE) EIR (as identified in the Central City East Redevelopment Plan) that reduce these potential impact on fire and police services to less-than-significant levels.

The additional population and density resulting from all other planned and foreseeable development under the cumulative scenario, including development in the project vicinity, would contribute to the increased demand for police services and fire protection/emergency medical services. New or altered physical facilities for police and/or fire services may be necessary to meet this increased demand. However, as determined in the Central City East Redevelopment Plan EIR, implementation of Oakland General Plan Land Use and Transportation Element (LUTE) policies and implementation of mitigation measures from the LUTE EIR would effectively mitigate potentially significant effects on police and fire services to less-than-significant levels.

For the project, the Oakland Police and Fire Departments do not anticipate the need for any new physical facilities to adequately service the resulting increase in daytime and nighttime population on the project site or from instances where response would be delayed due to trains obstructing access routes to the project area. Additionally, the project would incorporate design measures aimed to heighten safety (through lighting, access, and visibility) to public spaces and would provide administrative space for onsite police activities and would develop and emergency response and security plans in coordination with the relevant City departments. Therefore, the project's contribution to the citywide significant cumulative impact on police services and fire protection/emergency medical services would be less than significant.

Public Schools

Students generated by the project, in conjunction with students generated by other foreseeable development in the city, would result in a cumulative increased demand that could require new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives at local public schools.

When considering all other planned and foreseeable development under the cumulative scenario, including within the project vicinity, the addition of new students would contribute to a current deficit in the availability of classrooms to serve student populations citywide (City of Oakland, 2003). However, pursuant to Senate Bill 50 (SB 50), the project sponsor would be required to pay school impact fees established to offset potential impacts on school facilities. Therefore, although the project could result in additional students and overcrowding within OUSD facilities, payment of the fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of the fees is deemed full and complete mitigation.

Parks and Recreational Facilities

Increased population resulting from the project, in conjunction with that generated by other foreseeable development in the city and the project vicinity, would increase the cumulative demand for existing neighborhood and regional parks or other recreational facilities such that new facilities could be needed in order to maintain acceptable citywide service ratios.

When considering all other planned and foreseeable development under the cumulative scenario, including development in the project vicinity, the additional population would contribute to the need for new or expanded park and recreational facilities citywide and further decrease the ratio of local-serving parkland to residents. Since cumulative development would potentially result in the need for new or expanded park and recreation facilities, and since the City does not currently meet the adopted citywide goal of 4 acres of local-serving parks per 1,000 residents, the effect on parks and recreational facilities would be considered a significant cumulative impact citywide, consistent with the determination of the Central City East Redevelopment Plan EIR.

Although the project would provide approximately 15 acres less new open space than was analyzed in the Estuary Policy Plan EIR, it would include 28.4 total acres of open space, 20.4 acres of which would be new park area that does not currently exist. The resulting ratio would be 4.1 acres of local-serving parkland per 1,000 residents, which would exceed the adopted citywide service standard of 4.0 acres per 1,000 residents, as well as the current citywide ratio of 1.33 acres per 1,000 residents. The total improved parkland and open spaces would contribute to the existing supply, and the new population generated by the project would not result in the need for additional new or expanded park facilities. Therefore, the project’s contribution to the significant cumulative impact would be less than significant.

Library Services

The project, in conjunction with new residents generated by other foreseeable development in the city, would not result in a cumulative increase in demand that could require new or physically altered library facilities.

The additional population and density resulting from foreseeable development under the cumulative scenario, including development in the project vicinity, could contribute to the increase in demand for library services. New or altered physical facilities for library services may be necessary to meet this increased demand. However, as noted above, the Oakland Public Library is developing a Master Facilities Plan to assess and develop a strategy to meet the City's need for new or expanded library facilities and services. The Master Facilities Plan takes into account the long-term population growth anticipated for the City. The Main Library, which would be expected to serve the project site, is included in the Master Facilities Plan and under evaluation to identify improvements to facilities and services to adequately address future community needs. Overall, the project-generated population would constitute approximately 1.1 percent of the citywide population at buildout (according to the Citywide Cumulative Growth Scenario conducted for this analysis, see Appendix D), and would not result in an exceedance of proposed service ratios considering future planned library facilities. Therefore, the project would not result in the need for an expansion of library facilities beyond what is being proposed as part of the Master Facilities Plan, cumulative and the impact would be less than significant.

Mitigation: None Required.

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M. Utilities and Service Systems

This section describes existing public utilities in the project vicinity, and evaluates the potential impact of the project on the provision of public utilities and possible adverse physical impacts on the environment that could result from constructing new or expanded facilities. The section analyzes public water supply, sanitary sewer (wastewater) facilities, stormwater drainage facilities, solid waste, and gas and electricity services. It focuses on the effect the project would have on the ability of the City of Oakland and other service providers to deliver these services effectively. Appropriate mitigation measures are identified as necessary.

Setting

Water Service

The East Bay Municipal Utility District (EBMUD), a publicly owned utility, supplies water to parts of Alameda and Contra Costa counties, including the city of Oakland. EBMUD supplies water to nearly 1.3 million people within its estimated 325-square-mile service area. The city of Oakland comprises slightly less than one-third of EBMUD's customer base.

Water Supply System

The EBMUD water supply system includes a network of reservoirs, aqueducts, treatment plants, and distribution facilities. This network extends from its principal water source, the Mokelumne River Basin in the Sierra Nevada mountain range, to water treatment plants or to reservoirs[1] within its service area, and ultimately to residences and businesses in the East Bay. On average, 95 percent of the water delivered by EBMUD comes from the Mokelumne River watershed, with the remaining 5 percent originating as runoff within the service area. EBMUD has water rights and facilities to divert up to a maximum of 325 million gallons of water per day (mgd), subject to the availability of Mokelumne River runoff and prior water rights of other users. In addition to the Mokelumne River, in normal years, EBMUD's reservoirs in the East Bay receive about 30,000 acre feet (about 30 mgd) of water from local watershed runoff. Untreated water from local and Sierra reservoirs is transported to one of EBMUD's six water treatment plants, which are capable of filtering and processing up to 375 mgd. The Orinda Water Treatment Plant, which serves the city of Oakland and several surrounding communities, has the largest output, with a maximum capacity up 200 mgd. In early April 2005, this treatment plant had a seven-day average production of 111 mgd (EBMUD, 2005c).

Utility base maps from EBMUD show that the project site is currently served by 12-inch water lines that front the project along the Embarcadero. The portion of the site to the east of Lake Merritt Channel is serviced by a 12-inch looped system between 5th Avenue and 9th Avenue. West of 5th Avenue is serviced by a 12-inch line that terminates at the Lake Merritt Channel bridge. The Estuary Park portion of the site to the west of Lake Merritt Channel is serviced by 12-

[1] EBMUD's East Bay service area includes five reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro.

inch branch from a separate looped system located in the Embarcadero and Fallon Street. This 12-inch branch runs from the intersection of the Embarcadero and Fallon Street to the limit of the Lake Merritt Channel bridge.

Water Demand

In early April 2005, EBMUD experienced an average demand of 161 mgd (EBMUD, 2005c). During non-drought years, EBMUD customers demand an annual average of about 220 mgd of water. By 2020, EBMUD estimates that water demand will increase to approximately 277 mgd in its service area, although, with successful implementation of water recycling and conservation programs, this demand could be reduced to about 229 mgd.

As discussed in EBMUD's Urban Water Management Plan 2000, EBMUD adopted a long-term Water Supply Management Program (WSMP) in 1993. The WSMP serves as a planning guide for the reliable provision of good-quality water to the EBMUD service area through 2020. The WSMP analysis indicates that in a severe drought,[2] the current water supply is not sufficient to meet existing or planned customer demand. An estimated supplemental supply of about 87 mgd would be needed to limit deficiency to 25 percent for current customer demand. To limit the water supply deficiency to 25 percent by 2020, a supplemental supply of 154 mgd would be needed. EBMUD anticipates that existing and planned customer demand will continue to exceed supply during severe drought conditions until a supplemental water supply project is implemented and a dependable supply is guaranteed for existing and future needs. In these drought conditions, EBMUD would impose the conservation and rationing measures set forth in its Drought Management Program.

To meet water needs during severe droughts, EBMUD is working to identify supplemental water supplies and recycled water programs and to continue implementation of water conservation measures, as described below.

Water Supply Projects

In September 1995 (two years after adopting its long-term Water Supply Management Program), EBMUD authorized a Water Supply Action Plan to identify supplemental water supplies during multiple-year droughts by pursuing several water supply components concurrently. As a result, on December 8, 2000, the U.S. Bureau of Reclamation, EBMUD, and Sacramento parties mutually agreed to develop a joint water supply from the Sacramento River. Components of this action include a diversion one mile north of the city of Freeport, pumping facilities, treatment facilities, and transmission pipes. A federal Record of Decision was issued in 2004, and the engineering design work is expected to be complete by the spring of 2006. Construction is expected to be complete by 2009. The Freeport Project would provide up to a 100-mgd, dry year water supply to EBMUD during drought periods (Freeport, 2005). Other resource options identified in the 1995 Water Supply Action Plan (and its 1996 revision) for meeting future water needs include the Bayside Groundwater Project, which involves storing excess water in a deep underground aquifer beneath the cities of San Lorenzo/San Leandro to increase the available supply of water in the

2 Defined by EBMUD as the third consecutive year in a series of multiple dry years.

event of a drought. Consideration of approval of Phase I of the Bayside Groundwater Project is anticipated in 2005. A joint effort by the Bay Area's four largest water agencies – EBMUD, the San Francisco Public Utilities Commission, the Contra Costa Water District, and the Santa Clara Valley Water District – to explore regional desalination facilities to meet future water needs is also underway, and a detailed feasibility and environmental study is anticipated to be completed by December 2006. Implementation of Phase 1 would provide an annual capacity of 1 mgd, and Phase 2 would provide an additional annual capacity of 2 to 10 mgd (EBMUD, 2005a).

Recycled Water

The goals of using recycled water are to supplement the existing potable water supply and assist in meeting future water demands. Water for recycling is drawn from water reservoirs containing untreated water and from wastewater treatment plants. EBMUD's Nonpotable Water Policy No. 73 (1996) mandates that all customers use recycled water for non-domestic purposes when such water is of adequate quality and quantity, available at reasonable cost, not detrimental to public health, and not injurious to plant life, fish, and wildlife. EBMUD currently supplies more than 8 mgd of recycled water and other nonpotable water for irrigation, industrial processes and equipment wash-down. The Water Supply Management Program established goals of delivering an additional 8 mgd of recycled water by 2020, for a total of 5.8 billion gallons a year.

In January 2002, the City of Oakland adopted a recycled water ordinance for new developments within the City to use recycled water provided by EBMUD for common area irrigation if recycled water is available to the development area. This requires installation of a separate non-potable water distribution system on-site. The project site is located within the service area boundary of EBMUD's East Bayshore Recycled Water Project. EBMUD anticipates recycled water delivery to the project area by 2009 (Gehlhaar Oriol, 2005).

Water Conservation

EBMUD has adopted water conservation programs to address both water supply and demand. Demand-side water conservation programs are intended to reduce overall consumption of the water supply. The Water Conservation Master Plan (1994) identifies the use of free water audits, rebates, and other incentives, regulations, education, and support activities to reduce water consumption. These programs are designed to achieve annual water savings of 16 mgd by 2020. With an additional 17 mgd expected to result from "natural replacement,"[3] the total water conservation savings in 2020 is anticipated to be 33 mgd. EBMUD's supply-side conservation measures are directed toward increasing water use efficiency before or after customer use, and include improvements within EBMUD's distribution system (i.e., leak detection, pipe replacement, and corrosion control) and water recycling programs.

3 Natural replacement is the installation of conservation hardware such as toilets, showerheads, and faucets without participation in an EBMUD program.

Sanitary Sewer Service

In addition to providing water supply, EBMUD provides sanitary sewer treatment services to approximately 640,000 people within an 83-square-mile area of Alameda and Contra Costa counties, including the city of Oakland. The city of Oakland and about eight other communities[4] comprise the EBMUD Special District No. 1 sanitary sewer treatment service area.

Wastewater Collection and Treatment Facilities

EBMUD's main wastewater treatment plant is located southwest of the I-580/I-80 interchange in Oakland, south of the San Francisco/Oakland Bay Bridge. Wastewater is collected by 29 miles of interceptor lines that move wastewater from about 1,400 miles of sewers owned and operated by the jurisdictions served. Currently, EBMUD's wastewater treatment plant has an average dry weather capacity of 168 mgd. With an average dry weather flow of approximately 77 mgd, the plant is operating at 45 percent of its capacity. During wet weather, the treatment plant accepts more flow[5]; the plant has a sustainable primary treatment capacity of 320 mgd, and a maximum secondary treatment capacity of 168 mgd.[6]

In addition, EBMUD facilities in the area include components of its San Antonio Creek Wet Weather Treatment Plant (SACWWTP), one of its three Wet Weather Treatment Program improvements in the East Bay. The SACWWTP screens, disinfects, dechlorinates, and disposes of up to 51 million gallons of diluted wastewater per day during intense wet weather events. Included on the project site is a small dechlorination facility at 330 Embarcadero (immediately north of the Jack London Aquatic Center) and a 54-inch pipeline that runs in an elevated trestle across Lake Merritt Channel, to the dechlorination facility where the sewage is treated, then through Estuary Park to discharge treated wastewater into the Estuary via the submerged outfall pipe. The 84-inch South Interceptor located at the project frontage along the Embarcadero is the main sewage pipeline that carries sewage to the main wastewater treatment plant (near the Bay Bridge.) This interceptor runs parallel to the 54-inch outfall pipeline and is visible at mean and low tide.

The City of Oakland owns, operates, and maintains a local sanitary sewer collection system covering approximately 39 square miles and including 850 miles of pipe. The city's sewer collection system is divided into basins and subbasins. Each numbered subbasin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the city's collection system into the EBMUD's interceptor lines. The project site is located in subbasins numbered 54-07, 59-03, and 64-07.

City sewer pipes range from 6 to 72 inches in diameter, with most lines pre-dating 1938 and with some parts of the system over 100 years old. Most of the system is gravity-fed, and about five pump stations service the entire area. Some areas of Oakland, such as former military bases,

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4 EBMUD's main wastewater treatment plant treats municipal wastewater from the cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, El Cerrito, Kensington, and part of Richmond.

5 Storage basins provide plant capacity for a short-term hydraulic peak of 415 million gallons per day (mgd).

6 *Primary* treatment involves preliminary treatment (screening) and sedimentation (the removal of solid particles from suspension by gravity). *Secondary* treatment involves biological treatment of wastewater to remove remaining organic matter.

cemeteries, large parks, and some hillside areas, are not part of the sewer service system. Over 90 percent of the sewer customers are residential users. The existing sewer system at the project site flows into a City sewer main that connects to the EBMUD 84-inch interceptor in the Embarcadero right-of-way and flows to the EBMUD wastewater treatment plant near the I-580/I-80 interchange.

The site is currently served by 8- to 12-inch lines serviced by the City of Oakland and that connect to the existing 84-inch EBMUD interceptor as indicated from City of Oakland and Port of Oakland utility base maps. There are three separate connection points to the 84-inch interceptor to the east of the Lake Merritt Channel at 10th Avenue, 8th Avenue and between 5th Avenue and the Lake Merritt Channel bridge. The Estuary Park portion of the site to the west of the Lake Merritt Channel connects to the interceptor at Oak Street.

Inflow/Infiltration Correction Program

A continuing issue with respect to sanitary sewer collection has been inflow and infiltration of stormwater into EBMUD and Oakland sewer lines, resulting in high flow levels and overflow of untreated wastewater during wet weather. Most of the stormwater enters sewer systems by infiltration (i.e., stormwater passes through the soil and into deteriorated sewer pipes). Inflow originates from storm water inlets and manholes that connect to the sanitary sewer system rather than the storm water system.

In 1986, with EBMUD as the lead agency, the Wet Weather Program was initiated to improve treatment capacity for wet weather flows and reduce the amount of inflow and infiltration throughout the EBMUD collection system. The cities of Alameda, Albany, Berkeley, Emeryville, Kensington, Oakland, Piedmont, and portions of El Cerrito and Richmond participate in EBMUD's Wet Weather Program. The program has resulted in four new wet weather treatment facilities, two storage basins, 7.5 miles of new interceptors, and expansion of the main wastewater treatment plant. These new facilities accommodate an increase in peak wet weather treatment capacity from 290 mgd to 775 mgd. The City's long-range sewer improvements are anticipated to reduce peak regional flows from 1.1 billion gallons per day to 775 mgd.

Pursuant to the Wet Weather Program, EBMUD has allocated its capacity to treat wet weather flows among EBMUD's municipality/service area customers. The city of Oakland's allocation was divided among multiple subbasins within the city based on existing development at the time of allocation and then-current projections for growth within the various subbasins (and not on physical parameters/limitations within the conveyance and treatment infrastructure). The project is located within three subbasins (54-07, 59-03, and 64-07), which have a collective un-used allocation of 0.11 mgd.

In 1985, at the inception of the Wet Weather Program, the Inflow/Infiltration study projected a growth allocation of about 15 mgd over a 20-year period. To date, using actual housing construction data from the census, and approved housing projects through June 30, 2005, the city has used approximately 91 percent of its growth allocation.

Stormwater Drainage Facilities

In Oakland, stormwater generally flows southwest from the Oakland/Berkeley hills to the developed flatlands. It then flows primarily through underground storm drains and culverts to the San Francisco Bay via the Oakland Estuary (directly or by way of Lake Merritt) or through the city of Emeryville.

The Alameda County Flood Control and Water Conservation District constructs, operates, and maintains major trunk lines and flood control facilities in Oakland, and the Oakland Public Works Agency (PWA) is responsible for construction and maintenance of the local storm drainage system within Oakland's public areas and roads. PWA makes structural improvements to ensure that the system can reasonably handle stormwater flow. The City is currently preparing a comprehensive storm drainage master plan to identify existing deficiencies in the system and develop recommended priorities for rehabilitating the system in order to reduce localized flooding (Oakland, 2004).

Onsite runoff is currently discharged overland and via existing pipes to the Oakland Estuary, however these site drains are part of the City's system (Amirzehni, 2005). The portion of the site to the east of Clinton Basin is serviced by a piped system that discharges at several separate locations along the shoreline. The area of the site between Clinton Basin and the Lake Merritt Channel does not have any record of piped drainage and appears to drain overland to the Oakland Estuary. The Estuary Park area is serviced by a combination of piped storm water and overland runoff that discharges directly to the Oakland Estuary. Offsite storm drainage is located along the project frontage in the Embarcadero. Existing City of Oakland base maps indicate that offsite storm water is bounded to the limit of the I-880 freeway and Amtrak/Union Pacific railroad north of the site, and three small drainage systems serve this area along the I-880 freeway (Amirzehni, 2005). Runoff from the Embarcadero is discharged to the Oakland Estuary via the existing onsite system and discharge points along the shoreline.

The City currently does not have a systematic method for assessing the capacity of the storm drainage system, and therefore relies on instances of needed repair and maintenance as a primary source of evaluation (Oakland, 1995).

Solid Waste Service

Waste Management and Disposal

Non-hazardous waste in the city of Oakland, including the project site, is collected by Waste Management of Alameda County (WMAC), which provides curbside pickup for residential, commercial, and industrial non-hazardous waste and transports it to WMAC's Davis Street Transfer Station in the city of San Leandro. The Alameda County Waste Management Authority estimates that, in 2000, Oakland disposed of approximately 423,200 tons of solid waste, or about 1,160 tons per day (CIWMB, 2004a).

Transfer trucks haul waste to the Altamont Landfill and Resource Facility, located approximately 35 miles east of Oakland near Livermore. The Altamont Landfill has a permitted maximum daily disposal of 11,150 tons per day, ten percent of which is attributable to the city of Oakland (CIWMB, 2004b). The Altamont Landfill has recently updated its conditional use permit, which allows for an additional capacity of approximately 40 million tons of disposal over the next 19 to 38 years (St. John, 2004).

Demolition and construction debris generated in Oakland is generally hauled by contractors and local construction companies to recycling facilities in the East Bay or to the Vasco Road Landfill near the city of Livermore. The Vasco Road Landfill, owned by Republic Services of California I, LLC, is estimated to have sufficient capacity through approximately 2015 (CIWMB, 2004c).

Waste Diversion

As required by enactment of the California Integrated Waste Management Act (AB 939) in 1989 (discussed under “Federal, State, and Local Regulations” below), the City of Oakland has prepared a Source Reduction and Recycling Element (SRRE) that describes 1) the chief characteristics of the city’s waste, 2) existing waste diversion programs and rates of waste diversion, and 3) the new or expanded programs the city intends to implement to achieve the mandated rates of diversion.[7] In 2000, about 423,200 tons of waste was generated by the city of Oakland, approximately one-third of which was generated by residential uses (CIWMB, 2005a). According to the California Integrated Waste Management Board, the city’s waste diversion rate has increased from approximately 11 percent in 1990 to an estimated 50 percent in 2002 (CIWMB, 2005a). The City’s waste diversion programs and requirements are discussed under “Federal, State, and Local Regulations” below.

Energy Services

Electricity and gas service in the city of Oakland is provided primarily by Pacific Gas and Electric (PG&E), which owns the gas and electrical utility supply lines. Throughout most of Oakland, electrical power is delivered via overhead distribution and transmission lines, and natural gas is distributed through underground piping. PG&E expands its services on an as-needed basis and requires the user to fund the extension of service.

Following restructuring of the electricity industry in 1996, California experienced a number of problems related to energy supply and demand. These problems were largely driven by increases in demand from population and economic growth paired with insufficient local supply. Inadequate supply was due to the lack of new power plants constructed in the state and the sale of a number of power plants to privately owned, out-of-state energy companies. As a result, Bay Area consumers have been experiencing rising costs and uncertainty regarding the supply of electricity. The State of California Energy Action Plan, adopted in May 2003, indicates that the California Energy Commission (CEC) is currently considering applications for the development of new power-generating facilities in the Bay Area and elsewhere in the state to establish adequate, reliable, and reasonably priced energy for Californians (California, 2003).

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[7] Waste diversion is defined as the total waste that a jurisdiction generates less the amount that is disposed at a landfill or transformation facility. Waste diversion occurs through reduction, reuse, recycling, and composting programs.

Federal, State, and Local Regulations

Water Quality, Supply and Distribution

Safe Drinking Water Act

The U.S. Environmental Protection Agency (U.S. EPA) administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminants that could threaten public health.

Senate Bill 610 / Senate Bill 221

Senate Bill (SB) 610, codified as Sections 10910-10915 of the California Public Resources Code, requires local water providers to conduct a water supply assessment for projects proposing over 500 housing units, 250,000 square feet of commercial office space (or more than 1,000 employees), a shopping center or business establishment with over 500,000 square feet (or more than 1,000 employees), or equivalent usage. Local water suppliers must also prepare or have already prepared an Urban Water Management Plan to guide planning and development in the water supplier's service area, and specifically pursue efficient use of water resources. Senate Bill (SB) 221 similarly amended the Subdivision Map Act to ensure confirmation that public water supply is sufficient to serve proposed development projects of 500 dwelling units or more.

Stormwater Drainage

Regulations related to the quality and quantity of stormwater runoff (i.e., Federal Clean Water Act / National Pollutant Discharge Elimination System (NPDES are discussed in Section IV.D, Hydrology and Water Quality. As previously stated, this section focuses on whether the proposed project would result in the need for new or expanded stormwater drainage facilities.

Solid Waste

Assembly Bill (AB) 939

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and at least 75 percent by 2010. As required by AB 939, the City of Oakland has prepared a Source Reduction and Recycling Element (SRRE) that requires proposed development projects to undergo, as part of the required environmental review, an assessment of project impacts on the City's ability to maintain the mandated 50-percent waste diversion rates. Projects that would have an adverse effect on the City's waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less-than-significant levels.

Alameda County Waste Reduction and Recycling Initiative (Measure D)

In addition to AB 939, the 1990 voter initiative Measure D (Alameda County Waste Reduction and Recycling Initiative) mandates all cities in Alameda County to divert 75 percent of their solid waste from landfills by the year 2010.

Construction and Demolition Debris Waste Reduction and Recycling Requirements (Ordinance No. 12253 C.M.S.)

The City of Oakland's construction and demolition (C&D) debris waste reduction and recycling requirements are intended to further the goals of AB 939 and Alameda County's Measure D. As part of the application for a building permit, a project applicant is required to prepare and submit a Construction and Demolition Debris Waste Reduction and Recycling Plan (WRRP) to divert from landfill disposal at least 50 percent of all C&D debris generated by project development.

Guidelines for the Development and Evaluation of Recycling Collection and Storage Areas (Policy 100-28)

The City of Oakland Planning Commission's *Guidelines for the Development and Evaluation of Recycling Collection and Storage Areas* (Policy No. 100-28) requirements regulate the design, location, and maintenance of recycling collection and storage areas. The policy requires that a minimum of two cubic feet of storage and collection area shall be provided for each dwelling unit and for each 1,000 square feet of commercial space. A proposed project must comply with this policy prior to the issuance of a building permit.

Energy

Buildings constructed after June 30, 1977 must comply with standards identified in Title 24 of the California Code of Regulations. Title 24, established by the California Energy Commission (CEC) in 1978, requires the inclusion of state-of-the-art energy conservation features in building design and construction, including specific energy-conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget.

Utilities and Service Systems Impacts Discussion

Significance Criteria

Based on Appendix G of the CEQA Guidelines and the City of Oakland's 2004 CEQA Thresholds/Criteria of Significance Guidelines, the project would have a significant utilities and service systems impact if it would:

- Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;
- Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

- Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

- Violate applicable federal, state, and local statutes and regulations related to solid waste;

- Violate applicable federal, state and local statutes and regulations relating to energy standards; or

- Result in a determination by the energy provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Local Plans and Policies

Oakland General Plan policies and other applicable plans and policies that pertain to utility services and related effects, and that apply to the project, are listed in **Appendix F**. Key policies are identified and discussed in Section IV.A, Land Use, Plans, and Policies. General Plan policies that are also significance criteria or contain a regulatory threshold which the project must meet are addressed in this section.

Project Impacts

Water Service

Impact M.1: The project would not exceed water supplies available to serve the project from existing entitlements and resources and require or result in the construction of water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

The project would result in average day water demand of approximately 640,000 gallons per day (gpd) (BFK Engineers, 2005). In 2004, the city of Oakland consumed approximately 14.5 million gallons per day (mgd) of water, therefore the project would therefore result in a gross increase of approximately four percent of the city's average daily water use (Szczepankowska, 2005). This gross estimate is conservative as it does not consider the amount of current water demand associated with existing uses to be removed from the site (approximately 60,000 gpd).

Pursuant to Sections 10910-10915 (SB 610) of the California Water Code, the City of Oakland submitted a request to EBMUD to prepare a water supply assessment (WSA) for the project.[8] In response to the City's request, EBMUD determined that the project's estimated water demand is accounted for in EBMUD's water demand projections, as published in EBMUD's 2000 Urban Water Management Plan (Kirkpatrick, 2004).[9] The project would not change EBMUD's 2020 water demand projection and would not result in a new significant increase in projected water use. Therefore, the project would not result in the need for new or expanded water entitlements.

The Project will participate (along with all other EBMUD customers) in the implementation of the rationing and conservation measures set forth in EBMUD's Drought Management Program. . Additionally, consistent with the City's 2002 recycled water ordinance, EBMUD also recommends use of a non-potable water distribution system at the project site to enable the use of recycled (reclaimed) water generated by EBMUD's East Bayshore Recycled Water Project. Recycled water delivery to the project area is expected by 2005 . Reclaimed water infrastructure will be installed throughout the proposed site and along the project frontage for future connection to the EBMUD reclaimed water network that will be extended to the project site. Similar to water lines, reclaimed water lines will be installed above the water table.

Existing water lines in the project vicinity are expected to be adequate to serve the project's anticipated water demand. As discussed in the Setting, the project site is served by a 12-inch EBMUD water line within the Embarcadero right-of-way, which forms a "looped" system between 5th and 9th Avenues, with a 12-inch line serving the area west of 5th Avenue and that terminates at the Lake Merritt Channel bridge. The Estuary Park portion of the site to the west of Lake Merritt Channel is serviced by 12-inch branch from a separate looped system located in the Embarcadero and Fallon Street. This 12-inch branch runs from the intersection of the Embarcadero and Fallon Street to the limit of the Lake Merritt Channel bridge.

As part of the project, water mains designed and supplied by EBMUD would be installed onsite to serve the project demands. Street grades on the proposed site will be raised approximately 3-feet above existing grades to allow for installation of water lines above the groundwater table. Each project building would have service connections for residential water service, commercial water service, fire service, and irrigation.

Water flow data from EBMUD for the existing 12-inch water system in the Embarcadero has a hydrant test flow of 1,300 gallons per minute (gpm), indicating that the offsite water facilities will be adequate for serving this project. The City has determined that adequate fire flow to serve the project site exists within the EBMUD water line that lies within the Embarcadero right-of-way (Williams, 2005). While extension and possible relocation of existing water mains to serve the

8 A "project," as defined by SB 610, includes proposals for new residential use over 500 units; retail use over 500,000 square feet; office use over 250,000 square feet; hotel/motel use over 500 rooms; industrial use over 40 acres or 650,000 square feet; a mixed-use project including any use as large as the above; or any project that would demand more water than the equivalent of 500 dwelling units.

9 California Water Code Section 10610 et seq requires urban water suppliers to prepare, adopt, and implement urban water management plans (UWMPs). The Water Code specifies the required contents for UWMPs, which includes identifying and quantifying existing and planned sources of water available to meet demand within the provider's service area for a 20-year planning period.

project could cause environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR.

Consistent with the Landscape Water Conservation section of the City of Oakland Municipal Code (Chapter 7, Article 10), the project would incorporate, as feasible and applicable, the following water-efficient equipment and devices into building design and project plans:

- low-, ultra-low, and dual flush flow toilets and showerheads
- high efficiency horizontal axis clothes washing machines (if installed by developer)
- Sub-metering of multifamily housing
- Water efficient irrigation systems (or residential units and common areas) that include drip irrigation and efficient sprinkler heads
- Evapotranspiration (ET) irrigation controllers
- Drought-resistant and native plants for landscaping
- Minimization of turf areas.

Given EBMUD's existing water capacity and delivery infrastructure and its Water Supply Management Program and Drought Management Program, the project will not have a significant impact on water service.

Mitigation: None Required.

Sanitary Sewer Service

Impact M.2: The project's projected wastewater demand would not result in the city of Oakland exceeding its citywide allocation under the Wet Weather Program or East Bay Municipal Utility District's (EBMUD) capacity to serve the project's projected demand in addition to its existing commitments within its service area. (Less than Significant)

The project would increase sewage generation on the site, resulting in greater demands on EBMUD's wastewater treatment facility serving the project site. The project would be expected to increase the estimated average dry weather wastewater flow to approximately 576,000 gpd.[10]

[10] The estimated wastewater flow is approximately 90 percent of the project's anticipated total average day water demand: 640,000 x 0.90 = 576,000. No factor for water loss due to irrigation is applied.

Based on the 3.2 peaking factor recommended in the draft City of Oakland Sanitary Sewer Design Standards, peak-hour wet weather flow from the project is estimated to be 1.84 mgd.[11]

Sewage from the project site flows into a City of Oakland sewer main that connects to EBMUD's 84-inch interceptor in the Embarcadero. The sewage then flows west to the EBMUD wastewater treatment plant near the I-580/I-80 interchange. The project's estimated sewage flows (when combined with existing conditions and other expected growth) 1) would not exceed the City's or EBMUD's existing capacity/ability to transport sewage to the treatment plant, 2) would not cause the City to exceed the total treatment capacity allocated to the City by EBMUD, and 3) would not exceed EBMUD's existing capacity/ability to treat sewage within its service area. Therefore, the project's impact on sanitary sewer service would be less than significant.

Onsite sanitary sewer lines would be located under new streets constructed as part of the project and would typically connect via gravity flow to the EBMUD 84-inch interceptor in the Embarcadero. The project may also require the installation of sewer force mains at the outer reaches of the sewer system due to anticipated differential settlement throughout the site. Gravity and force main sewer systems will be installed within the proposed public right of way.

While the sewer line along the project frontage would be replaced as part of the project, the project would not result in the need for new or expanded wastewater treatment facilities. While the expansion of onsite sewer mains to serve the project could cause environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR in, for example, Section IV.B, Traffic, Transportation, Circulation and Parking; Section IV.C, Air Quality; Section IV.G, Noise; and Section IV.D, Hydrology and Water Quality.

The project's projected demand would exceed the current unused sub-allocation for the relevant subbasins (54-07, 59-03, and 64-07). The subbasin allocation system is the method by which EBMUD and the City of Oakland ensure that the city does not exceed its city-wide allocation as part of the Wet Weather Program. In 1985, at the inception of the Wet Weather Program, the Inflow/Infiltration study projected a growth allocation of about 15 mgd over a 20-year period. As previously indicated, the city has used approximately 91percent of its growth allocation.[12] With the project, the city would use approximately 92.6 percent of its allocation. Therefore, a portion of this unused allocation could be re-allocated, through coordination and agreements with EBMUD, to the relevant subbasins to accommodate the project's projected demand. As of the date of publication of this DEIR, this re-allocation has not occurred. As there is sufficient system-wide conveyance and treatment capacity dedicated to the city of Oakland, the fact that the project would cause the relevant subbasins to exceed their wet weather allocations is not a physical impact.

Mitigation: None Required.

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[11] A 3.2 peaking factor is applied to the average day dry weather flow to estimate peak-hour wet weather flows: 576,000 x 3.2 = 1,843,200 (1.84 mgd).

[12] Based on actual housing construction data from the U.S. Census and approved residential projects as of June 30, 2005.

Stormwater Drainage Facilities

Impact M.3: The project would not require or result in construction of new offsite stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

As discussed in Section IV.D, Hydrology and Water Quality, the project would result in a net decrease (approximately 10 percent) in impervious surfaces compared to existing conditions. This is primarily due to the installation of new unpaved open space proposed primarily in and around Shoreline Park, Gateway Park, and portions of Channel Park. As a result, the amount of peak runoff from the site would decrease compared to existing conditions (and would likely be reduced), suggesting that the potential for increased flooding would be reduced and therefore would not significantly affect the existing storm drainage system. Additionally, the project site is located in an area that has previously been developed and that is served by existing stormwater drainage facilities. Although there have been no reported problems with the capacity or condition of the existing system, the project would upgrade the existing onsite facilities to serve the development parcels. The project will install new storm drain throughout the proposed project size in conformance with City of Oakland design criteria. Storm drain will be discharged to the Oakland Estuary through existing and new outfalls permitted through RWQCB, the USACE and BCDC. New storm drain will be designed to accommodate drainage from the Embarcadero.

While replacement and possible relocation of storm drainage to serve the project could cause environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR in, for example, Section IV.B, Traffic, Transportation, Circulation and Parking; Section IV.C, Air Quality; Section IV.G, Noise; and Section IV.D, Hydrology and Water Quality.

Solid Waste Service

Impact M.4: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and therefore the project would not require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects. The project would not impede the City of Oakland's ability to meet the waste diversion requirements of the California Integrated Waste Management Act or the Alameda County Waste Reduction and Recycling Initiative, nor cause the City to violate other applicable federal, state, or local statutes and regulations related to solid waste. (Less than Significant)

Solid Waste from Project Construction

Project construction would generate construction waste and debris. Waste generated by construction activity is estimated at approximately 4 pounds per square foot of non-residential construction and approximately 4.4 pounds per square foot of residential construction (US EPA, 1998). Using these estimates, project construction would generate approximately 9,000 tons[13] of debris over the 11-year construction period. The construction-generated waste would be removed from the project site and disposed of at the Vasco Road Landfill, which is estimated to have sufficient capacity to serve existing users through approximately 2015 (CIWMB, 2004c). Pursuant to AB 939 and City of Oakland Ordinance No. 12253, the project would prepare and implement a Construction and Demolition Debris Waste Reduction and Recycling Plan (WRRP) to ensure diversion of at least 50 percent of the construction and demolition debris from each stage of project implementation. The project therefore would not prevent the City of Oakland from being able to meet mandated state or local diversion rates.

Solid Waste from Project Operations

The California Integrated Waste Management Board (CIWMB) provides estimates for solid waste generation by land use category. The project would include residential land use, which would generate approximately two pounds of solid waste per resident per day, or 0.33 ton per resident per year. The retail component of the project would generate approximately 0.3 ton of solid waste per employee per year. As detailed in **Table IV.M-1**, projected solid waste generation resulting from the project is 1,857 tons of solid waste annually. Overall, the annual tonnage of solid waste generated from commercial uses (64 percent) is approximately twice the amount generated by residential uses (36 percent), therefore the annual tonnage of solid waste generated by the project is expected to be less than that currently generated by the nearly 300,000 square feet of commercial activities (industrial, marine-related service, storage/warehousing, bulk retail) currently operating on the project site.

13 The project would include 230,000 gross square feet of non-residential construction (200,000 net square feet plus 30 percent) and 4.0 million gross square feet of residential construction (3.1 million square feet plus 30 percent).

TABLE IV.M-1

OAK TO NINTH AVENUE PROJECT ESTIMATED SOLID WASTE GENERATION (tons per year)

Proposed Project Land Use	Disposal Rate	Estimated Number of Residents or Employees	Estimated Tons of Solid Waste/Year (rounded)
Residential (3,100 units)	0.33 ton per resident[a]	5,061 residents	1,670 tons/year
Retail (200,000 square feet)	0.30 ton per employee[b]	623 employees	187 tons/year
Total			**1,857 tons/year**

[a] Based on 2000 estimated disposal rates for Oakland residents,
[b] Based on disposal rate estimates for Retail Trade – General Merchandise Stores.

SOURCE: California Integrated Waste Management Board (2005b)

In 2000, the city of Oakland disposed of approximately 423,200 tons of waste at the Altamont Landfill. The project's estimated 1,857 annual tons of solid waste would represent an increase of approximately 0.4 percent in this disposal amount. The project-generated waste would be disposed of at the Altamont Landfill and would result in an increase of less than 0.1 percent of the total amount of refuse processed annually at that facility. The Altamont Landfill currently has adequate permitted capacity to accommodate this increase in solid waste disposal.

The project would participate in City of Oakland and Alameda County recycling and waste diversion programs, and specifically the City's recently expanded residential curbside recycling program. The project would ensure suitable storage locations and containers for recyclable materials in or around the project buildings and public outdoor spaces. The design, location, and maintenance of recycling collection and storage areas would comply with the City of Oakland Planning Commission's *Guidelines for the Development and Evaluation of Recycling Collection and Storage Areas* (Policy No. 100-28). Therefore, the project's contribution to Oakland's overall waste stream in and of itself is not considered significant. With continued participation and adherence to these programs, the project would not require or result in new or expanded landfill facilities or impede the City's ability to meet mandated waste diversion requirements.

Mitigation: None Required.

Energy Services

Impact M.5: The project would not violate applicable federal, state, or local statutes and regulations relating to energy standards. The project would not result in a determination by the energy provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments, nor require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects. (Less than Significant)

The project would increase the amount of development on the site and would therefore result in an incremental increase in demand for gas and electrical power. The level of increase resulting from the development of 3,100 multifamily units and 200,000 square feet of commercial use (in addition to the removal of existing uses on the site) is not anticipated to require new significant expansion of gas or electricity facilities, and would be minimal relative to the demands of PG&E's service area. PG&E infrastructure exists on the project site, and all improvements and extensions required to accommodate the project would be determined in consultation with PG&E prior to installation**.** Although the project will involve undergrounding, relocation, and perhaps upgrade of gas and electricity infrastructure, that could create environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR in, for example, Section IV.B, Traffic, Transportation, Circulation and Parking; Section IV.C, Air Quality; Section IV.G, Noise; and Section IV.H, Hydrology and Water Quality. Additionally, the project would be required by the City to comply with all standards of Title 24 of the California Code of Regulations, aimed at the incorporation of energy-conserving design and construction, and therefore the project would not violate any energy-related standards or regulations, nor would it require the construction of new or expanded energy facilities. As a result, the project would have a less-than-significant impact on the provision of energy services.

Mitigation: None Required.

Cumulative Impacts

Cumulative Context

As discussed above, the project would not result in significant project-level impacts that affect the ability of the City of Oakland and other service providers to effectively deliver public water supply, sanitary sewer (wastewater), stormwater drainage, solid waste, and gas and electricity services to the project site. Service demand from the project would combine with demands from other foreseeable development, however, causing a cumulative increase in demand for utility services. The geographic context used for the cumulative assessment of water supply impacts is EBMUD's entire service area, which includes Oakland and several other jurisdictions throughout Alameda County and Contra Costa County. The assessment of cumulative impacts on sanitary sewer (wastewater) and stormwater drainage services considers Oakland and its surrounding areas, in accordance with the Oakland Cumulative Growth Scenario as refined for this EIR. The service regions of the Altamont Landfill and Resource Facility and the Vasco Road Landfill make up the geographic context used to assess cumulative solid waste impacts. PG&E's 70,000-square-mile service area of northern and central California (PG&E, 2005) is the cumulative context for gas and electricity service.

Cumulative Impacts on Utilities and Service Systems

Impact M.6: The increased development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would not result in significant cumulative impacts on utilities and service systems. (Less than Significant)

Water Service

The project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in demand for water service. However, EBMUD has indicated that the project site and its associated water demand are accounted for in its cumulative demand projections (through planning horizon year 2020) in the Urban Water Management Plan 2000. EBMUD has confirmed that the gross increased water demand resulting from the project (average day water demand 840,040 gallons per day) would not change its 2020 water demand projection, and would not result in a new significant increase in water use. The increases in demand attributable to other future development would be addressed on a site-by-site basis by EBMUD prior to approval of new development.

As described previously in this section, during multiple dry years the Urban Water Management Plan indicates that deficiencies in water supply of up to 67 percent (year 2020) could occur unless water conservation and recycling goals are met and a supplemental water supply is developed. The project and other foreseeable development in the project vicinity would be required to employ EBMUD's recommended water conservation measures, and wherever feasible, participate in water recycling programs, to minimize the effects of water supply during severe drought. The proposed project would also be required to comply with the City's Landscape Water Conservation Ordinance and all City policies aimed at water use reduction, as would other reasonably foreseeable future projects in Oakland.

The project and other foreseeable future development in Oakland (approximately one-third of EBMUD's service area) would be located in a largely built-out urban area where water supply is already provided. While extension and possible relocation of existing water mains to serve the project may cause environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR. Therefore, the effect of the project on water supply, in combination with other foreseeable projects, would be less than significant.

Sanitary Sewer Service

The project, in conjunction with reasonably foreseeable future projects, could produce a cumulative increase in sewage generation, resulting in increased demand on EBMUD's wastewater treatment facility serving the project site. However, the City would continue to implement the EBMUD Wet Weather Program to improve treatment capacity for wet weather flows and reduce the amount of inflow and infiltration throughout the EBMUD collection system. The City would also continue to implement its 25-year inflow and infiltration collection maintenance and rehabilitation program, thereby reducing the potential of exceeding system capacity. Project flow would be accommodated by EBMUD, separate from the city's collection system. The sewer system at the project site flows into a city sewer main that connects to the

EBMUD 84-inch interceptor in the Embarcadero. Capacity of the interceptor is based on the city's allocation of flow at the nearby EBMUD treatment plant. The City has determined that there is adequate capacity in the Interceptor to accommodate flows anticipated from the project, both in dry-weather and peak wet-weather conditions. The capacity of the sewer system could be increased if growth was to exceed projections, but facilities are limited by flows projected by the City (as part of EBMUD's planning process), and the overall Wet Weather Master Plan. Given the existing capacity and continued implementation of this program aimed at the sewer system capacity, the project, in combination with other reasonably foreseeable future projects, would not result in the need for new or expanded wastewater treatment facilities. While expansion and/or replacement/relocation of onsite sewer mains to serve the project could cause environmental impacts during construction, those impacts would be reduced to less-than-significant levels through construction-related mitigation measures identified throughout this EIR.

Stormwater Drainage Facilities

The project, in conjunction with reasonably foreseeable future projects, would not result in a cumulative increase in stormwater runoff requiring new or expanded stormwater drainage facilities since the project site independently collects and discharges runoff directly to the Oakland Estuary. The project would result in a net decrease (approximately 10 percent) in impervious surfaces compared to existing conditions, primarily due to the increased unpaved open space that would be developed. Therefore, the amount of runoff from the site would be the same or less than existing conditions. Also, existing stormwater drainage facilities serve the project site and there are no reported problems with the capacity or condition of the existing system (Amirzehni, 2005). Nevertheless, the project would upgrade the existing onsite facilities to serve the project. Potential impacts related to the construction of upgraded facilities would be reduced to less-than-significant levels with implementation of construction-related mitigation measures identified throughout this EIR. The project therefore would not contribute to any cumulative increases in the demands on the storm drainage system.

Solid Waste Service

The project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in solid waste and debris generated by construction and operations. Area landfills have adequate future capacity, however, and implementation of City and County waste reduction and diversion requirements and programs would continue, thereby reducing the potential for exceeding existing capacities. The Vasco Road Landfill is estimated to have sufficient capacity to serve existing users through approximately 2015, and the Altamont Landfill has expanded its capacity by approximately 40 million tons to accommodate disposal through approximately 2042. In total, the project would generate 9,000 tons of solid waste and debris over the 11-year construction period, and 1,857 tons of solid waste annually during project operation. The project-generated waste would be disposed of at the Altamont Landfill and would result in an increase of less than 0.1 percent of the total amount of refuse processed annually at that facility. The facility currently has adequate permitted capacity to accommodate this increase in solid waste disposal. Additionally, the project and other reasonably foreseeable future projects would be required to adhere to and participate in all other waste reduction and diversion requirements and programs administered by the City of Oakland and Alameda County. It is therefore reasonable to conclude that cumulative development would not result in new or expanded landfill facilities or impede the City's ability to meet mandated waste diversion requirements. The effect of the project on solid waste service, in combination with other foreseeable projects, would be less than significant.

Energy Services

The project, in conjunction with reasonably foreseeable future projects, could result in a cumulative increase in the demand for gas and electrical power in PG&E's service area of northern and central California. The State of California Energy Action Plan reports that energy consumption statewide is increasing annually while the in-state power generation facilities are aging and most of the natural gas supply is produced out of state. Regardless, the project and other reasonably foreseeable future development would be located in areas already served by gas and electricity infrastructure, and the increased power demand relative to the regional service area would be minimal. New or expanded power facilities would not be required as a direct result of project development. Construction-related environmental impacts associated with undergrounding and possibly the expansion of existing gas and electricity infrastructure to serve the project would be reduced to less-than-significant levels by mitigation measures identified throughout this EIR. Furthermore, the project and other reasonably foreseeable future development would be required to comply with all standards of Title 24 of the California Code of Regulations, and therefore would not violate any energy-related standards or regulations. Overall, the effect of the project on energy services, in combination with other foreseeable development, would be less than significant.

Mitigation: None Required.

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CHAPTER V
Alternatives

A. Criteria for Selecting Alternatives

The California Environmental Quality Act (CEQA) requires that the EIR compare the effects of a "reasonable range of alternatives" to the effects of the project. The alternatives selected for comparison would attain most of the basic objectives of the project and avoid or substantially lessen one or more significant effects of the project (CEQA Guidelines Section 15126.6). The "range of alternatives" is governed by the "rule of reason" which requires the EIR to set forth only those alternatives necessary to permit an informed and reasoned choice by the decision-making body and informed public participation (CEQA Guidelines Section 15126.6[f]). CEQA generally defines "feasible" to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors.

The alternatives addressed in this EIR were selected based on the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project (identified in Chapter III)
- The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the project (discussed throughout Chapter IV)
- The feasibility of the alternative, taking into account site suitability, availability of infrastructure, general plan consistency, and consistency with other applicable plans and regulatory limitations
- The extent to which an alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice, and
- The requirement of the CEQA Guidelines to consider a no project alternative and to identify an environmentally superior alternative in addition to the no-project alternative (CEQA Guidelines, Section 15126.6(e)).

The project would result in significant impacts related to the topics listed below. Impacts that are not mitigated to less-than-significant levels are considered "significant and unavoidable" and are indicated in parentheses and by "SU". This list is intended to provide context for the extent to which an alternative would avoid or lessen any of the identified significant environmental effects of the project.

- Land Use (land use change, General Plan and zoning consistency, community division)

- Traffic (project and cumulative) (SU)
- Air Quality (cumulative regional emissions) (SU)
- Water Quality
- Cultural Resources (historic resources) (SU)
- Geology, Soils, and Seismicity
- Noise (construction-related and land use/noise compatibility) (SU)
- Hazardous Materials
- Biological Resources

The significant environmental effects of the project and each alternative are summarized in **Table V-5** at the end of this chapter.

B. Alternatives Selected for Consideration

With consideration given to the above factors, the following reasonable range of project alternatives and a Sub-Alternative (that could be combined with any of the alternatives) were selected to be addressed in this EIR:

- **Alternative 1A**: No Project
- **Alternative 1B**: No Project / Estuary Policy Plan
- **Alternative 2**: Enhanced Open Space / Partial Ninth Avenue Terminal Preservation and Reuse
- **Alternative 3**: Reduced Development / Ninth Avenue Terminal Preservation and Reuse
- **Sub-Alternative**: Full Ninth Avenue Terminal Preservation and Reuse

Suggestions Incorporated into the Selected Alternatives

Although many other alternatives to the project could be formulated, for purposes of this EIR, the City of Oakland has considered the selected alternatives to constitute "a range of reasonable alternatives to the project…which would feasibly attain most of the basic objectives of the project" (CEQA Guidelines Section 15126(a)). The selected alternatives are considered to generally aligned with the overall goals and policies of the Estuary Policy Plan and present possible alternatives for development on the Oak to Ninth Project site. A number of suggested alternatives (and components of possible alternatives) emerged during the EIR scoping process, during other non-EIR-related public input opportunities that have paralleled the EIR process, and from educational study outside either of these aforementioned City's processes. These suggestions are listed in **Appendix B** of this EIR. Most of the suggestions have been incorporated into the alternatives analyzed in this EIR and are noted below:

- The *Ninth Avenue Terminal: A Feasibility Study for Adaptive Reuse* (Perry et al., 2005) describes several examples of uses that could occur in the fully- or partially-retained Ninth Avenue Terminal. A potential mix of cultural, educational, and recreational uses that are assumed to be Tidelands Trust compliant would occur in the Ninth Avenue Terminal in Alternative 2, Alternative 3, and the Full Preservation Sub-Alternative.

- Reduced-scale development and building heights around the Fifth Avenue Point outparcel are considered in Alternative 1B, Alternative 2, and Alternative 3.
- Reduced retail uses are considered in Alternative 2 and Alternative 3.
- Retaining the 1920s portion of the Ninth Avenue Terminal building is considered in Alternative 2. Retaining the 1920s and the 1950s portion of the Terminal building is considered in Alternative 3 and the Full Preservation Sub-Alternative (as well as the No Project Alternative).
- The Embarcadero is realigned as a curvilinear parkway, separating development areas from new open space areas, in Alternative 2.
- Expansion of Estuary Park and an overall increase in open space (to the extent envisioned in the Estuary Policy Plan) are considered in Alternative 1B, Alternative 2, and Alternative 3.
- Development and land uses that are consistent with the *existing* Tidelands Trust configuration on the project site, and that would not require the exchange of Trust lands at an offsite location, are considered in Alternative 1B.

An offsite alternative was "considered but not analyzed in detail in this EIR" and is discussed in Section E of this chapter.

Project Characteristics Consistent throughout the Selected Alternatives

A detailed description is provided of each alternative analyzed in this EIR. However there are aspects of the proposed project that are assumed to occur with each of the alternatives (except the No Project Alternative). The improvements that would be consistent throughout the alternatives are listed below.[1]

- Creating a continuous public trail along the entire shoreline of the project site;
- Creating a series of new parks and open spaces between Lake Merritt Channel and Brooklyn Basin;
- Improving the existing shoreline along the project site (removal of existing debris, re-grading of the banks, shoreline protection, and construction of bulkhead walls) and creating a new seawall and promenade around Clinton Basin ;
- Improving Clinton Basin Marina and Fifth Avenue Marina;
- Improving Estuary Park (new lawn/landscaping), maintaining the Jack London Aquatic Center, and retaining the existing waterfront access facilities along the west shore of Lake Merritt Channel (existing boating and fishing docks and boat launch);

[1] The improvements that would occur in all alternatives could occur in total (as proposed by the project) or to a lesser extent appropriate to the reduced scope and/or development area of an alternative.

- Avoiding and preserving the existing Clinton Basin wetland restoration project area; and
- Implementing a phased remediation process for cleanup of the project site to appropriate levels.

C. Description and Analysis of Alternatives

Throughout this section, a description of each alternative is followed by a discussion of its impacts and how it differs from those of the project. As permitted by CEQA, the significant effects of the alternatives are discussed in less detail than are the effects of the project (CEQA Guidelines Section 15126.6[d]). However, the analysis is conducted at a sufficient level of detail to provide City decision-makers adequate information to fully evaluate the alternatives and to approve any of the alternatives without further environmental review.

Unless indicated, the impacts associated with the project and each alternative are for year 2025 buildout (2025) conditions and are stated as levels of significance *after* implementation of mitigation measures identified in Chapter IV.

Alternative 1A: No Project

With the No Project Alternative, redevelopment of the 64.2-acre Oak to Ninth project site as proposed by the project would not occur. Consistent with recent-year trends on the site, there would be no substantial change to existing Port of Oakland (property owner) tenant occupancies or existing facilities, infrastructure, or site conditions. **Table V-1** summarizes the No Project Alternative program.

Description

Uses on the project site would continue to be primarily industrial and marine-related uses. Specific uses would include boat building and repair, industrial uses associated with metal recycling, glass fabrication, sand and gravel processing / ready-mix concrete operations; warehousing, construction and container storage; retail furniture sales, as well as offices and storage areas. Overall, the dominant existing onsite activities that would remain represent approximately 294,082 square feet of storage and repair/service uses (including nearly 83,533 sq. ft. of storage in the Ninth Avenue Terminal building); approximately 284,272 square feet of manufacturing use (mainly the sand and gravel / ready-mix concrete operation and the metal recycling operation); and approximately 123,192 square feet of wholesale and retail sales uses.

The existing short-term Port leases for most existing businesses, as well as the long-term Port leases for the wholesale grocery and the sand and gravel / ready-mix concrete operation, are assumed to continue into the future in accordance with Oakland Planning Code Section 17.114.040 (Right to Continue Non-Conforming Uses, Subject to Limitations).

The existing low-rise warehouse buildings (two to three stories) would remain, as would the 40-foot-tall Ninth Avenue Terminal building. The Terminal building and its associated wharf would remain in its current state and continue to be used for bulk and container storage and barge docking activities.

Contaminated soils and groundwater exist on portions of the project site. Concentrations of petroleum hydrocarbons, metals (including lead), PCBs, PAHs, VOCs, methane gas, and arsenic, among others, have been identified at levels that may cause adverse health effects. There are also both documented underground storage tanks (UST) and physical evidence indicating the potential presence of undocumented USTs on the site.

In 2001, the Port and the City selected the current project sponsor, Oakland Harbor Partners, LLC, as master developer to redevelop the project site. It is reasonable to assume that if the project sponsor were not to proceed with the project, the Port and City would seek another potential developer for the site, meaning some change on the site would inevitably occur. However, this No Project Alternative assumes that no new development would occur on the project site, beyond that of any future tenant changes that would maintain existing types of uses.

The existing General Plan and zoning classifications would remain as currently designated and configured.

With the No Project Alternative, the large open land areas that make the site conducive for the existing industrial and storage businesses would remain in their current conditions. Waterfront areas, particularly around Clinton Basin and the east shore of Lake Merritt Channel (proposed Channel Park) would remain inaccessible to the public and unimproved. Estuary Park would not be improved or expanded, and no new parks, open spaces, or trails would be developed, except for implementation of Bay Trail segments along the shoreline that could occur separate from private development of the project site. Improvement of the existing shoreline or marinas would not occur, leaving Clinton Basin Marina functionally obsolete. Some level of site remediation would occur given the documented existing conditions and ongoing remediation and monitoring efforts underway. Currently, the Port of Oakland conducts quarterly groundwater monitoring at the site under the supervision of the ACEHD, and these activities would continue under the No Project Alternative for as long as required by the ACEHD.

An estimated 231 employees are currently employed on the project site and would remain in the future. No households or resident population currently exist on the project site, and none would be added with this alternative.[2]

[2] Although not part of the project site, some level of growth is assumed to occur in Fifth Avenue Point in the future under each alternative: 25 new work-live households (42 total), 50 new residents (83 total), and 32 new employed residents (52 total), as well as 66 additional jobs (174 jobs total).

TABLE V-1

ALTERNATIVE 1A: NO PROJECT

Subareas[a] /Parcels	**Parcel Acreage (Gross)**	**Dwelling Units (#)**	**Du/Net Acre**	**Development / Uses (Sq. Ft.)[b]**		**Max. Approx. Bldg. Ht.**
Subarea 5 (Parcels A thru H, and J) Terminal	39.4	0	0	44,792 33,750 186,1508 3,533	retail manu/recycling other[c] storage	15 to 40 ft.
Subarea 4 (Parcels K, L)	5.1	0	0	21,617 15,600	manu storage/svs	20 to 25 ft.
Subarea 2 (Parcel M)	7.6	0	0	228,905 8,799	manu storage/svs/ sales	15 to 25 ft.
Subarea 1 (Includes Parcel N)	11.1	0	0	78,400	wholesale	22 to 25 ft.
TOTAL	**63.2** [a]	**0**	-	**701,546**		-
Subarea 3 (Fifth Ave. outparcels)	5.4	42	n/a	102,891 35,000	manu/svs infill studios	10 to 30 ft.
Parks and Open Space	Estuary Park and Aquatic Center			7.1 acres (11 percent of project site, excluding Fifth Ave. outparcels)		
Ninth Avenue Terminal	No change					

a No development parcels would be created with the No Project Alternative, therefore the geographic subareas defined in Section IV.J, Population, Housing, and Employment (shown in Figure IV.J-1) are used for comparative purposes. The noted project parcels correspond generally to the geographic subarea (except for Parcel N, which is approximately one-third of Subarea 1, west of Lake Merritt Channel) and the acreage shown is slightly less than the actual existing (before-project) land area of 68.1 acres.

b Total floor area is shown, with total land area included for outdoor uses.

c “Other” includes 127,370 square feet of storage, warehousing, and boat repair uses; a 37,000 sq.ft. construction yard/docking use; and a 21,780 square feet longshoreperson training area.

SOURCE: Hausrath Economics Group, 2004; Oakland Harbor Partners, 2005.

Impacts

A. Land Use, Plans, and Policies

The No Project Alternative assumes no change would occur to the existing structures or land uses on the project site. Therefore, this alternative would not fulfill the goals and objectives in the Estuary Policy Plan for the Oak-to-Ninth Avenue District. Specifically, new housing, waterfront parks and open spaces and trails, and the overall transformation of the project site’s maritime and marine industrial use into a mixed-use waterfront district and major open space resource on the estuary. Existing industrial and manufacturing uses that are incompatible with existing nearby residential uses and sensitive water and biological resources would remain.

This alternative would not conflict with Historic Preservation Element Policy 3.1 (as would occur with the project) because no portion of the Ninth Avenue Terminal would be demolished and the wharf would remain paved area (discussed below in E. Cultural Resources). No new land uses would be introduced to the existing noise environment of the project site, therefore this alternative would not conflict with Noise Element Policy 3 (as the project would) (discussed below in G. Noise). The project impacts related to substantial changes that the project would create to the existing environment and land uses and the project impact of dividing an existing community (Fifth Avenue Point) from the existing broader industrial district (reduced to less than significant, after mitigation), would not occur under the No Project Alternative. Also, no changes would occur to the existing land uses or development, so no changes to the General Plan or Zoning Regulations would be required.

B. Transportation, Circulation, and Parking

No construction or changes to the project site would occur with the No Project Alternative. Therefore, transportation conditions would exist as they do today (and as they are forecast to be in the future without development of the site), and significant unavoidable traffic impacts associated with the project would be avoided. The site conditions would remain essentially as discussed in the setting sections of Chapter IV.

C. Air Quality and Meteorological Conditions

No construction or changes to the project site would occur with the No Project Alternative. Therefore, air quality conditions would exist as they do today (and as they are forecast to be in the future without development of the site) Significant unavoidable air quality impacts associated with the project would be avoided. Moreover, because no new development is assumed on the project site, the site's existing wind conditions would continue to be about 15 miles per hour (mph) near enclosed areas and about 16-18 mph in the site's open areas. This alternative would not reduce wind speeds on the site as under project conditions.

D. Hydrology and Water Quality

No construction activities (excavation, soil stockpiling, boring, grading, and dredging) associated with the project would occur with the No Project Alternative. Existing, less than optimal conditions on the project site would continue. These include expansive areas of impervious surfaces as well as unpaved areas where uncontrolled stormwater flows into the storm drains and/or directly into the estuary (and ultimately the Bay) and that likely result in increased sedimentation in waterways. Some of the uncontrolled runoff flows are from existing industrial and manufacturing uses and potentially contaminated soils on the site. Although existing operations on the project site have not been evaluated for compliance with any applicable regulatory standards or requirements, the existing operations and conditions on the site could have adverse effects to water quality, stormwater runoff, and flooding.

The project would install an improved storm drain system on the site and would reduce the amount of impervious surfaces, which would thereby reduce the volume of untreated runoff that currently occurs. Additionally, the project would adhere to all agency standards, requirements, and specific project management measures to reduce or avoid soil erosion and the release of hazardous materials into watercourses. With the project, the industrial and manufacturing uses on the site would be removed and replaced with residential, commercial, and open space uses, and the shoreline would be improved to also reduce stormwater discharge flowing overland into the estuary. These improvements would not occur with the No Project Alternative.

Overall, the contamination of the existing site conditions could potentially have adverse water quality and hydrology impacts. Implementation of improved best management practices and plans and site changes (reduced impervious surfaces, site remediation, and new storm drain system) would not occur. Therefore, the No Project Alternative is considered to have greater adverse hydrology and water quality impacts than would the project.

E. Cultural Resources

No construction or changes to the project site would occur with the No Project Alternative. Therefore, the potentially significant impacts (reduced to less than significant, after mitigation) related to archaeological and paleontological resources that would occur with the project would not occur with this alternative. No changes or demolition would occur. Therefore, the significant and unavoidable impacts that would occur with the project would be avoided.

F. Geology, Soils, and Seismicity

No building development or changes to the project site or its uses would occur with the No Project Alternatives. Therefore, the project's potentially significant (reduced to less than significant, after mitigation) related to geology, soils, and seismic hazards would not occur with this alternative.

G. Noise

No construction or changes to the project site would occur with the No Project Alternative. Therefore, the noise environment would exist as it does today (and as forecast for future conditions), and significant unavoidable noise impacts related to construction noise and the introduction of residential and/or park uses (as proposed under the project) would be avoided.

H. Hazardous Materials

Although no building development or demolition would occur with the No Project Alternative, contaminated soils, groundwater, and USTs currently exist on portions of the project site. Since no construction activity would occur that would alter contaminated soils, this alternative would likely avoid the project's potentially significant (reduced to less than significant, after mitigation) hazardous materials impacts that would occur due to exposure to construction workers or the public during construction. It is assumed that the onsite remediation and monitoring efforts that are currently underway by the Port would continue even though no new development, residential uses, or new useable public open spaces would occur on the site. However, the continuation of existing conditions would not have the benefit of measures that the project would implement to reduce workers' and the public's exposure to hazardous conditions. This alternative would result in what could be considered a less beneficial condition than would occur with the project.

I. Biological Resources

No construction activities would occur with the No Project Alternative. However, the contaminated conditions that exist on portions of the project site, and that may cause adverse health effects to the public and biological resources (resulting from uncontrolled stormwater runoff into the estuary). Existing onsite remediation and monitoring efforts that are currently underway would continue even though no new development would occur with this alternative, however, the beneficial effects of measures aimed at uncontrolled stormwater drainage conditions and at further reducing potential hazardous onsite conditions would not occur, and biological resources would continue to be adversely affected. The potentially significant (reduced to less than significant, after mitigation) impacts to potentially jurisdictional wetlands, fisheries, and nesting/breeding habitats and specific status species that would occur due to construction activities and other project operations (increased activity and marinas) would not occur with this alternative.

J. Population, Housing, and Employment

The existing types of industrial and marine-oriented business activities and employment would remain on the project site under the No Project Alternative. As a result, this alternative would retain locations for industrial uses in the central parts of the region within proximity of the growing markets that they serve. Similar to the project, there would be no residential displacement impacts under this alternative as none exist.

No Project would mean no impacts from induced population growth, no increases in housing supply, and no expansion of housing choices as would be provided by the new neighborhood created by the project. Further, the generation of tax increment funding for additional affordable housing as a result of new development on the project site also would not occur under this alternative. However, the No Project Alternative would avoid the more focused indirect effects of the project on housing demand that could encourage additional new development sooner in adjacent areas and other locations along the waterfront, nor would it result in the additional retail spending by project residents to support business activity in Oakland and surrounding areas.

K. Visual Quality and Shadow

With the No New Development Alternative, it is assumed that the existing appearance of the project site would not change: "predominately industrial in character…very little or no vegetation…low-rise industrial buildings." Since no new mixed-use development would occur, views across the project site, and the appearance of the project site, which is highly visible from adjacent major thoroughfares and waterways, would not change or improve. Existing shadows cast from existing buildings on the site also would not change. The City's goals to increase waterfront open space, trails, and recreation facilities, as well as views of the waterfront along this segment of the Oakland Estuary would not be realized with the No New Development Alternative.

L. Public Services and Facilities

Since no new development or land uses would occur under the No Project Alternative, no new residents would be introduced to the project site. As a result, this alternative would not result in the increased demand for police, fire, schools, parks, and libraries that would occur with project.

M. Utilities and Service Systems

There would not be an increased demand for water, wastewater, and storm drain service and facilities, solid waste, and gas and electricity services with the No Project Alternative since no new development or changes in land use would occur.

Alternative 1B: No Project / Estuary Policy Plan

The No Project / Estuary Policy Plan Alternative (Estuary Plan Alternative) is included in the EIR to provide a comparison of the project to an alternative that further considers the objectives and policies of the Estuary Policy Plan (Estuary Plan) and what could be reasonably developed on the site. **Table V-2** summarizes the Estuary Plan Alternative development program.

Description

With this alternative, future development of the southern section of the Oak-to-Ninth Avenue District, which generally corresponds to the project site (and includes Fifth Avenue Point) would be consistent with the Oak-to-Ninth Avenue District illustration in **Figure V-1**.[3] As envisioned in the Estuary Plan, the area south of the Embarcadero would be converted into a network of large-scale open spaces, including an assemblage of parkland that would create “the major open space resource in Oakland” and a “recreational asset of regional significance.” The location, type, and scale of new development around Fifth Avenue Point would be such that the Fifth Avenue Point community would be preserved and could expand as part of the new, surrounding development on the project site.

Generally, activities on site would include commercial-recreation uses, educational/cultural uses and facilities, as well as the preservation and expansion of Fifth Avenue Point. Building development would be concentrated in two areas of the project site, on either side of Clinton Basin. Most of the new building development would occur east of 5th Avenue. As depicted in **Table V-2**, the approximately 102,900 square feet of existing space in Fifth Avenue Point would remain with some intensification and infill expansion anticipated, including approximately 35,000 square feet of additional artisan studio space for work-live and work-only uses. About 5,500 square feet of new restaurant and marina-related uses would also be developed on the west side Clinton Basin. New development is anticipated east of Clinton Basin and would include commercial-recreation and educational, cultural, and recreation facilities and uses. The new development is envisioned to include 30,000 square feet of restaurant and retail uses, a smaller,

[3] The perspective portion of Figure V-1 is referenced from page 89 of the Estuary Policy Plan, Figure III-11, Oak to 9th Bird’s-eye Perspective.

250-room hotel, a larger, 400-room hotel with a 50,000 square feet conference facility, and 70,000 square feet for educational, cultural, and recreational facilities/uses, such as a museum, community recreation center, gallery space, and/or other uses.

Generally, all existing uses and building development, except for those in Fifth Avenue Point, would be replaced in this alternative. As suggested in **Figure V-1**, low-rise buildings (approximately two to three stories) would be clustered in the area west of Clinton Basin and would be associated with the expanded Fifth Avenue Point and the new marina-related commercial retail/restaurant uses focused on Clinton Basin Marina. The hotel and community uses would occur in new larger buildings up to approximately four to five stories tall and would be located close to the Embarcadero, set back from the shoreline. The new street pattern would be a grid layout between Clinton Basin and 5th Avenue, and a north-south curvilinear parkway would be developed along Crescent Park in the east portion of the site.

The proposed location and types of uses in this alternative are assumed to be consistent with the existing configuration of the Tideland's Trust designation.

As described in the Estuary Policy Plan EIR[4] and depicted in the Estuary Plan[5], a total of approximately 41.5 acres of open spaces (compared to 28.4 acres with the project) would occur in a series of parks, open spaces, and continuous pedestrian and bicycle trail around the entire shoreline of the site (as also proposed by the project). Estuary Park would be expanded north to the Embarcadero, and Jack London Aquatic Center would remain unchanged. For purposes of this analysis, and as described in Estuary Plan Policy OAK 2.5 (see EIR Section A and/or **Appendix F** of this EIR), the Estuary Plan Alternative assumes that the Ninth Avenue Terminal building would be completely demolished (and wharf partially demolished) to allow a new major park (Crescent Park) would be developed in the Terminal's current location. (Full and partial preservation and adaptive reuse of the Terminal building are analyzed below under Alternative 2, Alternative 3, and the Full Preservation Sub-Alternative includes preservation of the associated wharf structure as well.)

Like the project, this alternative would create an improved seawall and promenade around Clinton Basin and improve the existing shoreline along the entire site. Site remediation to appropriate levels for the proposed uses would be implemented on the project site.

Total employment on the site would increase to approximately 651 employees, compared to the 231 that currently exist, and no new households or resident population would occur on the project site.[6]

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4 Estuary Policy Plan Draft EIR, Table III.D-1, and also provided in Table IV.L-2, Proposed Park Acreage, in this EIR.
5 Estuary Policy Plan, Figure III-10, Oak to 9th District Illustrative Open Space Key Map.
6 See Footnote 1.

TABLE V-2

ALTERNATIVE 1B: NO PROJECT / ESTUARY POLICY PLAN

Subareas[a] /Parcels	Parcel Acreage (Gross)	Dwelling Units (#)	Du/Net Acre	Development / Uses (Sq. Ft.)[b]		Max. Approx. Bldg. Ht.
Subarea 5 (Parcels A thru H, and J) Terminal	39.4	0	0	650 50,000 30,000 70,000	hotel rooms conference retail/ restaurant edu/cultural/ recreation	20 to 60 ft.
Subarea 4 (Parcels K, L)	5.1	0	0	5,500	restaurant	15 to 30 ft.
Subarea 2 (Parcel M)	7.6	0	0	0		-
Subarea 1 (Includes Parcel N)	11.1	0	0	0		30 ft.
Subarea 3 (Fifth Ave. outparcels)	5.4	42 (work-live)	n/a	102,900 35,000	manu/svs infill studios	10 to 30 ft.
TOTAL	68.6	0	0	650 50,000 30,000 70,000	hotel rooms conference retail/ restaurant edu/cultural/ recreation	
Parks and Open Space	Expanded Estuary Park and Aquatic Ctr. New Open Meadow Park *(Channel)* New Crescent Park *(Shoreline)* New Clinton Basin Park *(Gateway/South)* **TOTAL**			11.1 acres 11.0 acres 11.0 acres 8.4 acres **41.5 acres** (66 percent of project site, excluding Fifth Ave. Point)		
Ninth Avenue Terminal	Demolished					

a Since no development parcels are defined for the No Project / Estuary Policy Plan Alternative, the geographic subareas defined in Section IV.J, Population, Housing, and Employment (Figure IV.J-1) are used for comparative purposes. The noted project parcels correspond to the geographic subarea, except for Parcel N, which is approximately one-third of subarea 1, west of Lake Merritt Channel.

b Total floor area is shown, with total land area included for outdoor uses.

SOURCE: Hausrath Economics Group, 2004; Oakland Harbor Partners, 2005.

SOURCE: ROMA Design Group; Estuary Policy Plan, 1999

Figure V-1
Alternative 1B: No Project/
Estuary Policy Plan

Impacts

A. Land Use, Plans, and Policies

Development of the site in the Estuary Plan Alternative would fulfill the goals and objectives in the Estuary Policy Plan for the Oak-to-Ninth Avenue District. Specifically, the existing maritime and marine industrial area would become a major regional open space and recreational resource (including marinas), with a mix of community uses intermixed with hotel, conference, and retail/restaurant uses. Existing uses that conflict with nearby existing residential uses and sensitive water and biological resources would be removed. Development would be consistent with the uses and development standards of the existing Planned Waterfront Development-1 (PWD-1) Estuary Plan land use classification. No General Plan Amendment would be necessary (as with the project). The existing M-40 Heavy Industrial Zone would need to be changed to be consistent with the Estuary Plan.

Although policy conflicts are not considered a physical impact pursuant to CEQA, this alternative would conflict with Historic Preservation Element Policy 3.1 *(Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions)* (as would occur with the project) because the Ninth Avenue Terminal building and would be demolished (and wharf partially demolished) (discussed below in E. Cultural Resources). This alternative would have the same conflict with Noise Element Policy 3 *(Reduce the Community's Exposure to Noise)* by introducing park uses to the existing noise environment of the project site (discussed below in G. Noise). This alternative is expected to have the same potentially significant impact as the project with respect to creating substantial change in the existing environment and existing land uses. Less intensive development would occur in building heights up to 60 feet (versus 86-120 feet with the project), however a district of community uses (education, cultural, recreation, etc.), hotel and visitor-serving retail/commercial uses, and open space would occur and substantially change the land use character and development intensity on the project site. The alternative would not, however, result in the same impact of dividing Fifth Avenue Point, an established community, from the existing industrial district of which it is currently a part. Development under this alternative would include work-live artists studios and would be integrated into Fifth Avenue Point. This alternative would also more fully support policies that call for the creation of new waterfront open spaces and views along the estuary.

B. Transportation, Circulation, and Parking

Development in the Estuary Plan Alternative would result in fewer peak-hour vehicle trips than the project (i.e., about 65 to 71 percent fewer under Buildout conditions), which would reduce project effects on area roadways and intersections proportionately. The significant project impact on regional roadways under Buildout (2025) conditions would not occur with this alternative. Significant (but mitigable, except at the 5th Street / Broadway, 6th/Jackson Streets, and Lakeshore Avenue/MacArthur Boulevard intersections) project impacts at the area intersections under Buildout (2025) conditions would occur with this alternative, but at fewer locations. The project would have a significant impact at 17 intersections, whereas this alternative would have a significant impact at 8 intersections. (See **Appendix I** for alternatives' traffic data.)

C. Air Quality and Meteorological Conditions

As indicated above, development in the Estuary Plan Alternative would generate fewer daily vehicle trips than the proposed project, which would reduce criteria air pollutant emissions associated with project operations. Implementation of this alternative would reduce the significant and unavoidable impact level project emissions of PM10 (2025 cumulative conditions) to less than significant. (See **Appendix I** for alternatives' operational emissions.)

In the Estuary Plan Alternative, hazardous wind conditions are expected to be similar to existing conditions and the project. Conditions are expected to be windy in areas of wide-open spaces along the waterfront not shielded by building masses and would decrease closer to the Embarcadero. The proposed Crescent Park (Shoreline Park) would experience unshielded hazardous west winds that currently occur under existing conditions.

D. Hydrology and Water Quality

As with the project, the Estuary Plan Alternative would improve existing conditions on the site that currently allow uncontrolled stormwater flow into the storm drains and/or directly into the estuary (and ultimately the Bay). These improvements include reducing the amount of impervious surfaces, removing industrial and manufacturing uses, improving the onsite storm drain system, and implementing measures to treat runoff from impervious surface areas, and reduced hazardous material use and storage. The percentage of impervious surface (open spaces and parks) on the project site (approximately 66 percent) would be more in this alternative than with the project (approximately 44 percent). Also, development activity with this alternative would adhere to all agency standards, requirements, and specific project management measures to reduce soil erosion and the release of hazardous materials into watercourses, as would the project. As a result, this alternative would result in the same less-than-significant (after mitigation) water quality and hydrology impacts during construction, and the same less-than-significant /beneficial impacts (after mitigation) that would occur with the project during operations.

E. Cultural Resources

Building development would occur with the Estuary Plan Alternative, therefore the same potentially significant impacts (reduced to less than significant, after mitigation) related to archaeological and paleontological resources that would occur with the project would occur with this alternative.

As previously described, this alternative would remove the existing Ninth Avenue Terminal building and portions of its associated wharf structure to allow a new, large-scale open space. Therefore, the significant and unavoidable impacts (project and cumulative) that would occur with the project, and that were identified for this alternative in the Estuary Policy Plan EIR, would also occur with this alternative.

F. Geology, Soils, and Seismicity

Building development would occur with the Estuary Plan Alternative. Therefore, consistent with the determinations with the Estuary Policy Plan EIR, the same potentially significant (reduced to less than significant, after mitigation) related to geology, soils, and seismic hazards that would occur with the project would occur with this alternative.

G. Noise

Development in the Estuary Plan Alternative would generate fewer daily vehicle trips than the proposed project, which would result in reduced vehicular noise levels associated with the alternative operation compared to the project operation. However, this alternative would introduce park uses to the existing noise environment considered "normally unacceptable" for such uses, resulting in the same significant and unavoidable impact as the project. Like the project, development of the Estuary Plan Alternative on the project site would require construction involving a significant number of piles for an extended duration. Therefore, this alternative would result in the same significant and unavoidable impact resulting from construction noise.

H. Hazardous Materials

Since building development would occur with the Estuary Plan Alternative, this alternative would have the same potentially significant impact (reduced to less than significant, after mitigation) associated with exposing construction workers and the public to hazardous materials during construction as identified for the project (and in the Estuary Policy Plan EIR). This alternative would also involve remediation of the site (cleanup as described for the project), and any potentially significant operational hazardous materials impacts would be reduced to less than significant, after mitigation, as with the project.

I. Biological Resources

Construction activities would occur with the Estuary Plan Alternative, including the same shoreline improvements as proposed for the project. Therefore, the same potentially significant impacts to potential jurisdictional wetlands, fisheries (as identified in the Estuary Policy Plan EIR), and nesting/breeding habitats and specific status species that would occur with the project (and be reduced to less than significant, after mitigation) would occur with this alternative.

J. Population, Housing, and Employment

Like the project, the Estuary Plan Alternative would involve the redevelopment of the project site from industrial and marine-oriented uses to a mix of new uses in the future. There would be similar, less-than-significant impacts from displacing businesses and jobs and requiring that existing business operations seek new locations as their sites are needed for development. Also similar to the project, there would be no residential displacement impacts under this alternative.

The Estuary Plan Alternative does not include new housing development and, therefore would not directly induce population growth, compared to the less-than-significant impacts under the project. There would be onsite infrastructure improvements for development in this alternatives, although such improvements are not anticipated to induce substantial additional population growth in other areas and have been previously considered and analyzed as part of the city's

General Plan, unlike the higher density of development that would occur with the project. Employment growth would be similar for this alternative and the project. The employment growth would induce additional household and population growth to provide the additional workers and result in less-than-significant impacts because of the small amount of job growth relative to the larger citywide and regional context. Under the project, new housing that would accommodate many more additional workers/employed residents than needed for the additional jobs would offset such impacts.

Development under the Estuary Plan Alternative, the amount of retail development being less than proposed for the project, and because of the focus of retail/commercial development on the waterfront and on visitor-oriented retailing, this alternative would not create competition with existing retailers nor would it lead to indirect physical impacts from long-term vacancies and physical deterioration.

The Estuary Plan Alternative would not provide the additional housing opportunities and improved jobs/housing balance, but would create extensive park, recreation, and open space amenities that would enhance the desirability of the waterfront and increase demand for housing at nearby locations. Like the project, there could be indirect effects that encourage additional new development sooner than would otherwise occur in adjacent areas and other waterfront locations.

K. Visual Quality and Shadow

Like the project and each of the development alternatives, the Estuary Plan Alternative would substantially change the character of the project site. The existing mix of commercial and manufacturing uses that give the project site its overall industrial character would be replaced with open space and low- to mid-rise development focused on community and visitor-serving retail/commercial uses. The Ninth Avenue Terminal building currently dominates the project site, particularly as viewed from higher elevations (i.e., I-880, long-range viewpoints), and although it is a Estuary-related feature, it blocks views of the estuary from certain public vantagepoints. The Terminal building would be demolished in this alternative, expanding existing views of open space and the water, as would the project.

As mentioned above, a Rezoning from the M-40 Heavy Industrial Zone would be required to be consistent with the General Plan. Possible "Best Fit" zones for the project site (given the existing Estuary Plan land use classification and existing zoning) would allow maximum buildings heights ranging from 35 feet (in the C-28 zone) to an unlimited height (C-45 zone).[7] Given the depiction of this alternative presented in **Figure V-1** (and in the Estuary Plan), buildings would be approximately 10 to 30 feet tall around Clinton Basin and adjacent to Fifth Avenue Point, and would range from approximately 20 to 60 feet tall for the various commercial and community uses (cultural, educational, recreational, restaurant/retail, hotel, conference) located in the northeast portion of the site. As a result of 1) locating lower buildings in the central portion of the

7 The current zoning of M-40 conflicts with the existing general plan land use classification of Planned Waterfront Development-1 (PWD-1), thus a "Best Fit" zone" must be selected for development standards. Best Fit zones for the PWD-1 Estuary Policy Plan land use classification include the C-28 zone, C-45 zone, and S-13 Combining Zone, pursuant to the City's Guidelines for Determining General Plan Conformity, Table 5A, 2003.

site, 2) clustering taller buildings (up to approximately 60 feet) toward the northeastern most area, 3) eliminating development west of 5th Avenue, and 4) removing the Ninth Avenue Terminal building, this alternative would have less-than-significant impacts on visual quality (views of the estuary and open spaces from public vantage points would be created and expanded; substantial shadowing would not occur on sensitive uses or public spaces), as with the project. Effects would be further reduced with this alternative by allowing additional views from points along the Embarcadero (Fallon Street and 5th Avenue), maintaining views of the Oakland Hills from the Amtrak pedestrian bridge at Jack London Square (see **Figure IV.K-4**). Additionally, shadows cast by the lower buildings in this alternative (compared to the project) would have similar less-than-significant shadow impacts and would further reduce effects on areas around Fifth Avenue Point and Clinton Basin (including the wetland restoration area).

The increased level of light and glare with this alternative would be comparable to that of other urban development in the area. It may be less than that of the project since no residential development would occur (to generate nighttime light and glare) and no development would occur west of Lake Merritt Channel, near existing residential developments. Therefore, as with the project, this alternative would result in similar less-than-significant light and glare impacts, as the project.

Overall, this alternative would have the same less-than-significant visual quality, shadow, and light and glare impacts as identified for the project and as identified in the Estuary Policy Plan EIR.

L. Public Services and Facilities

Although the Estuary Plan Alternative would not introduce new residential development to the site, existing industrial, manufacturing, and commercial uses would be replaced, and the new commercial and community uses that would occur with this alternative would create new demand for police and fire services in the area. Approximately 33.8 acres of *new* open space would be added to the project site (total 41.5 acres minus existing 7.7-acre Estuary Park and Jack London Aquatic Center) compared to 20.7 acres of *new* open space in the project, and since no residents would be added to the site, this alternative would thereby increase the ratio of park acreage to residents in the nearby area and citywide. As determined in the Estuary Policy Plan EIR, new development and land use changes envisioned in the Estuary Policy Plan would result in less-than-significant impacts on public services and utilities, which would be consistent with the less-than-significant public services impacts identified for the project.

M. Utilities and Service Systems

Under this alternative, existing industrial, manufacturing, and commercial development would be replaced with new commercial, recreation, and educational/cultural facilities, as well as expanded manufacturing, service, and artisan studio uses in Fifth Avenue Point. These new uses would create demand for water, wastewater, and storm drain service and facilities, solid waste, and gas and electricity services. The Estuary Policy Plan EIR determined that the Estuary Plan development would have a less-than-significant impact on sanitary sewer utilities (with adherence to General Plan policies), and this alternative would likely result in the same less than significant impact on all public utilities as the project.

Alternative 2: Enhanced Open Space / Partial Ninth Avenue Terminal Preservation and Adaptive Reuse

The Enhanced Open Space / Partial Ninth Avenue Terminal Preservation Alternative (Open Space / Partial Preservation Alternative) is included in the EIR to allow a comparison of the project to a scenario with increased open space acreage on the site and additional preservation of a portion of the Ninth Avenue Terminal building.

Description

With approximately 40.6 acres of parks and open space, this alternative has a comparable amount of parks and open space area to the Estuary Plan Alternative (approximately 41.5 acres) and the Reduced Development / Partial Preservation Alternative (39.9 acres). However, the site layout of this alternative includes a new major park that is substantially larger than that proposed by the project and for each of the alternatives. This alternative entails preservation and adaptive reuse of the bulkhead and 1920s portion of the Ninth Avenue Terminal building. Most of the 1950s portion of the Terminal building would be demolished, except the alternative could include maintaining aspects of the 1950s roof trusses to span an open space pavilion where that portion of the Terminal building currently exists. The project would be a mixed use residential neighborhood that would be designed and configured similar to the project. New residential buildings with ground-floor retail/commercial uses would be developed adjacent to Fifth Avenue Point.

Approximately 1,800 residential units, 95,000 square feet of commercial retail/restaurant use and open space would result with this alternative. Approximately 88,000 square feet of community use (educational, cultural, and/or recreational activities) would occur in the retained 1920s portion of the Terminal building.

Development of this alternative is depicted in **Table V-3** and **Figure V-2**. New building development would occur in two areas: three development parcels around Fifth Avenue Point, and five development parcels clustered in the northeast portion of the site, north of the Embarcadero which would be realigned to the south, between 6th and 9th Avenues. Together, the eight development parcels total approximately 18.7 acres of building area. New development would result in residential densities ranging from 40 to 150 units per net acre.

Generally, all existing building development (excluding that in Fifth Avenue Point and the Ninth Avenue Terminal building as described above) would be replaced under this alternative. Buildings would vary in height with lower buildings of four to five stories (about 50 feet tall) located around Fifth Avenue Point on the west edge of Clinton Basin and fronting on the proposed Shoreline Park. Mid-rise buildings of six to nine stories (about 65 to 85 feet tall) and two high-rise towers (about 65 to 240 feet tall) would be concentrated in the northeast portion of the site.

Existing storage uses in the retained 1920s portion of the Ninth Avenue Terminal building would be removed to accommodate the 88,000 square feet of community uses. The existing wharf structure, which is considered a part of the intact historic resource would be removed to accommodate the new major open space. Partial demolition of the Terminal building would not avoid the significant and unavoidable impact on historic resources that would occur with the project.

It is assumed that the uses in all parts of the remaining Terminal building (and surrounding open space) would be Tidelands Trust compliant. Therefore, land uses in these areas of the project site would be limited to commerce, navigation, and fisheries, open space, and/or recreation, consistent with the Public Trust Doctrine, and subject to determination by the State Lands Commission. The 18.7 acres of land proposed for residential and retail uses with this alternative would require the Tideland's Trust designation be removed from these areas in exchange for new trust-designated lands offsite.

As mentioned above, this alternative would realign the Embarcadero to curve through the eastern part of the site (generally between 6th and 9th Avenues), separating the new, major park (east of and around Clinton Basin) from the clustered residential development parcels in the northeast area of the site. A connector street (generally within the existing right-of-way of the Embarcadero) and new street grid to serve the development area would be created north of the realigned Embarcadero and would have intersecting points along this new curved "parkway."

A total of approximately 40.6 acres of parks and open spaces would result with the Open Space / Partial Preservation Alternative, including the expanded Estuary Park. The Jack London Aquatic Center would remain unchanged. Nearly 24 acres of new park and open space would be created east of 5th Avenue, most of which would be in the new 18-acre Shoreline Park between Clinton Basin and Brooklyn Basin, created by the realigned Embarcadero (the park's north boundary) and demolition the 1950s portion of the Ninth Avenue Terminal building. The expanded Estuary Park and new Channel Park would create approximately 16.6 acres of open space along Lake Merritt Channel and the Embarcadero, west of 5th Avenue. As in each other development alternative, a series of parks and open spaces (including a continuous pedestrian and bicycle trail) would occur along the entire project site shoreline.

Like the proposed project and each other alternative (except No Project Alternative), the Open Space / Partial Preservation Alternative would improve the Clinton Basin seawall and the existing shoreline along the entire project site. Site remediation to appropriate levels for residential and other uses would occur on the project site.

Total employment on the project site would increase from the existing 231 employees: new retail/commercial uses on neighborhood streets, park-oriented retail, and retail/restaurant uses around Clinton Basin Marina would require approximately 314 employees, and the community uses (education, cultural, recreation) in the partially-retained Terminal building would result in additional employment, possibly in the range of 30 to 60 employees depending on the uses. Approximately 1,728 households and 2,938 new residents would be introduced to the project site.[8]

8 See Footnote 1.

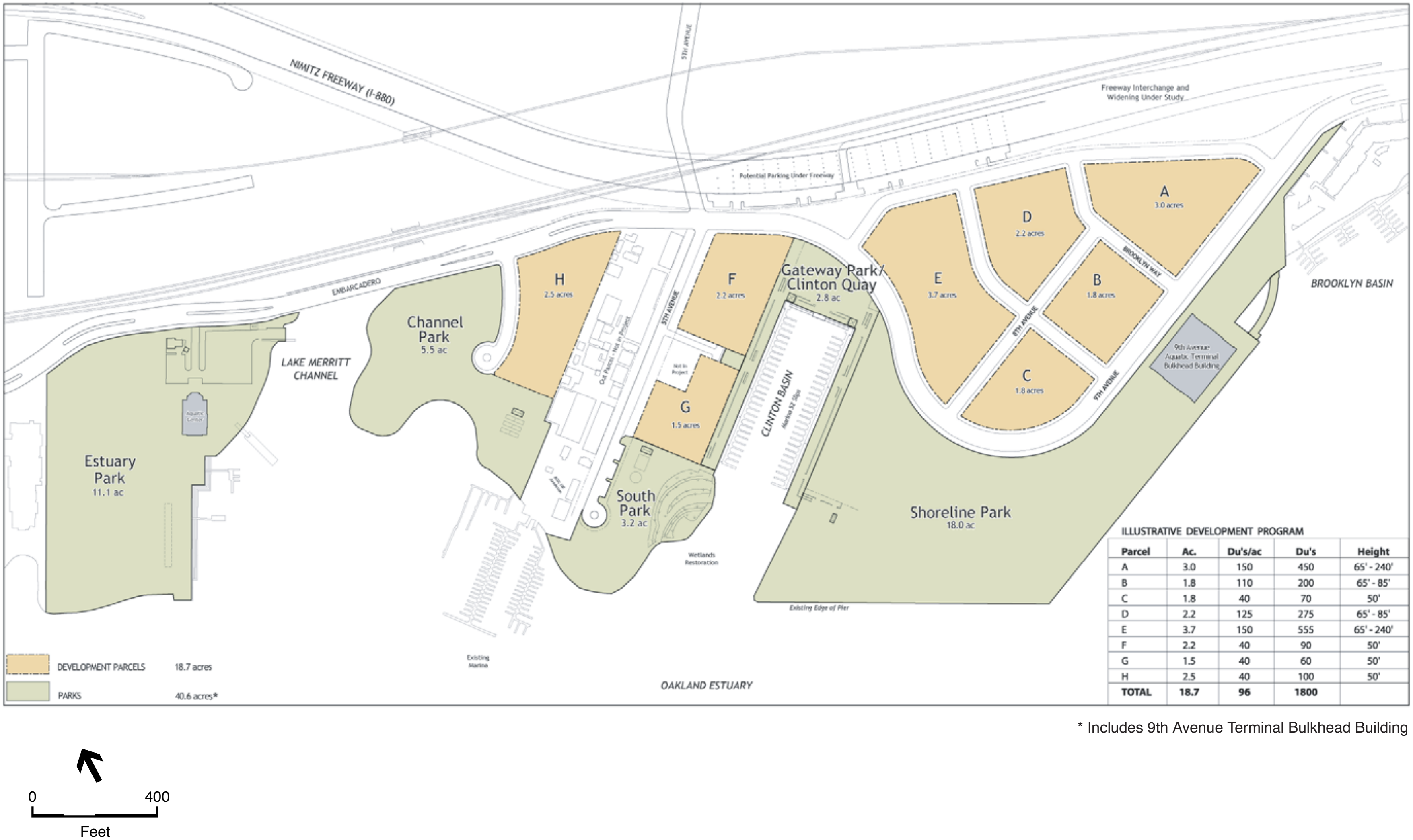
TABLE V-3

ALTERNATIVE 2: ENHANCED OPEN SPACE / PARTIAL NINTH AVENUE TERMINAL PRESERVATION

Subareas[a] /Parcels	Parcel Acreage (Gross)	Dwelling Units (#)	Du/Net Acre	Development / Uses (Sq. Ft.)[b]		Max. Approx. Bldg. Ht.
Subarea 5:				58,000	nghd retail/ commercial	
Alt Parcel 1	3.0	450	150/ac			65–240 ft.
Alt Parcel 2	1.8	200	110/ac			65–85 ft.
Alt Parcel 3	1.8	70	40/ac			50 ft.
Alt Parcel 4	2.2	275	125/ac			65–85 ft.
Alt Parcel 5	3.7	555	150/ac		edu/cultural/ recreation	65–240 ft.
Terminal	-	-	-	88,000		40 ft.
Subarea 4				32,000	retail/restaurant	
Alt Parcel 6	2.2	90	40/ac			50 ft.
Alt Parcel 7	1.5	60	40/ac			50 ft.
Subarea 2				5,000	park-oriented retail	
Alt Parcel 8	2.5	100	40/ac			50 ft.
Subarea 1	-	0	-	0		30 ft.
Total	**18.7**	**1800**	**96/ac**	**183,000**		
Subarea 3	*5.43 acres (gross)*	*42 (work-live)*	n/a	*102,891*	*manu/svs*	10 to 30 ft.
(Fifth Ave. outparcels)				*35,000*	*infill studios*	
Parks and Open Space	Expanded Estuary Park and Aquatic Ctr.			11.1 acres		
	New Channel Park *(Open Meadow)*			5.5 acres		
	New Shoreline Park *(Crescent)*			18.0 acres		
	New Gateway Park *(Clinton Basin north)*			2.8 acres		
	New South Park *(Clinton Basin south)*			<u>3.2 acres</u>		
	TOTAL			**40.6 acres** (64 percent of total project site)		
Ninth Avenue Terminal	1920s portion retained and reused; wharf removed					

a Numbered development parcels are defined for the Enhanced Open Space / Partial Preservation Alternative to allow for comparison to project development parcels.
b Net acreage shown for development parcels only and excludes right-of-ways and open space.
c Total floor area is shown, with total land area included for outdoor uses.

SOURCE: Hausrath Economic Group, 2004; Oakland Harbor Partners, 2005.



ILLUSTRATIVE DEVELOPMENT PROGRAM

Parcel	Ac.	Du's/ac	Du's	Height
A	3.0	150	450	65' - 240'
B	1.8	110	200	65' - 85'
C	1.8	40	70	50'
D	2.2	125	275	65' - 85'
E	3.7	150	555	65' - 240'
F	2.2	40	90	50'
G	1.5	40	60	50'
H	2.5	40	100	50'
TOTAL	**18.7**	**96**	**1800**	

* Includes 9th Avenue Terminal Bulkhead Building

SOURCE: Roma Design Group

Figure V-2
Alternative 2: Enhanced Open Space/
Partial Ninth Avenue Terminal Preservation

Impacts

A. Land Use, Plans, and Policies

Like the project, the Open Space / Partial Preservation Alternative would develop new housing, commercial uses, and waterfront parks and open spaces and trails and would transform the project site's maritime and marine industrial character into a publicly-accessible mixed-use waterfront district and major open space resource on the estuary. Existing industrial and manufacturing uses would be removed, except those in Fifth Avenue Point. A General Plan Amendment and Rezoning to accommodate residential uses and increased densities (from those allowed by the existing PWD-1 land use classification) would be required, as with the project.

This alternative is expected to have the same policy conflicts as the project: Inconsistency with Historic Preservation Element Policy 3.1 *(Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions)*, but to a lesser extent since the 1920s (and 1950s) portion of the Ninth Avenue Terminal building would be retained and reused. This alternative would have the same conflict with Noise Element Policy 3 *(Reduce the Community's Exposure to Noise)* by introducing residential and park uses to the existing noise environment of the project site (discussed below in G. Noise). This alternative would more fully support policies that call for the creation of new waterfront open spaces and views along the estuary. This is particularly due to the reconfiguration of Shoreline Park between Clinton Basin and Brooklyn Basin, as well as the realignment of the Embarcadero into a curvilinear parkway aligning the park, allowing unobstructed views of the estuary. This alternative is expected to have the same potentially significant impact with respect to creating substantial change in the existing environment and existing land uses. Although less development would occur compared to the project, the alternative would still substantially change the existing land use character and development intensity on the project site. This alternative would also result in the same impact of dividing Fifth Avenue Point, an established community, from the existing industrial district of which it is currently an integral part. However, the lower building heights (up to 50 feet, versus up to 86 feet with the project) and the reduced development around Fifth Avenue Point specifically (250 units versus 1,081 with the project) that would occur compared to the project would reduce the severity of these two impacts, but they would remain potentially significant, reduced to less than significant after mitigation.

B. Transportation, Circulation, and Parking

Development in the Open Space / Preservation Alternative would result in fewer peak-hour vehicle trips than the proposed project (i.e., about 42 percent fewer under buildout conditions), which would reduce project effects on area roadways and intersections proportionately. The significant project impact on regional roadways under Buildout (2025) conditions would not occur with this alternative. Significant (but mitigable, except at the 5th Street / Broadway, 6th/Jackson Streets, and Lakeshore Avenue / MacArthur Boulevard intersections) project impacts at the area intersections under Buildout (2025) conditions would occur under this alternative, but at fewer locations. The project would have a significant impact at 17 intersections, whereas this alternative would have a significant impact at 11 intersections. (See **Appendix I** for alternatives' traffic data.)

C. Air Quality and Meteorological Conditions

Development in the Open Space / Preservation Alternative would generate fewer daily vehicle trips than the proposed project, as stated above. As a result, criteria air pollutant emissions associated with project operation would be reduced with this alternative. The significant and unavoidable impact associated with project emissions of PM10 (2025 cumulative conditions) remain significant, as with the project. (See **Appendix I** for alternatives' operational emissions.)

Compared to the project and each of the alternatives, the Open Space / Preservation Alternative would be expected to result in the windiest conditions on the site since it proposes the greatest amount of consolidated parkland relative to the amount of concentrated built development on the site**.** Conditions are expected to be windy in areas of wide-open spaces along the waterfront not shielded by building masses and would decrease closer to the Embarcadero. The proposed Shoreline Park would experience unshielded hazardous west winds that currently occur under existing conditions.

D. Hydrology and Water Quality

As with the project, the Open Space / Preservation Alternative would improve existing conditions on the site that currently allow uncontrolled stormwater flow into the storm drains and/or directly into the estuary (and ultimately the Bay). These improvements include reducing the amount of impervious surfaces, removing industrial and manufacturing uses and hazardous material use and storage, improving the onsite storm drain system, and implementing measures to treat runoff. Approximately 63 percent of the project site in this alternative would be impervious surfaces (open spaces and parks), substantially more than the 44 percent that would occur with the project, and this alternative would include a sizable new open space of 18 acres (compared to 9.74 acres in the project). This larger, single open space would not, however, significantly decrease total site runoff or total volumes of runoff potentially affected by fertilizers and pesticides. Development activity with this alternative would adhere to all agency standards, requirements and specific project management measures to reduce soil erosion and the release of hazardous materials into watercourses, as would the project. As a result, this alternative would result in the same less-than-significant (after mitigation) water quality and hydrology impacts during construction, and the same less-than-significant / beneficial (after mitigation) impacts that would occur with the project during operations.

E. Cultural Resources

Building development would occur with the Open Space / Partial Preservation Alternative. Therefore, the same potentially significant impacts (reduced to less than significant, after mitigation) related to archaeological and paleontological resources that would occur with the project would occur with this alternative.

Also, the 1950s portion of the Ninth Avenue Terminal building and portions of the associated wharf structure would be demolished, and the 1920s portion of the Terminal building would be retained and reused. As discussed in Section IV.E, Cultural Resources, Impact E.3, "the entire building, including the 1951 addition, is considered an historic resource." Therefore, the significant and unavoidable impacts (project and cumulative) that would occur with the project as a result of the substantial demolition of the Terminal building, would also occur with this alternative, but to a lesser degree.

F. Geology, Soils, and Seismicity

Building development would occur with the Open Space / Partial Preservation Alternative. Therefore, the same potentially significant and significant impacts (reduced to less than significant, after mitigation) related to geology, soils, and seismic hazards that would occur with the project would occur with this alternative.

G. Noise

Development under the Open Space / Preservation Alternative would generate fewer daily vehicle trips than the project, which would result in reduced vehicular noise levels associated with the alternative's operation compared to the project's operation. However, this alternative would introduce residential and park uses to the existing noise environment considered "normally unacceptable" for such uses, resulting in the same significant and unavoidable impact as the project. Like the project, development of this alternative on the project site would require construction involving a significant number of piles for an extended duration. To develop this estimated 1,800-unit scenario with buildings generally the same height range (maximum 86 to 240 feet tall) and relatively shorter duration as the project, an estimated average of 500 piles per parcel (compared to 675 for the project) would be required over an average duration of 10 weeks per parcel (compared to 12 weeks for the project). As a result, this alternative would result in the same significant and unavoidable impact resulting from construction noise as the project.

H. Hazardous Materials

The Open Space / Partial Preservation Alternative would involve new development on the site. Therefore, this alternative is would have the same potentially significant impacts (reduced to less than significant, after mitigation) associated with exposing construction workers and the public to hazardous materials during construction that would occur with the project. Remediation of the site would occur (as described for the project), and any operational hazardous materials impacts would be less than significant (after mitigation), as with the project.

I. Biological Resources

Construction activities, including shoreline improvements, would occur with the Open Space / Partial Preservation Alternative, including the same shoreline improvements as proposed for the project. Therefore, the same potentially significant impacts (reduced to less than significant, after mitigation) to potential jurisdictional wetlands, fisheries, and nesting/breeding habitats and specific status species that would occur with the project would occur with this alternative.

J. Population, Housing, and Employment

Like the project, the Open Space / Partial Preservation Alternative would remove all existing uses as the site transitions from existing industrial and marine-oriented uses to a mix of new uses in the future. There would be similar, new land uses, but less total new development because a larger share of the project site would be devoted to parks and open space, however a larger portion of the existing Ninth Avenue Terminal building would be retained. Thus, there would be less growth of housing and population (about 40 percent less), and less employment (about 45 percent less) under this alternative compared to the project. Generally, the types of less-than-significant impacts identified for the project would be similar for this alternative, but of still less significance because of lower growth.

Impacts from induced population growth would be less under the Open Space / Partial Preservation Alternative, compared to the less-than-significant impacts of the project. Like the project, this alternative would provide beneficial housing market effects from additional housing opportunities and improved jobs/housing balance, although to a lesser extent. By creating a new neighborhood with park and open space amenities along the estuary, this alternative would enhance the desirability of the waterfront and increase demand for nearby locations that offer proximity and access to the site and for other locations along the waterfront. Like the project, there could be indirect effects that encourage additional new development sooner than would otherwise occur in adjacent areas and other waterfront locations. Like the project, demand effects could contribute upward pressures on housing prices and rents in limited areas nearby, although such effects are not anticipated to lead to indirect physical impacts such as displacement or increased physical deterioration of housing or neighborhoods.

The Open Space / Partial Preservation Alternative would include less retail/commercial development and opportunities for retail shopping and waterfront eating and drinking than would occur with the project. Similar to the project, the new retail development under this alternative is not anticipated to create competition with existing retailers that could lead to indirect physical impacts from long-term vacancies and physical deterioration.

K. Visual Quality and Shadow

The Open Space / Partial Preservation Alternative would substantially change the character of the project site, as would each of the development alternatives and the project. The existing mix of commercial and manufacturing uses that give the project its overall industrial character would be replaced with a residential development of varying density and building heights, expansive open space, and the north half of the Ninth Avenue Terminal building. The site would be characterized by the realigned Embarcadero parkway that would curve through the eastern portion of the site along the new approximately 18-acre park. Fifth Avenue Point would not be incorporated into the project site in this alternative.

Like the project, this alternative would require amendments to the PWD-1 Estuary Policy Plan land use classification and rezoning of the M-40 zone to accommodate the proposed residential densities that range from 40 to 150 dwelling units per net acre (compared to the 40 units per net acre permitted in the PWD-1). At the proposed densities and given the development parcel acreages, the projected building heights in this alternative would range from approximately 50 to 85 feet tall, with the high-rise buildings being approximately 240 feet tall, as with the project. The retained portion of the Terminal building would remain 40 feet tall and would be prominent from higher elevations (i.e., I-880, long-range viewpoints).

Buildings would be approximately 50 feet tall immediately west of Clinton Basin and around the Fifth Avenue Point outparcels, which currently have buildings ranging from approximately 15 to 30 feet tall and that are not anticipated to change substantially. The taller buildings about 65 to 85 feet tall, as well as the two high-rises, would be clustered in the northeastern most area of the site, and a relatively lower building of maximum 50 feet would be situated at the parkfront location, effectively stepping down toward the Embarcadero parkway and the Shoreline Park.

As a result of 1) locating lower building heights in the central portion of the site, 2) clustering taller buildings (up to approximately 85 feet and 240-foot towers) toward the northeastern most area of the site, and 3) removing the south half of the Ninth Avenue Terminal building, this alternative would have less-than-significant impacts on visual quality (views of the estuary and open spaces from public vantage points would be created and expanded; substantial shadowing would not occur on sensitive uses or public spaces), as would the project. The alternative would further reduce these impacts by allowing additional views from points along the Embarcadero at 5th Avenue and Fallon Street, as well as continuous views from the realigned Embarcadero parkway. More of the existing distant view of the Oakland Hills from the Amtrak pedestrian bridge at Jack London Square (see **Figure IV.K-4**) may be retained.. Also, the combination of not locating development sites immediately southeast of Clinton Basin and removing the south half of the Terminal building would allow more views of the estuary from onsite, as well as views of the new Shoreline Park and Estuary from distant public vantage points. Shadows cast by the lower buildings in this alternative (compared to the project) would have less-than-significant shadow impacts, as with the project, and would further reduce the less-than-significant impacts on areas around Fifth Avenue Point and near Clinton Basin.

The increased level of light and glare with this alternative would be comparable to that of other urban development in the area. No development would occur west of Lake Merritt Channel, near existing residential developments. Therefore, as with the project, this alternative would result in a less-than-significant light and glare impact that would likely be slightly reduced from that of the project.

Overall, this alternative would have the same less-than-significant visual quality, shadow, and light and glare impacts as identified for the project, providing slightly more beneficial effects related to views of open spaces and the estuary given the realignment of the Embarcadero.

L. Public Services and Facilities

Compared to the project, the Open Space / Partial Preservation Alternative would introduce fewer new residents (2,938 compared to 5,270) and households (1,728 compared to 3,100[9]) to the

9 1,658 households compared to 2,976 project households, with 4 percent vacancy rate applied.

project site. Approximately 33.4[10] acres of new park would be added to the project site (compared to 19.25 new acres with the project), which would result 11.4 acres per 1,000 residents on the project site. Overall, this alternative would result in the same less-than-significant impacts on public services and facilities that would occur with the project.

M. Utilities and Service Systems

The reduced development of residential, commercial, and community uses that would occur with the Open Space / Partial Preservation Alternative would create a lower demand for water, wastewater, and storm drain service and facilities, solid waste, and gas and electricity services than would result from the project and would likely result in the same less than significant impacts as the project.

Alternative 3: Reduced Development / Ninth Avenue Terminal Preservation

The Reduced Development / Ninth Avenue Terminal Preservation Alternative (Reduced Development / Preservation) is included in the EIR to allow consideration of a reduced development scenario that could be developed on the site, and comparison of this scenario to the project.

Description

This alternative involves preservation and adaptive reuse of the entire Ninth Avenue Terminal, except for partial removal of its associated wharf structure, which would accommodate new public open space. Approximately 540 residential units, 10,000 square feet of retail/restaurant use, and 39.9 total acres of parks and open space would result with this alternative. The Ninth Avenue Terminal building would contain a conference facility (about 50,000 sq. ft.), and a potential mix of educational, cultural, and/or recreational uses (70,000 sq. ft.), totaling 120,000 square feet of community use.[11] The development of this alternative is depicted **in Table V-4** and **Figure V-3**. Fifth Avenue Point would not be incorporated into the project site.

All new building development would be located east of 5th Avenue, concentrated around Clinton Basin and between the Basin and the retained Ninth Avenue Terminal. Seven development parcels configured in a square-block street layout would total 19 acres of building area. Generally, all existing building development (excluding Fifth Avenue Point) would be replaced in this alternative, and new development would occur at approximately 28 units per net acre. New buildings would be four to five stories (about 50 feet tall).

All existing uses on the project site would be removed, including the storage uses in the Ninth Avenue Terminal building. The nearly 120,000 square feet of community use that would be

[10] Total 40.6 acres proposed, minus existing 7.2-acre Estuary Park and Jack London Aquatic Center.
[11] Proposed uses are consistent with those envisioned in the Estuary Policy Plan and assumed in Alternative 1B.

introduced into the Terminal building would be Tidelands Trust compliant. As previously discussed, this means that the land uses in these areas of the project site would be limited to commerce, navigation, and fisheries, open space, and/or recreation, consistent with the Public Trust Doctrine, and subject to determination by the State Lands Commission. The 19 acres of land proposed for residential and retail uses in this alternative would require the Tidelands Trust designation be removed from these areas in exchange for new trust-designated lands offsite.

As with each development alternative, a series of parks and open spaces would create a continuous pedestrian and bicycle trail along the entire shoreline of the project. The seawall around Clinton Basin and the existing shoreline along the entire site would be improved, and project site remediation would occur to appropriate levels for the proposed uses.

Total employment on the project site with this alternative would be approximately 100 jobs, compared to the 231 jobs that currently exist. Approximately 518 households and 881 new residents would be introduced.[12]

[12] See Footnote 1.

TABLE V-4

ALTERNATIVE 3: REDUCED DEVELOPMENT / NINTH AVENUE TERMINAL PRESERVATION AND ADAPTIVE REUSE

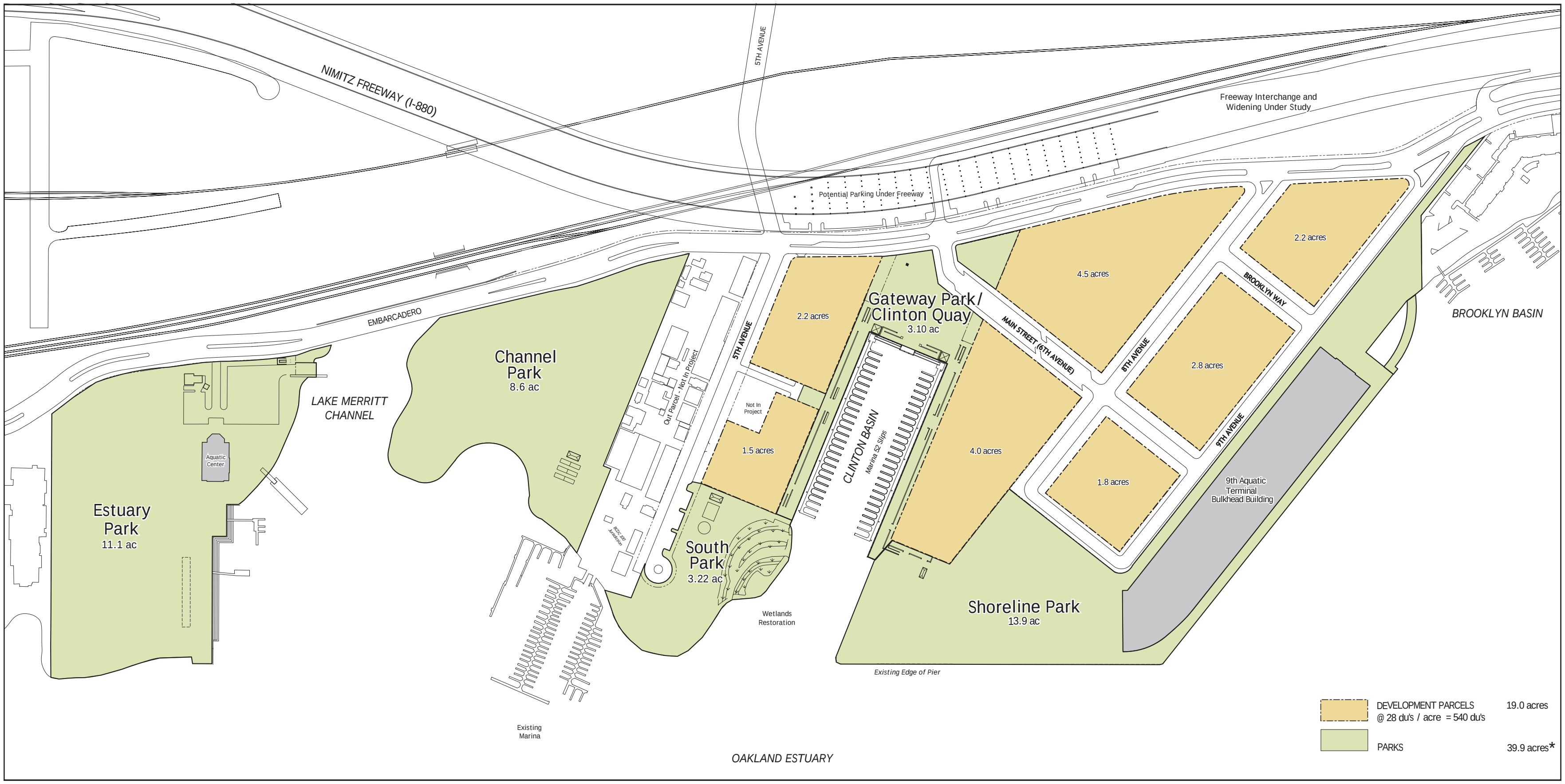
Subareas[a] /Parcels	Parcel Acreage (Gross)	Dwelling Units (#)	Du/Net Acre	Development / Uses (Sq. Ft.)[b]		Max. Approx. Bldg. Ht.
Subarea 5 (Parcels A thru H, and J) Terminal	15.3	432	28/ac	0 50,000 70,000	 conference edu/cultural/ recreation	50 ft. 40 ft.
Subarea 4 (Parcels K, L)	3.7	108	28/ac	10,000	retail/restaurant	50 ft.
Subarea 2 (Parcel M)	0	0	0	0		-
Subarea 1 (Includes Parcel N)	0	0	0	0	-	30 ft.
Total	**19.0**	**540**	**28/ac**	**130,000**	**sq.ft.**	
Subarea 3 *(Fifth Ave. outparcels)*	*5.43 acres (gross)*	*42 (work-live)*	n/a	*102,891* *35,000*	*manu/svs* *infill studios*	10 to 30 ft.
Parks and Open Space	Expanded Estuary Park and Aquatic Ctr. New Channel Park*(Open Meadow)* New Shoreline Park *(Crescent)* New Gateway Park *(north Clinton Basin)* New South Park *(south Clinton Basin)* **TOTAL**			11.1 acres 8.6 acres 13.9 acres 3.10 acres <u>3.22 acres</u> **39.92 acres** (63 percent of total site)		
Ninth Avenue Terminal	1920s and 1950s portions retained and reused; wharf removed					

a The geographic subareas defined in Section IV.J, Population, Housing, and Employment, and shown in **Figure IV.J-1** are used for comparative purposes. The noted project parcels correspond to the geographic subarea, except for Parcel N, which is approximately one-third of subarea 1, west of Lake Merritt Channel.

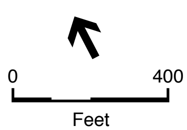
b Net acreage shown for development parcels only and excludes right-of-ways and open space.

c Total floor area is shown, with total land area included for outdoor uses.

SOURCE: Hausrath Economics Group, 2004; Oakland Harbor Partners, 2005.



* Includes 9th Avenue Terminal Bulkhead Building



SOURCE: Roma Design Group

Oak to Ninth Avenue . 202622

Figure V-3
Alternative 3: Reduced Development/ Ninth Avenue Terminal Preservation

Impacts

A. Land Use, Plans, and Policies

Like the project and each development alternative, the Reduced Development / Preservation Alternative would develop new housing, waterfront parks and open spaces and trails, and transform the project site's maritime and marine industrial character into a publicly-accessible, mixed-use waterfront district and major open space resource on the estuary. Existing industrial and manufacturing uses would be removed, except those in Fifth Avenue Point. A General Plan Amendment and Rezoning to accommodate residential uses and increased densities (from those allowed by the existing PWD-1 land use classification) would be required, as with the project.

This alternative is expected to have the same potentially significant impact with respect to creating substantial change in the existing environment and existing land uses. Although less development would occur compared to the project (and each of the other alternatives), the project would still substantially change the existing land use character and development intensity on the project site. Although development would not occur west of Fifth Avenue Point in this alternative, the same impact of dividing Fifth Avenue Point, an established community, from the existing industrial district of which it is currently an integral part would occur. This impact would likely be reduced compared to the project and the other alternatives, however, since, since the Fifth Avenue Point appears to be more compatible and integrated (with regard to building types and uses) with the area to its east rather than the sand and gravel concrete batch plant that lies to its west. The lower building heights (up to 50 feet, versus up to 86 feet with the project), and the reduced development around Fifth Avenue Point specifically (about 105 units, versus 1,081 with the project) that would occur compared to the project would also reduce the severity of these two impacts, but they would remain potentially significant, reduced to less than significant with mitigation .Also, this alternative is expected to have the same policy conflicts as the project: Inconsistency with Historic Preservation Element Policy 3.1 *(Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions),* but to a lesser extent since the entire Ninth Avenue Terminal would be retained and reused, except for portions of its associated wharf, which would be removed. This alternative would have the same conflict with Noise Element Policy 3 *(Reduce the Community's Exposure to Noise)* by introducing residential and park uses to the existing noise environment of the project site (discussed below in G. Noise). This alternative would also more fully support policies that call for the creation of new waterfront open spaces along the estuary than the project would, primarily given the increased size of Channel Park along the Embarcadero at Lake Merritt Channel.

B. Transportation, Circulation, and Parking

Development under the Reduced Development / Preservation Alternative would result in fewer peak-hour vehicle trips than the proposed project (i.e., about 78 to 83 percent fewer under buildout conditions), which would reduce project effects on area roadways and intersections proportionately. The significant project impact on regional roadways under Buildout (2025) conditions would not occur with this alternative. Significant (but mitigable, except at the 6th/Jackson Streets intersection) project impacts at the area intersections under Buildout (2025) conditions would occur under this alternative, but at fewer locations. The project would have a significant impact at 17 intersections, whereas this alternative would have a significant impact at 4 intersections.

C. Air Quality and Wind

Development in the Reduced Development / Preservation Alternative would generate fewer daily vehicle trips than the proposed project, which would reduce criteria air pollutant emissions associated with project operation. As a result, the significant and unavoidable impact resulting from project emissions of PM10 (2025 cumulative conditions) would be reduced to less than significant. (See **Appendix I** for alternatives' operational emissions.)

Under this alternative, the location and size of the parkland relative to the amount of concentrated built development on the site would be similar to the project. Therefore, wind conditions can be expected to be similar to speeds reported for existing conditions on the project site due to the large, flat area along the waterfront that would be exposed to direct hazardous wind off the estuary that currently occur under existing conditions.

D. Hydrology and Water Quality

Similar to the project and each of the alternatives (except the No Project Alternative), the Reduced Development / Preservation Alternative would improve existing conditions on the site that currently allow uncontrolled stormwater flow into the storm drains and/or directly into the estuary (and ultimately the Bay). This alternative would provide increased impervious surfaces onsite, remove existing industrial and manufacturing uses and onsite handling and storage of hazardous material from the site, improve the onsite storm drain system, and implement measures to treat runoff. This alternative would provide a greater total amount of impervious surface on the project site (open spaces and parks) than the project would provide (approximately 62 percent compared to 44 percent). Development activity in this alternative would also adhere to all agency standards, requirements, and specific project management measures to reduce soil erosion and the release of hazardous materials into watercourses, as would the project. As a result, this alternative would result in the same less-than-significant (after mitigation) water quality and hydrology impacts during construction, and the same less-than-significant /beneficial (after mitigation) impacts that would occur with the project during operations.

E. Cultural Resources

Building development would occur with the Reduced Development / Preservation Alternative, therefore the same potentially significant impacts related to archaeological and paleontological resources that would occur with the project (and reduced to less than significant, after mitigation) would occur with this alternative.

With this alternative, the 1920s and the 1950s portion of the Ninth Avenue Terminal would be retained and reused, but the associated wharf structure would be partially demolished to allow creation of a new, large-scale open space. As discussed in Section IV.E, Cultural Resources, Impact E.4, the wharf structure that supports the Terminal was constructed as part of the initial construction of the Terminal, its loss or substantial alteration would be substantially impair the historic resource (Terminal and wharf) and result in the loss of its industrial character. Therefore, the significant and unavoidable impact that would occur with the project (and cumulatively) as a result of the substantially altering the wharf structure, would also occur with this alternative, although to a lesser extent since the Terminal building itself would be retained.

F. Geology, Soils, and Seismicity

Building development would occur with the Reduced Development / Preservation Alternative, therefore the same potentially significant and significant impacts (reduced to less than significant, after mitigation) related to geology, soils, and seismic hazards that would occur with the project would occur with this alternative.

G. Noise

Development under the Reduced Development / Preservation Alternative would generate fewer daily vehicle trips than the proposed project, which would result in reduced vehicular noise levels associated with the alternative operation compared with the project operation. However, this alternative would introduce residential and park uses to the existing noise environment considered “normally unacceptable” for such uses, resulting in the same significant and unavoidable impact as the project. Like the project, development of this alternative on the project site would require construction involving a significant number of piles for an extended duration. To develop this 540-unit scenario with 50-foot tall buildings (compared to 86 to 240 feet tall with the project) and relatively shorter duration than the project, an estimated average of 357 piles per parcel (compared to 675 for the project) would be required over an average duration of 10 weeks per parcel (compared to 12 weeks for the project). Therefore, this alternative would result in the same significant and unavoidable impact resulting from construction noise as the project.

H. Hazardous Materials

The Reduced Development / Preservation Alternative would involve new development on the site. Therefore is the alternative would have the same potentially significant impacts (reduced to less than significant, after mitigation) associated with exposing construction workers and the public to hazardous materials during construction that would occur with the project. Remediation of the site would occur (as described for the project), and any operational hazardous materials impacts would be less than significant, as with the project.

I. Biological Resources

Construction activities would occur with the Reduced Development / Preservation Alternative, including the same shoreline improvements as proposed for the project. Therefore, the same potentially significant impacts (reduced to less than significant, after mitigation) to potential jurisdictional wetlands, fisheries, and nesting/breeding habitats and specific status species that would occur with the project (and that would be reduced to less than significant, after mitigation) would occur with this alternative.

J. Population, Housing, and Employment

Like the project, the Reduced Development / Preservation Alternative would remove all existing uses , therefore there would be similar less-than-significant impacts from displacing businesses and jobs.

There would be substantially less growth of housing and population (about 83 percent less), less retail/commercial development (about 95 percent less), and less employment on the site (about 84 percent less). Generally, the types of less-than-significant impacts identified for the project would also occur under this alternative, but they would be of much less significance yet because of the substantially lower growth.

Impacts from induced population growth would be much less under the Reduced Development/Preservation Alternative, compared to the less-than-significant impacts of the project. Like the project, this alternative would provide beneficial housing market effects from additional housing opportunities and improved jobs/housing balance, although to a much less extent. The new waterfront amenities would increase demand for nearby locations that offer proximity and access to the site and for other locations along the waterfront. Like the project, there could be indirect effects that encourage additional new development sooner than would otherwise occur in adjacent areas and other waterfront locations. The Reduced Development/Preservation Alternative would result in less waterfront eating and drinking and retail shopping opportunities compared to the project, and would include substantially more community uses (conference, educational, cultural, and/or recreational uses) in the Ninth Avenue Terminal building. Therefore, impacts from increased competition with other retailers are not anticipated. New residents on the site would contribute some additional retail spending to support business activity elsewhere in Oakland and surrounding areas, although the amount of additional spending would be substantially less than under the project.

K. Visual Quality and Shadow

The existing character of the project site would change substantially with the Enhanced Reduced Development / Preservation Alternative, as it would with each of the development alternatives and the project. The existing industrial character would be replaced with a residential development of varying density and building heights and open spaces.

The proposed maximum residential density of 28 units per net acre would be consistent with the 40 units per net acre permitted in the PWD-1. At the proposed density and given the development parcel acreages, the projected building heights in this alternative would range from approximately 40 to 50 feet tall throughout the development areas, which is all west of 5th Avenue. No high-rise buildings would be developed in this alternative. The retained Terminal building would remain 40 feet tall and prominent from higher elevations (I-880, long-range viewpoints). Existing buildings in Fifth Avenue Point are approximately 15 to 30 feet tall and are not anticipated to change substantially.

Although relatively lower in height and density than the some of the other alternatives, building development would occur on all sides of Clinton Basin and in proximity to the Terminal building and new open spaces. A local street layout would be a modified grid, which creates view corridors directly of Shoreline Park and the estuary on its main northeast-southwest axis from the Embarcadero. The retained Ninth Avenue Terminal building would limit view corridors to open spaces and the estuary along the main, intersecting northwest-southeast axis.

As a result of having overall lower building development, this alternative would have the same less-than-significant impacts on visual quality (views and shadows) as the project. The alternative would further reduce these impacts by allowing additional views from points along the Embarcadero at 5th Avenue and Fallon Street. More of the existing distant views of the Oakland Hills from the Amtrak pedestrian bridge at Jack London Square (see **Figure IV.K-4**) may be retained**.** Although the Terminal is a Estuary-related feature, retaining the entire Terminal building would continue to block views of the estuary from within the site as well as from distant public vantagepoints. Also, since development would encompass Clinton Basin, as with the project, views would be limited from this area. Additionally, shadows cast by the lower buildings in this alternative (compared to the project) would have less-than-significant shadow impacts, as with the project, and would further reduce these effects on areas around Fifth Avenue Point and near Clinton Basin.

The increased level of light and glare with this alternative would be comparable to that of other urban development in the area. No development would occur west of Lake Merritt Channel and Fifth Avenue Point, near existing residential and work-live developments. Therefore, as with the project, this alternative would result in a less than-significant light and glare impact that would likely be slightly reduced from that of the project.

Overall, this alternative would have the same less-than-significant visual quality, shadow, and light and glare impacts as identified for the project.

L. Public Services and Facilities

Compared to the project, the Reduced Development / Preservation Alternative would introduce fewer new residents (881 compared to 5,270) and households (518 compared to 3,100)[13] to the project site. Approximately 32.7[14] acres of new park would be added to the project site (compared to 19.25 new acres with the project), which would result 37.1 acres per 1,000 residents on the project site. Overall, this alternative would result in the same less-than-significant impacts on public services and facilities that would occur with the project.

M. Utilities and Service Systems

The reduced development of residential, commercial, and community uses that would occur with the Reduced Development / Preservation Alternative would create a lower demand for water, wastewater, and storm drain service and facilities, solid waste, and gas and electricity services than would result from the project. However, the new development on the site would likely result in the same less than significant impacts.

13 497 households compared to 2,976 project households, with 4 percent vacancy rate applied.
14 Total 39.9 acres proposed, minus existing 7.2-acre Estuary Park and Jack London Aquatic Center.

Sub-Alternative: Full Ninth Avenue Terminal Preservation and Adaptive Reuse

Description

The Ninth Avenue Terminal Preservation Full Preservation Sub-Alternative would retain and adaptively reuse the Ninth Avenue Terminal and related wharf structure to avoid the significant and unavoidable impacts (project and cumulative) that would occur with the project. As concluded in the cultural resources impacts analysis in this EIR (Section IV.E), the entire Ninth Avenue Terminal building and its related wharf appear to be individually eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). Because major additions to the structure in 1951 were in keeping with the original design and intent and of the original 1930 structure, the entire Terminal building and wharf retain an overall high level of integrity.[15] The structure also is considered to be listed on the City of Oakland's Local Register of Historic Resources by virtue of its status as a Potential Designated Historic Property with an "A" rating (primary importance). Therefore, the original 1920s portion of the building, the 1951 addition, and the related wharf (in its existing paved nature) form an intact historic resource and would result in a significant unavoidable impact if removed, wholly or partially. Removal of the 1951 addition alone would substantially alter the integrity of the resource, such that it would probably no longer qualify as a federal, state, and local historical resource.

This alternative is considered a stand-alone alternative that could be combined with the proposed project and other alternatives. Full preservation of the Ninth Avenue Terminal that avoids the significant and environmental impact is addressed in this Sub-Alternative only and is not addressed elsewhere in the EIR. Alternatives that retain less of the Terminal are addressed in Alternative 2 (Open Space / Partial Preservation), which would retain the 1920s portion of the Terminal building, and in Alternative 3 (Reduced Development / Preservation), which would retain the entire Terminal building. However, each of these alternatives would demolish parts of its associated wharf structure and replace the historic paved surface with landscaped open space.

As with each of the alternatives that would retain the Terminal building (except the No Project Alternative), adaptive reuse of (as well as any physical alterations to) the remaining parts of the structure would be done consistent with the Secretary of Interior Standards for the Treatment of Historic Properties and City approvals. Future uses also would be consistent with the Tidelands Trust designation that currently exists on the project site (i.e., commerce, navigation, and fisheries, open space, and/or recreation), consistent with the Public Trust Doctrine. Any reuse or alterations (including structural repair) of the wharf structure would also be consistent with the Secretary of Interior Standards for the Treatment of Historic Properties and City approvals.

[15] This comment refers to the building's historical "integrity," which pursuant to the NRHP and CRHR, consists of seven aspects: location, design, setting, materials, workmanship, feeling, and association. This does not address structural/seismic integrity.

Impacts

Traffic and air pollutant emissions and noise resulting from increased traffic are covered in Alternative 3 since the same new community uses are assumed within the Terminal building. Since this Sub-Alternative would not remove the wharf structure, potential water quality impacts associated with construction activities and bottom disturbance (removal/replacement of wharf structure) could be reduced and remain less than significant, as with the project. However, since the wharf would remain paved, the amount of pervious surface (and thus reduced stormwater runoff) that would be removed would be less than that with the project and each development alternative that propose large, new open space area in where the wharf currently exists. Coupling this Sub-Alternative with any of the alternatives analyzed in this EIR, or with the project, would avoid the significant and unavoidable impacts (project and cumulative) that would occur with demolition or substantial alteration of the Ninth Avenue Terminal building and its associated wharf, pursuant to CEQA and the Historic Preservation Element of the General Plan.[16]

The summary of the significant environmental effects of the project and each alternative are shown in **Table V-5**.

D. Environmentally Superior Alternative

Alternative 1A (No Project) would avoid all significant unavoidable and significant impacts associated with the project and each of the other alternatives, and therefore would be the environmentally superior alternative. This would be the case even though there are existing conditions on the project site that may be more adverse than would occur with the project (or other alternatives), and that would continue with Alternative 1A. These include hazardous materials (soils contamination) on the site, added to less-than optimal stormwater runoff conditions detrimental to water quality, blocked views of the estuary from public vantage points, and the protection of existing biologically sensitive resources or habitat on the site, including wetlands.

However, CEQA requires that that a second alternative be identified when the “no project” alternative emerges as the Environmentally Superior Alternative (CEQA *Guidelines*, Section 15126.6(e)). In this case, Alternative 3 (Reduced Development / Preservation) with the Full Preservation Sub-Alternative would therefore be considered environmentally superior since it would avoid (or reduce to the greatest extent) several significant and unavoidable impacts that would occur with the project. (Alternative 1B, No Project / Estuary Plan, is also considered a “no project” alternative, but is discussed further below in comparison to the other alternatives.) **Appendix I** includes the comparative technical information related to traffic, air quality emissions, and noise, related to the project and each alternative

16 It is assumed that the overall amount of new open space that would occur with the project or either of the development alternatives would be reduced equally (or reconfigured) to account for the paved wharf area that would remain under the Sub-Alternative.

Alternative 3 (Reduced Development / Preservation) – Environmentally Superior

Alternative 3 (Reduced Development / Preservation) (540 units) would avoid two of the three significant and unavoidable project impacts at area intersections under Buildout (2025) that would occur with the project: 6th/Jackson Streets and Lakeshore Avenue/MacArthur Boulevard intersections (Impact B.2). (A significant and unavoidable impact would only occur at 6th/Jackson Streets.) Alternative 1B (No Project / Estuary Plan) would avoid the significant and unavoidable impacts at these two area intersections under Buildout (2025) during the AM peak hour only. Overall, Alternative 3 would have a significant (but mitigable, except at 6th/Jackson Streets intersection) impact at 4 intersections, whereas the project would have a significant impact at 17 intersections, and Alternative 1B would have a significant impact at 8 intersections Also, the significant project impact on regional roadways under Buildout (2025) conditions would not occur with Alternative 3 (nor with any of the alternatives).

Alternative 3 would result in two of the six significant and unavoidable project impacts resulting from the project's contribution to cumulatively significant impacts at local intersections in 2025: 1) 5th Street/Broadway and 2) 6th/Jackson Streets (Impact B.3). Overall, Alternative 3 would result in a significant or significant unavoidable impacts under cumulative conditions at five area intersections, whereas the project would result in a significant impact under cumulative conditions at 14 intersections, and Alternative 1B would result in significant (but mitigable, except at 5th Street/Broadway, 6th/Jackson Streets intersections) impacts at 8 area intersections .

Alternative 3 would avoid the project's significant and unavoidable impact on regional air emissions (PM-10) in cumulative conditions (2025) (Impact C.7), and would do so only slightly better than Alternative 1B (No Project / Estuary Plan). The project would generate 210 lbs/day under net cumulative plus project conditions, compared to 49 lbs/day with Alternative 1B, and 40 lbs/day with Alternative 3 (the environmentally superior).

Alternative 3 would also reduce the significant and unavoidable impacts that would occur with the project in terms of demolition of a historic resource (Impact E.3, Impact E.4, and Impact E.8). Except for the Full Preservation Sub-Alternative, Alternative 3 is the only alternative that would retain the entire Ninth Avenue Terminal building, although portions of the associated wharf structure would still be removed and the remainder paved to result in a significant and unavoidable impact (since the wharf in its existing paved nature is considered an integral part of the historic resource). This would be avoided with implementation of the Full Preservation Sub-Alternative to this alternative.

Less overall development would occur with Alternative 3 compared to the project (and each of the other alternatives). Specifically relative to Fifth Avenue Point, adjacent new buildings would be lower in height and contain substantially fewer new dwelling units that would occur with the project. Channel Park would abut Fifth Avenue Point on the west. As a result, this alternative would have less adverse effect on Fifth Avenue Point in terms of new, incompatible land uses and change in environment (Impact A.1 and Impact A.3), but this impact would continue to be considered less than significant (after mitigation), as would occur with the project.

Alternative 3 would not, however, fully support the project objectives to provide a range of needed housing opportunities, help address the existing jobs/housing imbalance, and provide housing with access to alternative modes of transportation, each of which is consistent with policies in the General Plan LUTE, the Estuary Policy Plan, and the Housing Element. With 540 dwelling units (compared to 3,100 with the project, no units with Alternative 1B, and 1,800 units with Alternative 2), these objectives and policies would be met to a much lesser degree than with the project or any of the other alternatives.

E. Alternatives Considered but not Analyzed in Detail

Offsite Alternative

Other possible alternatives were considered but not further analyzed in this EIR. As discussed in Section B of this chapter, most of the suggested alternatives (and possible components of alternatives) have been incorporated into the alternatives selected for analysis. A possible alternative that was considered but not analyzed further is an offsite alternative.

An offsite alternative would evaluate whether significant and unavoidable impacts to traffic, air quality, noise, or historic resources that would occur with the project could be avoided or substantially reduced by developing the project on another site within the city of Oakland. It is possible that the traffic, air quality, and noise impacts that occur with the project could be avoided or substantially reduced on a project site located in a less traffic-impacted area of the city or on a site not in proximity to a major freeway, however, an alternative site would not fulfill the basic project objective of redeveloping the Oak-to-Ninth District of the Oakland Estuary. Additionally, the alternatives evaluated in this EIR successfully avoid and/or substantially reduce traffic, air quality, and noise impacts relative to the project's impacts. Regarding historic resources, locating the project at another site may avoid significant and unavoidable impacts to the Ninth Avenue Terminal. However this is accomplished within the alternatives evaluated in this EIR while continuing to meet the basic project objectives.

Overall, this alternative was not considered in detail since an offsite location would not meet basic project objectives to redevelop the Oak-to-Ninth District. Other sites beyond the Oak-to-Ninth District and the Oakland Estuary would not meet the project's objectives of fulfilling specific goals and objectives for the waterfront and the Oakland Estuary, as identified in the General Plan Land Use and Transportation Element (LUTE), the Estuary Policy Plan, and the Open Space, Conservation, and Recreation Element (OSCAR).

TABLE V-5

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	3,100 units; min. 15K Terminal bulkhead retained; 28.4 acres open space	Existing conditions; Terminal retained/no reuse; 7.7 acres open space	Community and commercial use; 650-rm hotel; Terminal demolished; 41.5 acres open space	1,800 units, Embarcadero pkwy; 1920s Terminal retained/reused; 40.6 acres open space	540 units; Terminal retained/reused; 39.9 acres open space	Full Terminal and wharf retained and reused
A. Land Use, Plans, and Policies						
A.1: The project would develop new and different uses and buildings immediately adjacent to and surrounding Fifth Avenue Point and may result in the physical division of an existing community.	LSM	N	LSM⇩	LSM	LSM	
A.2: The project would not be consistent with the current existing Estuary Plan land use classification and zoning districts for the project site.	LSM	N	LSM	LSM	LSM	-
A.3: The project would introduce new land uses, and residential densities, and large building masses, forms, and significant height to the project site. The project may likely increase noise, light and glare, and traffic, and that may reduce or eliminate existing views from public vantage points. As a result, the project would result in a substantial change in existing environment and existing land uses.	LSM	N	LSM	LSM	LSM	
B. Transportation, Circulation, and Parking						
B.1: Traffic generated by Phase 1 of the project would affect traffic levels of service at local intersections in the project vicinity in 2010.	SU	N	SU⇩	SU⇩	LS	-

Legend

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B.2: Traffic generated by buildout of the project would affect traffic levels of service at local intersections in the project vicinity in 2025.	SU	N	SU⇩	SU⇩	SU⇩	-
B.3: Traffic generated by buildout of the project would contribute to cumulatively significant impacts at local intersections in the project vicinity in 2025.	SU	N	SU⇩	SU⇩	SU⇩	-
B.4: The project would generate demand for alternative transportation service for the area.	LSM	N	LSM	LSM	LSM	-
B.7: The project would increase the potential for conflicts among different traffic streams.	LSM	N	LSM	LSM	LSM	-
B.9: The project would contribute to 2025 changes to traffic conditions on the regional and local roadways.	SU	N	LS	LS	LS	-
B.10: Project construction would temporarily affect traffic flow and circulation, parking, and pedestrian safety.	LSM	N	LSM	LSM	LSM	-
C. Air Quality and Meteorological Conditions						
C.1: Activities associated with demolition, site preparation and construction would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions	LSM	N	LSM	LSM	LSM	--

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C.7: The project together with anticipated future cumulative development in Oakland and the Bay Area in general would contribute to regional air pollution.	SU	N	LS	SU⇩	LS	-
D. Hydrology and Water Quality						-
D.1: Project construction would involve activities (excavation, soil stockpiling, boring and pile driving, grading, and dredging, etc.) that would generate loose, erodable soils that, if not properly managed, could violate any water quality standards or waste discharge requirements; result in substantial erosion or siltation; create or constitute substantial polluted runoff; or otherwise substantially degrade water quality.	LSM	N	LSM	LSM	LSM	-
D.2: Project construction activities would include dredging in Clinton Basin, which could require disturbance, removal, and disposal of contaminated sediment that may result in adverse impacts to aquatic organisms and water quality.	LSM	N	LSM	LSM	LSM	-

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D.5: Site development under the project would involve new landscaping and open lawns. If not properly handled, chemicals used to establish and maintain landscaping and open lawn areas, such as pesticides and fertilizers, could flow into the waterways and result in water quality impacts to the Oakland Estuary, and eventually San Francisco Bay.	LSM	N	LSM	LSM	LSM	-
D.6: The project sponsor could deplete groundwater supplies or interfere with groundwater recharge and cause contamination of surface.	LSM	N	LSM	LSM	LSM	-
E. Cultural Resources						
E.1: Construction of the project could cause substantial adverse changes to the significance of currently unknown cultural resources at the site, potentially including an archaeological resource pursuant to CEQA Guidelines Section 15064.5 or CEQA Section 21083.2(g), or the disturbance of any human remains, including those interred outside of formal cemeteries.	LSM	N	LSM	LSM	LSM	-

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E.2: The project may adversely affect unidentified paleontological resources at the site.	LSM	N	LSM	LSM	LSM	-
E.3: The project would result in the substantial demolition of the Ninth Avenue Terminal, which is an historic resource as defined in CEQA Guidelines Section 15064.5.	SU	N	SU	SU⇩	SU⇩	N
E.4: The project would substantially alter the wharf structure supporting the Ninth Avenue Terminal and surrounding areas, which is an historic resource, as defined in CEQA Guidelines Section 15064.5.	SU	N	SU	SU⇩	SU⇩	N
E.5: The project would construct a new mixed-use, multi-story development immediately adjacent to the remaining Bulkhead Building which may not be architecturally compatible with this structure as a potential future Oakland City Landmark.	SU	N	-	SU⇩	SU⇩	-
E.8: The substantial demolition of the Ninth Avenue Terminal, in combination with the previous loss of the other two Oakland Municipal Terminals, would result in cumulative impacts to historic resources.	SU	N	SU	SU⇩	SU⇩	N

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F. Geology, Soils, and Seismicity						
F.1: In the event of a major earthquake in the region, seismic ground shaking could potentially injure people and cause collapse or structural damage to proposed structures.	LSM	N	LSM	LSM	LSM	-
F.2: In the event of a major earthquake in the region, seismic ground shaking could potentially expose people and property to liquefaction and earthquake-induced settlement.	LSM	N	LSM	LSM	LSM	-
F.3: Development at the project site could be subjected to settlement.	LSM	N	LSM	LSM	LSM	-
F.4: Development at the project area may include use of dredged material as fill which would be subject to settlement and subsidence.	LSM	N	LSM	LSM	LSM	-
F.5: Construction activities at the project area could loosen and expose surface soils. If this were to occur over the long term, exposed soils could erode by wind or rain causing potential loss of topsoil. In addition, shoreline areas exposed to wave action could be subject to erosion and loss of topsoil.	LSM	N	LSM	LSM	LSM	-

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G. Noise						
G.1: Project construction activities would intermittently and temporarily generate noise levels above existing levels in the project vicinity. Project construction noise levels could exceed City of Oakland standards and cause disturbances in noise-sensitive areas, such as residential areas.	SU	N	SU	SU	SU	-
G.2: Noise from project-generated traffic and other operational noise sources, such as mechanical equipment and truck loading/unloading, could exceed City of Oakland Noise Ordinance standards and disturb project occupants and nearby residents.	LSM	N	LSM⇩	LSM	LSM	-
G.3: The project would locate noise-sensitive multifamily residential uses in a noise environment where noise levels are above what is considered "normally acceptable" according to the City of Oakland General Plan Noise Element.	LSM	N	N	LSM	LSM	-

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G.4: The project would locate noise-sensitive multifamily residential uses and public parks in a noise environment where noise levels are above what is considered “normally acceptable” according to the City of Oakland General Plan Noise Element.	SU	N	SU	SU	SU	-
H. Hazardous Materials						
H.1: Disturbance and release of contaminated soil during remediation, demolition and construction phases of the project, or transportation of excavated material, contaminated groundwater or dredged sediment could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling.	LSM	N	LSM	LSM	LSM	-
H.2: Disturbance and release of hazardous structural and building components (i.e. asbestos, lead, PCBs, USTs, and ASTs) during demolition and construction phases of the project or transport of these materials could expose construction workers, the public, or the environment to adverse conditions related to hazardous materials handling.	LSM	N	LSM	LSM	LSM	-

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H.3: Hazardous materials used onsite during construction activities (i.e., solvents) could be released to the environment through improper handling or storage.	LSM	N⇧	LSM	LSM	LSM	-
I. Biological Resources / Wetlands						
I.2: Construction activities required for the project would result in a substantial adverse effect on potentially jurisdictional wetlands or waters of the U.S. under the jurisdiction of the Corps, waters of the state under the jurisdiction of the Regional Water Quality Control Board (RWQCB), and wetlands under the jurisdiction of BCDC jurisdiction.	LSM	N	LSM	LSM	LSM	-
I.3: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on fisheries resources in the Oakland Inner Harbor.	LSM	N	LSM	LSM	LSM	-
I.4: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on nesting habitat for breeding raptors and passerine birds, including Cooper's hawk	LSM	N	LSM	LSM	LSM	-

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I.5: The project could have a substantial adverse effect, either directly or through habitat modifications, on special-status nesting and roosting bats.	LSM	N	LSM	LSM	LSM	-
Less Than Significant, and as noted, Beneficial or No Impacts						
B. Transportation, Circulation, and Parking						
B.5: The project would create demand for bicycle parking.	LS	N	LS	LS	LS	-
B.6: The project would increase the potential for pedestrian safety conflicts.	LS	N	LS	LS	LS	-
B.8: The project would contribute to 2010 changes to traffic conditions on the regional and local roadways.	LS	N	LS	LS	LS	-
C. Air Quality and Meteorological Conditions						
C.2:-The project would result in an increase in regional ROG, NOx, and PM emissions due to project-related traffic.	LS	N	LS	LS	LS	-

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C.3: Project traffic would increase localized carbon monoxide concentrations at intersections in the project vicinity.	LS	N	LS	LS	LS	-
C.4:-Operation of project facilities would produce objectionable odors that would affect a substantial number of people.	LS	N	LS	LS	LS	-
C.5: Construction and operation of the project would expose existing sensitive receptors in the project vicinity and planned multifamily residential land uses associated with the project to health risks from diesel emissions.	LS	N	LS	LS	LS	-
C.6: The proposed project could result in hazardous wind conditions.	LS	N	LS	LS	LS	-
C.8: The proposed project could result in cumulative hazardous wind conditions.	LS	N	LS	LS	LS	

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D. Hydrology and Water Quality						
D.3: Development of the project would result in a substantial decrease in impervious area. The project would implement post-construction BMPs to increase stormwater infiltration; to treat and direct stormwater runoff or discharge into a stormwater system and the estuary; and to prevent illicit discharge. Therefore, the project would not violate regulatory water quality standards or waste requirements.	LS/B	N	LS/B	LS/B	LS/B	-
D.4: Project operation would involve increased use of the marinas at the project site. As required by the RWQCB, the project design would incorporate post construction BMPs to treat stormwater and control discharge of wastes from the vessels used at the marinas. Therefore, the project would not violate water quality standards or waste discharge requirements.	LS	N	LS	LS	LS	-
D.7: The project would not result in flooding due to its proximity to a 100-year flood hazard area, or expose to other substantial risk related to flooding, seiche, tsunami, or mudflow.	LS	N	LS	LS	LS	-

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D.8: The project would result in a net decrease in impervious surfaces and would reconfigure and stabilize the shoreline along the project site, thereby decreasing the volume of stormwater runoff. Therefore the project would not increase runoff and result in substantial flooding on or offsite, or exceed the capacity of the existing stormwater drainage system.	LS/B	N	LS/B	LS/B	LS/B	-
D.9: The increased construction activity and new development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would not result in cumulative impacts with respect to hydrology and water quality.	LS	N	LS	LS	LS	-
E. Cultural Resources						
E.6: The project would demolish the remaining buildings on the project site	LS	N	LS	LS	LS	-
E.7: The project would construct a new mixed-use, multi-story development, diminishing the industrial character of the project site and vicinity, and altering the existing setting of the Fifth Avenue Point neighborhood.	LS	N	LS	LS	LS	LS

Legend

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F. Geology, Soils, and Seismicity						
F.6: The project would not expose people or structures to substantial risk or hazards as a result of 1) expansive soils, or 2) conditions that would potentially result in landslides or 3) surface fault rupture.	LS	N	LS	LS	LS	-
F.7: The project would not create substantial risks to life or property as a result of being located above a well, pit, swamp, mound, tank vault, or unmarked sewer line; above landfills for which there is no approved closure and post-closure plan, or unknown fill soils; or soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.	LS	N	LS	LS	LS	-
F.8: The development proposed as part of the project, when combined with other reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity.	LS	N	LS	LS	LS	-

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G. Noise						
G.5: The proposed project, together with anticipated future development in Oakland, could result in long-term traffic increases that could cumulatively increase noise levels.	LS	N	LS	LS	LS	-
H. Hazardous Conditions						
H.4: Project operations would generate and involve the handling of general commercial/retail and household hazardous waste in small quantities, and therefore would not cause an adverse effect on the environment.	LS	N	LS	LS	LS	-
H.5: The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	N	LS	LS	LS	-
H.6: The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	N	LS	LS	LS	-

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H.7: Development proposed as part of the project, when combined with other foreseeable development in the vicinity, would not result in cumulative hazardous materials impacts.	LS	N	LS	LS	LS	-
I. Biological Resources						
I.1: Construction activities required for the project could have a substantial adverse effect, either directly or through habitat modifications, on special-status mammal species, specifically the Pacific harbor seal.	LS	N	LS	LS	LS	-
I.6: Increased lighting and shading associated with the new project buildings could have a substantial adverse effect, either directly or through habitat modifications, on biological resources.	LS	N	LS	LS	LS	-
I.7: The removal of any protected trees identified within the project site would be conducted in compliance with the City of Oakland's Tree Preservation and Removal Ordinance.	LS	N	LS	LS	LS	-

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I8: Construction activity and new development resulting from the project, in conjunction with other foreseeable development in the city and along its shoreline, could result in impacts on wetlands, other waters of the U.S., and special-status species.	LS	N	LS	LS	LS	-
J. Population, Housing, and Employment						
J.1: The project would not displace substantial numbers of existing housing units; nor would the project displace substantial numbers of people, necessitating construction of replacement housing.	N	N	N	N	N	-
J.2: The project would displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities, or resulting in substantial increases in distances traveled.	LS	N	LS	LS	LS	-
J.3: The project would not induce substantial population growth directly by proposing new housing,	LS	N	N	LS⇩	LS⇩	-
or indirectly through infrastructure improvements.	LS	N	LS	LS	LS	

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J.4: The project would not induce substantial population growth in a manner not contemplated in the General Plan, with infrastructure requirements not previously considered or analyzed.	LS	N	N	LS	N	-
J.5: The project would not induce substantial population growth as a result of business and employment growth proposed in the project.	LS	N	LS⇧	LS	LS	-
(Non-CEQA) Potential for new retail development to cause ripple effects of store closures and long-term vacancies that result in physical deterioration and urban decay.	LS	N	LS⇩	LS⇩	N⇩	-
(Non-CEQA) Potential for housing market effects to lead to displacement or physical deterioration of housing or neighborhoods	LS	N	LS	LS	LS	-
K. Visual Quality and Shadow						

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K.1: The project would construct new buildings that would be taller and have more bulk than existing buildings in the area along pedestrian and vehicular routes and adjacent to the Oakland Estuary, and would substantially demolish the Ninth Avenue Terminal building. This would substantially, but not adversely, alter the existing visual character and quality of the project area.	LS/B	N	LS/B	LS/B	LS/B	-
K.2: The project would construct new buildings that would be taller and have more bulk than existing nearby buildings which would result in changes to views from nearby public viewpoints, but that would not adversely affect scenic vistas of which the project site is a part.	LS	N	LS⇩	LS⇩	LS⇧	LS⇧
K.3: The project would increase the amount of light and glare emitted from the project site but would not result in substantial adverse effects to day or nighttime views.	LS	N	LS	LS	LS	-

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K.4: The project would create additional shadow on adjacent areas west and north of the project site, however, the project would not cast shadow on historic resources (retained Ninth Avenue Terminal Bulkhead Building), would not introduce landscaping conflicting with the California Public Resource Code; would not cast shadow on buildings using passive solar heat, solar collectors for hot water heating, or photovoltaic solar collectors; and would not cast shadow that impairs the use of any public or quasi-public park, lawn, garden, or open space.	LS	N	LS⇩	LS⇩	LS⇩	-
K.5 The project would require approval of a general plan amendment and rezoning (among other discretionary approvals), but would be consistent with the policies and regulations addressing the provision of adequate light to appropriate uses.	LS	N	LS⇩	LS	LS	-
L. Public Services and Recreation Facilities						

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L.1: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for police protection services.	LS	N	LS	LS	LS	-
L.2: The increased population and density resulting from the project would not involve or require new or physically altered governmental facilities in order to maintain acceptable service ratios, response time, or other performance objectives for fire protection and emergency medical services and facilities.	LS	N	LS	LS	LS	-
L.3: The students generated by the project would not require new or physically altered school facilities in order to maintain acceptable service ratios or other performance objectives at local public schools.	LS	N	LS	LS	LS	-

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L.4: The project would create new parks, and the increased population resulting from the project would not result in increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of these facilities would occur or be accelerated, nor would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	LS/B	N	LS/B	LS/B	LS/B	-
L.5: The project would increase the on-site resident population and increase the demand for library services; however, the increase in demand for such services would not result in the need to construct or expand libraries that might have an adverse physical effect on the environment.	LS	N	LS	LS	LS	-
L.6: The increased population and density resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in a cumulative increase in the demand for public services and parks. However, the project's contribution to such impacts would not be cumulatively considerable.	LS	N	LS	LS	LS	-

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M. Utilities and Service Systems						
M.1: The project would not exceed water supplies available to serve the project from existing entitlements and resources and require or result in the construction of water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	N	LS	LS	LS	-
M.2: The project's projected wastewater demand would not result in the city of Oakland exceeding its citywide allocation under the Wet Weather Program or East Bay Municipal Utility District's (EBMUD) capacity to serve the project's projected demand in addition to its existing commitments within its service area.	LS	N	LS	LS	LS	-
M.3: The project would not require or result in construction of new offsite stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	N	LS	LS	LS	-

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M.4: The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and therefore the project would not require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects. The project would not impede the City of Oakland's ability to meet the waste diversion requirements of the California Integrated Waste Management Act or the Alameda County Waste Reduction and Recycling Initiative, nor cause the City to violate other applicable federal, state, or local statutes and regulations related to solid waste.	LS	N	LS	LS	LS	-
M.5: The project would not violate applicable federal, state, or local statutes and regulations relating to energy standards. The project would not result in a determination by the energy provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments, nor require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.	LS	N	LS	LS	LS	-

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M.6: The increased development resulting from the project, in conjunction with population and density of other foreseeable development in the city, would result in increased demand for utilities and service systems. However, the project's contribution to such impacts would not be cumulatively considerable.	LS	N	LS	LS	LS	-

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CHAPTER VI

Impact Overview

Introduction

This section summarizes the findings with respect to significant, unavoidable environmental impacts, cumulative impacts, and growth-inducing impacts of the proposed project.

A. Significant, Unavoidable Environmental Impacts

The following significant, unavoidable environmental effects have been identified as a result of the proposed project:

- **Impact B.1: Traffic generated by Phase 1 of the project would affect traffic levels of service at local intersections in the project vicinity in 2010.**

- **Impact B.2: Traffic generated by buildout of the project would affect traffic levels of service at local intersections in the project vicinity in 2025.** (Also a Cumulative Impact)

- **Impact B.3: Traffic generated by buildout of the project would contribute to cumulatively significant impacts at local intersections in the project vicinity in 2025.** (Also a Cumulative Impact)

- **Impact B.9: The project would contribute to 2025 changes to traffic conditions on the regional and local roadways.** (Also a Cumulative Impact)

- **Impact C.7: The project together with anticipated future cumulative development in Oakland and the Bay Area in general would contribute to regional air pollution.** (Also a Cumulative Impact)

- **Impact E.3: The project would result in the substantial demolition of the Ninth Avenue Terminal, which is an historic resource as defined in CEQA Guidelines Section 15064.5.**

- **Impact E.4: The project would substantially alter the wharf structure supporting the Ninth Avenue Terminal and surrounding areas, which is an historic resource, as defined in CEQA Guidelines Section 15064.5.**

- **Impact E.5: The project would construct a new mixed-use, multi-story development immediately adjacent to the remaining Bulkhead Building which may not be architecturally compatible with this structure as a potential future Oakland City Landmark.**

- **Impact E.8: The substantial demolition of the Ninth Avenue Terminal, in combination with the previous loss of the other two Oakland Municipal Terminals, would result in cumulative impacts to historic resources.** (Also a Cumulative Impact)

- **Impact G.1: Project construction activities would intermittently and temporarily generate noise levels above existing levels in the project vicinity. Project construction noise levels could exceed City of Oakland standards and cause disturbances in noise-sensitive areas, such as residential areas.**

- **Impact G.4: The project would locate noise-sensitive multifamily residential uses and public parks in a noise environment where outdoor noise levels are above what is considered "normally acceptable" according to the City of Oakland General Plan Noise Element.**

B. Cumulative Impacts

The California Environmental Quality Act (CEQA) defines cumulative impacts as two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the "incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable future projects" that can result from "individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Section 15355). The analysis of cumulative impacts is a two-phase process that first involves the determination of whether the project, together with reasonably foreseeable projects, would result in a significant impact. If there would be a significant cumulative impact of all such projects, the EIR must determine whether the project's incremental effect is cumulatively considerable, in which case, the project itself is deemed to have a significant cumulative effect. (CEQA Guidelines Section 15130).

Cumulative impacts that could occur as a result of the project are discussed in the appropriate sections of Chapter IV of this report. In summary, significant cumulative effects to which the project's contribution would be cumulatively considerable include the following:

- **Impact B.2: Traffic generated by buildout of the project would affect traffic levels of service at local intersections in the project vicinity in 2025.** (Also Significant and Unavoidable)

- **Impact B.3: Traffic generated by buildout of the project would contribute to cumulatively significant impacts at local intersections in the project vicinity in 2025.** (Also Significant and Unavoidable)

- **Impact B.9: The project would contribute to 2025 changes to traffic conditions on the regional and local roadways.** (Also Significant and Unavoidable)

- **Impact C.7: The project together with anticipated future cumulative development in Oakland and the Bay Area in general would contribute to regional air pollution.** (Also Significant and Unavoidable)

- **Impact E.8: The substantial demolition of the Ninth Avenue Terminal, in combination with the previous loss of the other two Oakland Municipal Terminals, would result in cumulative impacts to historic resources.** (Also Significant and Unavoidable)

C. Growth-Inducing Impacts

This section addresses the implications of the Oak to Ninth Avenue Project for growth in Oakland, nearby cities, and the Bay Area region. The discussion is organized into five topics:

- Net addition of housing and population: the extent to which project residential development would result in growth of households and population that otherwise would not occur in Oakland, nearby cities, or the Bay Area region;
- Interrelationships between additional spending by project residents and commercial development in the project, and implications for growth inducement;
- The growth-inducing relationship between increases in business activity and employment and associated increases in population and the demand for housing;
- Construction-related business activity and employment supported by development of the project; and
- Nearby area effects of the project on growth in surrounding areas.

This section summarizes impacts addressed in Section IV.J. Population, Housing, and Employment, providing a context for evaluating growth-inducing impacts.

Project Implications for Growth

Net Addition of Housing and Population

Development of the project would result in 3,100 housing units built at the project site. It is estimated that the new housing would accommodate 2,976 households with approximately 5,060 residents. This growth of housing and population would increase the demand for nearby community services and facilities.

The project and associated regulatory changes in land uses and density for development of the project site would increase the supply of land for large-scale, higher-density residential development in Oakland. Given strong demand for housing and limited locations for creating a new urban neighborhood with the types of higher-density housing proposed for the project, the new housing to be built would add to the housing stock in Oakland and represent additional housing over and above what would otherwise be built. Similarly, development of the project would also provide a net addition of units to the stock of housing in the larger, Inner East Bay area, including Oakland and its nearby cities. Similar to Oakland, there are limited locations in this larger surrounding area for the scale and types of higher-density housing proposed for the project. Because the project would result in more housing units than would otherwise occur, the project also would result in a net addition of households and population in Oakland and the Inner East Bay area.

From the regional perspective of the Bay Area overall, the project would accommodate more housing and population growth in the Oakland area, thereby reducing the demand for housing and the growth of population in more outlying parts of the region. Development of the project would provide additional housing supply in a central Bay Area location with strong housing demand. The project's location is anticipated to attract households with a high proportion of working adults who value the site's close-in regional location with good accessibility to workplaces in Oakland, elsewhere in the Inner East Bay, and San Francisco. Thus, from the regional perspective, the project would add housing in an urban, infill location, adding to the housing supply in the Oakland area, and affecting the distribution of household and population growth within the region. Over the long term, with the project, more higher-density housing in the central parts of the region is likely to result in a larger total regional housing supply than would a more dispersed, lower-density pattern of regional development.

Additional Spending and New Commercial Development

The households to reside in the project would generate additional spending for a variety of goods and services including spending for groceries, drugs, and other convenience items; for eating and drinking out; for retail shopping (clothing, home furnishings, specialty goods, electronics, etc.); for automobile and related purchases and services; and for home maintenance and repair. Retail expenditures by project residents are estimated to total approximately $95 million annually (as discussed in Section IV.J, Population, Housing, and Employment).

The project proposes to include 200,000 sq. ft. of space to be occupied by a mix of retail uses, small offices, local service uses, recreation-oriented services and activities, cultural uses/exhibit space, and community facilities. Just over two-thirds of the space is anticipated to be occupied by neighborhood-serving and visitor-serving retail uses, potentially including a neighborhood-serving grocery, a drug store, specialty food tenants, smaller retail shops, galleries, restaurants, cafés and other eating places, and snack shops. Retail sales for these types of retail tenants are estimated to total approximately $37 million annually (as discussed in Section IV.J, Population, Housing, and Employment).

Project residents are anticipated to provide much of the market support for the convenience retailing in the project. Broader market support is anticipated for the eating and drinking and specialty retail uses, including spending by project residents and by others attracted to new waterfront restaurant and retail uses, people employed in the project, and people coming to the project site for recreation. The additional retailing in the project is anticipated to capture some spending that would otherwise occur outside of Oakland without the project.

Overall, the additional spending by project residents is estimated to be larger than the retail sales to be captured in retail/commercial development in the project. Thus, the project would contribute a net addition of retail spending to the overall market context. This net addition would support additional retail sales and business activity over and above the amount of retail activity to be accommodated in the project. The result is not anticipated to create pressures for additional commercial growth nearby. The additional spending for convenience retailing would add market support primarily for retailers in surrounding parts of Oakland. Additional spending for comparison retailing and other major shopping would add support for retailers and shopping areas in Oakland and other areas serving the Inner East Bay. The additional spending would provide increased sales for existing retailers, neighborhood districts, and other shopping areas and would add market support for possible retail expansion in Oakland in the future, as desired for downtown Oakland, Jack London Square, and other parts of the city.

Employment and Induced Population Growth / Housing Demand

Retail/commercial businesses and recreational, cultural, and other activities in the project would support the growth of 623 jobs on site. There would be additional household and population growth to provide the additional workers in the project. The additional household growth would translate into increased demand for housing.

The large amount of housing to be developed in the project, however, would more than offset the additional housing demand associated with project employment growth. Project housing is estimated to accommodate 2,976 additional households in Oakland with 3,585 additional employed residents. Growth of jobs in the project (623) compared to growth of employed residents (3,585) indicates a net increase of 2,962 or nearly 3,000 employed residents in Oakland. Thus, employment growth in the project would not induce additional housing and population growth over and above that to be accommodated in the project. Further, the project would improve the jobs/housing relationship in Oakland, providing the ability to better accommodate existing employment and/or other job growth.

Construction-Related Business Activity and Employment

Construction of the project would support business activity and employment. It is estimated that approximately 4,950 person-years of construction labor would be supported over the project’s eight phases of development anticipated to occur over 10 to 12 years. In addition, there would be construction spending for building materials, equipment, supplies, and services that would support additional business activity during the construction period. Construction activity and associated employment and spending would also generate indirect (generated by business spending) and induced (generated by household spending) economic activity that would support additional business activity and employment. It is estimated that project construction would support an additional 5,940 person-years of employment as a result of these multiplier effects.

The individuals employed by project construction would live in Oakland, in other parts of the East Bay, and in communities throughout the greater Bay Area. The business activity and employment generated by construction activity and the subsequent rounds of business and household spending to result also would occur in Oakland, elsewhere in Alameda County, and in other parts of the region.

Nearby Area Effects on Growth

The project would continue the redevelopment of the Estuary waterfront that is already occurring in the Jack London District to the west of the project site and along Embarcadero Cove and in the Kennedy Tract to the east. The waterfront is in transition from industrial and warehouse uses to a mix of retail/commercial, residential, work-live, and recreational uses. Creation of a new neighborhood on the project site with park and waterfront amenities would enhance the attractiveness and image of Oakland's waterfront given the large scale of the project and the visibility of the site. The project would enhance the attractiveness of other waterfront areas for additional residential and commercial development and accelerate trends already in evidence.

The success of the project would enhance potentials for additional new higher-density housing development in similar types of waterfront settings by increasing market interest from both households/housing consumers and landowners and housing developers. These effects are anticipated to focus on the adjacent Fifth Avenue Point Area and other locations along the Estuary waterfront, and are also likely to extend inland to locations along Lake Merritt Channel, particularly if improvements are made along the Channel to connect Lake Merritt to the Estuary. It also is possible that these effects could extend just to the east of the Channel where Fifth Avenue provides a connection to the project site under the freeway, although most of the area south of East 12th Street has a General Plan land use designation of Open Space or Business Mix, which do not accommodate residential land use. Housing and other development along the waterfront and in most of the nearby areas would likely occur without the Oak to Ninth Avenue project, although the project is likely to enhance development potentials and accelerate existing growth trends.

The project is less likely to affect growth and change in surrounding inland areas to the north of the project site (the San Antonio Area and Downtown Oakland). The project is somewhat distant and physically separated from inland areas by the I-880 freeway and the rail lines and railroad rights-of-way, and by industrial uses near the freeway and railroad. Not only is the area somewhat distant from the project site, but also much of the San Antonio Area north of I-880 (north and northeast of the project) includes existing residential neighborhoods that are already fully developed and have only limited infill sites for new development. One exception is at the western end of the San Antonio Area where the project could contribute to enhancing demand for additional housing development in the vicinity of Fifth Avenue and Lake Merritt Channel (as identified above), outside of existing neighborhood areas. Another exception includes potential sites in the older industrial areas between East 12th Street and the freeway/railroad that could eventually be redeveloped in the future. The General Plan anticipates new business and commercial uses in these areas. If anything, the success of the project located across the freeway could enhance the attractiveness of the older industrial areas for eventual redevelopment, although the extent and types of future development potentials for this area are not yet clear.

Downtown Oakland to the north and northwest of the project also is somewhat distant from the project site. Development of higher-density housing and office/commercial uses is already occurring in numerous locations downtown. If anything, the project could further enhance the desirability of downtown development, supporting trends already underway. Such effects are most likely in downtown locations near Lake Merritt Channel. .

Development of the project also would result in additional affordable housing development within the Central City East Redevelopment Project Area. The project would generate tax increment monies to the Redevelopment Agency to be used for affordable housing, and state law requires that 15 percent of all housing developed in the Redevelopment Project Area be affordable housing. As a result, there could be up to 465 additional housing units developed in the Redevelopment Area accommodating additional households and population in the Area. Some of the affordable housing could be built in the nearby San Antonio Area and some in other parts of the Central City East Redevelopment Project Area that extends to the east and includes a large part of East Oakland

Nearby area effects on growth and development of the types described above are included in the cumulative growth scenario for Oakland that is analyzed in this EIR.

CHAPTER VII
Report Preparation

EIR Report Authors

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APPENDIX A

Notice of Preparation and Initial Study Checklist

City of Oakland
File No. ER04-0009

INITIAL STUDY AND ENVIRONMENTAL REVIEW CHECKLIST

California Environmental Quality Act (CEQA)

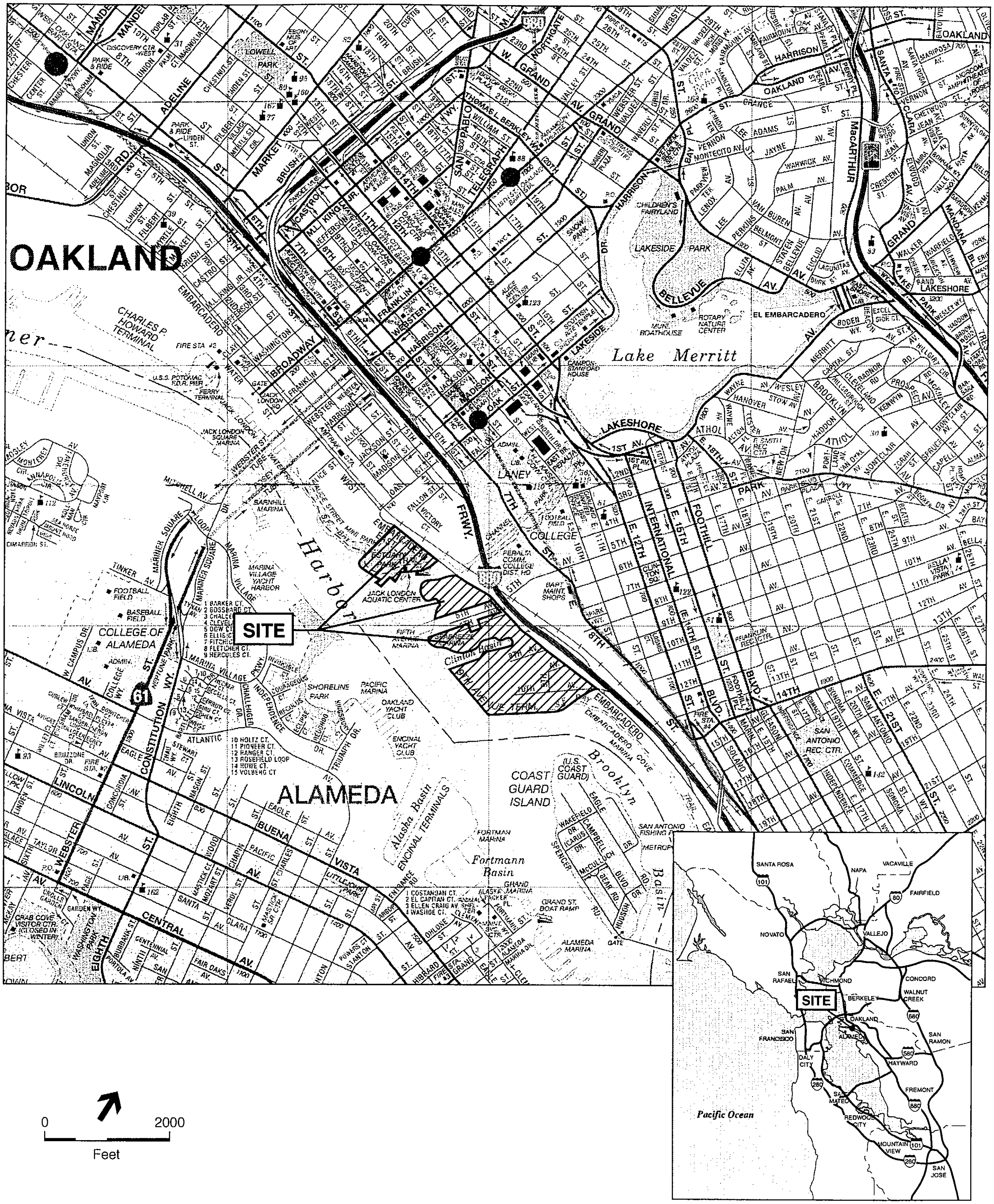
1. **Project Title:**	Oak to Ninth Avenue Mixed Use Development
2. **Lead Agency Name and Address:**	City of Oakland Community and Economic Development Agency Planning Division 250 Frank H. Ogawa Plaza, Suite 3315 Oakland, CA 94612
3. **Contact Person and Phone Number:**	Margaret Stanzione, Strategic Planning Coordinator phone: (510) 238-4932 e-mail: mstanzione@oaklandnet.com
4. **Project Location:**	Oak to Ninth Avenue (area bounded by the Oakland Estuary, the Embarcadero, Fallon Street and 10th Avenue APN No's: 0000-0430-001-02, portion of 0000-0430-001-04, 0000-0460-003, 0000-0460-004, 0000-0465-002, and portion of 0000-0470-002
5. **Project Sponsor's Name and Address:**	Oakland Harbor Partners 4670 Willow Road, Suite 200 Pleasanton, CA 94588
6. **General Plan Designation:** District (PWD-1)	Estuary Policy Plan Designation: Planned Waterfront
7. **Zoning:**	M-40 Heavy Industrial Zone S-2/S-4 Civic Center Zone/Design Review Overlay

8. **Description of Project:**

Project Area. The proposed project area is located along the Oakland Estuary and is bounded by the Embarcadero between Fallon Street and Tenth Avenue in Oakland and south of Interstate 880 (I-880) (see Figure 1). Jack London Square and District are located to the northwest of the project area, and Brooklyn Basin is located to the southeast of the project area.

Project Description. The entire project site is approximately 62 acres of waterfront property owned by the Port of Oakland. The proposed project includes up to 3,100 residential units, 200,000 square feet of ground-floor commercial space, 3,500 structured parking spaces, approximately 27 acres of public open space, two renovated marinas, and a wetlands restoration area. The project is proposed to be constructed in phases over approximately ten years. The site is currently occupied by a combination of commercial, warehouse and light industrial services. The existing buildings on the site will be demolished, with the exception of a portion of the Ninth Avenue Terminal shed building, Estuary Park, and the Jack London Aquatic Center. The site is primarily zoned M-40 Heavy Industrial with a small portion zoned S-2/S-4 Civic Center/Design Review. The General Plan land use designation is the Estuary Policy Plan's Planned Waterfront District (PWD-1). As it pertains to the project areas, construction of the proposed project will require consideration of amendments to the City of Oakland Estuary Policy Plan, a rezoning of the property because it is not currently designated for residential or commercial uses, approval of a subdivision map, design review approval, a development agreement, and possibly other City approvals/actions. In addition, approvals or permits may also be required from other agencies for activities such as modifications to the shoreline, demolition of structures, site remediation, wetlands restoration, local and regional access (Caltrans), and possibly other activities. One or more parcels in the project area may be listed on the "Cortese List" of hazardous waste sites (Government Code Section 65962.5).

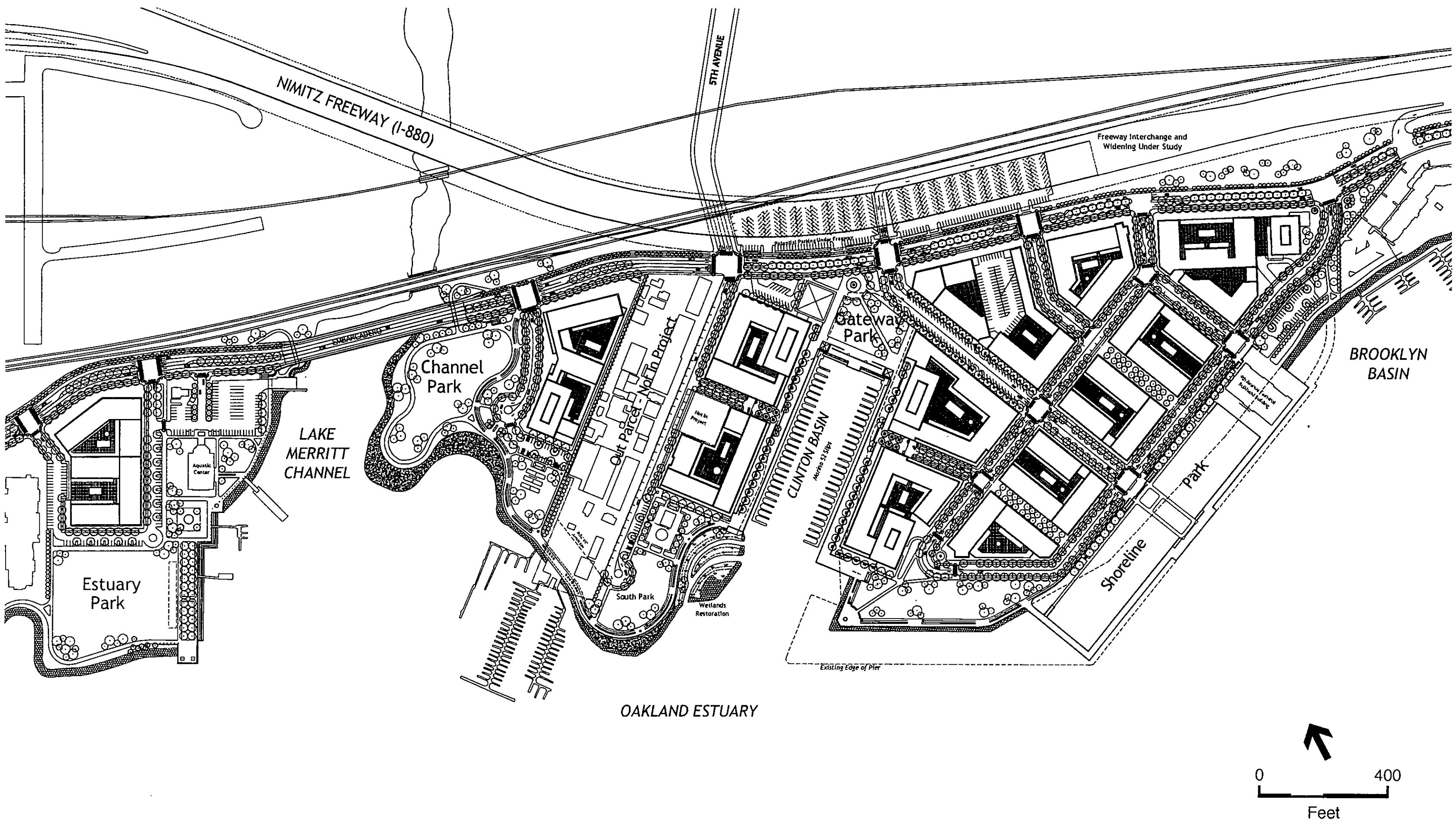
The proposed project requires action by the City of Oakland. This Initial Study is intended to address potential environmental impacts associated with construction and operation of the project including construction of the proposed project and obtainment of all necessary zoning, grading and building permits, and any other discretionary actions required by the City of Oakland and other governmental agencies, including but not limited to a General Plan Amendment, Rezoning, Planned Unit Development, Subdivision, Design Review, and Development Agreement. This Initial Study may also be used by other responsible agencies, including BCDC, Caltrans, and the Port of Oakland.



SOURCE: Environmental Science Associates

Oak to Ninth Avenue . 202622

Figure III-1
Location Map



SOURCE: ROMA Design Group

Oak to Ninth Avenue . 202622

Figure III-3
Illustrative Development Plan

9. **Surrounding Land Uses and Setting:** The project area is along the Oakland Estuary, between Fallon Street and Tenth Avenue, within less than a mile from downtown Oakland. To the northwest of the project area lie commercial uses of Jack London Square, warehouse and live-work lofts in the Jack London District, The Landing residential development, and the Amtrak station. The northern surrounding area, beyond I-880, land uses include Laney College Campus, Union Pacific Railroad, and the San Antonio District which is a neighborhood with residential uses of various densities and commercial uses along the main corridors of International Boulevard and 12th Street. To the southeast lie hotel and retail uses along Brooklyn Basin. Along the western border of the project area lies the City's Estuary Park/Aquatic Center.

   The project area is located adjacent to The Embarcadero and Interstate 880 (I-880), about one-half mile of the Lake Merritt BART Station, and about a mile from the 12th Street/City Center BART Station. The Oakland/San Francisco Ferry, which is located near the western boundary of Jack London Square, and the Amtrak station are northwest of the project area. AC Transit routes within the vicinity of the project site include Transbay Lines OX, S, SA, SB and Local Lines 35X and 36X along Embarcadero Street.

10. **Actions for Which This Initial Study May Be Applied Without Limitation:**

   - General Plan Amendment
   - Rezoning
   - Planned Unit Development under Section 17.122
   - Subdivision
   - Development Agreement under Section 17.138
   - Design Review
   - BCDC Permit
   - Port Agreements
   - Implementation of mitigation measures, as required

11. **Environmental Factors Determined To be Less than Significant:** As noted in the following evaluation, the following environmental factors have been determined to be less than significant and will not require further analysis in the EIR:

   - Agricultural Resources
   - Mineral Resources

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agricultural Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology/Soils
☒ Hazards/Hazardous Materials	☒ Hydrology/Water Quality	☒ Land Use/Planning
☐ Mineral Resources	☒ Noise	☒ Population/Housing
☒ Public Services	☒ Recreation	☒ Transportation/Traffic
☒ Utilities/Service Systems	☒ Mandatory Findings of Significance	

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 3330 • OAKLAND, CALIFORNIA 94612-2032

Community and Economic Development Agency
Planning & Zoning Services Division

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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

The City of Oakland, Community and Economic Development Agency, Planning Division, is preparing a Draft Environmental Impact Report (EIR) for the project identified below. Your comments on the scope and content of the EIR are requested. An Initial Study (IS) has been prepared that identifies areas of probable environmental effects. These probable environmental effects are summarized below. The IS is available at the Planning Division office or at http://www.oaklandnet.com/government/ceda/revised/planningzoning/MajorProjectsSection/environmentaldocuments.html. The City of Oakland is the Lead Agency for this project and is the public agency with the greatest responsibility for either approving or carrying out the project. This notice is being sent to Responsible Agencies and other interested parties. Responsible Agencies are those public agencies, besides the City of Oakland, that also have a role in approving or carrying out the project. Responsible Agencies will need to use the EIR that the City prepares when considering approvals related to the project. When the Draft EIR is published, it will be sent to all Responsible Agencies and to others who respond to this Notice of Preparation or who otherwise indicate that they would like to receive a copy.

Written comments on the Notice of Preparation must be received by **5:00 p.m. on June 30, 2004.** Your response and any questions or comments should be directed to Margaret Stanzione, Project Planner, at the address listed below.

The Planning Commission will hold a Scoping Session on Wednesday, June 16, 2004 at 6:30 pm at City Hall, Hearing Room 1, One City Hall Plaza, Oakland.

PROJECT TITLE: Oak to 9th Mixed Use Development (Residential/Commercial/Open Space) Project

PROJECT LOCATION: Approximately Sixty–two acres bounded by Embarcadero Road, the Oakland Estuary, Fallon Street, and 10th Avenue (see attached location map).

PROJECT SPONSOR: Oakland Harbor Partners, LLC

PROJECT DESCRIPTION: The entire project site is approximately 62 acres of waterfront property owned by the Port of Oakland. The proposed project includes up to 3,100 residential units, 200,000 square feet of ground-floor commercial space, 3,500 structured parking spaces, approximately 27 acres of public open space, two renovated marinas, and a wetlands restoration area. The project is proposed to be constructed in phases over approximately ten years. The site is currently occupied by a combination of commercial, warehouse and light industrial services. The existing buildings on the site will be demolished, with the exception of a portion of the Ninth Avenue Terminal shed building, Estuary Park, and the Jack London Aquatic Center. The site is primarily zoned M-40 Heavy Industrial with a small portion zoned S-2/S-4 Civic Center/Design Review. The General Plan land use designation is the Estuary Policy Plan's Planned Waterfront District (PWD-1). As it pertains to the project area, construction of the proposed project will require consideration of amendments to the City of Oakland Estuary Policy Plan, a rezoning of the property because it is not currently designated for residential or commercial uses, approval of a subdivision map, design review approval, a development agreement, and possibly other City approvals/actions. In addition, approvals or permits may also be required from other agencies for activities such as modifications to the shoreline, demolition of structures, site remediation, wetlands restoration, local and regional access, and possibly other activities. One or more parcels in the project area may be listed on the "Cortese List" of hazardous waste sites (Government Code Section 65962.5).

PROBABLE ENVIRONMENTAL EFFECTS: It is anticipated that the proposed project may result in the following potentially significant environmental impacts which will be analyzed in the EIR: aesthetics, air quality, cultural/historic resources, hazards/hazardous materials, noise, transportation/traffic, biological resources, geology/soils, hydrology/water quality, land use/planning population/housing, public services, recreation, and utilities/service systems. The following environmental effects were analyzed in the IS and determined to result in less-than-significant impacts and thus will not be further studied in the EIR: agricultural resources and mineral resources.

CONTACT INFORMATION: Margaret Stanzione, Project Planner, City of Oakland, Community and Economic Development Department, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612. Phone: (510) 238-4932, Fax: (510) 238-6538, email: mstanzione@oaklandnet.com

Date: May 28, 2004
Case File No.: ER 04-0009

CLAUDIA CAPPIO
Director of Development and Environmental Review Officer

APPENDIX B

Summary of NOP Comments and Comments Received during the Community Input Process on the Project

Appendix B: Summary of Environmental Topics Raised in Response to the Notice of Preparation (NOP) and During the Oak Street to Ninth Avenue Waterfront Project Community Input Process

The following is a summary of topics raised in written and oral comments received in response to the Notice of Preparation of the Environmental Impact Report (EIR) for the project. Also included are comments received from public agencies and members of the public during a series of public meetings (conducted separate from the formal environmental review process) on the proposed project.[1] Only comments that address environmental issues appropriate for inclusion in the EIR pursuant to CEQA are identified.

	TOPIC RAISED	RELEVANT EIR SECTION FOR DISCUSSION
1.	Accessibility of open spaces	Ch.III.Project Description
2.	Location of Bay Trail along waterfront, and connections to JLS and other waterfront areas	Ch.III.Project Description
3.	Recreation types (active vs. passive) within proposed open space	Ch.III.Project Description
4.	Public Trust lands and exchange	Ch.III.Project Description; A.Land Use; Ch.V.Alternatives
5.	Cumulative impacts analysis methodology and affected geography	Ch.IV.Environmental Analysis; Ch.VI.Impact Overview
6.	Indirect, growth inducing, and cumulative impacts	Ch.IV.Environmental Analysis; Ch.VI.Impact Overview
7.	Mitigation funding and phasing	Ch.IV.Environmental Analysis
8.	General Plan / Estuary Plan consistency	A.Land Use
9.	Incorporation of Fifth Avenue Point into development	A.Land Use
10.	Land use compatibility, within the site and with existing adjacent uses	A.Land Use
11.	Access and connections to surrounding areas	A.Land Use; B.Traffic
12.	Incorporate affordable housing	A.Land Use; J.Population/Housing/Employment
13.	Neighborhood-scale development around Fifth Avenue	A.Land Use; K.Aesthetics
14.	Expand Estuary Park, per Estuary Policy Plan	A.Land Use; L.Public Services
15.	Provision and definition of open space	A.Project Description; L.Public Services
16.	Access to and by alternative transit modes	B.Traffic
17.	Adequate parking for proposed intensity of development	B.Traffic
18.	Countywide bicycle routes	B.Traffic
19.	Cumulative Traffic analysis using the Countywide Transportation Demand Model, 2010 and 2025	B.Traffic
20.	Emergency access to and egress from the project site	B.Traffic

[1] Copies of NOP comment letters and minutes of the Public Scoping Meeting held June 16, 2004, and copies of the *Oak Street to Ninth Avenue Waterfront Project Summary Report – Small Group Interviews & Public Meetings*, May 2005, are available for review at the City of Oakland Community and Economic Development Agency.

	TOPIC RAISED	RELEVANT EIR SECTION FOR DISCUSSION
	(train obstruction)	
21.	Emergency and fire service access	B.Traffic; L.Public Services
22.	Impact on CMP transit levels of service	B.Traffic
23.	Impacts on AC transit services	B.Traffic
24.	Impacts on Metropolitan Transportation System	B.Traffic
25.	Parking provision (residential and park use)	B.Traffic
26.	Pedestrian safety within and to/from the project	B.Traffic
27.	Site access to/from I-880	B.Traffic
28.	Site and area-wide access during construction	B.Traffic
29.	Traffic impacts	B.Traffic
30.	Traffic mitigation consistency with Alameda County Congestion Management Plan (CMP) Capital Improvement Program (CIP)	B.Traffic
31.	Air quality impacts near I-880.	C.Air Quality
32.	Construction dust impacts on estuary waters and nearby buildings	C.Air Quality
33.	Transportation Demand Measures (TDM) as mitigation	C.Air Quality
34.	Creek protection	D.Hydrology/Water Quality
35.	Effects of high water table	D.Hydrology/Water Quality
36.	Stormwater management and flood control	D.Hydrology/Water Quality
37.	Liquefaction effects	D.Hydrology/Water Quality; F.Geology/Soils
38.	Impacts of bay fill and fill removal	D.Hydrology/Water Quality; F.Geology/Soils; H.Hazardous Materials
39.	Effects of increased contaminated runoff of chemicals into estuary	D.Hydrology/Water Quality; Hazardous Materials
40.	Impacts from change in marina operations	D.Hydrology/Water Quality; I.Biological Resources
41.	Impacts of increased marina/ferry use	D.Hydrology/Water Quality; I.Biological Resources
42.	Effects of changes to wharf pilings to estuary waters and marine life	D.Hydrology/Water Quality; I.Biological Resources; H.Hazardous Materials
43.	Archaeological resources impacts	E.Cultural Resources
44.	Landmarking of Ninth Avenue Terminal	E.Cultural Resources
45.	Preservation and reuse of the Ninth Avenue Terminal	A.Land Use; E.Cultural Resources; V.Alternatives
46.	Seismic issues (site not on bedrock)	F.Geology/Soils
47.	Site topography	F.Geology/Soils
48.	Erosion and sediment control	F.Geology/Soils; D.Hydrology/Water Quality
49.	Construction noise impacts	G.Noise
50.	Noise impact from public open spaces to residential uses	G.Noise
51.	Noise impacts (operational) adjacent to I-880	G.Noise
52.	Site remediation	H.Hazardous Materials
53.	Effects of nighttime street lighting on marine life	I.Biological Resources
54.	Impacts on wetlands and other natural resources	I.Biological Resources
55.	Tree removal	I.Biological Resources
56.	Displacement of existing businesses	J.Population/Housing/Employment
57.	Effects of new retail on existing shopping districts	J.Population/Housing/Employment

TOPIC RAISED		RELEVANT EIR SECTION FOR DISCUSSION
58.	Mixed-income and affordable housing	J.Population/Housing/Employment
59.	Social and economic impacts resulting in physical impacts	J.Population/Housing/Employment
60.	Aesthetics impacts	K.Aesthetics
61.	Shading of public access areas and Estuary Park	K.Aesthetics/Shadows
62.	Solar access	K.Aesthetics/Shadows
63.	Impact on existing significant views	K.Aesthetics/Views
64.	View corridors within the site	K.Aesthetics/Views
65.	View impacts from inland areas, streets(I-880 and Embarcadero) and other public areas	K.Aesthetics/Views
66.	Views of the site from the water and of the water	K.Aesthetics/Views
67.	Visibility of parks and open spaces	K.Aesthetics/Views
68.	Fire safety	L.Public Services
69.	Impacts on public schools	L.Public Services
70.	Capacity of public utilities	M.Utilities
Suggested Alternatives (or Components of Possible Alternatives		
71.	Full and/or partial reuse of Terminal	Ch.V. Alternatives
72.	Low building heights around Fifth Avenue Point	Ch.V. Alternatives
73.	Mixed use, live-work, residential-commercial	Ch.V. Alternatives
74.	Reconfigure Embarcadero close to waterfront / locate residential east (north) of Embarcadero	Ch.V. Alternatives
75.	Segregate open space and residential	Ch.V. Alternatives
76.	Open pavilion of 1950s section of Terminal	Ch.V. Alternatives
77.	Open space minimum: 60 percent	Ch.V. Alternatives
78.	Car-sharing "pods"	C.Air Quality
79.	33 percent residential use; 50 percent light industrial live-work	
80.	Build pedestrian and bike bridge to Channel Park (from JLAC), separate from Embarcadero	
81.	Commercial-office development scenario	
82.	No-office use scenario	
83.	Open space and hotel on one of the peninsula (between Brooklyn and Clinton Basins, or between Clinton Basin and Lake Merritt Channel)	
84.	Festival area on entire area west of 5th Avenue, or one of the peninsulas (between Brooklyn and Clinton Basins, or between Clinton Basin and Lake Merritt Channel)	
85.	High speed rail terminal	
86.	Highrises on the Embarcadero, separated by view corridors	
87.	Hotel use in one of the proposed residential towers	
88.	Housing in slender high rise structures along the Embarcadero	
89.	Maximum building height: 8 stories	
90.	Ninth Avenue overhead (overpass)	
91.	Underground I-880	
92.	Widen Merritt Channel Bridge and sidewalk	

TOPIC RAISED		RELEVANT EIR SECTION FOR DISCUSSION
Suggested Reuses of the Ninth Avenue Terminal		
93.	Art Center / Gallery	Ch.V. Alternatives
94.	Museum (maritime)	Ch.V. Alternatives
95.	Retail / Restaurants	Ch.V. Alternatives
96.	Exhibition / Festival hall / Public meeting space	Ch.V. Alternatives
97.	Live-work	
98.	Movie production businesses displaced from Army Base	
99.	Marine trade uses	
100.	School facilities	
101.	Performing arts theatre	

APPENDIX C

Transportation Technical Documentation

TRIP GENERATION ESTIMATE

Project Parcels

For the purposes of this traffic study, the project area has been subdivided into 14 parcels, which serve as the basis for the discussion of project phasing and project trip generation; see **Table C-1** provides the breakdown of the project by parcel.

TABLE C-1
OAK TO NINTH PROJECT PARCELIZATION

Parcel	Acres	Dwelling Units	Commercial Space (gsf)
A	2.88	375	10,000
B	1.53	160	6,000
C	1.48	160	6,000
D	1.45	160	6,000
E	1.20	86	8,000
F	1.51	164	5,000
G	2.73	280	42,000
H	2.05	335	35,000
J	1.87	292	12,000
K	2.25	310	17,000
L	1.40	144	15,000
M	2.31	334	5,000
N	2.73	300	15,000
9th Avenue Terminal	--	--	18,000
Marina	--	--	170 slips
Totals	***26.42***	***3,100***	***200,000***

SOURCE: Oakland Harbor Partners

Project Phasing

Given the project size, it is anticipated that the construction would be divided into several phases. Based on the construction schedule, only parcels A, F, and G are likely to be constructed by 2010. However, this analysis presents a conservative view of the 2010 traffic conditions by assuming that the interim project includes the first five parcels (A, B, C, F, and G) that could be developed. The construction of the remaining parcels, including the marina would likely occur prior to 2025. The project phasing is shown in **Table C-2**.

Net New Project Trip Generation

Base project trip generation (without credits given for existing trip generation and trip internalization) is described in Section IV.B of the EIR.

TABLE C-2
OAK TO NINTH PROJECT PHASING

Parcel	Acres	Dwelling Units	Commercial Space (s.f.)
Interim Phase			
A	2.88	375	10,000
B	1.53	160	6,000
C	1.48	160	6,000
F	1.51	164	5,000
G	2.73	280	42,000
Interim Phase Total	***10.13***	***1,139***	***69,000***
Cumulative Phase			
D	1.45	160	6,000
E	1.20	86	8,000
H	2.05	335	35,000
J	1.87	292	12,000
K	2.25	310	17,000
L	1.40	144	15,000
M	2.31	334	5,000
N	2.73	300	15,000
9th Avenue Terminal	--	--	18,000
Marina	--	--	170 slips
Cumulative Phase Total	***16.29***	***1,961***	***131,000***
Project Buildout Total	***26.42***	***3,100***	***200,000***

SOURCE: Oakland Harbor Partners

Existing Trip Reduction

As described in Section IV.B of the EIR, there are existing uses on the project site that would be removed as the project is developed. As documented in a September 7, 2004 memorandum prepared by Hausrath Economic Group (HEG), approximately 231 employees work on the portion of the project site to be developed. Because these trips are currently accounted for in the traffic counts collected for the project study, it is appropriate to reduce the project trips to account for these existing trips (see **Table C-3** for trip generation estimates for the existing site uses).

TABLE C-3
EXISTING USES VEHICLE TRIP GENERATION

Employment Category	Employees	Daily		AM Peak		PM Peak	
		Rate	Trips	Rate	Trips	Rate	Trips
Manufacturing	76	2.13	162	0.40	30	0.36	27
Other / Light Industrial	92	3.02	278	0.44	41	0.42	39
Retail / Shopping Center	35	42.94	1,503	0.34	12	1.25	44
Service / General Office	28	3.32	93	0.48	13	0.46	13
Total	**231**		**2,036**		**96**		**123**

SOURCE: Fehr & Peers Transportation Consultants; and Hausrath Economic Group

Interim Project Trip Generation

As shown in **Table C-4**, the Interim phase trip generation is estimated to be 9,120 daily trips, with 440 AM peak hour trips (46 entering and 394 exiting) and 899 PM peak hour trips (553 entering and 346 exiting).

Project Buildout Trip Generation

As shown in **Table C-5**, project buildout trip generation is estimated to be 27,111 daily trips, 1,438 AM peak hour trips (302 entering and 1,136 exiting), and 2,592 PM peak hour trips (1,558 entering and 1,034 exiting).

Table C-4 - Project Trip Generation - Phase 1 (Interim) Project											
				Trips							
					AM			PM			
Land Use	**Parcel**	**Source**	**units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Residential Condos	A	7th Edition ITE (LU Code 230)	375 d.u.	1,974	25	123	149	119	59	178
Residential Condos	B	7th Edition ITE (LU Code 230)	160 d.u.	957	13	62	75	59	29	88
Residential Condos	C	7th Edition ITE (LU Code 230)	160 d.u.	957	13	62	75	59	29	88
Residential Condos	F	7th Edition ITE (LU Code 230)	164 d.u.	977	13	64	77	60	30	90
Residential Condos	G	7th Edition ITE (LU Code 230)	280 d.u.	1,540	20	98	118	94	46	140
Total Residential			**1,139**	**6,406**	**84**	**410**	**493**	**392**	**193**	**584**
Total General Commercial			**69 ksf**	**5,336**	**43**	**28**	**71**	**235**	**255**	**490**
Marina		7th Edition ITE (Marina - 420)	0 berths	0	0	0	0	0	0	0
SUBTOTAL				11,741	127	437	564	627	448	1,075
INTERNALIZATION (5%)		*Assumed 5 percent reduction for internalization*		*587*	*6*	*22*	*28*	*31*	*22*	*54*
		Existing Trips Associated with Site		*2,036*	*75*	*21*	*96*	*43*	*79*	*122*
TOTAL				**9,118**	**46**	**394**	**440**	**552**	**346**	**899**

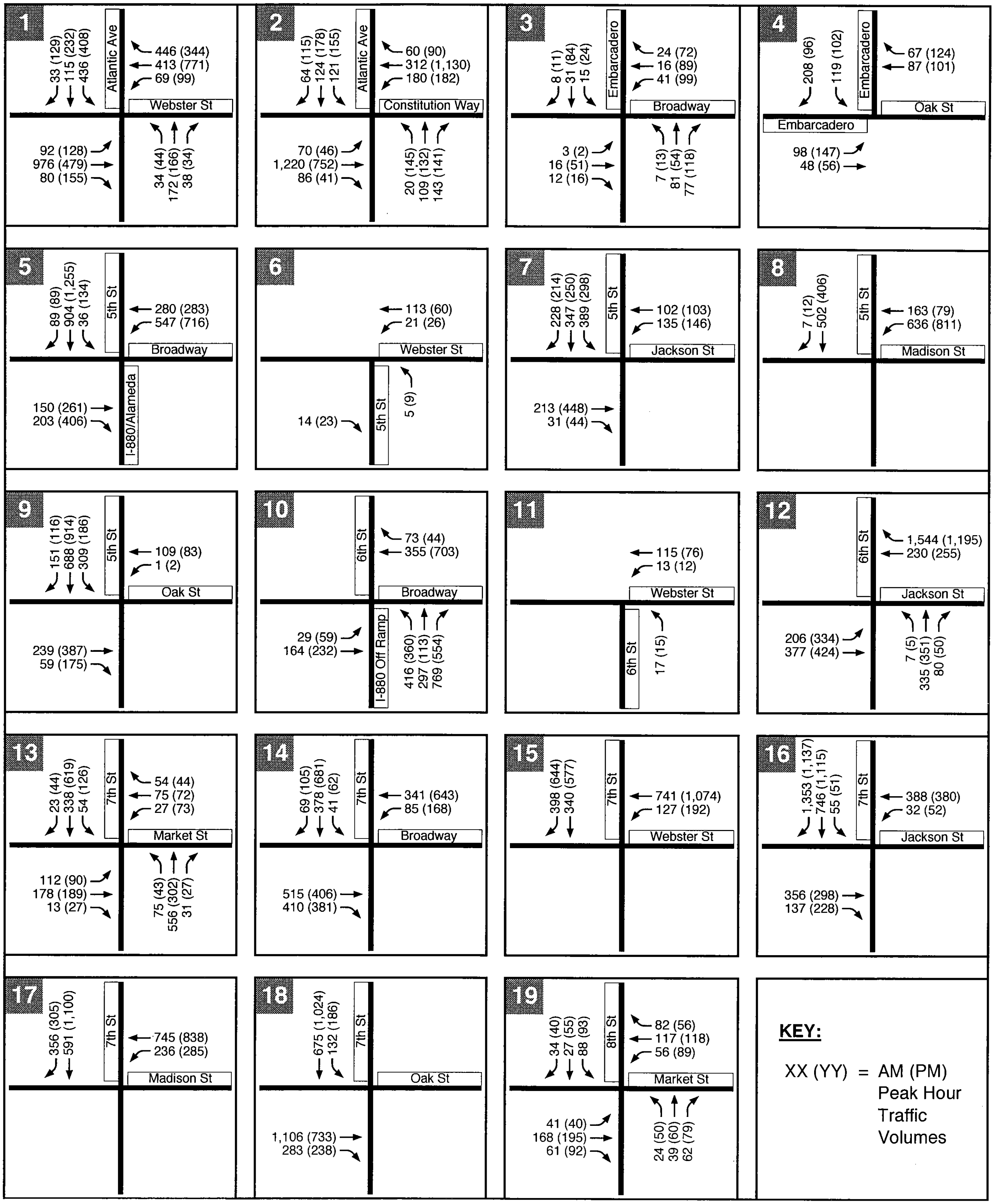
Table C-5 - Project Trip Generation - Project Build Out											
				Trips							
					AM			PM			
Land Use	Parcel	Source	units	Daily	In	Out	Total	In	Out	Total
Residential Condos	A	7th Edition ITE (LU Code 230)	375 d.u.	1,974	25	123	149	119	59	178
Residential Condos	B	7th Edition ITE (LU Code 230)	160 d.u.	957	13	62	75	59	29	88
Residential Condos	C	7th Edition ITE (LU Code 230)	160 d.u.	957	13	62	75	59	29	88
Residential Condos	D	7th Edition ITE (LU Code 230)	160 d.u.	957	13	62	75	59	29	88
Residential Condos	E	7th Edition ITE (LU Code 230)	86 d.u.	565	8	38	46	36	18	53
Residential Condos	F	7th Edition ITE (LU Code 230)	164 d.u.	977	13	64	77	60	30	90
Residential Condos	G	7th Edition ITE (LU Code 230)	280 d.u.	1,540	20	98	118	94	46	140
Residential Condos	H	7th Edition ITE (LU Code 230)	335 d.u.	1,794	23	113	136	109	53	162
Residential Condos	J	7th Edition ITE (LU Code 230)	292 d.u.	1,596	21	101	122	97	48	145
Residential Condos	K	7th Edition ITE (LU Code 230)	310 d.u.	1,679	22	106	128	102	50	152
Residential Condos	L	7th Edition ITE (LU Code 230)	144 d.u.	875	12	57	69	54	27	81
Residential Condos	M	7th Edition ITE (LU Code 230)	334 d.u.	1,789	23	112	135	108	53	162
Residential Condos	N	7th Edition ITE (LU Code 230)	300 d.u.	1,633	21	103	124	99	49	148
Residential Condos	9th Ave Terminal	7th Edition ITE (LU Code 230)	0 d.u.	0	0	0	0	0	0	0
Total Residential			**3,100**	**17,294**	**226**	**1,103**	**1,328**	**1,056**	**520**	**1,575**
General Commercial		7th Edition ITE (Shopping Center - 820)	170 ksf	9,588	107	68	175	427	462	889
General Commercial	H	7th Edition ITE (Grocery Store - 850)	30 ksf	3,067	59	38	98	184	177	360
Total General Commercial			**200 ksf**	**12,656**	**166**	**106**	**273**	**610**	**639**	**1,249**
Marina		7th Edition ITE (Marina - 420)	170 berths	732	4	9	14	19	13	32
SUBTOTAL				30,681	397	1,218	1,615	1,685	1,171	2,857
INTERNALIZATION (5%)		*Assumed 5 percent reduction for internalization*		*1,534*	*20*	*61*	*81*	*84*	*59*	*143*
		Existing Trips Associated with Site		*2,036*	*75*	*21*	*96*	*43*	*79*	*122*
TOTAL				**27,111**	**302**	**1,136**	**1,438**	**1,558**	**1,034**	**2,592**

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

The existing AM and PM peak-hour traffic volumes are shown on **Figures C-1a, C-1b, and C-1c**; lane configurations are shown on **Figures C-2a, C-2b, and C-2c**.

The 2010 No Project intersection traffic forecasts are shown on **Figures C-3a, C-3b, and C-3c**; the project trip assignment for the Interim scenario is shown on **Figures C-4a, C-4b, and C-4c**, while **Figures C-5a, C-5b, and C-5c** provide the 2010 With Project intersection traffic volumes.

The 2025 No Project intersection traffic forecasts are shown on **Figures C-6a, C-6b, and C-6c**; the project trip assignment for the Buildout scenario is shown on **Figures C-7a, C-7b, and C-7c**, while **Figures C-8a, C-8b, and C-8c** provide the 2025 With Project intersection traffic volumes.

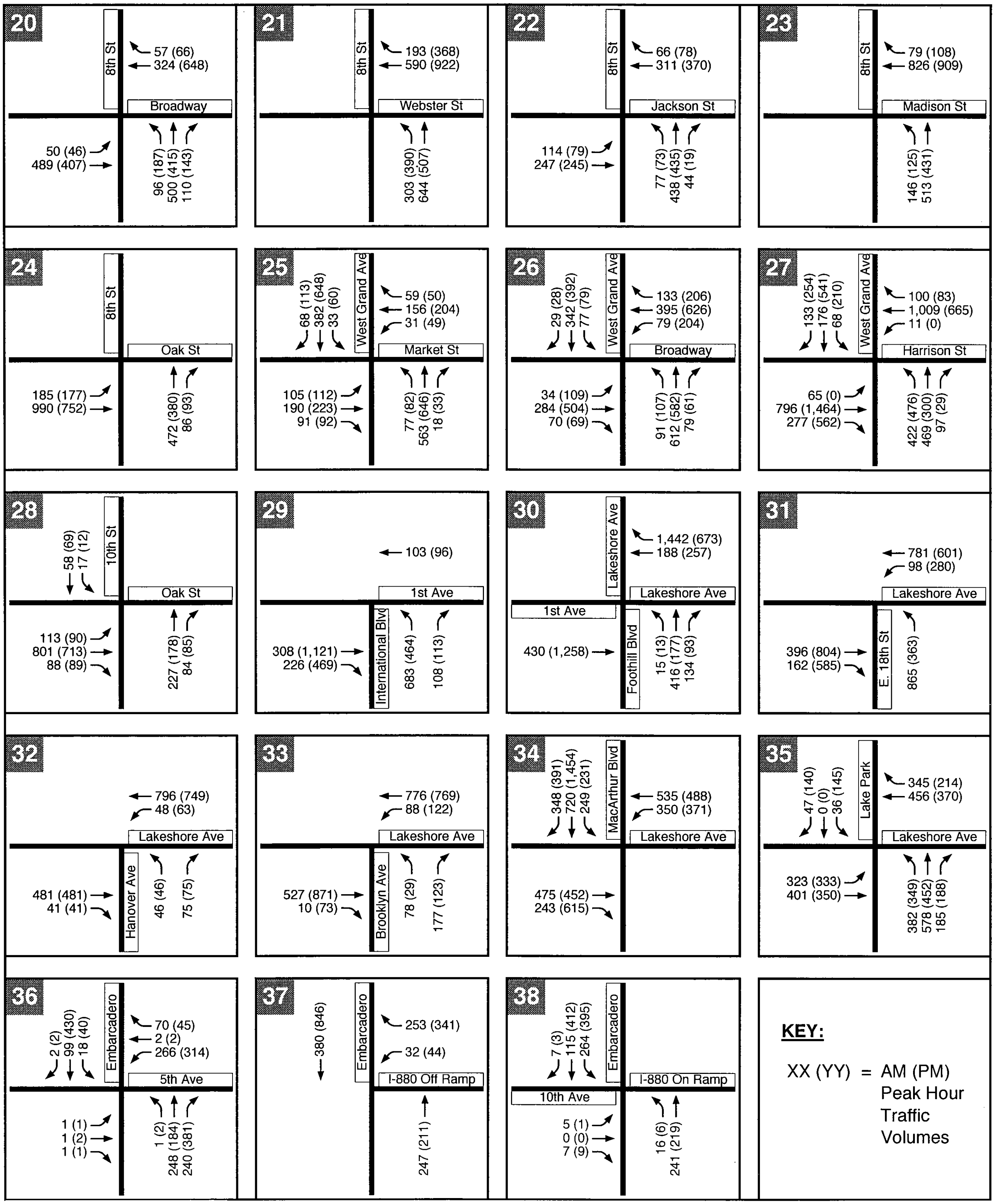


SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-1a

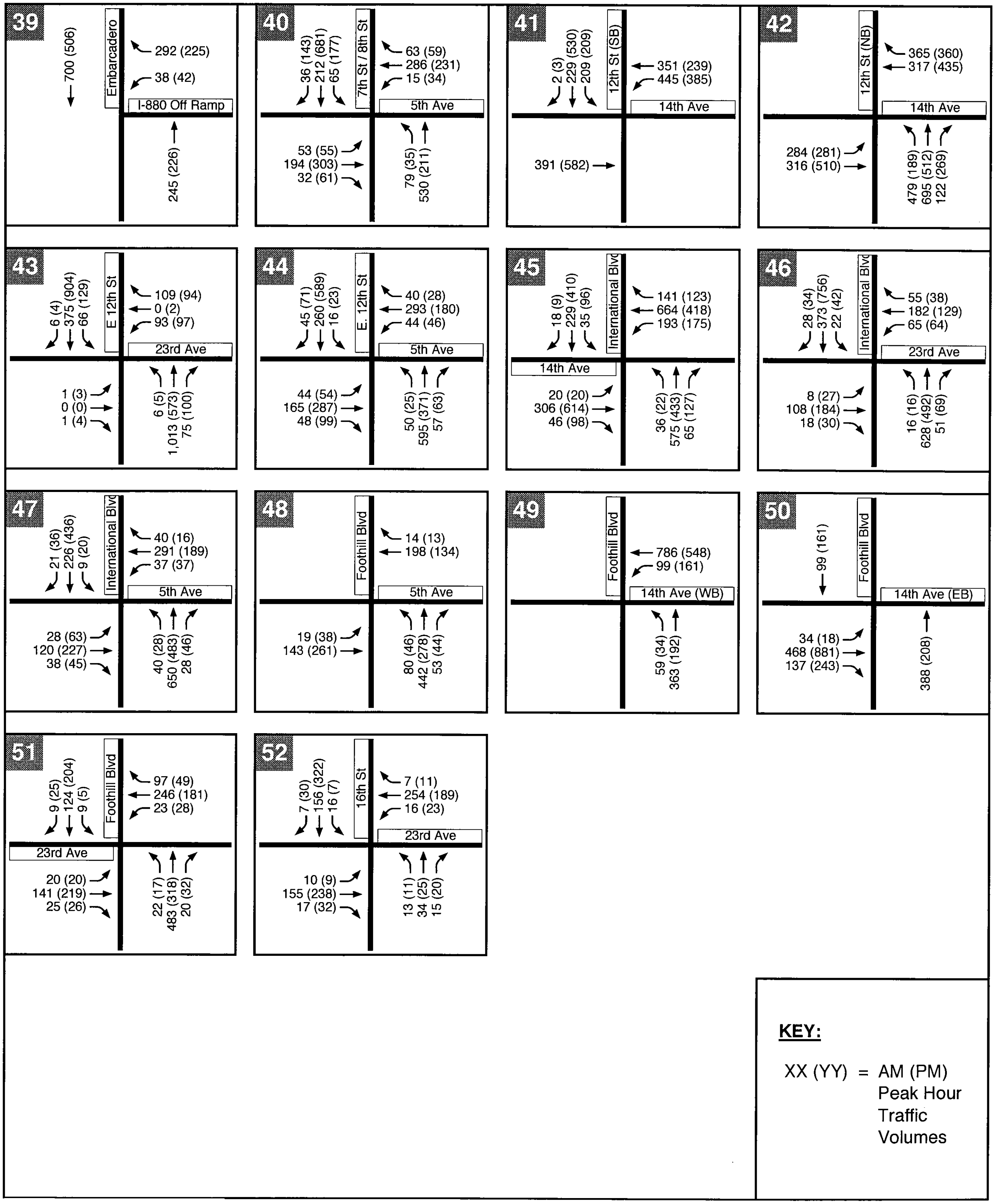
Existing Conditions Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

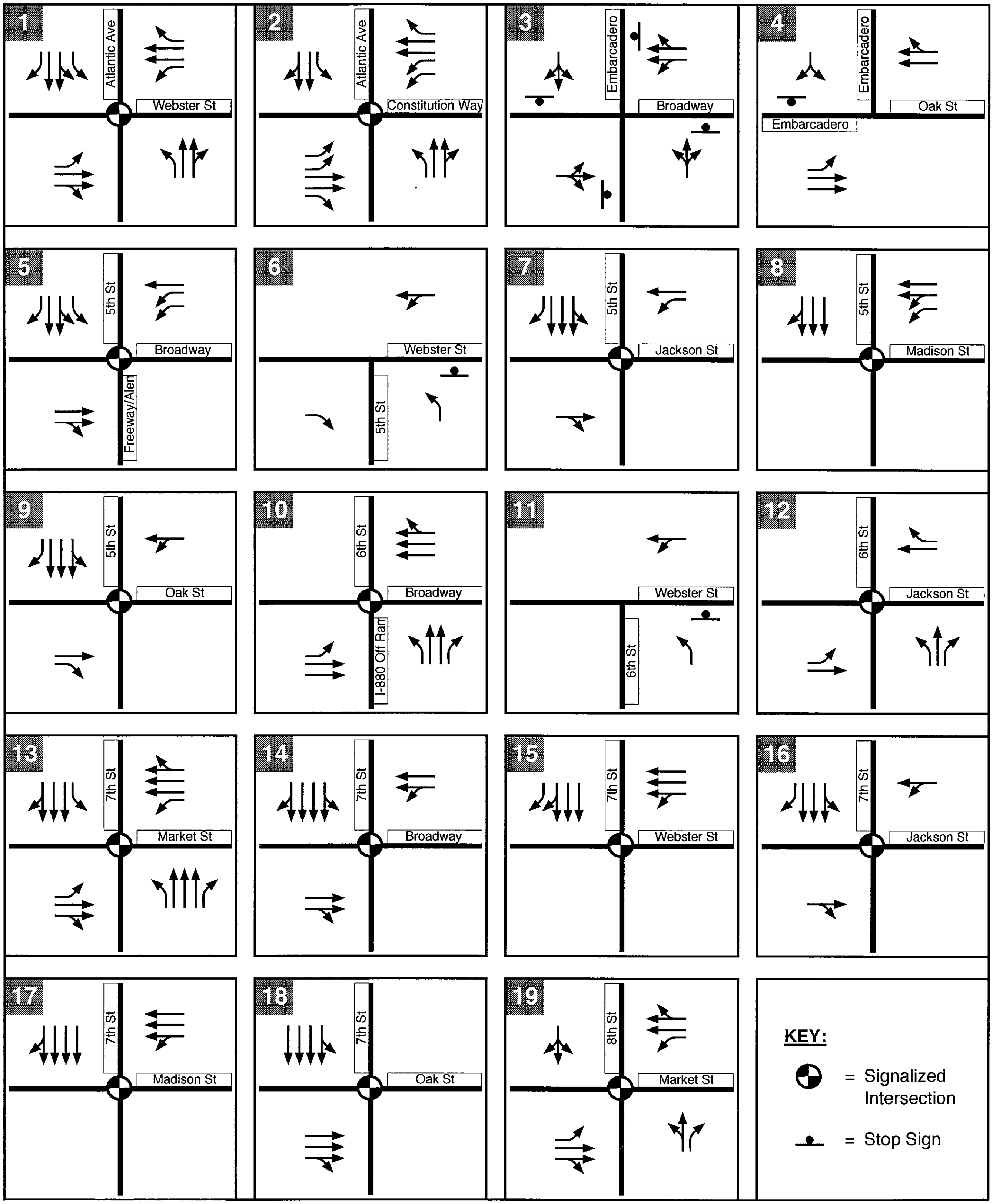
Figure C-1b
Existing Conditions Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-1c
Existing Conditions Peak Hour Volumes

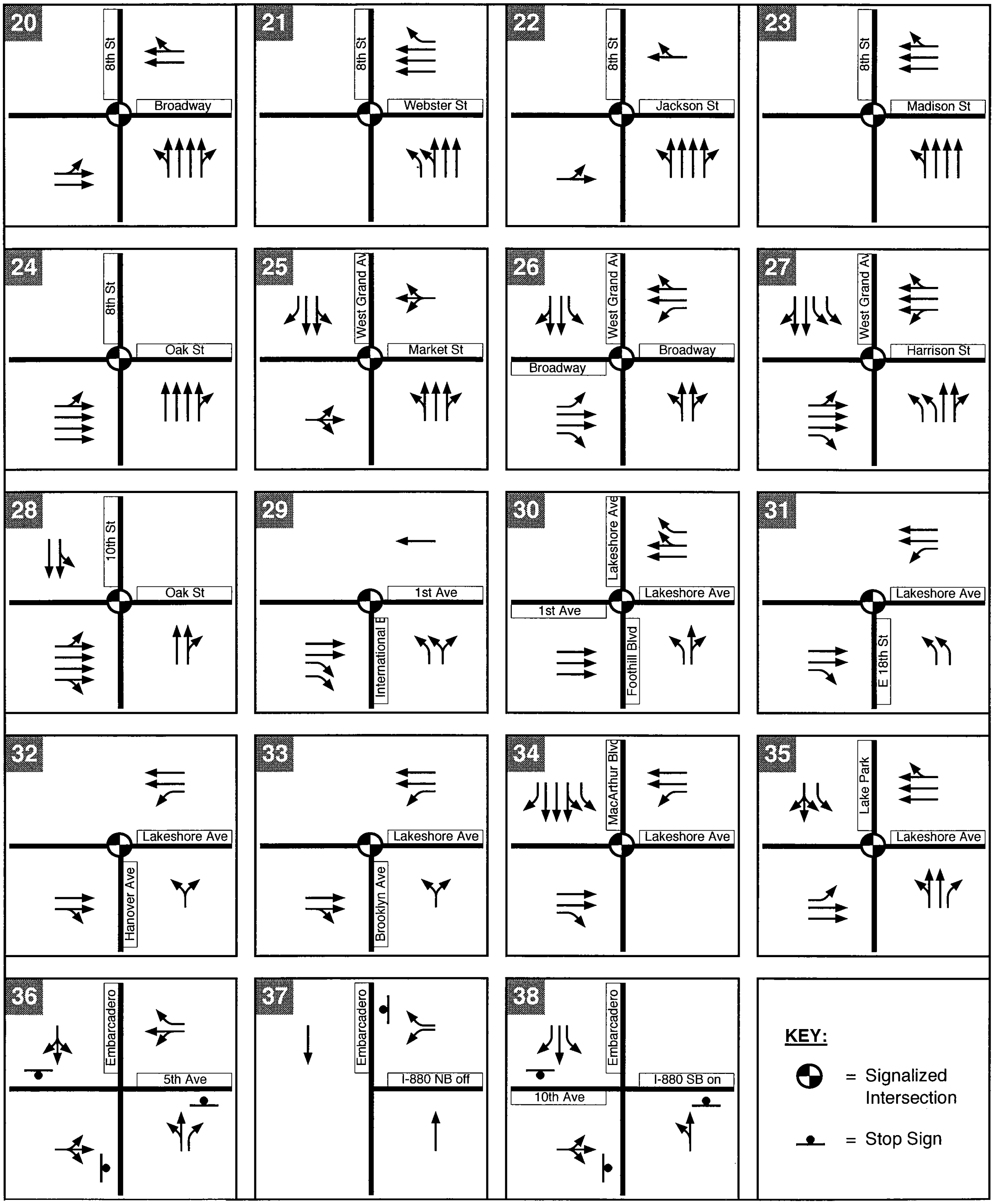


SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

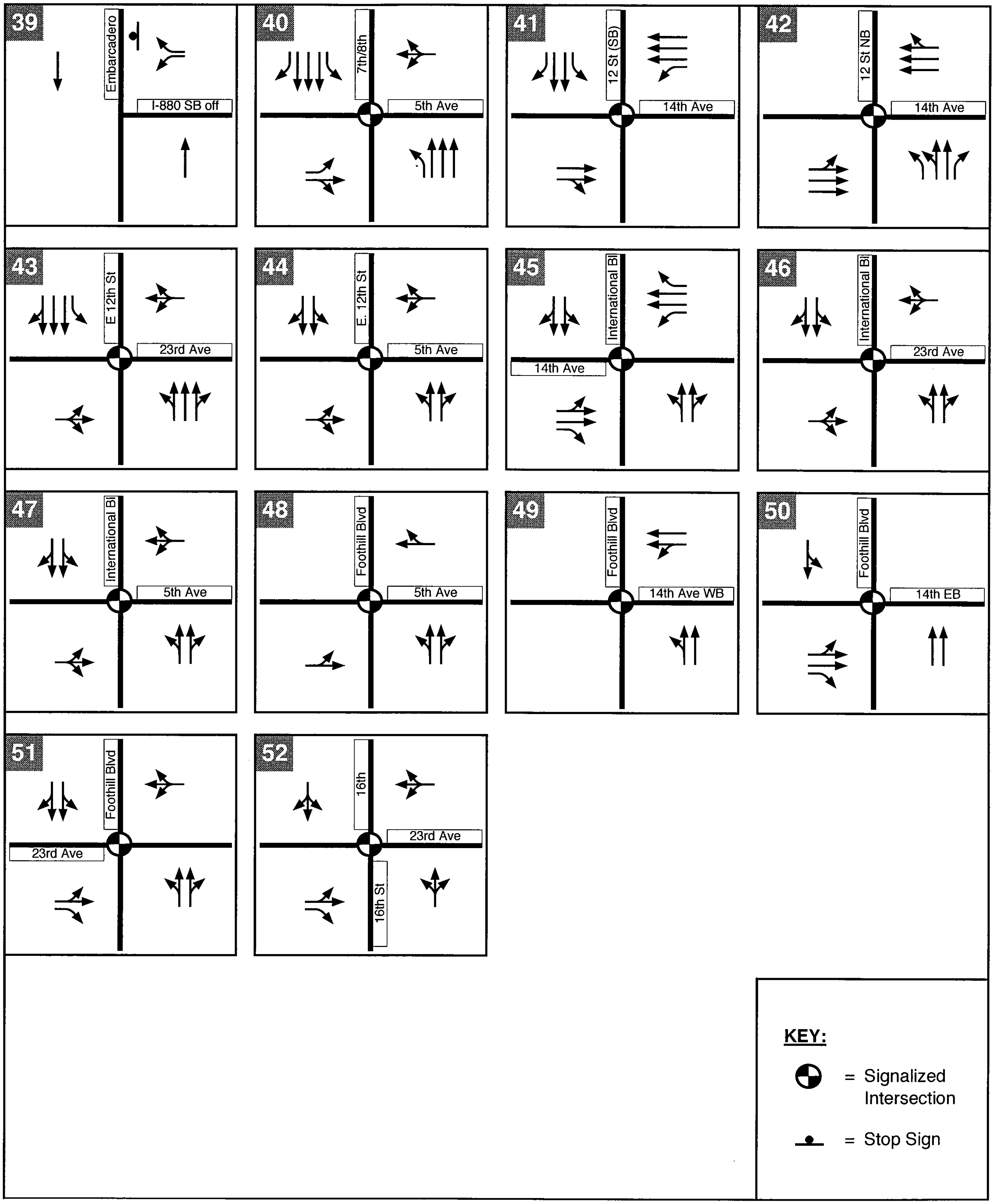
Figure C-2a

Existing Conditions Lane Geometries



SOURCE: Fehr & Peers

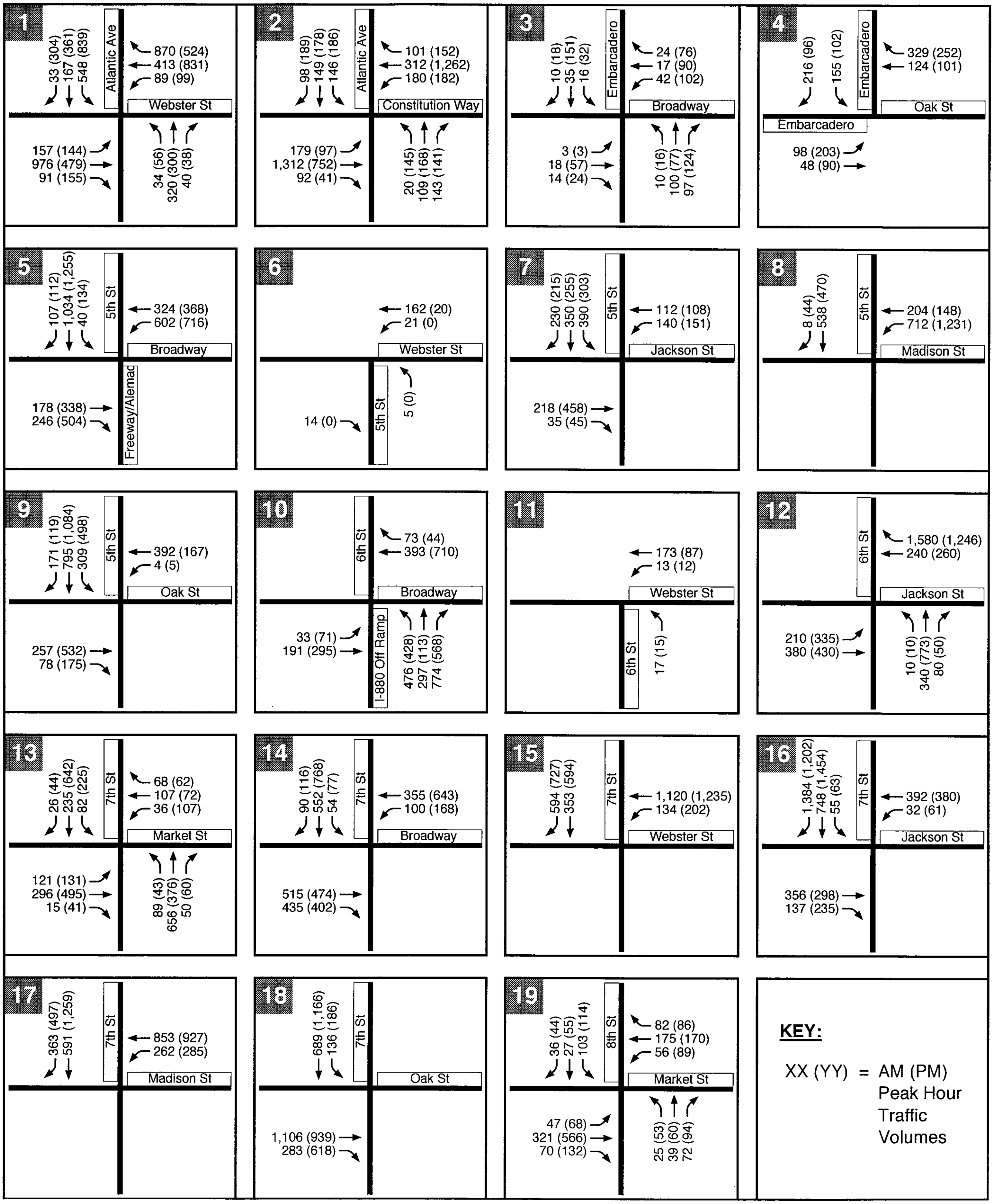
Figure C-2b
Existing Conditions Lane Geometries



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

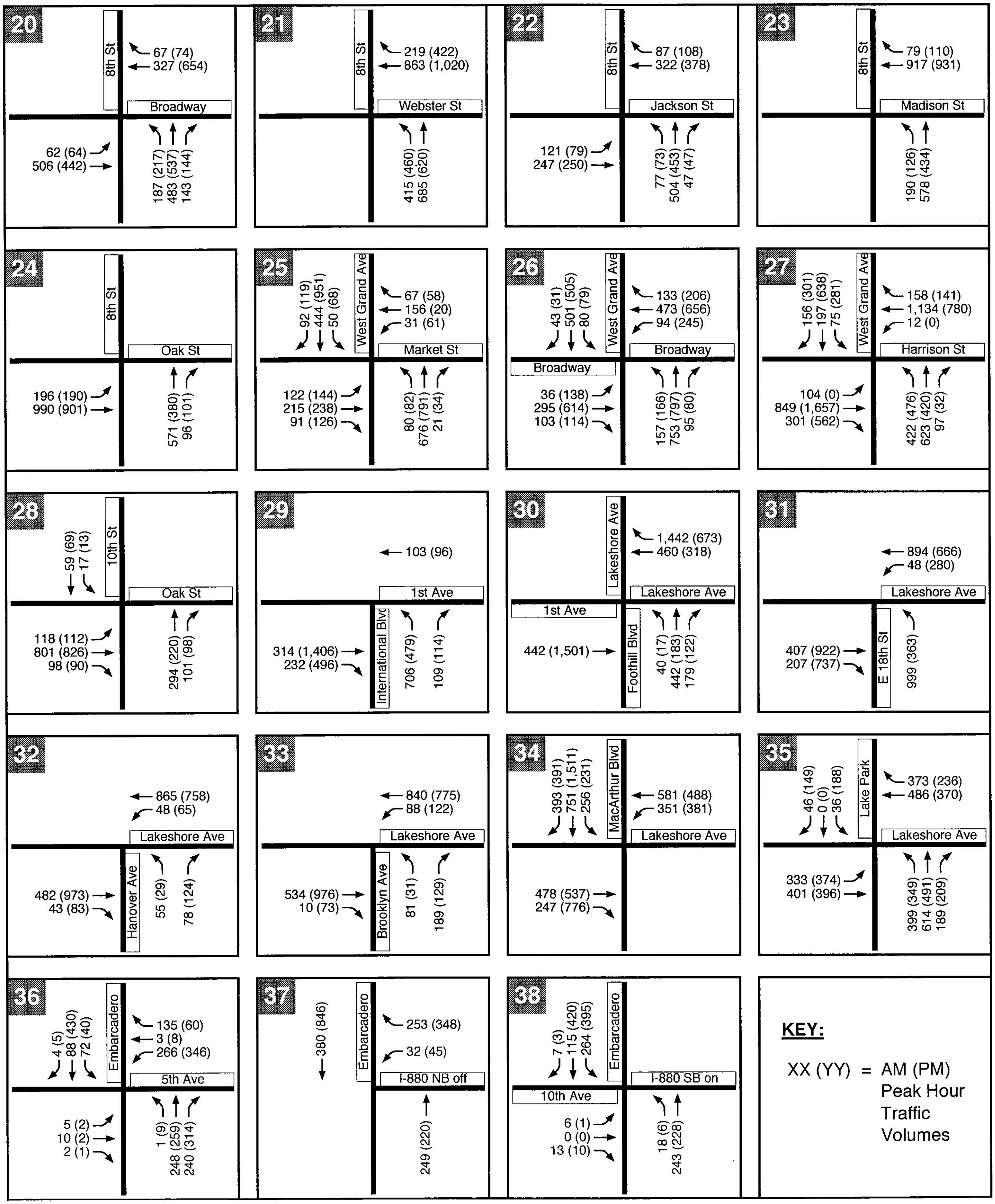
Figure C-2c
Existing Conditions Lane Geometries



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

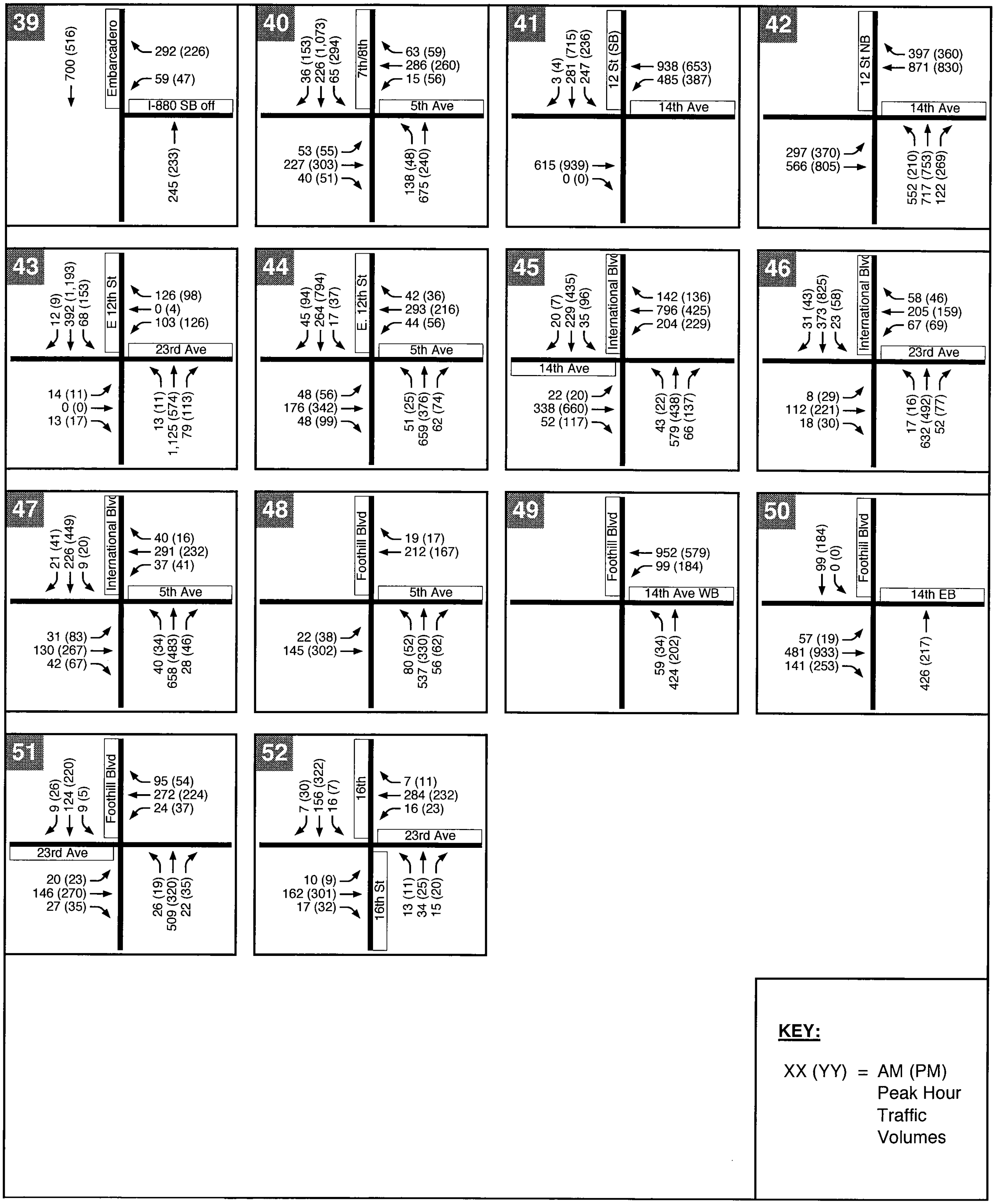
Figure C-3a
Year 2010 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

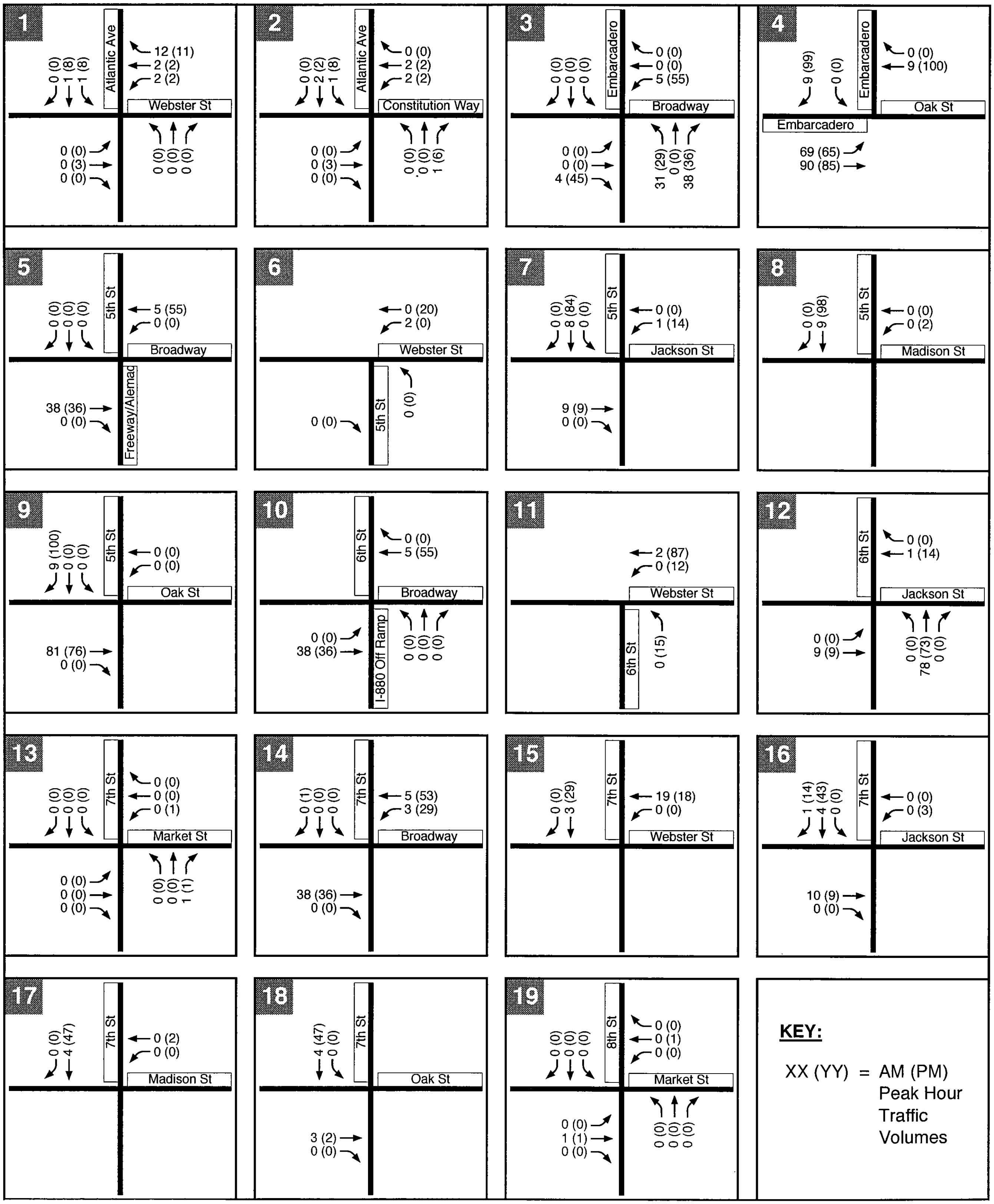
Figure C-3b
Year 2010 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

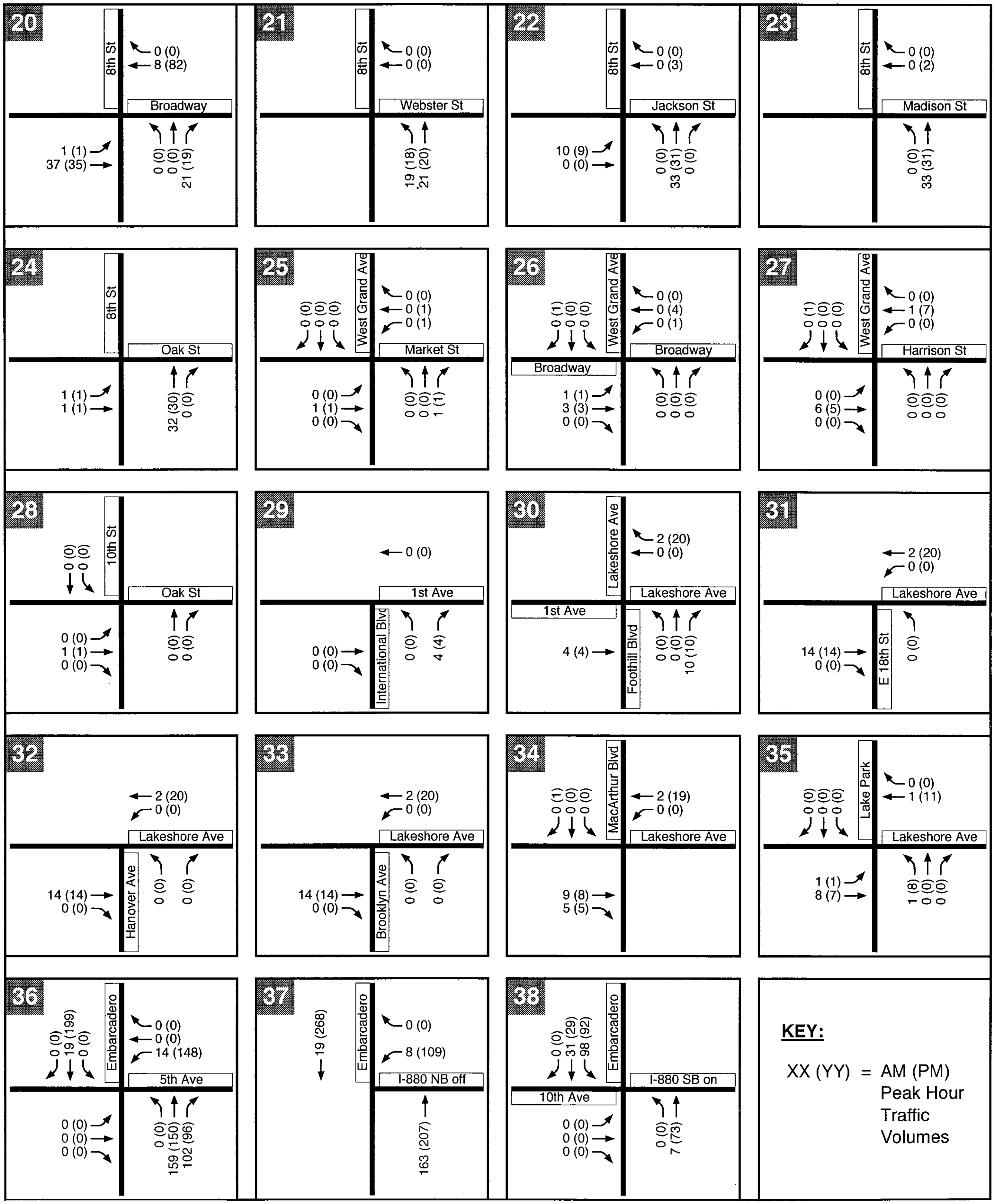
Figure C-3c
Year 2010 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-4a
Interim Project Trip Assignment
Peak Hour Volumes



KEY:

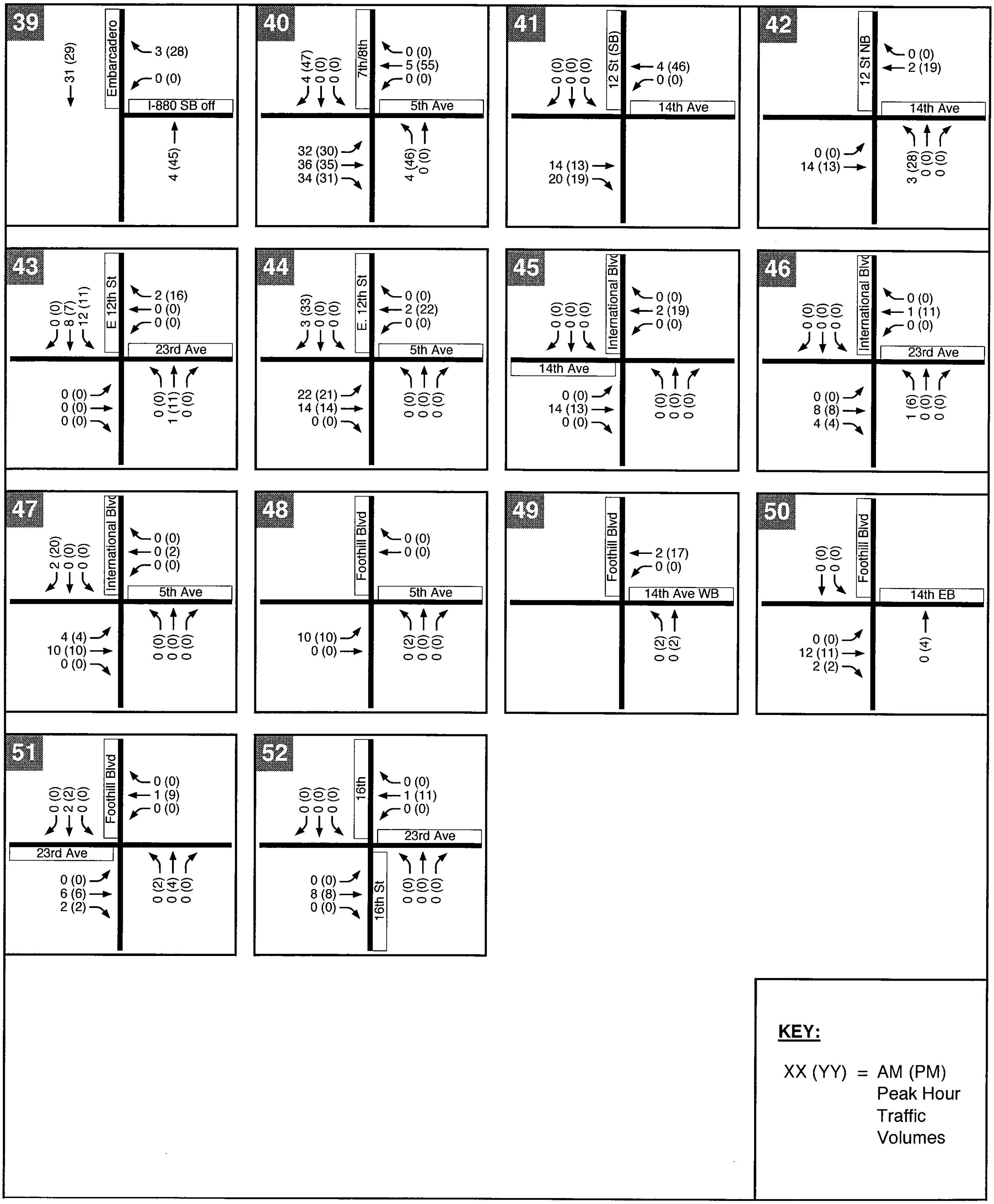
XX (YY) = AM (PM) Peak Hour Traffic Volumes

SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-4b

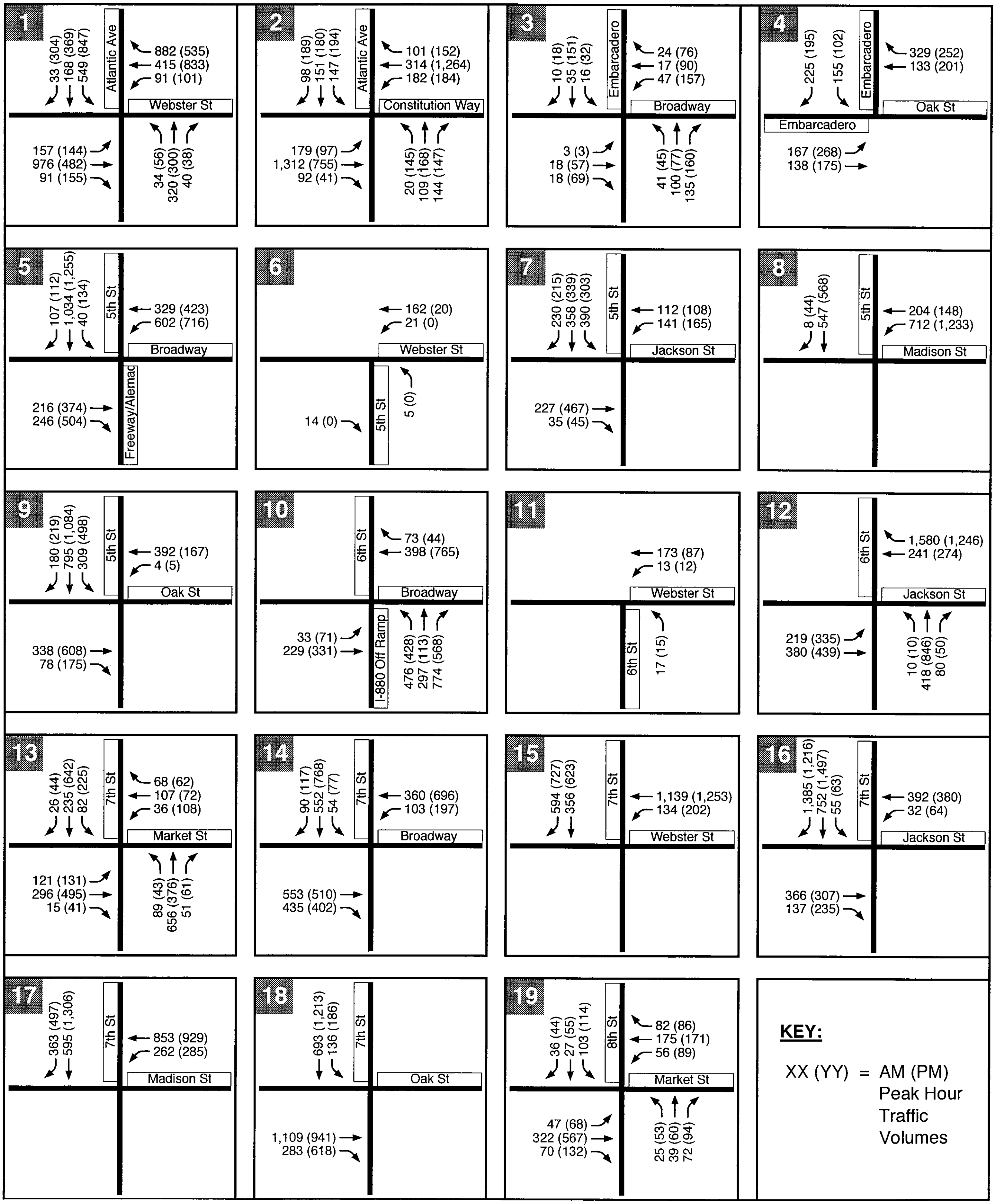
Interim Project Trip Assignment Peak Hour Volumes



SOURCE: Fehr & Peers

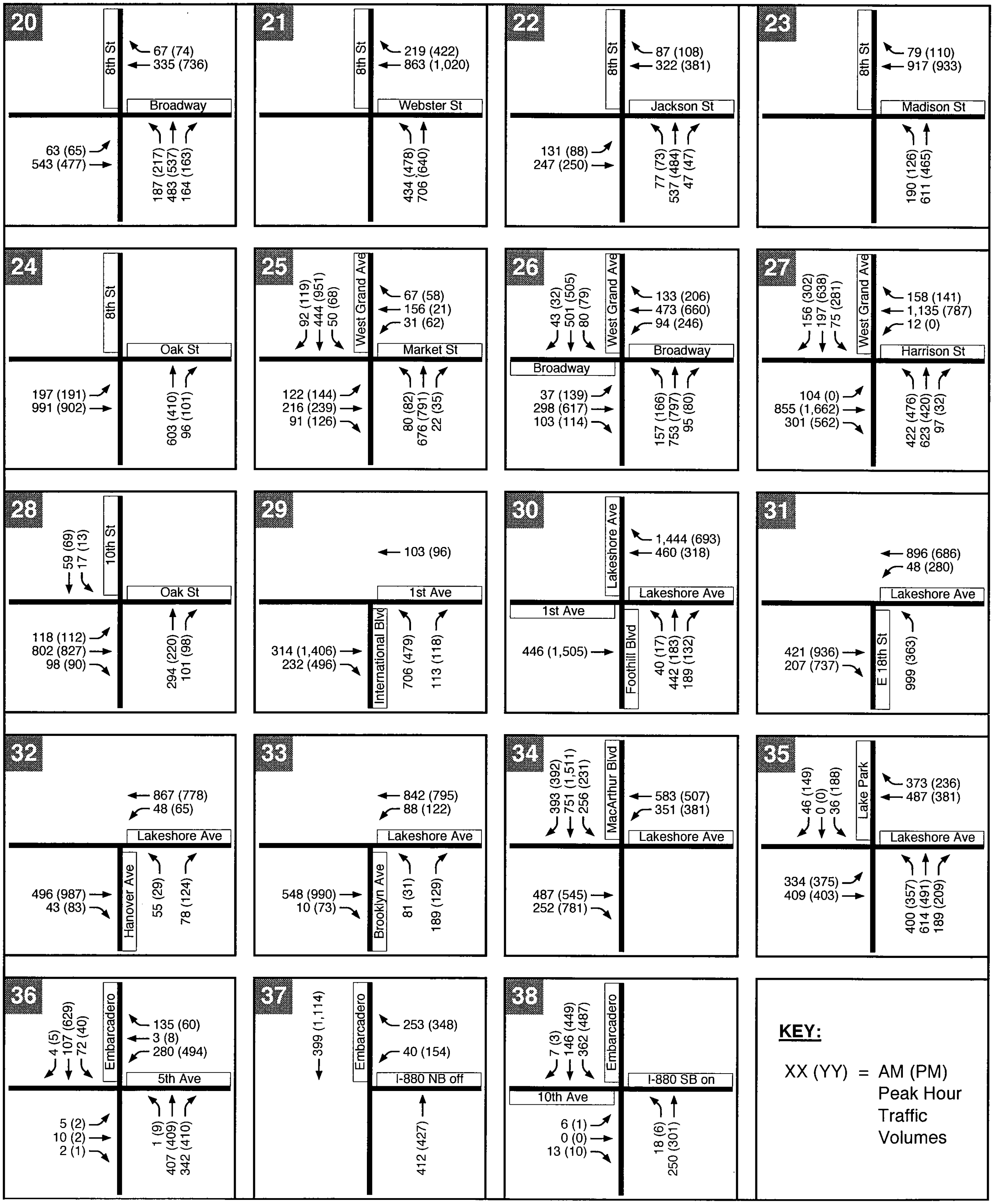
Oak to Ninth Avenue . 202622

Figure C-4c
Interim Project Trip Assignment
Peak Hour Volumes



SOURCE: Fehr & Peers

Figure C-5a
Year 2010 Plus Interim Conditions
Peak Hour Volumes



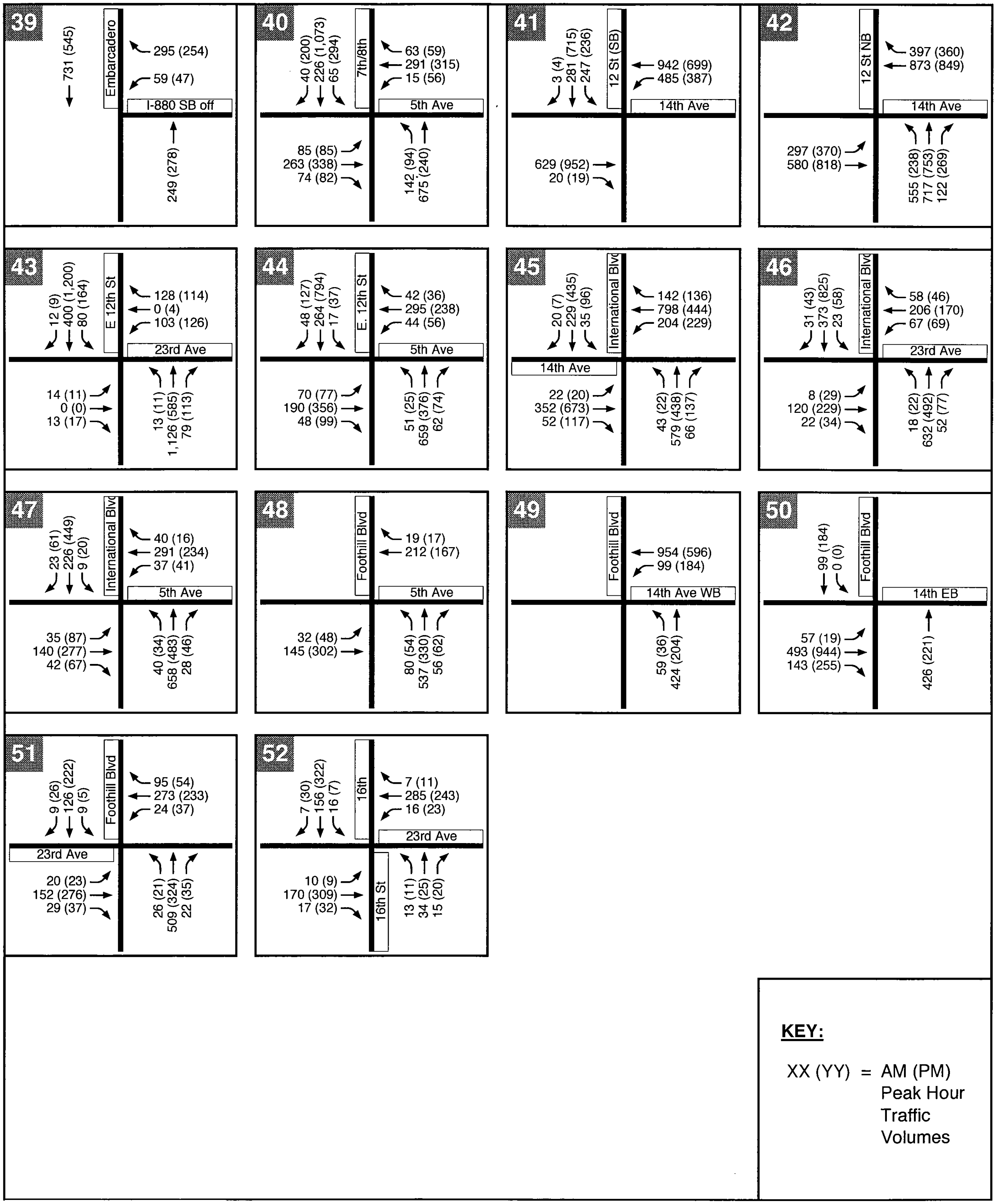
SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-5b

Year 2010 Plus Interim Conditions

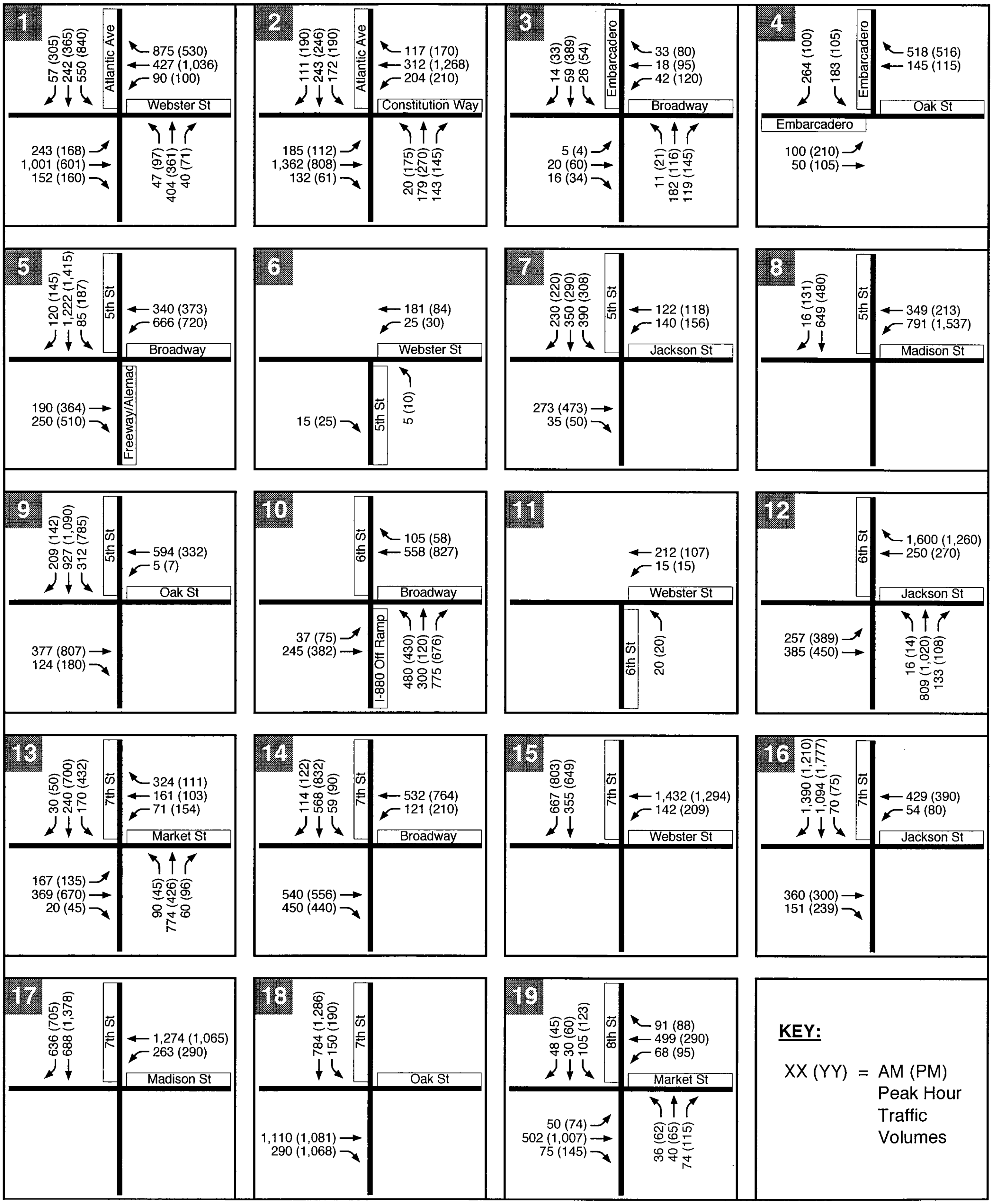
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

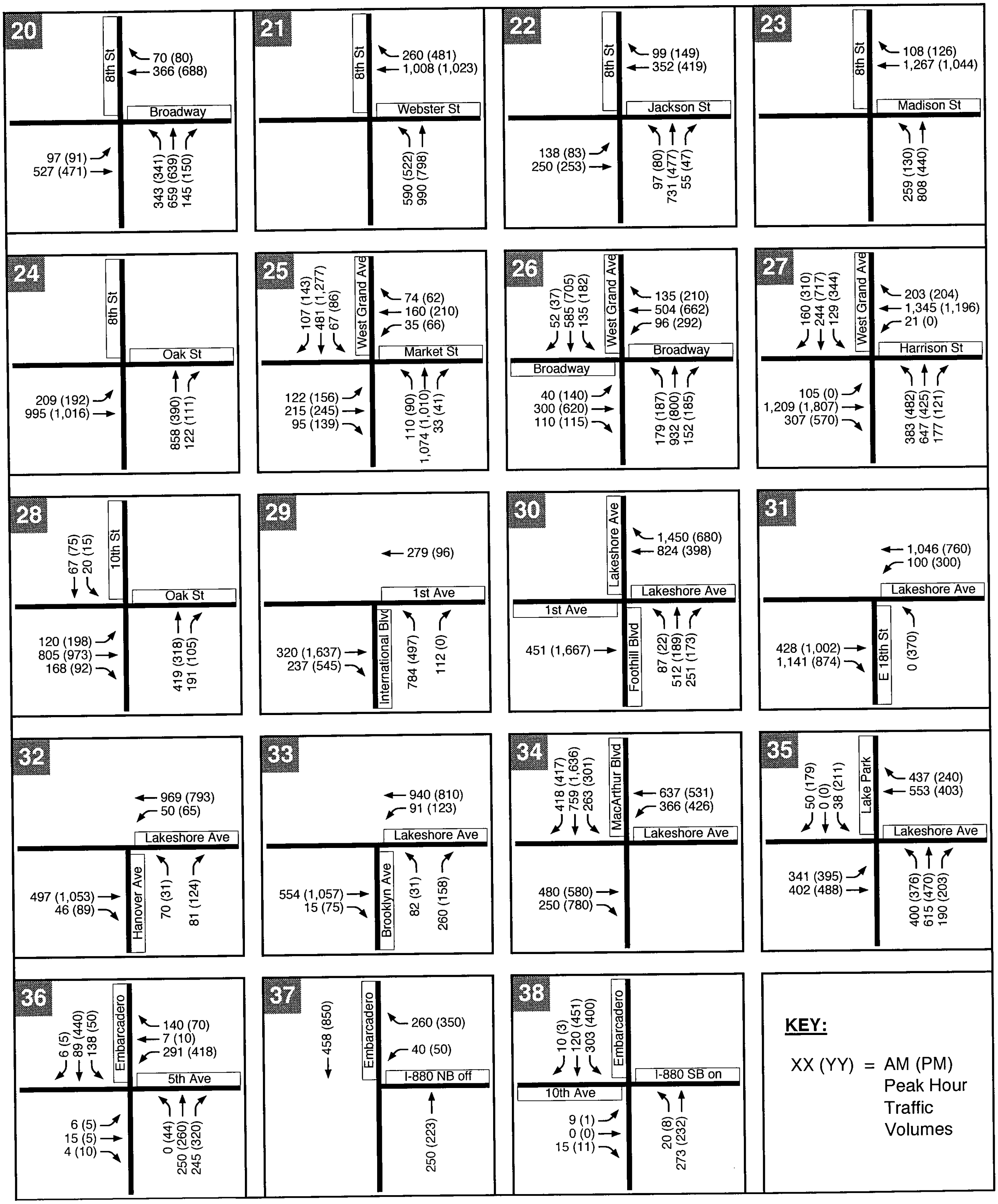
Figure C-5c
Year 2010 Plus Interim Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

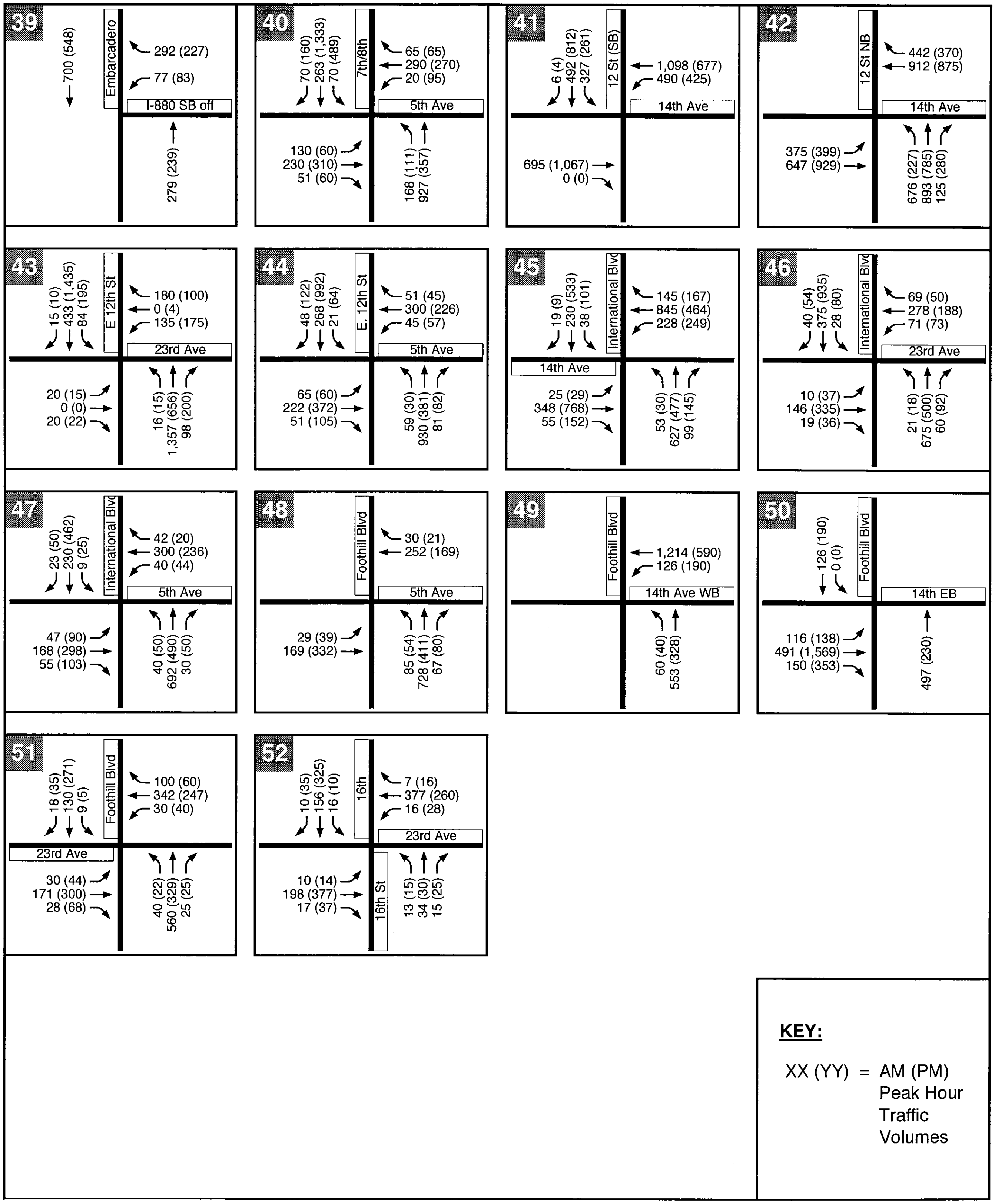
Figure C-6a
Year 2025 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

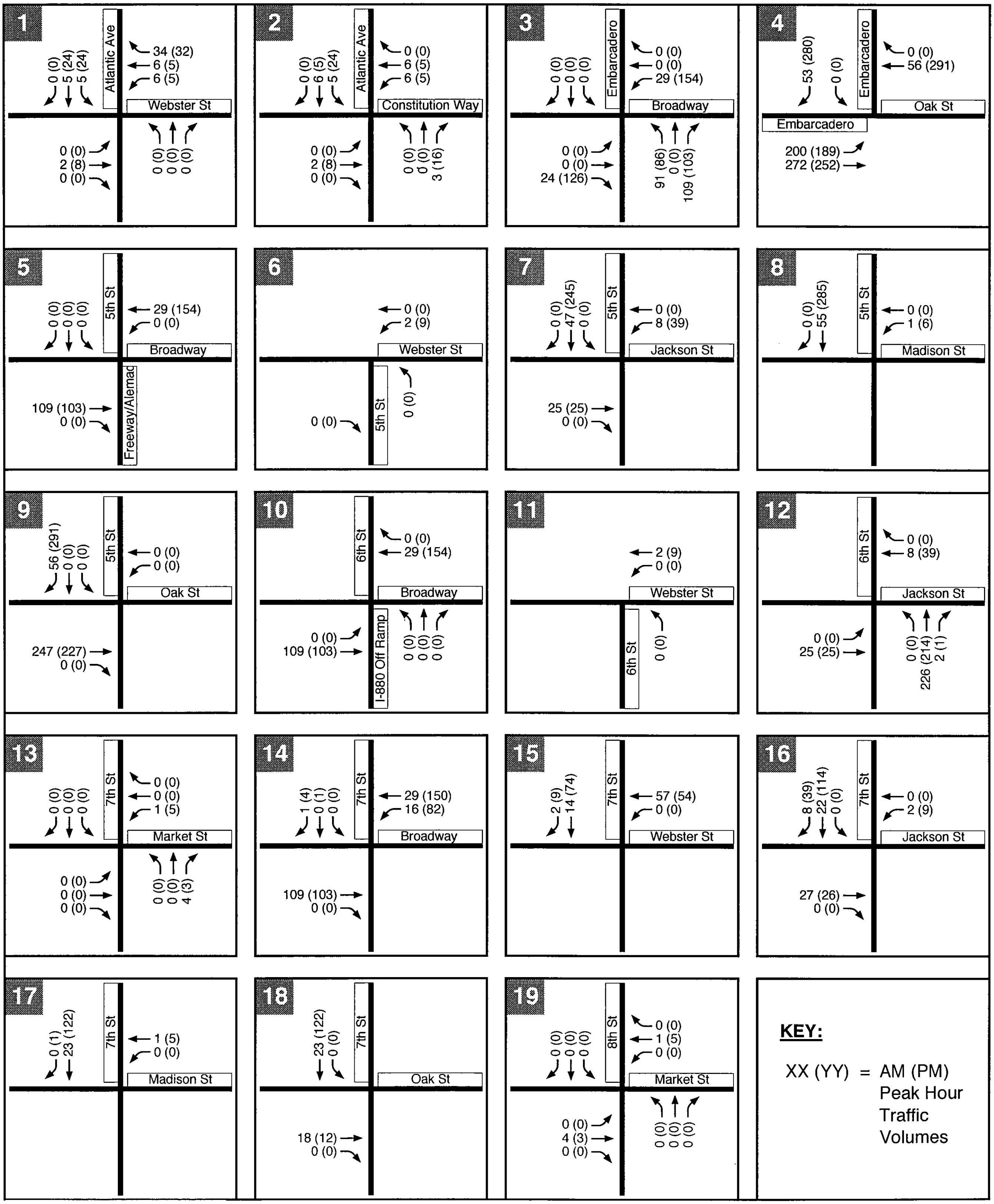
Figure C-6b
Year 2025 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

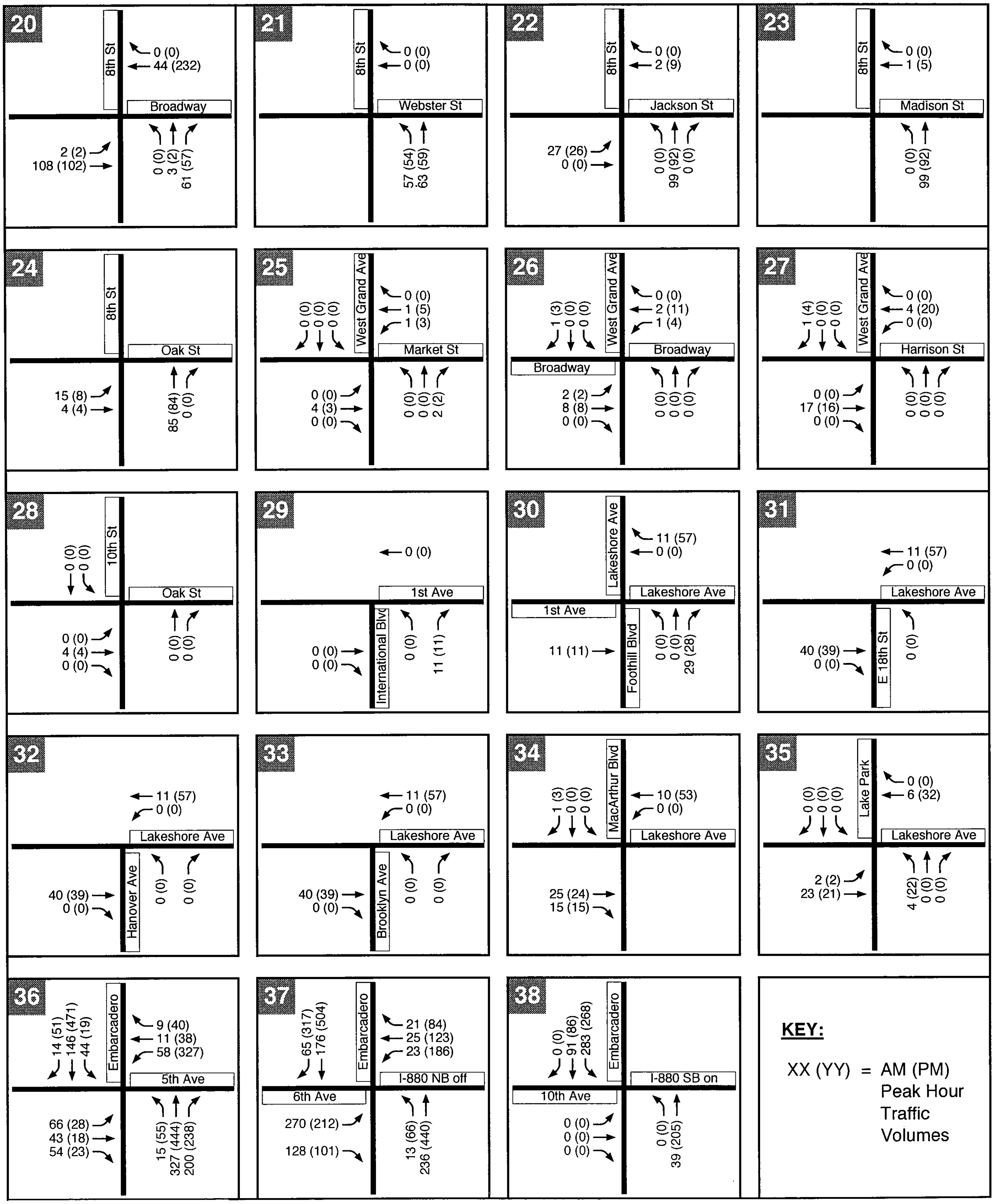
Figure C-6c
Year 2025 No Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

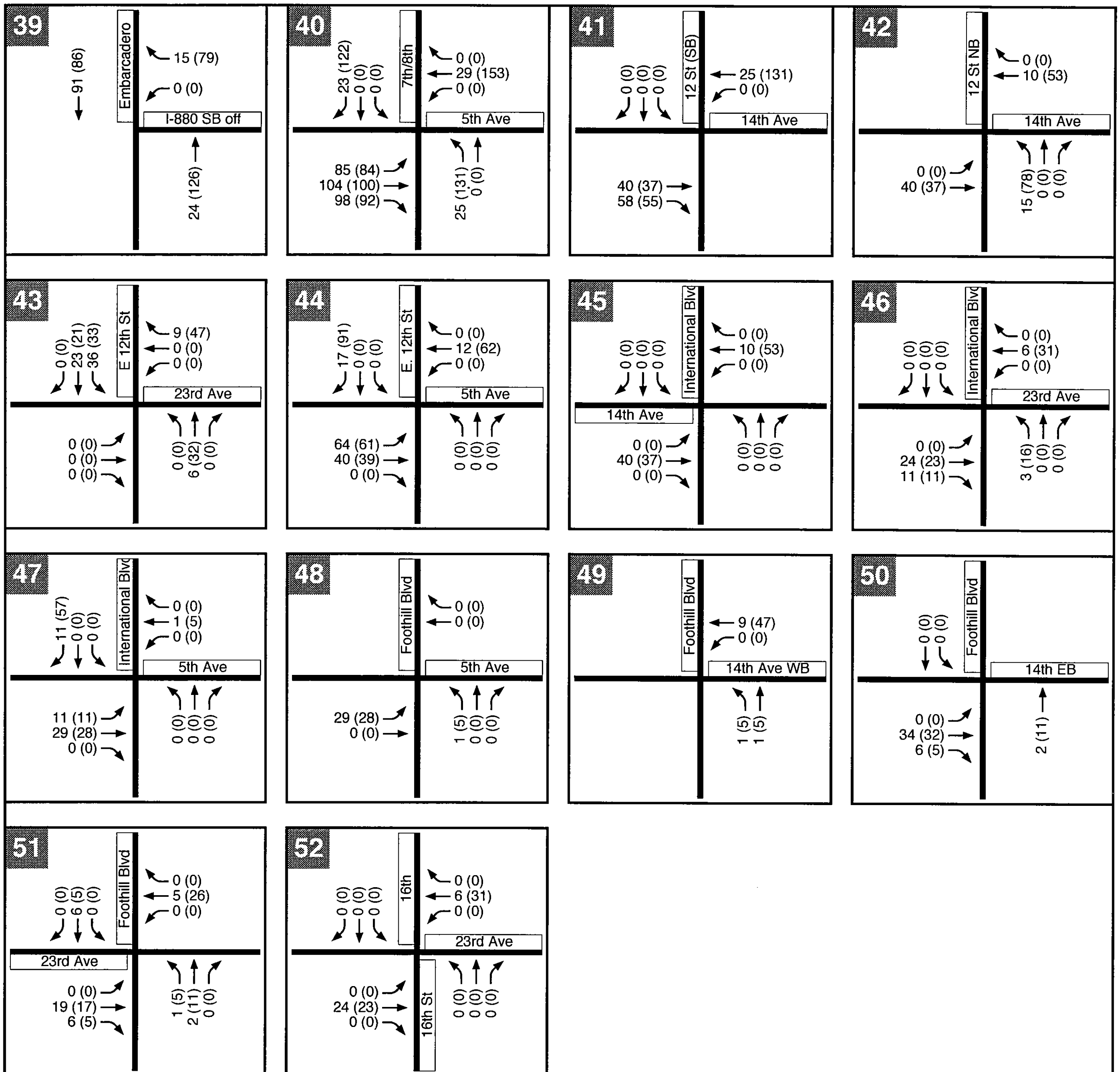
Figure C-7a
Buildout Project Trip Assignment
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-7b
Buildout Project Trip Assignment
Peak Hour Volumes



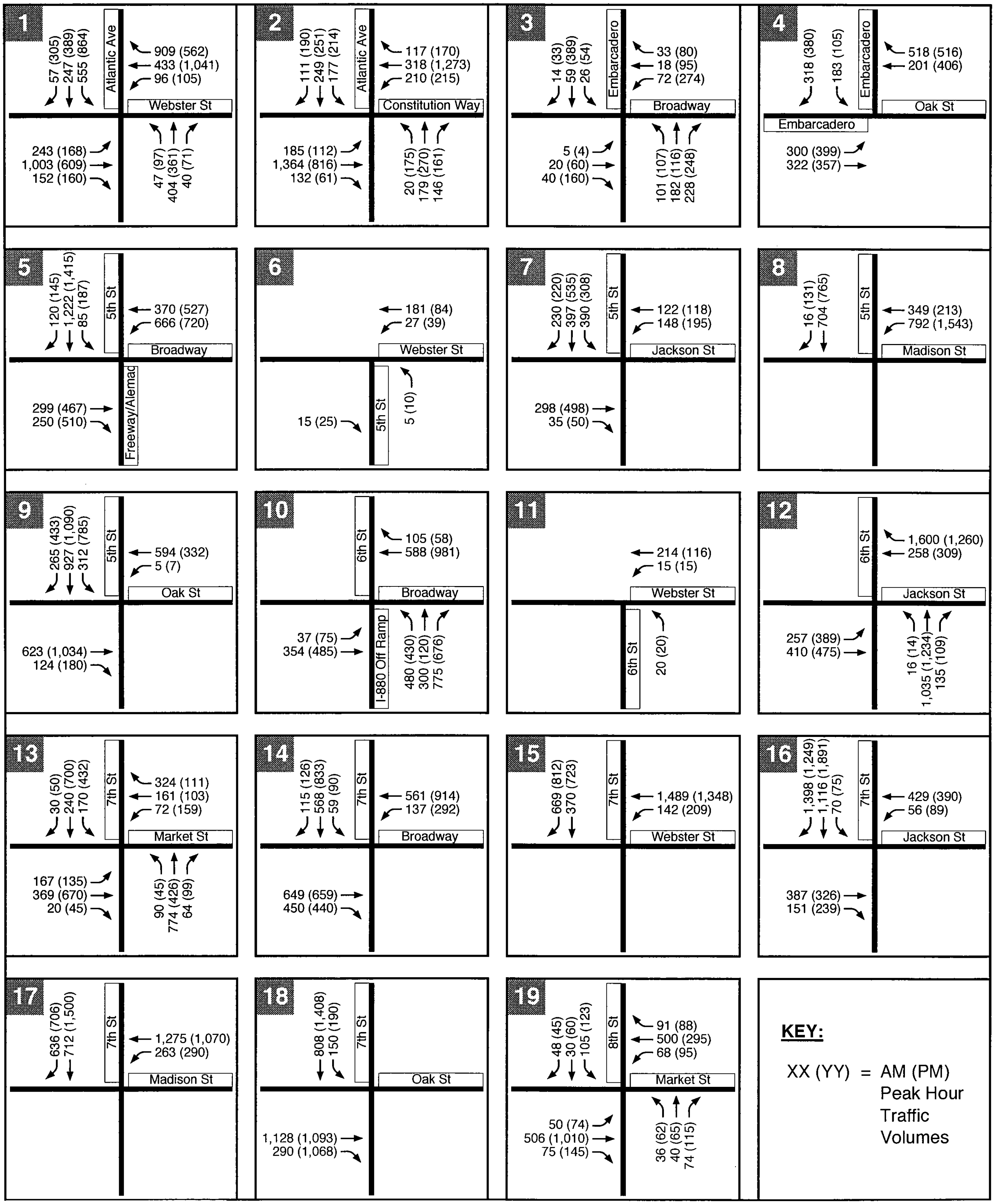
KEY:

XX (YY) = AM (PM) Peak Hour Traffic Volumes

SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

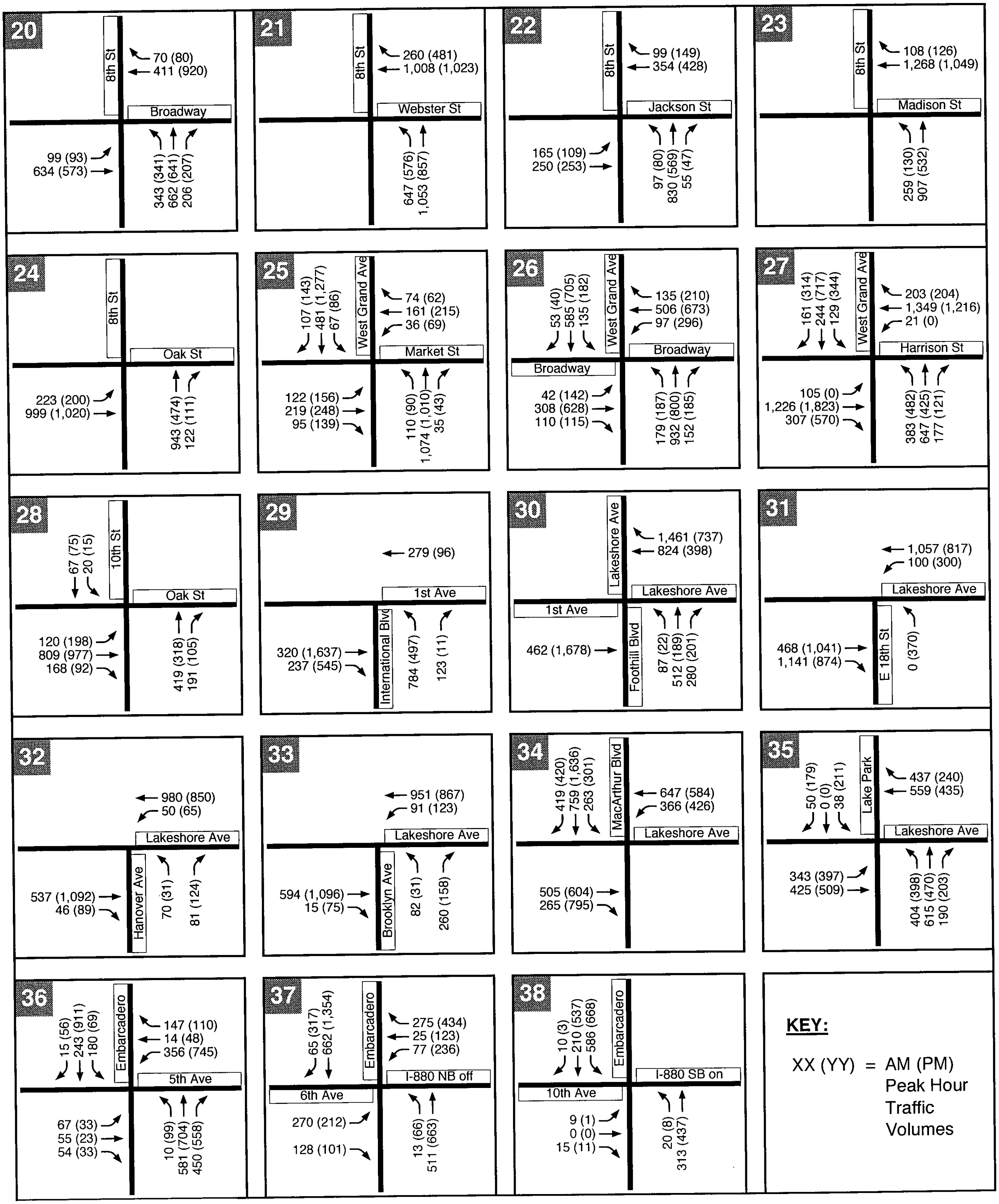
Figure C-7c
Buildout Project Trip Assignment
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

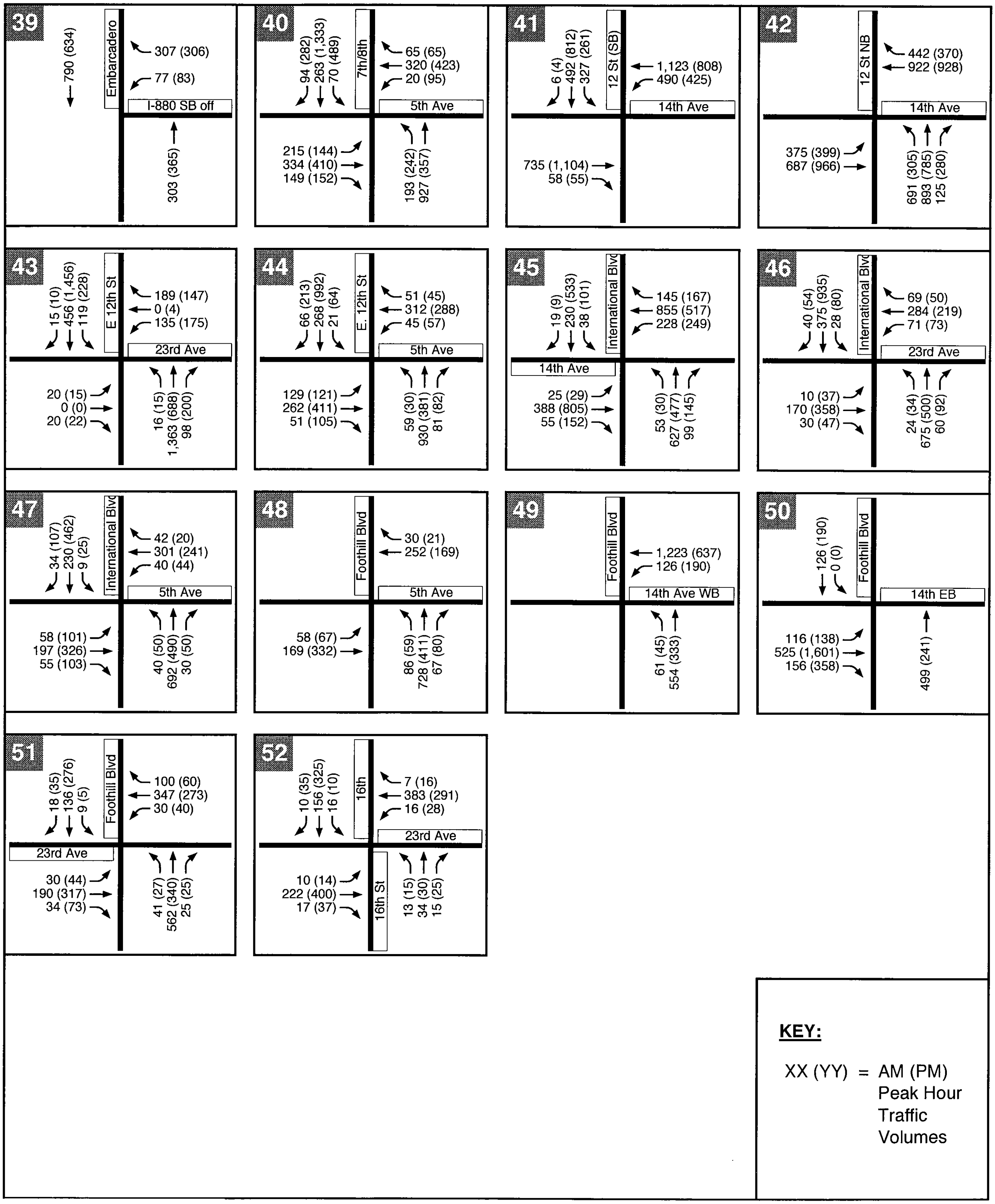
Figure C-8a
Year 2025 Plus Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-8b
Year 2025 Plus Project Conditions
Peak Hour Volumes



SOURCE: Fehr & Peers

Oak to Ninth Avenue . 202622

Figure C-8c
Year 2025 Plus Project Conditions
Peak Hour Volumes

SHARED PARKING CONSIDERATIONS

As described in Section IV.B, the sum of the parking demand generated by individual project components does not take into account possible shared use of onsite parking spaces because of the overlap of parking demand between the residential and commercial properties. For example, a person living in one of the residential units might walk to a restaurant that is located within the project site rather than drive. Because of this interaction between the various uses, the parking demand should reflect some reduction, which is reflected in a shared-use discount. Because the potential overlap between the uses cannot be definitively identified at this time (because the types of commercial uses have not been defined), so several shared-use reductions were analyzed ranging from 5 percent to 25 percent.

For purposes of this analysis, this shared use reduction was applied to the retail spaces (general commercial and grocery store) because the number of retail spaces would be the limiting factor and the parking demand for the residential uses are not likely to be sensitive to the presence or absence of adjacent commercial uses. The number of parking spaces required by the retail uses is expected to be heavily dependent on the location of adjacent residential uses. In addition, resident parking is likely to be reserved and cannot be shared by multiple users.

Table C-6 documents the anticipated reduction in the total parking demand based on the application of a shared-use reduction to the retail spaces. As shown in the tables, the anticipated parking demand may be reduced by 32 to 161 spaces. With even the most aggressive reduction, the parking demand still exceeds 5,000 spaces.

TABLE C-6
SHARED PARKING REDUCTION APPLIED TO RETAIL SPACES

Land Use	Size	Unit	Demand Rate	Spaces
General Commercial	170	KSF	3.02	513
Grocery Store	30	KSF	4.36	131
5% Shared Parking Reduction				(32)
10% Shared Parking Reduction				(64)
25% Shared Parking Reduction				(161)

Queuing at Intersections Along The Embarcadero

On the basis of a micro-simulation analysis, with an additional through lane on The Embarcadero, and the other lane configurations presented previously, the queuing (backups) along The Embarcadero would be minimized. A review of the estimated queues at the intersections indicated that backups would be minimal along The Embarcadero, with some occasional "spill-back" from one adjacent intersection to another. As shown in **Table C-7**, the average queuing during the PM peak hour is less than the storage length at all of the intersections along Embarcadero in front of the project. The maximum queue at several locations exceeds the available storage area intermittently.

At several locations, there would be intermittent periods during the PM peak hour when queues from one intersection could "spill-back" to adjacent intersections. This queuing would occur in the southbound direction along Embarcadero at 4th, 6th, and 10th Avenues. To minimize queuing along Embarcadero, it is recommended that the project install signal interconnects and coordinate the traffic signals at 5th Avenue, 6th Avenue, 8th Avenue, and 10th Avenue.

TABLE C-7
QUEUE LENGTHS – PM PEAK HOUR

Intersection	Approach	Storage Length (feet)	Average Queue (feet)	Exceeds Storage	Max Queue (feet)	Exceeds Storage
4th Avenue / Embarcadero	SB	400	100	-	450	Yes
5th Avenue / Embarcadero	NB	500	200	-	500	
	SB	300	300	-	300	
	WB	1,000	400	-	1,000	
6th Avenue / I-880 NB Off-Ramp / Embarcadero	NB	300	100	-	250	-
	SB	500	450	-	600	Yes
7th Avenue/Embarcadero						
8th Avenue / Embarcadero	NB	700	50	-	200	
	SB	300	200	-	300	
9th Avenue / Embarcadero	SB	700	50	-	150	-
10th Avenue / Embarcadero	SB	200	200		250	Yes

SOURCE: Fehr & Peers Transportation Consultants; and Hausrath Economic Group

Alameda County Congestion Management Agency Roadway Analysis

The Alameda County Congestion Management Agency (ACCMA) oversees the Alameda County Congestion Management Program (CMP). Two different systems are used for the purposes of the CMP, i.e., the designated CMP roadway network (used to monitor performances in relation to established level of service [LOS] standards), and the broader Metropolitan Transportation System (MTS), a regionally designated system that includes both freeways and transit (used in the CMA's land-use analysis program). The LOS standard for the CMP (for monitoring purposes) is LOS E, except for those road segments that operated at LOS F in the initial year (1991) of the CMP, for which LOS F is the standard.[1] The CMA conducts a LOS monitoring study every two years (the last study was done in September 2004). As described in Section IV.B of this EIR, the 2004 surveys concluded that 15 freeway segments within Alameda County operated at LOS F during the PM peak hours, with six of those segments in the City of Oakland.

Local agencies are responsible for analysis of the impacts of land-use decisions (i.e., all General Plan amendments, and large-scale projects requiring an EIR and exceeding the 100 PM peak-hour vehicle trip threshold) on the MTS. Land-use analyses use the travel demand forecasting model developed by the ACCMA (as described in Section IV.B of this EIR, and below). Local agencies also are responsible for formulating appropriate mitigation measures commensurate with the magnitude of the expected impacts. If the level of service standards are not met, the local agency must prepare and adopt a deficiency plan that can be implemented to achieve the level of service standards on the deficient road segment, or to improve the level of service of the system and contribute to significant air quality improvements. During the process of developing the deficiency plan, the local agency will need to consider whether it is possible to make physical improvements to the deficient segment. It may not be possible to do so for a number of reasons, including cost, availability of real estate, public opposition or air quality plan conflicts. However, in developing the deficiency plan, both local and system alternatives must be considered and described.

Operations of the MTS freeway and surface street segments were assessed using a volume-to-capacity (v/c) ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the 2003 and 2004 *Congestion Management Program* documents. For surface streets, a per-lane capacity of 800 vehicles per hour was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F. **Tables C-8** through **C-15** present the results of the evaluation.

[1] A road segment that operated at LOS F during the 1991 CMP baseline year was "grandfathered" from CMP requirements for preparation of a deficiency plan.

TABLE C-8
CONGESTION MANAGEMENT PROGRAM EVALUATION - 2010 AM NORTHBOUND/EASTBOUND

Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	2231	0	0.00	2231	0.00%	0.28	0.28	A	A	No	no change
Between	SR 262/Mission	Stevenson	4	2606	0	0.04	2606	0.00%	0.33	0.33	A	A	No	no change
Between	Stevenson	Decoto	4	3225	0	0.04	3225	0.00%	0.40	0.40	B	B	No	no change
Between	Decoto	Alv-Niles	4	3998	1	0.19	3999	0.03%	0.50	0.50	B	B	No	no change
Between	Alv-Niles	Tennyson	4	6229	1	0.30	6230	0.02%	0.78	0.78	D	D	No	no change
Between	Tennyson	SR 92	4	5961	2	0.42	5963	0.03%	0.75	0.75	C	C	No	no change
Between	SR 92	A Street	4	5866	3	0.72	5869	0.05%	0.73	0.73	C	C	No	no change
Between	A Street	I-238	4	6697	2		6699	0.03%	0.84	0.84	D	D	No	no change
Between	I-238	Hegenberger	4	7351	4		7355	0.05%	0.92	0.92	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	6881	7		6888	0.10%	0.86	0.86	D	D	No	no change
Between	High/42nd Street	PROJECT	4	7933	12		7945	0.15%	0.99	0.99	E	E	No	no change
Between	PROJECT	I-980	5	8015	79		8094	0.99%	0.80	0.81	D	D	No	no change
Between	I-980	I-880/Toll Plaza	3	4239	39		4278	0.92%	0.71	0.71	C	C	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	2759	27	6.11	2786	0.98%	0.34	0.35	A	B	No	change
SR24														
Between	I-580 Ramps	Fish Ranch	4	2273	11	2.52	2284	0.48%	0.28	0.29	A	A	No	no change
I-580														
Between	I-238	Grove	5	5860	4	0.90	5864	0.07%	0.59	0.59	C	C	No	no change
Between	Grove	I-680	4	6167	3	0.72	6170	0.05%	0.77	0.77	D	D	No	no change
Between	I-680	Santa Rita	4	5350	2	0.45	5352	0.04%	0.67	0.67	C	C	No	no change
Between	Santa Rita	Portola	4	4493	1	0.19	4494	0.02%	0.56	0.56	B	B	No	no change
Between	Portola	1st Avenue	4	4098	1	0.15	4099	0.02%	0.51	0.51	B	B	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	1795	0	0.04	1795	0.00%	0.22	0.22	A	A	No	no change
Between	Portola	Tassajara	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Tassajara	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Center	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Center	I-580/238	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-80	Harrison	4	6828	6	1.36	6834	0.09%	0.85	0.85	D	D	No	no change
Between	Harrison	SR 13	4	5798	2	0.42	5800	0.03%	0.72	0.73	C	C	No	no change
Between	SR 13	MacArthur	4	8488	0	0.00	8488	0.00%	1.06	1.06	F	F	No	no change
Between	MacArthur	I-580/238	4	6720	0	0.00	6720	0.00%	0.84	0.84	D	D	No	no change
Between	SR 13	Fruitvale	4	5798	1	0.23	5799	0.02%	0.72	0.72	C	C	No	no change
Between	Fruitvale	Harrison	4	5807	2	0.38	5809	0.03%	0.73	0.73	C	C	No	no change
Between	Harrison	SR 24	4	4459	0	0.00	4459	0.00%	0.56	0.56	B	B	No	no change
Between	SR 24	I-80/580	5	6828	6	1.36	6834	0.09%	0.68	0.68	C	C	No	no change
Between	Central	I-80 Jct	2	3578	5	1.12	3583	0.14%	0.89	0.90	D	D	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1630	4	0.81	1634	0.25%	0.68	0.68	C	C	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	740	0	0.00	740	0.00%	0.46	0.46	B	B	No	no change
Between	Washington	Marin	2	144	0	0.00	144	0.00%	0.09	0.09	A	A	No	no change
Between	Marin	Gilman	2	463	0	0.00	463	0.00%	0.29	0.29	A	A	No	no change
Between	Gilman	University	2	807	2	0.54	809	0.25%	0.50	0.51	B	B	No	no change
Between	University	Allston	2	1258	0	0.00	1258	0.00%	0.79	0.79	D	D	No	no change
Between	Allston	Ashby	2	1336	1	0.15	1337	0.07%	0.84	0.84	D	D	No	no change
Between	Ashby	Stanford	2	816	0	0.07	816	0.00%	0.51	0.51	B	B	No	no change
Between	Stanford	53rd	2	1038	0	0.07	1038	0.00%	0.65	0.65	C	C	No	no change
Between	53rd	Park	2	1137	1	0.23	1138	0.09%	0.71	0.71	C	C	No	no change
Between	Park	35th	2	1604	2	0.41	1606	0.12%	1.00	1.00	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	0	0	0.00	0	#DIV/0!	0.00	0.00	A	A	No	no change
Between	7th Street	14th Street	3	97	0	0.00	97	0.00%	0.04	0.04	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	67	3	0.69	70	4.48%	0.03	0.03	A	A	No	no change
Grand Avenue														
Between	Moraga Ave	I-580	2	957	3	0.67	960	0.31%	0.60	0.60	C	C	No	no change
Between	I-580	Harrison	2	853	1	0.19	854	0.12%	0.53	0.53	B	B	No	no change
Between	Harrison	Broadway	2	905	0		905	0.00%	0.57	0.57	B	B	No	no change
Between	Broadway	Telegraph	2	1060	0	0.00	1060	0.00%	0.66	0.66	C	C	No	no change
Between	Telegraph	I-980	2	712	0	0.04	712	0.00%	0.45	0.45	B	B	No	no change
Between	I-980	Adeline	2	212	0	0.04	212	0.00%	0.13	0.13	A	A	No	no change
Between	Adeline	I-880	2	358	0	0.00	358	0.00%	0.22	0.22	A	A	No	no change
Broadway														
Between	Embarcadero	7th Street	2	608	38		646	6.25%	0.38	0.40	B	B	No	no change
Between	7th Street	14th Street	2	36	58		94	161.11%	0.02	0.06	A	A	Yes	no change
Between	14th Street	West Grand	2	73	3		76	4.11%	0.05	0.05	A	A	No	no change
Between	West Grand	MacArthur	2	67	0	0.04	67	0.00%	0.04	0.04	A	A	No	no change
Between	MacArthur	51st Street	2	504	0	0.08	504	0.00%	0.32	0.32	A	A	No	no change
Between	51st Street	SR 24	2	497	0	0.00	497	0.00%	0.31	0.31	A	A	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Telegraph Avenue														
Between	14th Street	West Grand	2	80	0	0.00	80	0.00%	0.05	0.05	A	A	No	no change
Between	West Grand	MacArthur	2	120	0	0.00	120	0.00%	0.08	0.08	A	A	No	no change
Between	MacArthur	51st Street	2	148	0	0.00	148	0.00%	0.09	0.09	A	A	No	no change
Between	51st Street	Ashby	2	1860	5	1.09	1865	0.27%	1.16	1.17	F	F	No	no change
Between	Ashby	Bancroft Way	2	1601	4	1.01	1605	0.25%	1.00	1.00	F	F	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

TABLE C-9
CONGESTION MANAGEMENT PROGRAM EVAULATION - 2010 AM SOUTHBOUND/WESTBOUNE

Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	8918	1	0.23	8919	0.01%	1.11	1.11	F	F	No	no change
Between	SR 262/Mission	Stevenson	4	6917	2	0.45	6919	0.03%	0.86	0.86	D	D	No	no change
Between	Stevenson	Decoto	4	6564	3	0.67	6567	0.05%	0.82	0.82	D	D	No	no change
Between	Decoto	Alv-Niles	4	6580	4	1.01	6584	0.06%	0.82	0.82	D	D	No	no change
Between	Alv-Niles	Tennyson	4	7417	7	1.57	7424	0.09%	0.93	0.93	E	E	No	no change
Between	Tennyson	SR 92	4	6810	8	1.75	6818	0.12%	0.85	0.85	D	D	No	no change
Between	SR 92	A Street	4	8543	13	3.06	8556	0.15%	1.07	1.07	F	F	No	no change
Between	A Street	I-238	4	6802	16		6818	0.24%	0.85	0.85	D	D	No	no change
Between	I-238	Hegenberger	4	7894	35		7929	0.44%	0.99	0.99	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	6879	63		6942	0.92%	0.86	0.87	D	D	No	no change
Between	High/42nd Street	PROJECT	4	6453	99		6552	1.53%	0.81	0.82	D	D	No	no change
Between	PROJECT	I-980	5	5526	10		5536	0.18%	0.55	0.55	B	B	No	no change
Between	I-980	I-880/Toll Plaza	3	3211	5		3216	0.16%	0.54	0.54	B	B	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	6478	21	4.735	6499	0.32%	0.81	0.81	D	D	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	8356	7	1.66	8363	0.08%	1.04	1.05	F	F	No	no change
I-580														
Between	I-238	Grove	5	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Grove	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Santa Rita	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Santa Rita	Portola	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Portola	1st Avenue	4	7262	3	0.80	7265	0.04%	0.91	0.91	E	E	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	6427	3	0.80	6430	0.05%	0.80	0.80	D	D	No	no change
Between	Portola	Tassajara	4	9455	3	0.80	9458	0.03%	1.18	1.18	F	F	No	no change
Between	Tassajara	I-680	4	8482	4	0.92	8486	0.05%	1.06	1.06	F	F	No	no change
Between	I-680	Center	4	8406	5	1.10	8411	0.06%	1.05	1.05	F	F	No	no change
Between	Center	I-580/238	4	9675	6	1.37	9681	0.06%	1.21	1.21	F	F	No	no change
Between	I-80	Harrison	4	9281	2	0.41	9283	0.02%	1.16	1.16	F	F	No	no change
Between	Harrison	SR 13	4	8093	5	1.13	8098	0.06%	1.01	1.01	F	F	No	no change
Between	SR 13	MacArthur	4	7917	2	0.49	7919	0.03%	0.99	0.99	E	E	No	no change
Between	MacArthur	I-580/238	4	6870	1	0.23	6871	0.01%	0.86	0.86	D	D	No	no change
Between	SR 13	Fruitvale	4	8093	5	1.13	8098	0.06%	1.01	1.01	F	F	No	no change
Between	Fruitvale	Harrison	4	8729	4	1.01	8733	0.05%	1.09	1.09	F	F	No	no change
Between	Harrison	SR 24	4	8243	0	0.00	8243	0.00%	1.03	1.03	F	F	No	no change
Between	SR 24	I-80/580	5	9281	2	0.41	9283	0.02%	0.93	0.93	E	E	No	no change
Between	Central	I-80 Jct	2	4756	2	0.45	4758	0.04%	1.19	1.19	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1397	3	0.60	1400	0.21%	0.58	0.58	B	B	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	1860	0	0.00	1860	0.00%	1.16	1.16	F	F	No	no change
Between	Washington	Marin	2	839	0	0.00	839	0.00%	0.52	0.52	B	B	No	no change
Between	Marin	Gilman	2	1531	0	0.00	1531	0.00%	0.96	0.96	E	E	No	no change
Between	Gilman	University	2	1954	0	0.04	1954	0.00%	1.22	1.22	F	F	No	no change
Between	University	Allston	2	2008	0	0.04	2008	0.00%	1.26	1.26	F	F	No	no change
Between	Allston	Ashby	2	1726	0	0.04	1726	0.00%	1.08	1.08	F	F	No	no change
Between	Ashby	Stanford	2	1313	1	0.12	1314	0.08%	0.82	0.82	D	D	No	no change
Between	Stanford	53rd	2	1415	1	0.15	1416	0.07%	0.88	0.89	D	D	No	no change
Between	53rd	Park	2	1259	1	0.15	1260	0.08%	0.79	0.79	D	D	No	no change
Between	Park	35th	2	1351	1	0.19	1352	0.07%	0.84	0.85	D	D	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Grand Avenue														
Between	Moraga Ave	I-580	2	929	3	0.60	932	0.32%	0.58	0.58	B	B	No	no change
Between	I-580	Harrison	2	1912	1	0.30	1913	0.05%	1.20	1.20	F	F	No	no change
Between	Harrison	Broadway	2	1214	0		1214	0.00%	0.76	0.76	D	D	No	no change
Between	Broadway	Telegraph	2	913	0	0.00	913	0.00%	0.57	0.57	B	B	No	no change
Between	Telegraph	I-980	2	797	0	0.04	797	0.00%	0.50	0.50	B	B	No	no change
Between	I-980	Adeline	2	450	2	0.53	452	0.44%	0.28	0.28	A	A	No	no change
Between	Adeline	I-880	2	509	3	0.63	512	0.59%	0.32	0.32	A	A	No	no change
Broadway														
Between	Embarcadero	7th Street	2	188	5		193	2.66%	0.12	0.12	A	A	No	no change
Between	7th Street	14th Street	2	124	8		132	6.45%	0.08	0.08	A	A	No	no change
Between	14th Street	West Grand	2	441	0		441	0.00%	0.28	0.28	A	A	No	no change
Between	West Grand	MacArthur	2	324	0	0.00	324	0.00%	0.20	0.20	A	A	No	no change
Between	MacArthur	51st Street	2	1454	1	0.15	1455	0.07%	0.91	0.91	E	E	No	no change
Between	51st Street	SR 24	2	1046	0	0.04	1046	0.00%	0.65	0.65	C	C	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	60	0	0.00	60	0.00%	0.04	0.04	A	A	No	no change
Between	7th Street	14th Street	3	132	0	0.00	132	0.00%	0.06	0.06	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	87	1	0.19	88	1.15%	0.04	0.04	A	A	No	no change
Telegraph Avenue														
Between	14th Street	West Grand	2	190	0	0.00	190	0.00%	0.12	0.12	A	A	No	no change
Between	West Grand	MacArthur	2	118	0	0.00	118	0.00%	0.07	0.07	A	A	No	no change
Between	MacArthur	51st Street	2	780	0	0.00	780	0.00%	0.49	0.49	B	B	No	no change
Between	51st Street	Ashby	2	736	1	0.19	737	0.14%	0.46	0.46	B	B	No	no change
Between	Ashby	Bancroft Way	2	688	0	0.04	688	0.00%	0.43	0.43	B	B	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.
Fehr & Peers, 2005.

TABLE C-10
CONGESTION MANAGEMENT PROGRAM EVAULATION - 2010 PM NORTHBOUND/EASTBOUND

Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	7272	1	0.13	7273	0.01%	0.91	0.91	E	E	No	no change
Between	SR 262/Mission	Stevenson	4	6437	2	0.26	6439	0.03%	0.80	0.80	D	D	No	no change
Between	Stevenson	Decoto	4	6964	5	0.52	6969	0.07%	0.87	0.87	D	D	No	no change
Between	Decoto	Alv-Niles	4	6961	7	0.73	6968	0.10%	0.87	0.87	D	D	No	no change
Between	Alv-Niles	Tennyson	4	7003	10	1.07	7013	0.14%	0.88	0.88	D	D	No	no change
Between	Tennyson	SR 92	4	6984	11	1.24	6995	0.16%	0.87	0.87	D	D	No	no change
Between	SR 92	A Street	4	7163	19	2.10	7182	0.27%	0.90	0.90	D	D	No	no change
Between	A Street	I-238	4	8534	21		8555	0.25%	1.07	1.07	F	F	No	no change
Between	I-238	Hegenberger	4	7668	48		7716	0.63%	0.96	0.96	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	6890	86		6976	1.25%	0.86	0.87	D	D	No	no change
Between	High/42nd Street	PROJECT	4	6875	134		7009	1.95%	0.86	0.88	D	D	No	no change
Between	PROJECT	I-980	5	7838	77		7915	0.98%	0.78	0.79	D	D	No	no change
Between	I-980	I-880/Toll Plaza	3	4460	39		4499	0.87%	0.74	0.75	C	C	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	6150	32	3.42	6182	0.52%	0.77	0.77	D	D	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	7861	15	1.62	7876	0.19%	0.98	0.98	E	E	No	no change
I-580														
Between	I-238	Grove	5	10077	10	1.10	10087	0.10%	1.01	1.01	F	F	No	no change
Between	Grove	I-680	4	9992	9	0.95	10001	0.09%	1.25	1.25	F	F	No	no change
Between	I-680	Santa Rita	4	9884	6	0.69	9890	0.06%	1.24	1.24	F	F	No	no change
Between	Santa Rita	Portola	4	9450	5	0.59	9455	0.05%	1.18	1.18	F	F	No	no change
Between	Portola	1st Avenue	4	7577	5	0.56	7582	0.07%	0.95	0.95	E	E	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	6470	5	0.56	6475	0.08%	0.81	0.81	D	D	No	no change
Between	Portola	Tassajara	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Tassajara	I-680	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Center	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Center	I-580/238	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-80	Harrison	4	10240	13	1.37	10253	0.13%	1.28	1.28	F	F	No	no change
Between	Harrison	SR 13	4	8353	13	1.36	8366	0.16%	1.04	1.05	F	F	No	no change
Between	SR 13	MacArthur	4	8951	9	1.00	8960	0.10%	1.12	1.12	F	F	No	no change
Between	MacArthur	I-580/238	4	7848	7	0.81	7855	0.09%	0.98	0.98	E	E	No	no change
Between	SR 13	Fruitvale	4	8353	12	1.31	8365	0.14%	1.04	1.05	F	F	No	no change
Between	Fruitvale	Harrison	4	9098	13	1.36	9111	0.14%	1.14	1.14	F	F	No	no change
Between	Harrison	SR 24	4	8892	0	0.00	8892	0.00%	1.11	1.11	F	F	No	no change
Between	SR 24	I-80/580	5	10240	13	1.37	10253	0.13%	1.02	1.03	F	F	No	no change
Between	Central	I-80 Jct	2	5576	6	0.70	5582	0.11%	1.39	1.40	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1471	5	0.51	1476	0.34%	0.61	0.62	C	C	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	1922	0	0.03	1922	0.00%	1.20	1.20	F	F	No	no change
Between	Washington	Marin	2	944	0	0.00	944	0.00%	0.59	0.59	C	C	No	no change
Between	Marin	Gilman	2	1483	0	0.03	1483	0.00%	0.93	0.93	E	E	No	no change
Between	Gilman	University	2	1996	0	0.05	1996	0.00%	1.25	1.25	F	F	No	no change
Between	University	Allston	2	2104	0	0.05	2104	0.00%	1.32	1.32	F	F	No	no change
Between	Allston	Ashby	2	1941	1	0.13	1942	0.05%	1.21	1.21	F	F	No	no change
Between	Ashby	Stanford	2	1449	1	0.16	1450	0.07%	0.91	0.91	E	E	No	no change
Between	Stanford	53rd	2	1532	1	0.16	1533	0.07%	0.96	0.96	E	E	No	no change
Between	53rd	Park	2	1385	1	0.16	1386	0.07%	0.87	0.87	D	D	No	no change
Between	Park	35th	2	1676	2	0.26	1678	0.12%	1.05	1.05	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	0	0	0.00	0	#DIV/0!	0.00	0.00	A	A	No	no change
Between	7th Street	14th Street	3	101	0	0.00	101	0.00%	0.04	0.04	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	193	3	0.32	196	1.55%	0.08	0.08	A	A	No	no change
Grand Avenue														
Between	Moraga Ave	I-580	2	809	5	0.52	814	0.62%	0.51	0.51	B	B	No	no change
Between	I-580	Harrison	2	2050	2	0.26	2052	0.10%	1.28	1.28	F	F	No	no change
Between	Harrison	Broadway	2	1460	3		1463	0.21%	0.91	0.91	E	E	No	no change
Between	Broadway	Telegraph	2	1034	0	0.00	1034	0.00%	0.65	0.65	C	C	No	no change
Between	Telegraph	I-980	2	1097	1	0.08	1098	0.09%	0.69	0.69	C	C	No	no change
Between	I-980	Adeline	2	721	1	0.11	722	0.14%	0.45	0.45	B	B	No	no change
Between	Adeline	I-880	2	1190	0	0.05	1190	0.00%	0.74	0.74	C	C	No	no change
Broadway														
Between	Embarcadero	7th Street	2	814	37		851	4.55%	0.51	0.53	B	B	No	no change
Between	7th Street	14th Street	2	73	57		130	78.08%	0.05	0.08	A	A	No	no change
Between	14th Street	West Grand	2	337	3		340	0.89%	0.21	0.21	A	A	No	no change
Between	West Grand	MacArthur	2	466	0	0.03	466	0.00%	0.29	0.29	A	A	No	no change
Between	MacArthur	51st Street	2	1609	1	0.13	1610	0.06%	1.01	1.01	F	F	No	no change
Between	51st Street	SR 24	2	1112	0	0.03	1112	0.00%	0.70	0.70	C	C	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Telegraph Avenue														
Between	14th Street	West Grand	2	300	0	0.00	300	0.00%	0.19	0.19	A	A	No	no change
Between	West Grand	MacArthur	2	149	0	0.00	149	0.00%	0.09	0.09	A	A	No	no change
Between	MacArthur	51st Street	2	603	0	0.03	603	0.00%	0.38	0.38	B	B	No	no change
Between	51st Street	Ashby	2	1528	4	0.42	1532	0.26%	0.96	0.96	E	E	No	no change
Between	Ashby	Bancroft Way	2	1405	3	0.34	1408	0.21%	0.88	0.88	D	D	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se*gment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

TABLE C-11
CONGESTION MANAGEMENT PROGRAM EVALUATION - 2010 PM SOUTHBOUND/WESTBOUND

Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio No Project	V/C Ratio With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	6269	0	0.05	6269	0.00%	0.78	0.78	D	D	No	no change
Between	SR 262/Mission	Stevenson	4	4966	1	0.13	4967	0.02%	0.62	0.62	C	C	No	no change
Between	Stevenson	Decoto	4	5541	2	0.21	5543	0.04%	0.69	0.69	C	C	No	no change
Between	Decoto	Alv-Niles	4	5871	3	0.34	5874	0.05%	0.73	0.73	C	C	No	no change
Between	Alv-Niles	Tennyson	4	7701	4	0.45	7705	0.05%	0.96	0.96	E	E	No	no change
Between	Tennyson	SR 92	4	6584	5	0.50	6589	0.08%	0.82	0.82	D	D	No	no change
Between	SR 92	A Street	4	7831	9	0.99	7840	0.11%	0.98	0.98	E	E	No	no change
Between	A Street	I-238	4	9117	15		9132	0.16%	1.14	1.14	F	F	No	no change
Between	I-238	Hegenberger	4	8989	35		9024	0.39%	1.12	1.13	F	E	No	change
Between	Hegenberger	High/42nd Street	4	8082	62		8144	0.77%	1.01	1.02	F	F	No	no change
Between	High/42nd Street	PROJECT	4	8778	96		8874	1.09%	1.10	1.11	F	F	No	no change
Between	PROJECT	I-980	5	7647	107		7754	1.40%	0.76	0.78	D	D	No	no change
Between	I-980	I-880/Toll Plaza	3	5100	54		5154	1.06%	0.85	0.86	D	D	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	3423	57	6.18	3480	1.67%	0.43	0.44	B	B	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	3852	15	1.61	3867	0.39%	0.48	0.48	B	B	No	no change
I-580														
Between	I-238	Grove	5	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Grove	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Santa Rita	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Santa Rita	Portola	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Portola	1st Avenue	4	4319	1	0.08	4320	0.02%	0.54	0.54	B	B	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	1823	0	0.03	1823	0.00%	0.23	0.23	A	A	No	no change
Between	Portola	Tassajara	4	5268	1	0.13	5269	0.02%	0.66	0.66	C	C	No	no change
Between	Tassajara	I-680	4	6312	2	0.24	6314	0.03%	0.79	0.79	D	D	No	no change
Between	I-680	Center	4	5936	5	0.52	5941	0.08%	0.74	0.74	C	C	No	no change
Between	Center	I-580/238	4	5989	6	0.65	5995	0.10%	0.75	0.75	C	C	No	no change
Between	I-80	Harrison	4	7941	3	0.33	7944	0.04%	0.99	0.99	E	E	No	no change
Between	Harrison	SR 13	4	6232	7	0.73	6239	0.11%	0.78	0.78	D	D	No	no change
Between	SR 13	MacArthur	4	8226	2	0.18	8228	0.02%	1.03	1.03	F	F	No	no change
Between	MacArthur	I-580/238	4	6495	0	0.05	6495	0.00%	0.81	0.81	D	D	No	no change
Between	SR 13	Fruitvale	4	6232	6	0.70	6238	0.10%	0.78	0.78	D	D	No	no change
Between	Fruitvale	Harrison	4	6419	7	0.73	6426	0.11%	0.80	0.80	D	D	No	no change
Between	Harrison	SR 24	4	5676	0	0.00	5676	0.00%	0.71	0.71	C	C	No	no change
Between	SR 24	I-80/580	5	7941	3	0.34	7944	0.04%	0.79	0.79	D	D	No	no change
Between	Central	I-80 Jct	2	4547	7	0.78	4554	0.15%	1.14	1.14	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	2139	16	1.69	2155	0.75%	0.89	0.90	D	D	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	1233	0	0.00	1233	0.00%	0.77	0.77	D	D	No	no change
Between	Washington	Marin	2	416	0	0.03	416	0.00%	0.26	0.26	A	A	No	no change
Between	Marin	Gilman	2	1223	0	0.05	1223	0.00%	0.76	0.76	D	D	No	no change
Between	Gilman	University	2	1819	1	0.16	1820	0.05%	1.14	1.14	F	F	No	no change
Between	University	Allston	2	2008	1	0.16	2009	0.05%	1.26	1.26	F	F	No	no change
Between	Allston	Ashby	2	2310	3	0.31	2313	0.13%	1.44	1.45	F	F	No	no change
Between	Ashby	Stanford	2	1450	3	0.34	1453	0.21%	0.91	0.91	E	E	No	no change
Between	Stanford	53rd	2	1631	4	0.41	1635	0.25%	1.02	1.02	F	F	No	no change
Between	53rd	Park	2	1643	4	0.41	1647	0.24%	1.03	1.03	F	F	No	no change
Between	Park	35th	2	2011	5	0.52	2016	0.25%	1.26	1.26	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Grand Avenue														
Between	Moraga Ave	I-580	2	955	5	0.57	960	0.52%	0.60	0.60	C	C	No	no change
Between	I-580	Harrison	2	1168	2	0.21	1170	0.17%	0.73	0.73	C	C	No	no change
Between	Harrison	Broadway	2	892	2		894	0.22%	0.56	0.56	B	B	No	no change
Between	Broadway	Telegraph	2	1402	0	0.00	1402	0.00%	0.88	0.88	D	D	No	no change
Between	Telegraph	I-980	2	937	0	0.03	937	0.00%	0.59	0.59	C	C	No	no change
Between	I-980	Adeline	2	523	1	0.11	524	0.19%	0.33	0.33	A	A	No	no change
Between	Adeline	I-880	2	735	1	0.16	736	0.14%	0.46	0.46	B	B	No	no change
Broadway														
Between	Embarcadero	7th Street	2	248	51		299	20.56%	0.16	0.19	A	A	No	no change
Between	7th Street	14th Street	2	436	79		515	18.12%	0.27	0.32	A	A	Yes	no change
Between	14th Street	West Grand	2	247	4		251	1.62%	0.15	0.16	A	A	No	no change
Between	West Grand	MacArthur	2	149	1	0.11	150	0.67%	0.09	0.09	A	A	No	no change
Between	MacArthur	51st Street	2	602	1	0.13	603	0.17%	0.38	0.38	B	B	No	no change
Between	51st Street	SR 24	2	361	0	0.00	361	0.00%	0.23	0.23	A	A	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	26	0	0.00	26	0.00%	0.02	0.02	A	A	No	no change
Between	7th Street	14th Street	3	152	0	0.00	152	0.00%	0.06	0.06	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	55	1	0.13	56	1.82%	0.02	0.02	A	A	No	no change
Telegraph Avenue														
Between	14th Street	West Grand	2	155	1	0.08	156	0.65%	0.10	0.10	A	A	No	no change
Between	West Grand	MacArthur	2	182	0	0.03	182	0.00%	0.11	0.11	A	A	No	no change
Between	MacArthur	51st Street	2	577	0	0.03	577	0.00%	0.36	0.36	B	B	No	no change
Between	51st Street	Ashby	2	1799	1	0.11	1800	0.06%	1.12	1.13	F	F	No	no change
Between	Ashby	Bancroft Way	2	1809	0	0.05	1809	0.00%	1.13	1.13	F	F	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the s*egment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

TABLE C-12
CONGESTION MANAGEMENT PROGRAM EVALUATION - 2025 AM NORTHBOUND/EASTBOUNI

Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	2066	0	0.00	2066	0.00%	0.26	0.26	A	A	No	no change
Between	SR 262/Mission	Stevenson	4	2132	1	0.04	2133	0.05%	0.27	0.27	A	A	No	no change
Between	Stevenson	Decoto	4	3133	1	0.04	3134	0.03%	0.39	0.39	B	B	No	no change
Between	Decoto	Alv-Niles	4	4338	3	0.19	4341	0.07%	0.54	0.54	B	B	No	no change
Between	Alv-Niles	Tennyson	4	6212	5	0.30	6217	0.08%	0.78	0.78	D	D	No	no change
Between	Tennyson	SR 92	4	5921	7	0.42	5928	0.12%	0.74	0.74	C	C	No	no change
Between	SR 92	A Street	4	5876	13	0.72	5889	0.22%	0.73	0.74	C	C	No	no change
Between	A Street	I-238	4	9134	12		9146	0.13%	1.14	1.14	F	F	No	no change
Between	I-238	Hegenberger	4	7922	28		7950	0.35%	0.99	0.99	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	7042	49		7091	0.70%	0.88	0.89	D	D	No	no change
Between	High/42nd Street	PROJECT	4	8207	77		8284	0.94%	1.03	1.04	F	F	No	no change
Between	PROJECT	I-980	5	8975	228		9203	2.54%	0.90	0.92	D	E	No	change
Between	I-980	I-880/Toll Plaza	3	4882	114		4996	2.34%	0.81	0.83	D	D	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	2861	107	6.11	2968	3.74%	0.36	0.37	B	B	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	2069	44	2.52	2113	2.13%	0.26	0.26	A	A	No	no change
I-580														
Between	I-238	Grove	5	4786	16	0.90	4802	0.33%	0.48	0.48	B	B	No	no change
Between	Grove	I-680	4	5903	13	0.72	5916	0.22%	0.74	0.74	C	C	No	no change
Between	I-680	Santa Rita	4	5964	8	0.45	5972	0.13%	0.75	0.75	C	C	No	no change
Between	Santa Rita	Portola	4	5767	3	0.19	5770	0.05%	0.72	0.72	C	C	No	no change
Between	Portola	1st Avenue	4	4559	3	0.15	4562	0.07%	0.57	0.57	B	B	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	1823	1	0.04	1824	0.05%	0.23	0.23	A	A	No	no change
Between	Portola	Tassajara	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Tassajara	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Center	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Center	I-580/238	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-80	Harrison	4	5824	24	1.36	5848	0.41%	0.73	0.73	C	C	No	no change
Between	Harrison	SR 13	4	5715	7	0.42	5722	0.12%	0.71	0.72	C	C	No	no change
Between	SR 13	MacArthur	4	8607	0	0.00	8607	0.00%	1.08	1.08	F	F	No	no change
Between	MacArthur	I-580/238	4	7179	0	0.00	7179	0.00%	0.90	0.90	D	D	No	no change
Between	SR 13	Fruitvale	4	5715	4	0.23	5719	0.07%	0.71	0.71	C	C	No	no change
Between	Fruitvale	Harrison	4	5656	7	0.38	5663	0.12%	0.71	0.71	C	C	No	no change
Between	Harrison	SR 24	4	4048	0	0.00	4048	0.00%	0.51	0.51	B	B	No	no change
Between	SR 24	I-80/580	5	5824	24	1.36	5848	0.41%	0.58	0.58	B	B	No	no change
Between	Central	I-80 Jct	2	4233	20	1.12	4253	0.47%	1.06	1.06	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1630	14	0.81	1644	0.86%	0.68	0.69	C	C	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	872	0	0.00	872	0.00%	0.55	0.55	B	B	No	no change
Between	Washington	Marin	2	180	0	0.00	180	0.00%	0.11	0.11	A	A	No	no change
Between	Marin	Gilman	2	641	0	0.00	641	0.00%	0.40	0.40	B	B	No	no change
Between	Gilman	University	2	1133	9	0.54	1142	0.79%	0.71	0.71	C	C	No	no change
Between	University	Allston	2	1405	0	0.00	1405	0.00%	0.88	0.88	D	D	No	no change
Between	Allston	Ashby	2	1574	3	0.15	1577	0.19%	0.98	0.99	E	E	No	no change
Between	Ashby	Stanford	2	1064	1	0.07	1065	0.09%	0.67	0.67	C	C	No	no change
Between	Stanford	53rd	2	1260	1	0.07	1261	0.08%	0.79	0.79	D	D	No	no change
Between	53rd	Park	2	1350	4	0.23	1354	0.30%	0.84	0.85	D	D	No	no change
Between	Park	35th	2	1801	7	0.41	1808	0.39%	1.13	1.13	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	0	0	0.00	0	#DIV/0!	0.00	0.00	A	A	No	no change
Between	7th Street	14th Street	3	135	0	0.00	135	0.00%	0.06	0.06	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	84	12	0.69	96	14.29%	0.04	0.04	A	A	No	no change
Grand Avenue														
Between	Moraga Ave	I-580	2	1013	12	0.67	1025	1.18%	0.63	0.64	C	C	No	no change
Between	I-580	Harrison	2	881	3	0.19	884	0.34%	0.55	0.55	B	B	No	no change
Between	Harrison	Broadway	2	808	0		808	0.00%	0.51	0.51	B	B	No	no change
Between	Broadway	Telegraph	2	1145	0	0.00	1145	0.00%	0.72	0.72	C	C	No	no change
Between	Telegraph	I-980	2	744	1	0.04	745	0.13%	0.47	0.47	B	B	No	no change
Between	I-980	Adeline	2	260	1	0.04	261	0.38%	0.16	0.16	A	A	No	no change
Between	Adeline	I-880	2	402	0	0.00	402	0.00%	0.25	0.25	A	A	No	no change
Broadway														
Between	Embarcadero	7th Street	2	500	109		609	21.80%	0.31	0.38	A	B	Yes	change
Between	7th Street	14th Street	2	46	169		215	367.39%	0.03	0.13	A	A	Yes	no change
Between	14th Street	West Grand	2	53	8		61	15.09%	0.03	0.04	A	A	No	no change
Between	West Grand	MacArthur	2	63	1	0.04	64	1.59%	0.04	0.04	A	A	No	no change
Between	MacArthur	51st Street	2	462	1	0.08	463	0.22%	0.29	0.29	A	A	No	no change
Between	51st Street	SR 24	2	492	0	0.00	492	0.00%	0.31	0.31	A	A	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Telegraph Avenue														
Between	14th Street	West Grand	2	156	0	0.00	156	0.00%	0.10	0.10	A	A	No	no change
Between	West Grand	MacArthur	2	147	0	0.00	147	0.00%	0.09	0.09	A	A	No	no change
Between	MacArthur	51st Street	2	175	0	0.00	175	0.00%	0.11	0.11	A	A	No	no change
Between	51st Street	Ashby	2	1926	19	1.09	1945	0.99%	1.20	1.22	F	F	No	no change
Between	Ashby	Bancroft Way	2	1627	18	1.01	1645	1.11%	1.02	1.03	F	F	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

TABLE C-13 CONGESTION MANAGEMENT PROGRAM EVALUATION - 2025 AM SOUTHBOUND/WESTBOUNE														
Link Location	Segment Limits		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	9239	4	0.23	9243	0.04%	1.15	1.16	F	F	No	no change
Between	SR 262/Mission	Stevenson	4	7803	8	0.45	7811	0.10%	0.98	0.98	E	E	No	no change
Between	Stevenson	Decoto	4	6803	12	0.67	6815	0.18%	0.85	0.85	D	D	No	no change
Between	Decoto	Alv-Niles	4	7081	18	1.01	7099	0.25%	0.89	0.89	D	D	No	no change
Between	Alv-Niles	Tennyson	4	7776	27	1.57	7803	0.35%	0.97	0.98	E	E	No	no change
Between	Tennyson	SR 92	4	6958	31	1.75	6989	0.45%	0.87	0.87	D	D	No	no change
Between	SR 92	A Street	4	8234	54	3.06	8288	0.66%	1.03	1.04	F	F	No	no change
Between	A Street	I-238	4	9174	46		9220	0.50%	1.15	1.15	F	F	No	no change
Between	I-238	Hegenberger	4	7881	103		7984	1.31%	0.99	1.00	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	6904	182		7086	2.64%	0.86	0.89	D	D	No	no change
Between	High/42nd Street	PROJECT	4	6445	285		6730	4.42%	0.81	0.84	D	D	No	no change
Between	PROJECT	I-980	5	5354	62		5416	1.16%	0.54	0.54	B	B	No	no change
Between	I-980	I-880/Toll Plaza	3	2438	31		2469	1.27%	0.41	0.41	B	B	No	no change
I-980														
Between	SR 24 @ 580	I-880	4	6907	83	4.735	6990	1.20%	0.86	0.87	D	D	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	8740	29	1.66	8769	0.33%	1.09	1.10	F	F	No	no change
I-580														
Between	I-238	Grove	5	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Grove	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Santa Rita	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Santa Rita	Portola	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Portola	1st Avenue	4	7315	14	0.80	7329	0.19%	0.91	0.92	E	E	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	6366	14	0.80	6380	0.22%	0.80	0.80	D	D	No	no change
Between	Portola	Tassajara	4	9192	14	0.80	9206	0.15%	1.15	1.15	F	F	No	no change
Between	Tassajara	I-680	4	8695	16	0.92	8711	0.18%	1.09	1.09	F	F	No	no change
Between	I-680	Center	4	9274	19	1.10	9293	0.20%	1.16	1.16	F	F	No	no change
Between	Center	I-580/238	4	10537	24	1.37	10561	0.23%	1.32	1.32	F	F	No	no change
Between	I-80	Harrison	4	9932	7	0.41	9939	0.07%	1.24	1.24	F	F	No	no change
Between	Harrison	SR 13	4	8520	20	1.13	8540	0.23%	1.07	1.07	F	F	No	no change
Between	SR 13	MacArthur	4	8444	9	0.49	8453	0.11%	1.06	1.06	F	F	No	no change
Between	MacArthur	I-580/238	4	7493	4	0.23	7497	0.05%	0.94	0.94	E	E	No	no change
Between	SR 13	Fruitvale	4	8520	20	1.13	8540	0.23%	1.07	1.07	F	F	No	no change
Between	Fruitvale	Harrison	4	9081	18	1.01	9099	0.20%	1.14	1.14	F	F	No	no change
Between	Harrison	SR 24	4	8632	0	0.00	8632	0.00%	1.08	1.08	F	F	No	no change
Between	SR 24	I-80/580	5	9932	7	0.41	9939	0.07%	0.99	0.99	E	E	No	no change
Between	Central	I-80 Jct	2	4255	8	0.45	4263	0.19%	1.06	1.07	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1548	11	0.60	1559	0.71%	0.65	0.65	C	C	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	1911	0	0.00	1911	0.00%	1.19	1.19	F	F	No	no change
Between	Washington	Marin	2	877	0	0.00	877	0.00%	0.55	0.55	B	B	No	no change
Between	Marin	Gilman	2	1550	0	0.00	1550	0.00%	0.97	0.97	E	E	No	no change
Between	Gilman	University	2	1969	1	0.04	1970	0.05%	1.23	1.23	F	F	No	no change
Between	University	Allston	2	1976	1	0.04	1977	0.05%	1.24	1.24	F	F	No	no change
Between	Allston	Ashby	2	1733	1	0.04	1734	0.06%	1.08	1.08	F	F	No	no change
Between	Ashby	Stanford	2	1444	2	0.12	1446	0.14%	0.90	0.90	D	D	No	no change
Between	Stanford	53rd	2	1609	3	0.15	1612	0.19%	1.01	1.01	F	F	No	no change
Between	53rd	Park	2	1458	3	0.15	1461	0.21%	0.91	0.91	E	E	No	no change
Between	Park	35th	2	1541	3	0.19	1544	0.19%	0.96	0.97	E	E	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Grand Avenue														
Between	Moraga Ave	I-580	2	963	11	0.60	974	1.14%	0.60	0.61	C	C	No	no change
Between	I-580	Harrison	2	2041	5	0.30	2046	0.24%	1.28	1.28	F	F	No	no change
Between	Harrison	Broadway	2	1511	1		1512	0.07%	0.94	0.95	E	E	No	no change
Between	Broadway	Telegraph	2	1131	0	0.00	1131	0.00%	0.71	0.71	C	C	No	no change
Between	Telegraph	I-980	2	1145	1	0.04	1146	0.09%	0.72	0.72	C	C	No	no change
Between	I-980	Adeline	2	787	9	0.53	796	1.14%	0.49	0.50	B	B	No	no change
Between	Adeline	I-880	2	917	11	0.63	928	1.20%	0.57	0.58	B	B	No	no change
Broadway														
Between	Embarcadero	7th Street	2	204	29		233	14.22%	0.13	0.15	A	A	No	no change
Between	7th Street	14th Street	2	158	44		202	27.85%	0.10	0.13	A	A	No	no change
Between	14th Street	West Grand	2	453	3		456	0.66%	0.28	0.29	A	A	No	no change
Between	West Grand	MacArthur	2	376	0	0.00	376	0.00%	0.24	0.24	A	A	No	no change
Between	MacArthur	51st Street	2	1800	3	0.15	1803	0.17%	1.13	1.13	F	F	No	no change
Between	51st Street	SR 24	2	1324	1	0.04	1325	0.08%	0.83	0.83	D	D	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	84	0	0.00	84	0.00%	0.05	0.05	A	A	No	no change
Between	7th Street	14th Street	3	146	0	0.00	146	0.00%	0.06	0.06	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	205	3	0.19	208	1.46%	0.09	0.09	A	A	No	no change
Telegraph Avenue														
Between	14th Street	West Grand	2	201	0	0.00	201	0.00%	0.13	0.13	A	A	No	no change
Between	West Grand	MacArthur	2	181	0	0.00	181	0.00%	0.11	0.11	A	A	No	no change
Between	MacArthur	51st Street	2	1047	0	0.00	1047	0.00%	0.65	0.65	C	C	No	no change
Between	51st Street	Ashby	2	865	3	0.19	868	0.35%	0.54	0.54	B	B	No	no change
Between	Ashby	Bancroft Way	2	739	1	0.04	740	0.14%	0.46	0.46	B	B	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

TABLE C-14 CONGESTION MANAGEMENT PROGRAM EVALUATION - 2025 PM NORTHBOUND/EASTBOUNC														
Link Location	Segment Links		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	7440	3	0.13	7443	0.04%	0.93	0.93	E	E	No	no change
Between	SR 262/Mission	Stevenson	4	5210	7	0.26	5217	0.13%	0.65	0.65	C	C	No	no change
Between	Stevenson	Decoto	4	7083	14	0.52	7097	0.20%	0.89	0.89	D	D	No	no change
Between	Decoto	Alv-Niles	4	7256	19	0.73	7275	0.26%	0.91	0.91	E	E	No	no change
Between	Alv-Niles	Tennyson	4	7067	28	1.07	7095	0.40%	0.88	0.89	D	D	No	no change
Between	Tennyson	SR 92	4	7003	33	1.24	7036	0.47%	0.88	0.88	D	D	No	no change
Between	SR 92	A Street	4	6844	56	2.10	6900	0.82%	0.86	0.86	D	D	No	no change
Between	A Street	I-238	4	8910	60		8970	0.67%	1.11	1.12	F	F	No	no change
Between	I-238	Hegenberger	4	7872	135		8007	1.71%	0.98	1.00	E	E	No	no change
Between	Hegenberger	High/42nd Street	4	7113	240		7353	3.37%	0.89	0.92	D	E	No	change
Between	High/42nd Street	PROJECT	4	7176	374		7550	5.21%	0.90	0.94	D	E	Yes	change
Between	PROJECT	I-980	5	8481	230		8711	2.71%	0.85	0.87	D	D	No	no change
Between	I-980	I-880/Toll Plaza	3	4441	115		4556	2.59%	0.74	0.76	C	D	No	change
I-980														
Between	SR 24 @ 580	I-880	4	6770	90	3.42	6860	1.33%	0.85	0.86	D	D	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	8355	43	1.62	8398	0.51%	1.04	1.05	F	F	No	no change
I-580														
Between	I-238	Grove	5	9891	29	1.10	9920	0.29%	0.99	0.99	E	E	No	no change
Between	Grove	I-680	4	10566	25	0.95	10591	0.24%	1.32	1.32	F	F	No	no change
Between	I-680	Santa Rita	4	10585	18	0.69	10603	0.17%	1.32	1.33	F	F	No	no change
Between	Santa Rita	Portola	4	9508	15	0.59	9523	0.16%	1.19	1.19	F	F	No	no change
Between	Portola	1st Avenue	4	7817	15	0.56	7832	0.19%	0.98	0.98	E	E	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	6667	15	0.56	6682	0.22%	0.83	0.84	D	D	No	no change
Between	Portola	Tassajara	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Tassajara	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Center	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Center	I-580/238	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-80	Harrison	4	10712	36	1.37	10748	0.34%	1.34	1.34	F	F	No	no change
Between	Harrison	SR 13	4	8683	36	1.36	8719	0.41%	1.09	1.09	F	F	No	no change
Between	SR 13	MacArthur	4	9242	26	1.00	9268	0.28%	1.16	1.16	F	F	No	no change
Between	MacArthur	I-580/238	4	8320	21	0.81	8341	0.25%	1.04	1.04	F	F	No	no change
Between	SR 13	Fruitvale	4	8683	35	1.31	8718	0.40%	1.09	1.09	F	F	No	no change
Between	Fruitvale	Harrison	4	9420	36	1.36	9456	0.38%	1.18	1.18	F	F	No	no change
Between	Harrison	SR 24	4	8203	0	0.00	8203	0.00%	1.03	1.03	F	F	No	no change
Between	SR 24	I-80/580	5	10712	36	1.37	10748	0.34%	1.07	1.07	F	F	No	no change
Between	Central	I-80 Jct	2	5805	19	0.70	5824	0.33%	1.45	1.46	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	1558	13	0.51	1571	0.83%	0.65	0.65	C	C	No	no change
San Pablo Avenue														
Between	Carlson	Washington	2	2154	1	0.03	2155	0.05%	1.35	1.35	F	F	No	no change
Between	Washington	Marin	2	1058	0	0.00	1058	0.00%	0.66	0.66	C	C	No	no change
Between	Marin	Gilman	2	1594	1	0.03	1595	0.06%	1.00	1.00	F	F	No	no change
Between	Gilman	University	2	2117	1	0.05	2118	0.05%	1.32	1.32	F	F	No	no change
Between	University	Allston	2	2215	1	0.05	2216	0.05%	1.38	1.39	F	F	No	no change
Between	Allston	Ashby	2	2025	3	0.13	2028	0.15%	1.27	1.27	F	F	No	no change
Between	Ashby	Stanford	2	1615	4	0.16	1619	0.25%	1.01	1.01	F	F	No	no change
Between	Stanford	53rd	2	1693	4	0.16	1697	0.24%	1.06	1.06	F	F	No	no change
Between	53rd	Park	2	1520	4	0.16	1524	0.26%	0.95	0.95	E	E	No	no change
Between	Park	35th	2	1740	7	0.26	1747	0.40%	1.09	1.09	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	0	0	0.00	0	#DIV/0!	0.00	0.00	A	A	No	no change
Between	7th Street	14th Street	3	130	0	0.00	130	0.00%	0.05	0.05	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	332	8	0.32	340	2.41%	0.14	0.14	A	A	No	no change
Grand Avenue														
Between	Moraga Ave	I-580	2	901	14	0.52	915	1.55%	0.56	0.57	B	B	No	no change
Between	I-580	Harrison	2	2129	7	0.26	2136	0.33%	1.33	1.34	F	F	No	no change
Between	Harrison	Broadway	2	1670	9		1679	0.54%	1.04	1.05	F	F	No	no change
Between	Broadway	Telegraph	2	1365	0	0.00	1365	0.00%	0.85	0.85	D	D	No	no change
Between	Telegraph	I-980	2	1378	2	0.08	1380	0.15%	0.86	0.86	D	D	No	no change
Between	I-980	Adeline	2	1002	3	0.11	1005	0.30%	0.63	0.63	C	C	No	no change
Between	Adeline	I-880	2	1859	1	0.05	1860	0.05%	1.16	1.16	F	F	No	no change
Broadway														
Between	Embarcadero	7th Street	2	780	110		890	14.10%	0.49	0.56	B	B	Yes	no change
Between	7th Street	14th Street	2	86	171		257	198.84%	0.05	0.16	A	A	Yes	no change
Between	14th Street	West Grand	2	256	8		264	3.13%	0.16	0.17	A	A	No	no change
Between	West Grand	MacArthur	2	465	1	0.03	466	0.22%	0.29	0.29	A	A	No	no change
Between	MacArthur	51st Street	2	1906	3	0.13	1909	0.16%	1.19	1.19	F	F	No	no change
Between	51st Street	SR 24	2	1193	1	0.03	1194	0.08%	0.75	0.75	C	C	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Telegraph Avenue														
Between	14th Street	West Grand	2	284	0	0.00	284	0.00%	0.18	0.18	A	A	No	no change
Between	West Grand	MacArthur	2	183	0	0.00	183	0.00%	0.11	0.11	A	A	No	no change
Between	MacArthur	51st Street	2	742	1	0.03	743	0.13%	0.46	0.46	B	B	No	no change
Between	51st Street	Ashby	2	1550	11	0.42	1561	0.71%	0.97	0.98	E	E	No	no change
Between	Ashby	Bancroft Way	2	1445	9	0.34	1454	0.62%	0.90	0.91	D	E	No	change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.
Fehr & Peers, 2005.

TABLE C-15
CONGESTION MANAGEMENT PROGRAM EVALUATION - 2025 PM SOUTHBOUND/WESTBOUND

Link Location	Segment Links		# Lanes	No Project Volume	Project Volume	% Project	With Project Volume	% Increase	V/C Ratio - No Project	V/C Ratio - With Project	No Project LOS	With Project LOS	Change in V/C >3%	Change in LOS
State Highways														
I-880														
Between	Dix Landing	SR 262/Mission	4	6537	1	0.05	6538	0.02%	0.82	0.82	D	D	No	no change
Between	SR 262/Mission	Stevenson	4	6624	3	0.13	6627	0.05%	0.83	0.83	D	D	No	no change
Between	Stevenson	Decoto	4	5644	6	0.21	5650	0.11%	0.71	0.71	C	C	No	no change
Between	Decoto	Alv-Niles	4	6041	9	0.34	6050	0.15%	0.76	0.76	D	D	No	no change
Between	Alv-Niles	Tennyson	4	7550	12	0.45	7562	0.16%	0.94	0.95	E	E	No	no change
Between	Tennyson	SR 92	4	6455	13	0.50	6468	0.20%	0.81	0.81	D	D	No	no change
Between	SR 92	A Street	4	7753	26	0.99	7779	0.34%	0.97	0.97	E	E	No	no change
Between	A Street	I-238	4	8768	46		8814	0.52%	1.10	1.10	F	F	No	no change
Between	I-238	Hegenberger	4	9368	104		9472	1.11%	1.17	1.18	F	E	No	change
Between	Hegenberger	High/42nd Street	4	8200	184		8384	2.24%	1.03	1.05	F	F	No	no change
Between	High/42nd Street	PROJECT	4	8913	287		9200	3.22%	1.11	1.15	F	F	Yes	no change
Between	PROJECT	I-980	5	7871	300		8171	3.81%	0.79	0.82	D	D	No	no change
Between	I-980	I-880/Toll Plaza	3	5280	150		5430	2.84%	0.88	0.91	D	E	No	change
I-980														
Between	SR 24 @ 580	I-880	4	3609	163	6.18	3772	4.52%	0.45	0.47	B	B	No	no change
SR24														
Between	I-580 Ramps	Fish Ranch	4	4189	43	1.61	4232	1.03%	0.52	0.53	B	B	No	no change
I-580														
Between	I-238	Grove	5	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Grove	I-680	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	I-680	Santa Rita	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Santa Rita	Portola	4	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	Portola	1st Avenue	4	4530	2	0.08	4532	0.04%	0.57	0.57	B	B	No	no change
Between	1st Avenue	I-205 (SJ Co)	4	1832	1	0.03	1833	0.05%	0.23	0.23	A	A	No	no change
Between	Portola	Tassajara	4	6427	3	0.13	6430	0.05%	0.80	0.80	D	D	No	no change
Between	Tassajara	I-680	4	6986	6	0.24	6992	0.09%	0.87	0.87	D	D	No	no change
Between	I-680	Center	4	6264	14	0.52	6278	0.22%	0.78	0.78	D	D	No	no change
Between	Center	I-580/238	4	5967	17	0.65	5984	0.28%	0.75	0.75	C	C	No	no change
Between	I-80	Harrison	4	8317	9	0.33	8326	0.11%	1.04	1.04	F	F	No	no change
Between	Harrison	SR 13	4	6638	19	0.73	6657	0.29%	0.83	0.83	D	D	No	no change
Between	SR 13	MacArthur	4	8381	5	0.18	8386	0.06%	1.05	1.05	F	F	No	no change
Between	MacArthur	I-580/238	4	6923	1	0.05	6924	0.01%	0.87	0.87	D	D	No	no change
Between	SR 13	Fruitvale	4	6638	19	0.70	6657	0.29%	0.83	0.83	D	D	No	no change
Between	Fruitvale	Harrison	4	6841	19	0.73	6860	0.28%	0.86	0.86	D	D	No	no change
Between	Harrison	SR 24	4	6004	0	0.00	6004	0.00%	0.75	0.75	C	C	No	no change
Between	SR 24	I-80/580	5	8317	9	0.34	8326	0.11%	0.83	0.83	D	D	No	no change
Between	Central	I-80 Jct	2	5207	20	0.78	5227	0.38%	1.30	1.31	F	F	No	no change
Arterials														
Martin Luther King Jr. Way														
Between	SR 24	Adeline	3	2166	45	1.69	2211	2.08%	0.90	0.92	D	E	No	change
San Pablo Avenue														
Between	Carlson	Washington	2	1576	0	0.00	1576	0.00%	0.99	0.99	E	E	No	no change
Between	Washington	Marin	2	616	1	0.03	617	0.16%	0.39	0.39	B	B	No	no change
Between	Marin	Gilman	2	1407	1	0.05	1408	0.07%	0.88	0.88	D	D	No	no change
Between	Gilman	University	2	1975	4	0.16	1979	0.20%	1.23	1.24	F	F	No	no change
Between	University	Allston	2	2080	4	0.16	2084	0.19%	1.30	1.30	F	F	No	no change
Between	Allston	Ashby	2	2355	8	0.31	2363	0.34%	1.47	1.48	F	F	No	no change
Between	Ashby	Stanford	2	1769	9	0.34	1778	0.51%	1.11	1.11	F	F	No	no change
Between	Stanford	53rd	2	1932	11	0.41	1943	0.57%	1.21	1.21	F	F	No	no change
Between	53rd	Park	2	1931	11	0.41	1942	0.57%	1.21	1.21	F	F	No	no change
Between	Park	35th	2	2157	14	0.52	2171	0.65%	1.35	1.36	F	F	No	no change
MTC MTS Arterials														
Castro Street														
Between	Embarcadero	7th Street	2	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	7th Street	14th Street	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Between	14th Street	San Pablo Avenue	3	n/a	n/a	0.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Grand Avenue														
Between	Moraga Ave	I-580	2	1025	15	0.57	1040	1.46%	0.64	0.65	C	C	No	no change
Between	I-580	Harrison	2	1217	6	0.21	1223	0.49%	0.76	0.76	D	D	No	no change
Between	Harrison	Broadway	2	823	5		828	0.61%	0.51	0.52	B	B	No	no change
Between	Broadway	Telegraph	2	998	0	0.00	998	0.00%	0.62	0.62	C	C	No	no change
Between	Telegraph	I-980	2	1258	1	0.03	1259	0.08%	0.79	0.79	D	D	No	no change
Between	I-980	Adeline	2	700	3	0.11	703	0.43%	0.44	0.44	B	B	No	no change
Between	Adeline	I-880	2	956	4	0.16	960	0.42%	0.60	0.60	C	C	No	no change
Broadway														
Between	Embarcadero	7th Street	2	288	141		429	48.96%	0.18	0.27	A	A	Yes	no change
Between	7th Street	14th Street	2	483	219		702	45.34%	0.30	0.44	A	B	Yes	change
Between	14th Street	West Grand	2	290	14		304	4.83%	0.18	0.19	A	A	No	no change
Between	West Grand	MacArthur	2	137	3	0.11	140	2.19%	0.09	0.09	A	A	No	no change
Between	MacArthur	51st Street	2	578	3	0.13	581	0.52%	0.36	0.36	B	B	No	no change
Between	51st Street	SR 24	2	363	0	0.00	363	0.00%	0.23	0.23	A	A	No	no change
Brush Street														
Between	Embarcadero	7th Street	2	19	0	0.00	19	0.00%	0.01	0.01	A	A	No	no change
Between	7th Street	14th Street	3	203	0	0.00	203	0.00%	0.08	0.08	A	A	No	no change
Between	14th Street	San Pablo Avenue	3	57	3	0.13	60	5.26%	0.02	0.03	A	A	No	no change
Telegraph Avenue														
Between	14th Street	West Grand	2	173	2	0.08	175	1.16%	0.11	0.11	A	A	No	no change
Between	West Grand	MacArthur	2	178	1	0.03	179	0.56%	0.11	0.11	A	A	No	no change
Between	MacArthur	51st Street	2	634	1	0.03	635	0.16%	0.40	0.40	B	B	No	no change
Between	51st Street	Ashby	2	1911	3	0.11	1914	0.16%	1.19	1.20	F	F	No	no change
Between	Ashby	Bancroft Way	2	1923	1	0.05	1924	0.05%	1.20	1.20	F	F	No	no change

1. The Congestion Management Agency applies different segment definitions for segments of I-580 between I-238 and Tassajara Road
2. Brush Street and Castro Street are one-way streets
3. Segment limits were taken from the 2004 LOS Monitoring Report *(Alameda County CMA) except for the se* gment of I-880 closest to the project which was divided in two.

Fehr & Peers, 2005.

APPENDIX D

Population, Housing, and Employment Technical Appendix

APPENDIX D.1

BACKGROUND TABLES FOR IV.J POPULATION, HOUSING, AND EMPLOYMENT SETTING

TABLE D.1-2: PERCENTAGE DISTRIBUTIONS

Census 2000 Data for San Antonio Census Tracts																
Census Tracts	**4052**	**4053**	**4054**	**4055**	**4056**	**4057**	**4058**	**4059**	**4060**	**4062.01**	**4062.02**	**4063**	**4064**	**Total San Antonio**	**Lower San Antonio**	**Oakland**
Total Population	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Race and Ethnicity																
White alone	32.3%	30.2%	8.0%	11.4%	16.4%	9.0%	3.5%	3.8%	11.1%	3.3%	5.4%	6.6%	22.3%	11.8%	6.8%	23.5%
Black or African American alone	20.1%	26.4%	25.0%	23.8%	27.8%	38.0%	29.0%	18.3%	11.6%	15.7%	13.3%	29.8%	37.5%	23.3%	19.6%	35.1%
American Indian and Alaska Native alone	0.3%	0.7%	0.6%	0.3%	0.5%	0.2%	0.4%	0.3%	0.4%	0.5%	0.9%	0.3%	0.3%	0.4%	0.4%	0.4%
Asian alone	35.6%	26.9%	39.5%	49.7%	38.0%	31.8%	42.2%	40.7%	43.9%	25.3%	13.5%	26.6%	22.7%	34.0%	39.0%	15.1%
Native Hawaiian and Other Pacific Islander alone	0.3%	0.3%	0.2%	0.3%	0.2%	0.3%	0.2%	0.5%	0.3%	0.4%	0.0%	0.7%	0.0%	0.3%	0.3%	0.5%
Some other race alone	0.3%	0.3%	0.3%	0.2%	0.3%	0.2%	0.4%	0.2%	0.1%	0.1%	0.2%	0.3%	0.0%	0.2%	0.2%	0.3%
Population of two or more races:	3.8%	3.7%	3.7%	2.7%	3.2%	2.8%	3.7%	3.0%	2.5%	3.0%	2.1%	2.7%	2.8%	3.1%	3.1%	3.2%
Hispanic or Latino	7.3%	11.4%	22.8%	11.7%	13.6%	17.6%	20.6%	33.2%	30.3%	51.7%	64.6%	33.1%	14.5%	26.9%	30.5%	21.9%
Sex																
Males	47.3%	49.6%	50.7%	47.8%	48.0%	50.1%	47.6%	50.4%	53.6%	53.0%	53.4%	49.0%	41.7%	49.8%	51.0%	48.3%
Females	52.7%	50.4%	49.3%	52.2%	52.0%	49.9%	52.4%	49.6%	46.4%	47.0%	46.6%	51.0%	58.3%	50.2%	49.0%	51.7%
Age																
Under 5 yrs	3.9%	4.4%	8.1%	6.6%	6.1%	7.7%	7.7%	8.6%	6.2%	10.3%	10.7%	8.0%	6.2%	7.5%	8.2%	7.1%
5 to 17 yrs	10.5%	8.6%	18.7%	17.4%	18.2%	18.0%	25.4%	24.8%	15.5%	25.3%	21.8%	24.9%	17.1%	19.3%	21.0%	17.9%
18 to 21 yrs	2.8%	3.6%	6.9%	6.0%	5.7%	5.7%	6.7%	7.3%	7.3%	7.6%	7.6%	6.7%	3.7%	6.1%	7.1%	5.1%
22 to 29 yrs	17.8%	20.2%	17.9%	16.5%	16.6%	15.7%	13.3%	13.6%	16.4%	16.7%	18.8%	12.3%	9.8%	16.2%	16.2%	13.7%
30 to 39 yrs	21.4%	21.8%	17.0%	18.6%	19.5%	16.6%	14.8%	15.6%	18.1%	16.6%	16.6%	15.1%	13.1%	17.4%	16.9%	17.3%
40 to 49 yrs	17.5%	15.9%	13.5%	14.1%	14.4%	14.0%	12.5%	12.3%	13.6%	10.5%	10.4%	13.2%	13.4%	13.4%	12.7%	14.7%
50 to 64 yrs	15.2%	13.1%	10.3%	12.1%	12.5%	14.1%	11.7%	10.6%	12.5%	7.5%	7.9%	10.4%	14.3%	11.4%	10.3%	13.8%
65 yrs and over	10.9%	12.4%	7.5%	8.6%	7.3%	8.2%	7.9%	7.2%	10.5%	5.4%	6.2%	9.3%	22.4%	8.8%	7.5%	10.5%
Housing Units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Vacant	3.2%	2.4%	3.9%	5.1%	3.1%	4.2%	2.7%	4.4%	4.9%	4.9%	2.0%	3.6%	4.8%	3.7%	4.5%	4.3%
Owner Occupied	26.2%	8.5%	12.0%	21.7%	23.0%	28.4%	35.1%	26.8%	14.5%	21.9%	16.6%	35.1%	48.7%	21.8%	18.9%	39.7%
Renter Occupied	70.6%	89.2%	84.1%	73.3%	73.9%	67.4%	62.2%	68.8%	80.6%	73.2%	81.4%	61.3%	46.6%	74.6%	76.6%	56.1%
Households (occupied housing units)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
1-person household:	46.8%	50.0%	28.7%	32.1%	33.4%	33.5%	15.9%	15.1%	34.6%	12.0%	13.8%	21.5%	24.4%	30.5%	24.5%	32.5%
Married-couple family with own children under 18 years	9.6%	8.2%	20.3%	17.8%	16.1%	16.3%	25.6%	31.1%	16.7%	34.4%	34.7%	24.4%	17.8%	19.7%	24.0%	16.5%
Married-couple family without own children under 18 years	15.2%	14.7%	14.4%	16.3%	15.7%	15.0%	17.7%	15.6%	19.5%	12.4%	14.2%	12.2%	21.5%	15.4%	15.4%	17.6%
Other Households	28.4%	27.1%	36.5%	33.8%	34.8%	35.2%	40.8%	38.2%	29.2%	41.1%	37.3%	41.9%	36.2%	34.5%	36.1%	33.5%
Household Incomes in 1999																
Less than $20,000	15.1%	26.5%	35.0%	30.5%	25.0%	26.4%	30.9%	30.5%	36.1%	33.5%	25.6%	33.8%	21.8%	28.3%	33.2%	25.8%
$20,000 to $39,999	24.8%	32.3%	33.0%	22.8%	28.2%	33.0%	27.5%	33.9%	30.0%	27.9%	33.9%	29.8%	20.8%	29.7%	30.3%	24.2%
$40,000 to $60,000	23.4%	15.2%	16.6%	23.6%	18.3%	20.7%	16.2%	18.0%	12.4%	20.4%	22.0%	17.2%	21.7%	18.6%	18.1%	17.0%
$60,000 to $99,999	21.5%	17.1%	10.7%	18.4%	16.8%	16.0%	16.2%	12.8%	9.9%	10.9%	11.0%	16.3%	24.4%	15.3%	12.4%	18.6%
$100,000 or more	15.2%	8.9%	4.5%	4.7%	11.8%	3.9%	9.3%	4.8%	11.5%	7.3%	7.5%	2.9%	11.3%	8.0%	6.1%	14.5%

Source: Census 2000; Hausrath Economics Group

APPENDIX D.2

ANALYSIS OF POTENTIAL FOR INDIRECT PHYSICAL IMPACTS FROM RETAIL DEVELOPMENT PROPOSED FOR THE OAK TO NINTH AVENUE PROJECT

APPENDIX D.2

ANALYSIS OF POTENTIAL FOR INDIRECT PHYSICAL IMPACTS FROM RETAIL DEVELOPMENT PROPOSED FOR THE OAK TO NINTH AVENUE PROJECT

PURPOSE

This Appendix presents the results of analysis done to address the retail market effects of the project and whether the proposed addition of 200,000 sq. ft. of retail/commercial space in the project could cause ripple effects of store closures and consequential long-term vacancies that would result in physical deterioration and urban decay. Public comments on the Notice of Preparation raised concerns about the potential effects of project retail development on existing neighborhood commercial districts and corridors in Oakland, and specifically on the Eastlake District located along International Boulevard and East 12th Street north of the project across the I-880 freeway.

A recent Court of Appeals decision concerning proposed shopping center development (*Bakersfield Citizens for Local Control v. City of Bakersfield, et. al., (2004) 124 Cal. App. 4th 1184)* reconfirmed that CEQA requires analysis of a project's potential to indirectly cause physical deterioration and urban decay. The Court held that certain retailers, including Supercenters, large-scale retailers (such as big-box stores and "category killers"), retailers operating 24 hours a day seven days a week, and others may pose indirect environmental impacts. The retail development in the project does not propose to include those types of large-scale or discount retail uses. However, the potential for indirect physical impacts is still assessed in this EIR as public concerns have been raised about the potential for physical deterioration and urban decay in neighborhood retail districts and corridors as a result of the retail development proposed in the project.

SCOPE OF ANALYSIS

In assessing the potential impact of the proposed retail/commercial development, analysis was done to address the following:

- Extent that Oakland is currently underserved or overserved by retailing;
- Types of retailing envisioned for the project, and the retail sales likely to occur in retail businesses to be located there;
- Additional retail spending to be contributed by residents of new housing in the project;

- How additional spending from project residents would compare to additional sales in project businesses;

- Whether the types of retailing in the project would compete with or complement the types of retailing in the Eastlake District and other surrounding neighborhood retail districts and corridors in Oakland;

- Extent and potential significance of other retail development anticipated in Oakland; and

- Conclusions about the potential for indirect physical impacts of the retail development proposed for the project.

FINDINGS

The sections that follow address each of the issues and questions identified above, summarizing the results of the analysis.

Market Context: Oakland is Underserved by Retailing

Compared to Alameda County and the Bay Area overall, Oakland has substantially less retailing than would be anticipated for a city of its size. Per capita retail sales data summarized in Table D.2-1 provide a comparative measure of overall retail activity at the state, regional, and county levels and for retailing in Oakland and its nearby cities of the Inner East Bay. The data show that total retail sales per capita in Oakland are substantially lower (about 40 percent lower) than total sales per capita for Alameda County and the Bay Area overall. Among the different types of retailing, per capita sales in Oakland are low in all categories except service stations. The differences are quite substantial in many of the retail categories. (Table D.2-9 at the end of this Appendix presents the total taxable retail sales from which the sales per capita are calculated.)

The low retail sales per capita in Oakland indicate that there is substantial "leakage" of spending by Oakland residents to retail establishments outside of Oakland because of the limited retail opportunities available locally. It also indicates the likelihood that Oakland residents may be spending less overall on retailing because of the lack of retail options within convenient access.

Per capita sales data for the Inner East Bay, combining Oakland with its neighboring cities, shows that the Inner East Bay in total also is underserved with retailing relative to other parts of Alameda County and the rest of the region. Comparisons among Inner East Bay cities highlight the low levels of retailing in Oakland and in Alameda (located just across the Estuary from the Oak to Ninth project). The relatively high levels of retailing in Emeryville and San Leandro indicate that retailing in those cities is capturing sales from Oakland and Alameda residents. However, the lower per capita sales for all Inner East Bay cities combined indicates that there is still net leakage of sales to establishments in other areas outside of the Inner East Bay.

TABLE D.2-1
2003 PER CAPITA TAXABLE RETAIL SALES, SELECTED AREAS

	California	Bay Area	Alameda County	Inner East Bay /a/	Oakland	Berkeley	Emeryville	Alameda	San Leandro
2003 Total Population (January 1)	*35,612,116*	*6,960,314*	*1,487,685*	*702,878*	*408,513*	*103,954*	*7,492*	*74,295*	*80,879*
Retail Category									
Apparel stores	426	498	349	299	118	422	6,713	141	705
Home furnishings and appliances	424	519	536	583	253	660	24,807	116	532
Other retail stores	1,529	1,817	1,689	1,656	1,146	2,486	30,029	1,000	1,708
General merchandise stores /b/	1,419	1,513	1,280	907	322	477	2,185	794	4,714
Food stores /b/	545	552	493	483	417	586	2,402	489	660
Eating and drinking places	1,125	1,277	1,037	1,098	903	1,736	7,863	954	1,147
Bldg. materials and farm implements	862	917	1,000	736	512	893	n/a	225	2,455
Auto dealers and auto supplies	1,883	1,813	1,970	1,480	1,308	1,490	n/a	1,140	3,293
Service stations	778	762	762	713	760	496	1,904	557	1,033
Total Taxable Retail Sales /b/	**$8,992**	**$9,669**	**$9,116**	**$7,955**	**$5,740**	**$9,247**	**$75,903**	**$5,417**	**$16,247**

NOTE: The 2003 data were the most current available at the time of the analysis in March 2005.

/a/ Inner East Bay taxable sales data available for Alameda, Berkeley, Emeryville, Oakland, and San Leandro. Inner East Bay population also includes Piedmont and Albany.
/b/ The retail sales data are for taxable sales. However, not all sales in food stores and drug stores are taxable, so that total retail sales in those categories are higher than shown above. It is estimated that taxable sales represent about 30 percent of total sales in food stores, and approximately 46 percent of sales in drug stores.

Source: State of California, Department of Finance, E-5 City/County Population and Housing Estimates, 2004, Revised 2001-2003, with 2000 DRU Benchmark. Sacramento, California, May 2004; State Board of Equalization Taxable Sales in California Annual Report 2003; Hausrath Economics Group.

Given this market context, new retail development does not necessarily mean competition for sales with existing merchants in Oakland. Retail development is needed in Oakland to better serve the retailing needs of local residents. City economic development efforts are focused on attracting additional retailing to Oakland to improve retail opportunities for residents and to keep more local spending in Oakland.

Spending patterns of Oakland residents, as analyzed in another retail study, further support the retail market context described above. Of total retail expenditures by Oakland residents for different types of retailing, Table D.2-2 identifies the shares of spending estimated to occur in retail establishments in Oakland and in establishments located outside of Oakland. The spending patterns of residents show the relatively large shares of spending that occur outside of Oakland because of limited retail opportunities within the city.

TABLE D.2- 2
ESTIMATED SPENDING PATTERNS OF OAKLAND RESIDENTS

	Place of Expenditure		
Type of Retailing	Oakland	Other Inner East Bay	Outside Inner East Bay
Comparison Goods (apparel, home furnishings and appliances, electronics, specialty goods)	37%	29%	34%
Eating and Drinking	46%	17%	37%
Convenience Goods (groceries, drugs, personal care products, housekeeping supplies, etc.)	73%	21%	6%

Source: Oakland Retail Model as prepared for City of Oakland, *Downtown Oakland Retail Market Analysis*, Hausrath Economics Group, March 2001.

Mix of Retailing and Other Uses Envisioned for New Space in the Project

A mix of retail and other commercial uses are envisioned to occupy the 200,000 sq. ft. of retail/commercial space proposed for the project, along with community, cultural, and recreational uses. Just over two-thirds of the space is anticipated to be occupied by retail uses, potentially including a neighborhood-serving grocery, specialty food tenants, a drug store, smaller retail shops, galleries, restaurants, cafés and other eating places, and snack shops. Retail sales for those retail tenants are estimated to total approximately $37 million annually. Other uses and tenants in the rest of the space are envisioned to include small offices (health-related, professional services, real estate, financial services, project office), local service uses (dry cleaning, laundry, hair salon/barber shop), the harbor master/marina office, space for Aquatic Center expansion and other recreation-oriented activities, community facilities, and cultural uses/exhibit space. A potential scenario for the retail, other commercial, and other space is summarized in Table D.2-3. Tables with more detailed assumptions behind the scenario are presented at the end of this Appendix (see Tables D.2-10, D.2-11, and D.2-12).

TABLE D.2-3
POTENTIAL RETAIL/COMMERCIAL SCENARIO
FOR OAK TO NINTH AVENUE PROJECT, BY USE AND TYPE OF RETAILING

	Total Space (Sq. Ft.)	Retail Space (Sq. Ft.)	Estimated Retail Sales ($ 2004/05)
By Type of Space and Use			
Retail/commercial: neighborhood streets (on interior streets)	41,000	15,000	$2.2 mil.
Central area neighborhood retail (along project's Main Street)	42,000	42,000	14.1 mil.
Waterfront retail/restaurant (around Clinton Basin and Marina)	79,000	71,000	19.9 mil.
Park-oriented/recreational uses (in vicinity of Estuary Park and Channel Park)	20,000	5,000	0.6 mil.
Community, cultural, recreation uses (reuse of portion of Ninth Avenue Terminal)	18,000	3,000	0.4 mil.
Total Project	**200,000**	**136,000**	**$37.2 mil.**
By Type of Retailing			
Convenience Retail/Groceries		45,500	$14.6 mil.
Eating and Drinking		58,000	16.8 mil.
Comparison/Specialty Retail		32,500	5.8 mil.
Total Project		136,000	$37.2 mil.

Source: Signature Properties; Hausrath Economics Group.

Project Residents Would Contribute Additional Retail Spending

The Oak to Ninth project is primarily a residential development that includes retail/commercial space. The households to reside in the new housing units in the project would generate additional spending for a variety of retail goods and services. It is estimated that retail expenditures by project residents would total approximately $95 million annually. Their estimated expenditures by type of retailing are summarized in Table D.2-4. (More detailed expenditure estimates are shown in Table D.2-13 at the end of this Appendix.)

TABLE D.2-4
ESTIMATED RETAIL SPENDING BY PROJECT RESIDENTS

Retail Category	Average Annual Spending per Households /a/	Total Spending
	($ 2002/03)	($ 2002/03)
Groceries and Convenience	$8,359	$24.9 mil.
Eating and Drinking	4,418	13.1 mil.
Comparison and Specialty		
Apparel and Footwear	3,401	10.1 mil.
Household Furnishings and Equipment	3,579	10.7 mil.
Specialty and Other Comparison Goods	2,223	6.6 mil.
	9,203	27.4 mil.
Vehicle-related	9,606	28.6 mil.
Building Materials	360	1.1 mil.
Total Retail Spending	**$31,946**	**$95.1 mil.**

/a/ Data from U.S. Bureau of Labor Statistics, *2002-2003 Consumer Expenditure Survey for U.S. Western Region* for "consumer units" or households with income of $70,000 or more. The estimates of spending may be conservative for the purposes of this study as the survey data from 2002-03 has not been inflated. More recent data on retail expenditures are limited, and it is possible that 2004/05 expenditures have not increased very much from 2002/03 levels.

Source: U.S. Bureau of Labor Statistics, *2002-2003 Consumer Expenditure Survey*; Hausrath Economics Group.

Overall Net Addition of Retail Spending from the Project

Overall, the additional retail spending to be contributed by project residents (approximately $95 million) is estimated to be larger than the amount of retail sales to be captured by the retail development in the project (approximately $37 million). Thus, in the aggregate, the project would contribute a net addition of retail spending to the overall market context. This net addition would support additional retail business activity over and above the amount of retail activity to be accommodated in the project.

TABLE D.2-5
COMPARISON OF RETAIL SALES IN THE PROJECT AND ADDITIONAL RETAIL SPENDING BY PROJECT RESIDENTS

Type of Retailing	Estimates Sales in Project Retail Space (2004/05 $)	Estimated Retail Spending by Project Residents (Based on 2002/03 expenditure patterns)
Convenience Retail/Groceries	14.6 mil.	24.9 mil.
Eating and Drinking	16.8 mil.	13.1 mil.
Comparison/Specialty Retail	5.8 mil.	27.4 mil.
Vehicle-related	-	28.6 mil.
Building Materials/Supplies	-	1.1 mil.
Overall Totals	**$37.2 mil.**	**$95.1 mil.**

Source: See prior Tables and associated text.

Spending and Sales By Types of Retailing and Consideration of Spending Patterns for the Project

Not all of the spending of project residents would occur in the project and not all of the sales by project retail businesses would come from project residents. Spending patterns are such that people make certain expenditures near to their place of residence, some near to their place of work, and some expenditures in other locations, elsewhere in the city in which they live, in nearby cities, elsewhere in the region, and even a small share outside the region. Those spending patterns vary by type of retailing and are affected by the availability and choice of retail businesses and shopping areas in proximity to where people live and work.

People tend to buy groceries and do other convenience shopping close to home. Given the types of convenience retail tenants anticipated for the project, the spending of project residents for groceries and other convenience items would provide the primary market support for the convenience retail tenants in the project. The convenience spending of project residents also would support retailers outside the project, primarily those in nearby parts of Oakland. Potentially, about half of the convenience retail expenditures of project residents could be spent within the project and about half outside the project, as evidenced by the comparison of project retail sales and additional spending by project residents in Table D.2-5 on the previous page.

Spending for eating and drinking out and spending for comparison/specialty retailing typically occur over a larger area than convenience retail spending. The eating and drinking and comparison/specialty retail uses to be located in the project would be supported by spending of project residents and by others from outside the project area, particularly those attracted by the visitor-serving retail and restaurant uses to be located around Clinton Basin along the waterfront and new marina. People employed in the project also would provide market support for the eating and drinking uses as would people coming to the project site for recreation. The broader market support anticipated for eating and drinking and specialty retail uses in the project would come from the spending of residents of Oakland, nearby cities, and other parts of the region. Spending in the project by Oakland residents would include dollars that would otherwise be spent outside the city without the project.

Much of the additional expenditures of project residents for eating and drinking out and comparison/specialty retailing would be spent outside the project, elsewhere in Oakland, in nearby cities, and beyond. This additional spending would represent substantial support for restaurants, other eating places, and comparison/specialty retailers in nearby and other areas, as shown by the data in Table D.2-5.

The additional expenditures of project residents also include vehicle-related spending (for vehicle purchases, gas and oil, and auto parts and supplies) and spending for home maintenance/building materials and supplies, as shown in Table D.2-5. As those types of retailing are not anticipated to be located in the project, the additional spending of project residents would occur in surrounding areas and elsewhere in Oakland and nearby cities.

Project Retailing Would Complement Retailing in the Eastlake District and Other Neighborhood Retail Corridors; Spending of Project Residents Would Likely Provide Market Support for Neighborhood Districts

Specific consideration was given to potential effects of the project on the Eastlake Business District and other neighborhood retail corridors nearby in surrounding parts of Oakland. A key issue is how the market orientation and types of retail tenants in the neighborhood districts/corridors compare to those for the types of retailing envisioned for the project. The analysis found that there are notable differences in types of retailing between surrounding neighborhood retail districts/corridors and the retail proposed for the project. The differences occur because of the rich ethnic and cultural diversity in surrounding Oakland neighborhoods which is clearly reflected in the types and market orientations of businesses in the neighborhood retail districts. Thus, rather than competing, the project and surrounding neighborhood retail districts are anticipated to be complementary, in that each would offer different types of goods and services with its own particular market orientation. In addition, project residents could provide market support for retail establishments in surrounding neighborhood areas, particularly for ethnic-oriented foods and eating places and other goods and services of types not available in the project.

The San Antonio, Eastlake, and Fruitvale districts, located to the north and northeast of the project, are among the most ethnically diverse neighborhoods in the country. This diversity is reflected in the business mix of the neighborhood retail districts there which offer cuisine, specialty foods, cultural activities, and goods from around the world.

The Eastlake Business District is comprised of an eclectic and diverse selection of businesses, many of which are Southeast Asian owned and operated. The area includes Southeast Asian restaurants and other eating places and markets specializing in Southeast Asian produce and other foods. There also are ethnically-oriented apparel and specialty stores. These retailers are catering to neighborhood residents and others seeking the types of specialized foods and other goods and services available here. The unique ethnic character of retailing in the Eastlake District differentiates it from the types of retailing envisioned in the project. As a result, the retail development in the project is not anticipated to adversely affect retailing in the Eastlake District by drawing customers and tenants away from the area. Further, the specialized character of retailing in the Eastlake could attract spending from project residents, thereby providing merchants with additional market support as a result of the project.

Analysis of types of retailing and retail trends in the Eastlake District, as summarized in Table D.2-6, indicate that retail sales have been growing in this area. Trends show notable growth of sales in eating and drinking and convenience retail establishments. These types of retailing focus on the Southeast Asian specialties that the area offers. The data show that sales in eating and drinking and convenience retail establishments totaled $2.4 million and represented 12 percent of total area sales in 1988. By 2003, sales in those categories totaled $10.4 million and now represent 36 percent of total retail sales in the area.

The retail sales data also identify the importance of auto-related businesses in the Eastlake District including service stations, auto parts and repair businesses, and used auto sales. In 2003, auto-related retailing accounted for 25 percent of total retail sales. The sale of building materials/supplies also contributes a notable share of sales in the area. These types of retailing serve a larger market area, and neither type is anticipated to be included in the project. The auto-related businesses in particular could capture spending from project residents.

Just to the east of the Eastlake District along International Boulevard and East 12th Street between 20th and 24th Avenues are additional retail businesses in the San Antonio commercial district. Most retail sales in this smaller area currently come from the mix of auto-related goods and services available there. Other types of establishments include home furnishings retailing and eating and drinking.

Further to the east is the larger Fruitvale Business District The Fruitvale District has emerged as an active multicultural commercial area with a strong Latino identity. The Fruitvale District includes a rich business mix offering ethnic foods, music, jewelry, and clothing from Mexico, El

TABLE D.2-6
RETAIL SALES IN THE EASTLAKE DISTRICT, 1988-2003
($000's)

Type of Retail	1988	1993	1998	2003	Percent of Total 2003	Recent Trends 1998-2003	
Convenience Retailing /a/	$1,499	$5,303	$5,424	$6,008	21%	+$584	+11%
Eating and Drinking	870	1,679	2,693	4,412	15%	+1,719	+64%
Comparison/Specialty Retailing	1,882	2,444	2,982	2,227	8%	(755)	(25%)
Auto-related Retail	8,102	6,874	7,721	7,083	25%	(638)	(8%)
Building Materials/Supplies	3,633	4,363	4,741	5,405	19%	+664	+14%
Subtotal – Retail Stores	**15,986**	**20,663**	**23,561**	**25,135**	**88%**	**+1,574**	+7%
Sales in Service and Other Establishments	3,029	3,140	3,673	3,278	12%	(395)	(11%)
TOTAL SALES	**$19,015**	**$23,803**	**$27,234**	**$28,413**	**100%**	**+$1,179**	+4%

NOTE: Data are for International Boulevard and East 12th Street, between 1st and 14th Avenues. The 2003 data were the most current available at the time of the analysis in March 2005.

/a/ Total sales in food stores and drug stores were estimated based on reported taxable sales adjusted to account for non-taxable sales. Taxable sales are estimated to represent 30 percent of total sales in food stores and 46 percent of total sales in drug stores.

Source: City of Oakland CEDA; Hausrath Economics Group.

Salvador, Vietnam, China, and other countries. Retailing in this district serves nearby residents and others from surrounding areas and beyond who are attracted by the ethnic orientation and specialty foods and other goods and services available here. Like the Eastlake, the Fruitvale District has a specific ethnic market orientation that makes it unique and different from retailing anticipated in the project and from that located in other parts of Oakland. Here again, retail development in the project is not anticipated to compete with retailing in this area. Instead, it is likely that project residents could contribute additional spending in the Fruitvale District.

Anticipated To Be Market Support for Other New
Retail Development in Addition to Project and Existing Retailing

In addition to the new retail space in the project, there are other new retail developments underway in Oakland. These are identified in Table D.2-7. Evaluation of these new retail uses within the context of existing retailing, resident spending patterns, growth of retail spending, and development of the project indicates that there is anticipated to be sufficient market support for the project and the other new retail developments. This conclusion is based on the following:

- Oakland is currently underserved with retailing; new retailers in Oakland would recapture some local spending going outside the area (*i.e.*, recapture leakage); new retailers could also increase total spending by local residents by increasing retail offerings within convenient access of residents;

- Substantial growth of retail spending is projected in Oakland, as a result of (a) the growth of households and population in Oakland, and (b) real growth of household incomes over time. Another retail study recently projected that retail spending by Oakland residents would increase by $887 million (1999 dollars) from 2000 to 2020, as summarized in Table D.2-8. (An updated projection would show higher spending growth, as the existing projection in Table D.2-8 assumed growth of about 11,000 households in Oakland from 2000 to 2020, whereas current projections show growth of about 21,200 households from 2000 to 2025, without the project.);

- The project and the other new developments include different types of retail uses with different market orientations; they will not all be competing for the same spending; and

- The new projects include retail developments and uses that will attract visitor spending from outside the local area, in addition to the spending of local residents.

TABLE D.2-7
ADDITIONAL RETAIL PROJECTS IN OAKLAND

Project	Location	Anticipated Timing	Space (Sq. Ft.)	Description/Comments
Home Depot and Adjacent Use(s)	42nd & High St.	Already Open (2004)	165,000	Home Depot replaces former Super K-Mart store
		2005/06	46,000	Adjacent space
Albertson's Expansion	E. 18th St. near Lakeshore	2005	37,000 expanded store	Rebuilding of former Albertson's into larger, modern store
Hegenberger Gateway	Hegenberger & I-880			
Wal-Mart, In-N-Out Burger, Starbucks, etc.		2005	175,000	New Wal-Mart store (150,000 sq. ft.) does not include groceries
Rest of Mall		2006	70,000	Larger retailer(s) and national chain(s) anticipated
Additional 6-acre Site		?	Approx. 90,000 if retail	May include larger retail uses, auto dealerships, or a hotel
Whole Foods	Harrison/27th/Bay Place	2006	56,000	New grocery store
Jack London Square Redevelopment	Embarcadero at Broadway	2006-2015	Up to 260,000 additional	To include restaurant, smaller retail, larger retail, and possible entertainment uses. Project also includes new hotel, conference center, cinema, and office space.

Sources: Oakland Cumulative Growth Scenario; City of Oakland.

TABLE D.2-8
PROJECTED GROWTH OF RETAIL SPENDING BY OAKLAND RESIDENTS, 2000-2020
(millions of constant 1999 dollars)

Total Retail Spending, 2000	$2.954 bil.
Projected Total Retail Spending, 2020	$3.841 bil.
Growth of Retail Spending by Oakland Residents	+$887 mil.

Source: City of Oakland, *Downtown Oakland Retail Market Analysis*, Hausrath Economics Group, March 2001.

Conclusion That Project Retail Development Would Not Lead to Indirect Physical Impacts

Based on analysis of the retail market context and of the potential effects of the project within that context, the proposed addition of project retail development is not anticipated to create competition for existing retail districts in Oakland, draw customers and tenants from existing areas, and cause ripple effects of store closures and consequential long-term vacancies that would result in physical deterioration and urban decay. The project is not expected to have such effects on existing neighborhood commercial districts and corridors in surrounding areas of Oakland, and specifically not on the Eastlake District. The key reasons supporting this conclusion are summarized from the above analysis by the following:

- Oakland is currently underserved by retailing. There is substantial leakage of spending by Oakland residents to retail establishments outside of Oakland because of the limited retail opportunities available locally. Retail development is desired in Oakland to better serve the retailing needs of residents. Thus, new retail development does not necessarily mean competition for sales from existing merchants in Oakland.

- Because the project is primarily a residential development, project residents would contribute substantial additional retail spending. That additional spending would support retail sales in the project and in other parts of Oakland.

- Project residents are anticipated to provide much of the market support for convenience retailing in the project. Broader market support is anticipated for eating and drinking and specialty retail uses, including spending by project residents and by others, particularly those attracted by the visitor-serving waterfront retail and restaurant uses, by people employed in the project, and by people coming to the project site for recreation.

- In the aggregate, additional retail spending by project residents would exceed the retail sales to be captured in project retail development. Thus, the project would contribute a net addition of retail spending to the overall market context, to support additional retailing over and above the amount developed in the project.

- Project retailing is not anticipated to compete with retailing in surrounding neighborhood retail districts and corridors. Each would have its own market orientation, and would offer different types of goods and services. Rather than competing, the project and neighborhood retail corridors would complement each other. In addition, the spending of project residents is likely to provide additional market support for neighborhood retailers in surrounding areas.

- While there also are other new retail developments occurring in Oakland, sufficient market support is anticipated for the project and the other new developments as well as for existing retailing.

- Substantial growth of retail spending is projected for Oakland in the future as a result of the growth of households and population and the real growth of household incomes over time. Growth of spending as well as reduction in leakage will support substantial additional retail activity in Oakland.

TABLE D.2-9
2003 TAXABLE RETAIL SALES, SELECTED AREAS ($1,000's)

	California	Bay Area	Alameda County	Inner East Bay /a/	Oakland	Berkeley	Emeryville	Alameda	San Leandro
Retail Category									
Apparel stores	15,179,710	3,463,679	519,274	210,159	48,401	43,918	50,295	10,507	57,038
Home furnishings and appliances	15,104,217	3,608,960	797,883	409,478	103,301	68,608	185,856	8,653	43,060
Other retail stores	54,464,256	12,648,260	2,512,346	1,163,905	468,034	258,464	224,978	74,276	138,153
General merchandise stores /b/	50,550,818	10,534,322	1,904,012	637,822	131,558	49,620	16,367	58,987	381,290
Food stores /b/	19,407,823	3,843,418	733,608	339,205	170,543	60,944	17,995	36,367	53,356
Eating and drinking places	40,049,699	8,887,169	1,542,242	771,849	368,871	180,439	58,912	70,852	92,775
Bldg. materials and farm implements	30,693,755	6,385,954	1,487,535	517,333	209,276	92,829	n/a	16,703	198,525
Auto dealers and auto supplies	67,052,141	12,622,252	2,931,258	1,040,398	534,496	154,883	n/a	84,722	266,297
Service stations	27,714,635	5,302,048	1,133,991	501,197	310,513	51,516	14,264	41,382	83,522
Total Taxable Retail Sales /b/	**$320,217,054**	**$67,296,062**	**$13,562,149**	**$5,591,346**	**$2,344,993**	**$961,221**	**$568,667**	**$402,449**	**$1,314,016**

/a/ Inner East Bay taxable sales data available for Alameda, Berkeley, Emeryville, Oakland, and San Leandro. Inner East Bay population also includes Piedmont and Albany. (See Table 1.)
/b/ The retail sales data are for taxable sales. However, not all sales in food stores and drug stores are taxable, so that total retail sales in those categories are higher than shown above.
It is estimated that taxable sales represent about 30 percent of total sales in food stores, and approximately 46 percent of sales in drug stores.

Source: State Board of Equalization Taxable Sales in California Annual Report 2003; Hausrath Economics Group.

Table D.2-10
Estimated Retail Sales for Retail/Commercial Space in Proposed Oak to Ninth Avenue Project

Use	Total Space (Sq. Ft.)	Estimated Space with Retail Uses Percent	Estimated Space with Retail Uses Sq. Ft.	Avg. Sales per Sq. Ft. Space	Estimated Sales ($ millions)
Retail/Commercial: neighborhood streets Flexible ground floor space on interior streets for smaller retail and commercial uses. Could accommodate eating places, local service uses, small offices, galleries, and small retail shops.	41,000	37%	15,000	$150	$2.25
Central area neighborhood retail Centrally-located retail space for neighborhood commercial uses along the project's Main Street. Could accommodate neighborhood-serving grocery, specialty food tenants, a drug store, and retail shops.	42,000	100%	42,000	$335	$14.07
Waterfront retail / restaurant Water-oriented retail space around Clinton Basin for visitor serving retail and restaurant uses. Active eating, drinking, and retail uses along the waterfront and new marina are envisioned. Small offices for the harbor master and marina could be included.	79,000	90%	71,000	$280	$19.88
Retail/commercial: park-oriented Flexible, ground floor space in the vicinity of Estuary Park, the Aquatic Center, and Channel Park. Could accommodate services for outdoor activities and expansion space for the Aquatic Center.	20,000	25%	5,000	$125	$0.63
Community, cultural, recreation uses Reuse of a portion of the Ninth Avenue Terminal shed building. Space could accommodate community, cultural, and recreation-oriented service uses.	18,000	17%	3,000	$125	$0.38
Total Project	**200,000**	**68%**	**136,000**	**$274**	**$37.20**

NOTE: Amount of space and description of uses based on inputs from Signature Properties as of September 2004. Sales estimates prepared by Hausrath Economics Group considering potential uses and sales per square foot for comparable retail uses and retail developments. Also see scenario of possible retail uses on the next table.

Source: Signature Properties; Hausrath Economics Group.

TABLE D.2-11
POTENTIAL RETAIL/COMMERCIAL SCENARIO FOR OAK TO NINTH AVENUE PROJECT

Use	Total Space (Sq. Ft.)	Retail Space (Sq. Ft.)	Type of Retailing	Sales per Sq. Ft. Space ($)	Estimated Sales ($ millions)
Retail/commercial: neighborhood streets					
- Small offices/office condos (health-related, professional services, real estate/insurance/finance, project office)	20,000	-			
- Local services and small shops (dry cleaning, shoe repair, video rental, phone store, flower shop)	7,500	7,500	COMP/SPEC	150	1.125
- Personal services (hair salon, barber shop, nails salon, cosmetics)	3,500	3,500	CONV	150	0.525
- Small cafés, coffee shop, snack bars	4,000	4,000	E + D	150	0.600
- Gym, fitness center, spa, etc.	6,000	-			
Subtotal	***41,000***	***15,000***		***150***	***2.250***
Central area neighborhood retail					
- Smaller grocery/market	20,000	20,000	CONV	350	7.000
- Drug store	8,000	8,000	CONV	400	3.200
- Smaller food shops (coffee, bagels, juices, sandwiches, deli, fish/meat, liquor/wine, bakery, health foods, ice cream)	14,000	14,000	CONV	275	3.850
Subtotal	***42,000***	***42,000***		***335***	***14.050***
Waterfront restaurant/retail					
- Larger restaurants and bars	41,000	41,000	E+D	350	14.350
- Smaller cafés, snack shops	5,000	5,000	E+D	175	0.875
- Galleries, arts/crafts	8,000	8,000	COMP/SPEC	175	1.400
- Smaller shops (gifts, kites, etc.)	4,000	4,000	COMP/SPEC	155	0.620
- Sports/boating-related shops	13,000	13,000	COMP/SPEC	200	2.600
- Marina office + harbor master	8,000	-			
Subtotal	***79,000***	***71,000***		***280***	***19.845***
Retail/commercial: park-oriented					
- Aquatic center and/or other outdoor-related activities	15,000	-			
- Smaller café, restaurant, snackbar	5,000	5,000	E+D	125	0.625
Subtotal	***20,000***	***5,000***		***125***	***0.625***
Community, cultural, recreation uses					
- Community space (meetings, weddings, etc.)	10,000	-			
- Food service area / catering	2,000	2,000	E+D	125	0.250
- Snack shop	1,000	1,000	E+D	125	0.125
- Small museum	2,000	-			
- Gallery and artist space	3,000	-			
Subtotal	***18,000***	***3,000***		***125***	***0.375***
TOTAL PROJECT	**200,000**	**136,000**		**273**	**37.145**

Source: Signature Properties; Hausrath Economics Group.

TABLE D.2-12
POTENTIAL RETAIL/COMMERCIAL SCENARIO FOR OAK TO NINTH PROJECT
BY TYPE OF RETAILING

Use	Retail Space (Sq. Ft.)	Type of Retailing	Sales per Sq. Ft. Space ($)	Estimated Sales ($ millions)
Convenience Retail/Grocery	45,500	CONV	320	14.575
Eating and Drinking	58,000	E + D	290	16.825
Comparison/Specialty Retail	32,500	COMP/SPEC	177	5.745
TOTAL PROJECT	**136,000**		**273**	**37.145**

Source: Hausrath Economics Group

TABLE D.2-13
ESTIMATED ANNUAL HOUSEHOLD SPENDING
OAK TO NINTH AVENUE PROJECT

	Average Annual Spending per HH /a/	Total Spending
Households in Oak to Ninth Project: ***2,976***		
Detailed Retail Categories		
Food at home	4,626	13,766,976
Alcoholic beverages	904	2,690,304
Tobacco products and smoking	239	711,264
Housekeeping supplies	888	2,642,688
Household furnishings and equipment	3,579	10,651,104
House maintenance, materials and supplies	360	1,071,360
Personal care products and services	1,030	3,065,280
Drugs and medical supplies	672	1,999,872
Apparel and footwear	3,401	10,121,376
Vehicle purchases (net outlay)	6,742	20,064,192
Gas and Oil	2,126	6,326,976
Auto parts and supplies	738	2,196,288
Entertainment equipment	1,948	5,797,248
Reading	275	818,400
Food away from home	4,418	13,147,968
Total Retail Spending	**$31,946**	**$95,071,296**
General Retail Categories		
Eating and Drinking	4,418	13,147,968
Groceries and Convenience	8,359	24,876,384
Household Furnishings and Equip.	3,579	10,651,104
Apparel and Footwear	3,401	10,121,376
Other Comparison & Specialty	2,223	6,615,648
Building Materials	360	1,071,360
Vehicle-related	9,606	28,587,456
Total Retail Spending	**$31,946**	**$95,071,296**

/a/ Data from U.S. Bureau of Labor Statistics, 2002-2003 Consumer Expenditure Survey for U.S. Western Region "consumer units", or households, with incomes of $70,000 or more.

Source: U.S. Bureau of Labor Statistics, 2002-2003 Consumer Expenditure Survey; Hausrath Economics Group.

APPENDIX D.3

BACKGROUND FOR ESTIMATES OF POPULATION AND EMPLOYMENT FOR THE OAK TO NINTH AVENUE PROJECT

APPENDIX D.3

BACKGROUND FOR ESTIMATES OF POPULATION AND EMPLOYMENT FOR THE OAK TO NINTH AVENUE PROJECT

PURPOSE

Estimates of population and employment for the proposed Oak to Ninth Avenue Project were prepared by Hausrath Economics Group (HEG), based on the project description provided by the project developer. This appendix presents the estimates of population and employment and provides background on the approach and assumptions upon which they are based.

PROJECT POPULATION AND EMPLOYMENT ESTIMATES

The population and employment estimates for the proposed Oak to Ninth Avenue project are presented in Table D.3-1. The estimates reflect a long-term, stabilized situation after the project is built and occupied.

TABLE D.3-1
POPULATION AND EMPLOYMENT ESTIMATES
FOR PROPOSED OAK TO NINTH AVENUE PROJECT

Location	Major Phase /a/	Housing Units /b/	House-holds /c/	Popu-lation /d/	Employed Residents /d/	Sq. Ft. Space /b/	Employ-ment /e/
East of Clinton Basin	1	1,139	1,093	1,859	1,316	69,000	208
East of Clinton Basin	2	873	838	1,425	1,010	79,000	242
Clinton Basin to Channel	3	788	757	1,287	913	37,000	131
West of Channel	4	300	288	490	346	15,000	42
Total Project		**3,100**	**2,976**	**5,061**	**3,585**	**200,000**	**623**

/a/ The four major phases consolidate the eight phases identified in more detailed tables later in this appendix. Major Phase 1 includes subphases 1, 2, and 3, Major Phase 2 includes subphases 4 and 5, Major Phase 3 includes subphases 6 and 7, and Major Phase 4 includes subphase 8.
/b/ Oakland Harbor Properties, September 21, 2004.
/c/ Assumes long-term average vacancy of approximately four percent, consistent with citywide data.
/d/ Estimated by Hausrath Economics Group considering Census data, data and information for new housing developments, and data and projections from Association of Bay Area Governments (ABAG) and State Department of Finance (DOF).
/e/ Estimated by Hausrath Economics Group considering potential uses and employment densities for similar uses and developments.

Source: Hausrath Economics Group based on approach and assumptions described in this appendix.

For cumulative analysis purposes, project population and employment were estimated for two time periods, consistent with the analysis years for the transportation model and analysis: 2010 (interim analysis year) and 2025 (full project). The analysis years refer to the time when the new uses would be built and occupied by population and employment. The population and employment estimates for each analysis time period are summarized in Table D.3-2.

TABLE D.3-2
POPULATION AND EMPLOYMENT ESTIMATES BY ANALYSIS TIME PERIOD
FOR PROPOSED OAK TO NINTH AVENUE PROJECT

	Housing Units /a/	House-holds /b/	Popu-lation /c/	Employed Residents /c/	Sq. Ft. Space /a/	Employ-ment /d/
Built and Occupied By 2010 /e/	1,139	1,093	1,859	1,316	69,000	208
Built and Occupied 2011-2025	1,961	1,883	3,202	2,269	131,000	415
Total 2025	**3,100**	**2,976**	**5,061**	**3,585**	**200,000**	**623**

/a/ Oakland Harbor Partners, September 21, 2004.
/b/ Assumes long-term average vacancy of approximately four percent, consistent with citywide data.
/c/ Estimated by Hausrath Economics Group considering Census data, data and information for new housing developments, and data and projections from the Association of Bay Area Governments (ABAG) and State Department of Finance (DOF).
/d/ Estimated by Hausrath Economics Group considering potential uses and employment densities for similar uses and developments.
/e/ Assumes first major phase of the project by 2010.

Source: Hausrath Economics Group based on approach and assumptions described in this appendix.

PROJECT DESCRIPTION

The proposed project description assumed for estimating population and employment is shown in Table D.3-3. The table identifies Traffic Analysis Zones (TAZs) so that population and employment can be summarized for TAZs as needed for the transportation analysis. The table also identifies subareas of the project site. The five subareas are identified on the map in Figure D.3-1.

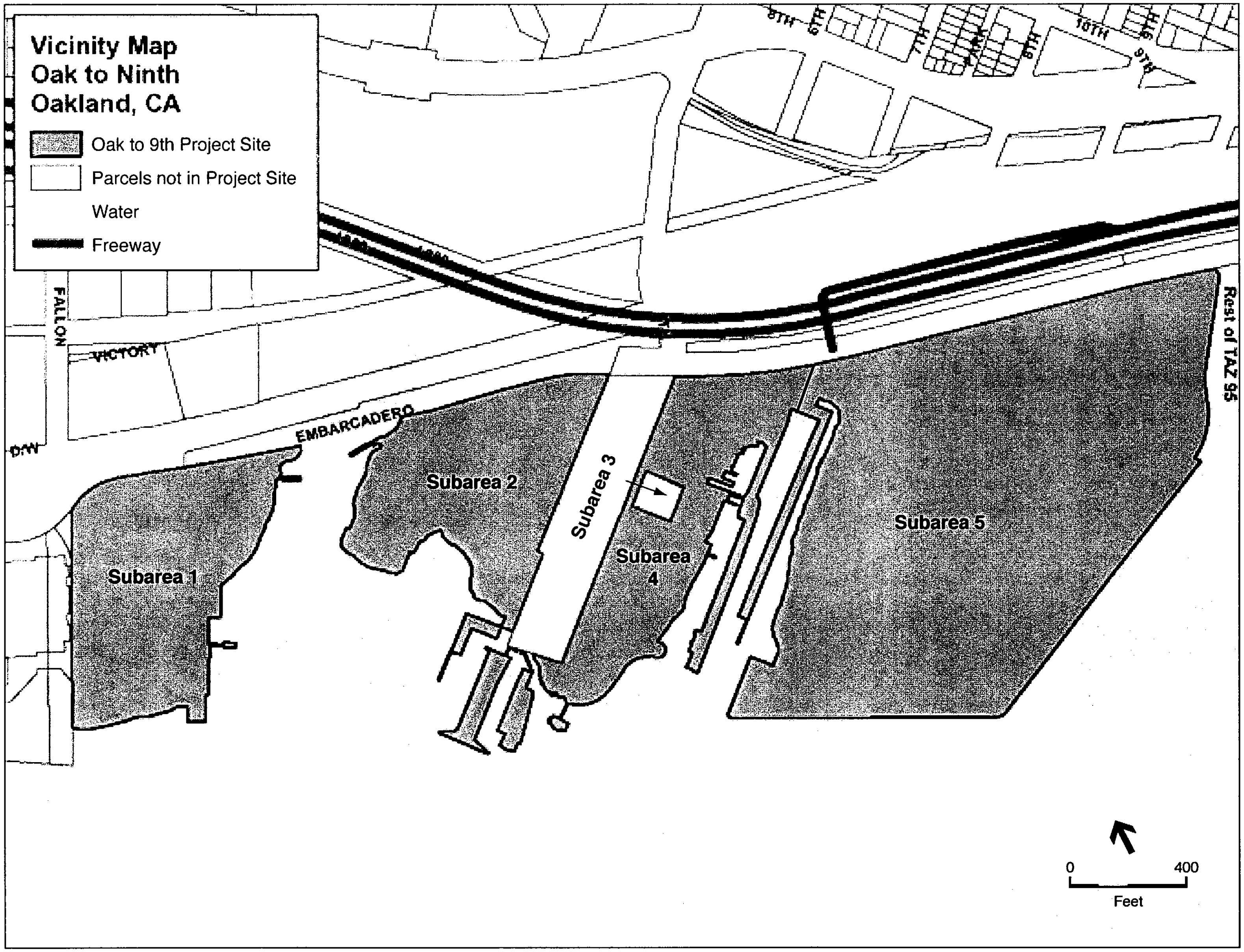
TABLE D.3-3
PROPOSED OAK TO NINTH AVENUE PROJECT DESCRIPTION

TAZ /a/	Subarea /b/	Development Parcel	Phase	Building Height (ft.)	Total Units	Retail/Com'l Sq. Ft.
95	5	A	1	86-240	375	10,000
95	5	F	1	86	164	5,000
95	5	G	2	86-100	280	42,000
95	5	B	3	86	160	6,000
95	5	C	3	86	160	6,000
95	5	D	4	86	160	6,000
95	5	E	4	86	86	8,000
95	5	9th Ave. Terminal	4	--	--	18,000
95	5	H	5	86-240	335	35,000
95	5	J	5	65-240	292	12,000
			Subtotal East of Clinton Basin		2,012	148,000
95	4	K	6	86-240	310	17,000
95	4	L	6	65-86	144	15,000
Subtotal West of Clinton Basin to 5th Ave./Privately-owned Property					454	32,000
95	2	M	7	86-240	334	5,000
		Subtotal West of Private Property to Channel			334	5,000
799	1	N	8	86	300	15,000
			Subtotal West of Channel		300	15,000
TOTAL PROJECT					**3,100**	**200,000**

Notes:
/a/ Traffic Analysis Zone (TAZ) as used in Oakland's land use database for transportation model analyses.
/b/ Subarea 3 includes the privately-owned property in the Fifth Avenue artisan area, and is not included in the Oak to Ninth Avenue Project.

Source: Oakland Harbor Partners, September 21, 2004; Hausrath Economics Group

FIGURE D.3-1: OAK TO NINTH SUBAREAS



BACKGROUND FOR POPULATION ESTIMATES

Data and information considered in developing the population estimates included both those specific to the local area and to the types of housing to be developed in the project, and those reflecting larger citywide and regional demographic patterns and trends. The estimating process progressed from types of housing units to households, households to population, and population to employed population.[1] Consideration also was given to school-age population. The background that follows is presented in that same sequence.

Housing Types

The following identify characteristics of the types of housing proposed for the project, as identified by the project developer and assumed for estimating project population.

- Building Types:
  - Multi-family buildings, with housing over parking
  - Ground-floor retail/commercial space in many buildings
  - Mid-rise and high-rise building types
  - Lobby entrances with units off a common hallway

- Unit Types:
  - One-level condominium and apartment-style units and flats
  - Two-level townhouse-style units
  - Higher-ceiling loft-style housing
  - Could include some two-story lofts and/or two-story live/work spaces

- Unit Sizes

  Potential mix:

30%	1-bedroom units	averaging 750 sq. ft. per unit
65%	2-bedroom units	averaging 1,050 sq. ft. per unit
5%	3-bedroom units	averaging 1,250 sq. ft. per unit

- Other Characteristics:
  - Both ownership and rental housing, with majority of units assumed to be offered for sale.
  - Market-rate housing covering a range of prices and rents depending on the size, type, and location of units, as well as the views and other amenities.
  - No units specifically devoted to senior housing or to deed-restricted affordable housing.

[1] Employed population is required for the transportation analysis as input to the CMA travel model.

Households/Occupied Units

The number of households reflects the number of occupied housing units, assuming that there will be some vacancy of units over time. Average, long-term housing vacancy of four percent is assumed for the project, consistent with the assumptions for other new housing in Oakland in the cumulative growth scenario. For comparison, the 2000 Census shows an overall average vacancy for housing in Oakland of 4.3 percent. The California Department of Finance shows an overall vacancy of 4.17 percent for Oakland as of January 1, 2005. An overall average vacancy in the range of four percent is considered reasonable over the long term.

The estimates of households and occupied units for the project are shown in Table D.3-4.

TABLE D.3-4
POPULATION ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT

Type	Average Size /a/	Units /a/	Households / Occ'd Units /b/	Persons Per HH /c/	Residents	Employed Residents Percent /c/	Employed Residents Per HH /c/	Employed Residents Total
1 BR	750 sf	927	890	1.40	1,246	76%	1.06	943
2 BR	1,050 sf	2,017	1,936	1.80	3,485	70%	1.26	2,439
3 BR	1,250 sf	156	150	2.20	330	62%	1.35	203
	TOTAL	3,100	2,976	1.70	5,061	71%	1.20	3,585

Notes:
/a/ Oakland Harbor Partners, September 21, 2004.
/b/ Assumes long-term, average vacancy of approximately four percent, consistent with citywide data.
/c/ Estimates by Hausrath Economics Group considering Census data, data and information for new housing developments, and data and projections from the State Department of Finance (DOF) and the Association of Bay Area Governments (ABAG).

Source: Oakland Harbor Partners, September 21, 2004; Hausrath Economics Group

Population

Population to reside in the new housing in the project was estimated using average household sizes (ratios of persons per household) assumed reasonable for the project based on consideration of the characteristics of the new housing to be built and its appeal to housing consumers in the marketplace.

Both the project's location and the types of higher-density housing to be built are anticipated to attract a high proportion of adult households, over a range of ages and income levels. The project is likely to attract empty nesters (seeking to downsize and stay in Oakland), professionals (seeking a more affordable alternative to San Francisco), and younger people (including first-time buyers who cannot afford a single family detached home in their desired neighborhoods). The higher-density, urban product types are anticipated to appeal particularly to adult households including couples, single people, and households of unrelated individuals. Some households may have children, likely including one younger child or one older child. Larger family households with three, four, or more children are not likely to be attracted to housing in the project. A relatively high percentage of project residents are anticipated to be employed given the project's central location in proximity to employment in downtown Oakland, downtown San Francisco, elsewhere in Oakland and in nearby cities of the Inner East Bay, and in other closer-in parts of the region around San Francisco Bay.

The ratios of persons per household were estimated drawing from a number of sources and relevant project examples and experience, including census data, in-house data and information for other new housing developments, research done for new higher-density housing as part of other efforts, and data and projections from the Association of Bay Area Governments (ABAG) and the California Department of Finance (DOF). Consideration was given to trends in the age distribution of the population over time. Review of 2000 Census data focused on Census Tracts and Blocks in Oakland with higher-density housing, including residential areas around Lake Merritt, the Adams Point area, and newer housing in Old Oakland and in the Jack London District.

The estimated ratios of persons per household assumed for each type/size of housing in the project are shown in Table D.3-4. Overall, household sizes for the project are estimated to average 1.7 persons per household.

Employed Residents

The number of employed residents was estimated for the project, considering the share of residents likely to be working. Several factors were considered, including the characteristics of the new housing and the new residents and relevant demographic factors and trends.

First, the high proportion of adults expected to reside in the project indicates that a high percentage of residents would be employed. Consideration was given to the likely age distribution of residents, with a focus on the share represented by adults in their prime working years, ages 24 to 64. There also would be residents 65 and older and others aged 18-24, some of whom also would be employed. Second, consideration was given to labor force participation rates for population in these age groups. In the Bay Area, the population of working-age adults is projected to increase in the future as is the population of older adults. Associated with the overall aging of the population, people are projected to work longer. The high cost of living in the Bay Area, expected changes in the Social Security system, and a healthy regional economy over the longer term are anticipated to encourage workers to postpone retirement. Further, the active lifestyle of the baby-boom generation is expected to encourage many of them to work longer than earlier generations and to prefer reduced work schedules over full retirement. The regional projections show increases in labor force participation rates in the future, and increases in the region's labor force. Associated with the aging of the population and with increasing labor force participation, a larger percentage of the population is projected to be employed in the future.

The factors considered reasonable for estimating employed residents for the project are shown in Table D.3-4. The shares of employed residents were estimated based on the considerations above, drawing from a number of sources including Census data, ABAG projections, and relevant examples and experience from other projects and other HEG analyses. The average, overall share of project population that is assumed to be employed is estimated to approximate 70 percent. The percentages are estimated to vary by size of unit as shown.[2]

Population Estimates By Time Period and Location

The factors and assumptions for estimating households, population, and employed residents for the project as described above were used to develop estimates of population by time period (by 2010 and after 2010) and subarea. Those estimates are shown in Table D.3-5.

School-age Children

An estimate of the number of school-age children (ages 5 to 19) to reside in the project also was developed, consistent with the estimates of total population for the project and the consideration of the age distribution of residents and the share anticipated to be employed (both described above). As with the other demographic characteristics, the number of school-age children to reside in the project depends on the types of housing built, the demographic characteristics of people attracted to the project, and broader demographic factors and trends.

The estimate of school-age children is presented below:

Estimate of School-age Children

By 2010	93 – 112
After 2010 and by 2025	160 – 192
Total Project	253 – 304
Ratio of school-age population per household	0.085 – 0.1

The analysis indicated that it is reasonable to expect that between five percent and six percent of the project's population could be school-age children, as reflected by the range of estimates

[2] In general, the smaller the unit, the higher the percentage of employed residents, as the person or persons employed and earning income will represent a higher percentage of the people residing in the unit. The ratios used allow for some households with no workers (such as households with retired persons) although relatively few of such households are anticipated in the project, and no units are assumed to be devoted specifically to senior housing.

TABLE D.3-5
POPULATION ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT
BY TIME PERIOD AND LOCATION

TAZ	Subarea	Development Parcel	Phase	Type	Average Size /a/	Units /a/	Households / Occ'd Units /b/	Persons Per HH /c/	Residents	Employed Residents Percent /c/	Employed Residents Per HH /c/	Employed Residents Total
Built and Occupied by 2010												
95	5	A,F,G,B,C	1,2,3	1 BR	750 sf	341	327	1.40	458	76%	1.06	346
				2 BR	1,050 sf	741	711	1.80	1,280	70%	1.26	896
				3 BR	1,250 sf	57	55	2.20	121	61%	1.35	74
				Total by 2010		**1,139**	**1,093**	**1.70**	**1,859**	**71%**	**1.20**	**1,316**
Built and Occupied After 2010												
95	5	D,E,H,J	4,5	1 BR	750 sf	261	251	1.40	351	76%	1.06	266
				2 BR	1,050 sf	568	545	1.80	981	70%	1.26	687
				3 BR	1,250 sf	44	42	2.20	93	61%	1.35	57
					Subtotal	873	838	1.70	1,425	71%	1.21	1,010
95	4	K,L	6	1 BR	750 sf	135	130	1.40	182	76%	1.06	138
				2 BR	1,050 sf	296	284	1.80	511	70%	1.26	358
				3 BR	1,250 sf	23	22	2.20	48	63%	1.35	30
					Subtotal	454	436	1.70	741	71%	1.21	526
95	2	M	7	1 BR	750 sf	100	96	1.40	135	76%	1.06	102
				2 BR	1,050 sf	217	209	1.80	376	70%	1.26	263
				3 BR	1,250 sf	17	16	2.20	35	63%	1.35	22
					Subtotal	334	321	1.70	546	71%	1.21	387
799	1	N	8	1 BR	750 sf	90	86	1.40	120	76%	1.06	91
				2 BR	1,050 sf	195	187	1.80	337	70%	1.26	235
				3 BR	1,250 sf	15	15	2.20	33	61%	1.35	20
					Subtotal	300	288	1.70	490	71%	1.20	346
				Total After 2010		**1,961**	**1,883**	**1.70**	**3,202**	**71%**	**1.20**	**2,269**
TOTAL PROJECT				1 BR	750 sf	927	890	1.40	1,246	76%	1.06	943
				2 BR	1,050 sf	2,017	1,936	1.80	3,485	70%	1.26	2,439
				3 BR	1,250 sf	156	150	2.20	330	62%	1.35	203
					TOTAL	**3,100**	**2,976**	**1.70**	**5,061**	**71%**	**1.20**	**3,585**

Notes:
/a/ Oakland Harbor Partners, September 21, 2004.
/b/ Assumes long-term, average vacancy of approximately four percent, consistent with citywide data.
/c/ Estimates by Hausrath Economics Group considering Census data, data and information for new housing developments, and data and projections from the State Department of Finance (DOF) and the Association of Bay Area Governments (ABAG).

Source: Oakland Harbor Partners, September 21, 2004; Hausrath Economics Group

above. The estimates translate into ratios of the average number of school-age children per household of between 0.085 and 0.1, consistent with ratios often used by school districts. These estimates reflect a number of considerations, including: the density and types of multi-family housing proposed, average household sizes for project households, current shares of population represented by school-age children for comparable areas of Oakland with similar types of multi-family housing, and trends in the age distribution of the population.

BACKGROUND FOR EMPLOYMENT ESTIMATES

Employment was estimated for the project based on employment density assumptions for the types of space to be built and the types of uses and tenants anticipated to occupy the space. The employment density assumptions are consistent with those used for the cumulative growth scenario for Oakland.

Types of Retail, Commercial, and Other Uses

The types of retail/commercial uses proposed for the project are identified in Table D.3-6. The descriptions are based on input from the project developer and consideration of the types of uses likely to be attracted to the different types of space and locations proposed for development. Nearly all of the retail/commercial space is assumed to be developed as ground-floor space in residential buildings.

As identified, the new retail/commercial space is anticipated to accommodate a wide variety of types of businesses and other activities involved in retail, service, small office, cultural, and recreational activities. More detail on potential types of tenants for the new space is provided as a part of the retail analysis detailed in Appendix D.2: Analysis of Potential for Indirect Physical Impacts From Retail Development Proposed for the Oak to Ninth Avenue Project.

Employment

Employment was estimated based on employment density factors applicable for the types of uses and tenants anticipated. Development of the appropriate employment density factors drew from data for comparable retail uses, other retail developments, Urban Land Institute publications, other HEG analyses, and employment density assumptions used for the cumulative growth scenario for Oakland. The employment density factors assumed for each group of uses are identified in Table D.3-6. Application of those factors estimates employment of about 574 people in the 200,000 square feet of retail/commercial development that is proposed.

There also would be some on-site employment associated with the management, leasing, and maintenance of the project. Based on the developer's experience with comparable types of projects, 49 jobs are estimated to be associated with the project leasing and management, building and grounds maintenance, and parking area management and maintenance.

Overall on-site employment in the project is estimated to total 623 jobs, as shown in Table D-3.6.

TABLE D.3-6
RETAIL/COMMERCIAL USES AND EMPLOYMENT
ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT

Use	Sq. Ft. Space	Sq. Ft. per Empl.	Employment
Retail/Commercial: neighborhood streets Flexible ground-floor space on interior streets for smaller retail and commercial uses. Could accommodate eating places, local service uses, small offices, galleries, and small retail shops.	41,000	350	117
Central area neighborhood retail Centrally-located retail space for neighborhood commercial uses along the project's Main Street. Could accommodate neighborhood-serving grocery, specialty food tenants, a drug store, and retail shops.	42,000	375	112
Waterfront retail/restaurant Water-oriented retail space around Clinton Basin for visitor-serving retail and restaurant uses. Active eating, drinking, and retail uses along the waterfront and new marina are envisioned. Small offices for the harbor master and marina could be included.	79,000	300	264
Retail/commercial: park-oriented Flexible, ground-floor space in the vicinity of Estuary Park, the Aquatic Center, and Channel Park. Could accommodate services for outdoor activities and expansion space for the Aquatic Center.	20,000	400	51
Community, cultural, recreation uses Reuse of a portion of the Ninth Avenue Terminal shed building. Space could accommodate community, cultural, and recreation-oriented service uses.	18,000	600	30
Project management and maintenance On-site employment associated with project leasing and management, building and grounds maintenance, and parking area management and maintenance.	n.a.		49
TOTAL PROJECT	**200,000**		**623**

NOTE: Amount of space and description of uses based on inputs from Oakland Harbor Partners as of September 2004. Employment estimates developed by Hausrath Economics Group considering potential uses and employment density factors for comparable retail uses and other retail developments.

Source: Oakland Harbor Partners, September 2004; Hausrath Economics Group.

Employment Estimates By Time Period and Location

The employment density factors were applied to the amounts of space for each type of retail/commercial use as identified for development parcels and phases to develop estimates of employment by time period (by 2010 and after 2010) and subarea. Those estimates are shown in Table D.3-7.

Net Change in Employment

Development of the project would replace the primarily industrial business activities currently on the project site. The existing business activities and their employment are described in the Setting text of Section IV.J. Population, Housing, and Employment. As described there, existing uses employ 231 people on the project site. There is no housing or residential population currently located on the project site.

The net change in employment on the project site as a result of development of the project is calculated by subtracting the estimate of existing employment to be removed for project development from the estimate of employment for the project. All existing uses would be replaced by the project except for the Jack London Aquatic Center which would remain and is assumed to include one job under existing conditions. Thus, the net change in employment on the project site would be +393 jobs as a result of project development, per the following:

Project employment at build-out	623
Existing employment in uses to be removed	(230)
Net change in employment on the Project Site	+393

NET CHANGES IN EMPLOYMENT AND POPULATION

Table D.3-8 on the next page provides a detailed accounting of the changes in employment and population on the project site that would occur over time as the project is developed and existing uses leave the site to allow for the new development. The variables shown in the table are those included in the land use database for the transportation model.

TABLE D.3-7
EMPLOYMENT ESTIMATES FOR PROPOSED OAK TO NINTH AVENUE PROJECT
BY TIME PERIOD AND LOCATION

TAZ	Subarea	Development Parcel	Phase	Use	Sq. Ft. Space	Sq. Ft. per Empl.	Employment
Built and Occupied by 2010							
95	5	A	1	Retail/commercial: neighborhood streets /a/	10,000	350	29
95	5	F	1	Retail/commercial: neighborhood streets /a/	5,000	350	14
95	5	G	2	Central area neighborhood retail /b/	42,000	375	112
95	5	B	3	Retail/commercial: neighborhood streets /a/	6,000	350	17
95	5	C	3	Retail/commercial: neighborhood streets /a/	6,000	350	17
95	5	A,F,G,B,C	1,2,3	Project management and maintenance /c/			19
			Total by 2010		**69,000**		**208**
Built and Occupied After 2010							
95	5	D	4	Retail/commercial: neighborhood streets /a/	6,000	350	17
95	5	E	4	Retail/commercial: neighborhood streets /a/	8,000	350	23
95	5	9th Ave. Terminal	4	Community, cultural, recreation uses /d/	18,000	600	30
95	5	H	5	Waterfront retail/restaurant /e/	35,000	300	117
95	5	J	5	Waterfront retail/restaurant /e/	12,000	300	40
95	5	D,E,H,J	4,5	Project management and maintenance /c/			15
			Subtotal		79,000		242
95	4	K	6	Waterfront retail/restaurant /e/	17,000	300	57
95	4	L	6	Waterfront retail/restaurant /e/	15,000	300	50
95	4	K,L	6	Project management and maintenance /c/			7
			Subtotal		32,000		114
95	2	M	7	Retail/commercial: park-oriented /f/	5,000	400	13
95	2	M	7	Project management and maintenance /c/			4
			Subtotal		5,000		17
799	1	N	8	Retail/commercial: park-oriented /f/	15,000	400	38
799	1	N	8	Project management and maintenance /c/			4
			Subtotal		15,000		42
			Total After 2010		**131,000**		**415**
TOTAL PROJECT					**200,000**		**623**

NOTE: Amount of space and description of uses based on inputs from Oakland Harbor Partners as of September 21, 2004. Employment densities estimated by Hausrath Economics Group considering potential uses and experience of other retail developments.

/a/ Flexible, ground floor space on interior streets for smaller retail and commercial uses. Could accommodate eating places, local service uses, small offices, galleries, and small retail shops.
/b/ Centrally-located retail space for neighborhood commercial uses along the project's Main Street. Could accommodate a neighborhood-serving grocery, specialty food tenants, a drug store, and retail shops.
/c/ Includes on-site employment associated with project leasing and management, building and grounds maintenance, and parking area management and maintenance.
/d/ Includes reuse of a portion of the Ninth Avenue Terminal shed building. Space could accommodate community, cultural, and recreation-oriented service uses.
/e/ Water-oriented retail space around Clinton Basin for visitor-serving retail and restaurant uses. Active eating, drinking, and retail uses along the waterfront and new marina are envisioned. Small offices for the harbor master and marina could be included.
/f/ Flexible, ground floor space in the vicinity of Estuary Park, the Aquatic Center, and Channel Park. Could accommodate services for outdoor activities and expansion space for the Aquatic Center.

Source: Oakland Harbor Partners, September 21, 2004; Hausrath Economics Group

TABLE D.3-8
DEVELOPMENT SCENARIO FOR PROPOSED OAK TO NINTH AVENUE PROJECT
BY TIME PERIOD AND LOCATION

TAZ	Subarea	Devel Parcel	Phase	Emplyd Rsdnts	House holds*	HH Pop	Group Pop	Total Pop	Manuf	Other	Retail	Service	Total
2004/05													
95	5			-	-	-	-	-	15	50	30	-	95
95	4			-	-	-	-	-	36	9	-	-	45
95	2			-	-	-	-	-	25	-	5	10	40
799	1			-	-	-	-	-	-	50	-	1	51
		Total 2005 /a/		**-**	**-**	**-**	**-**	**-**	**76**	**109**	**35**	**11**	**231**
2005-2010													
95	5			-	-	-	-	-	(15)	(50)	(30)	-	(95)
95	5	A,F,G,B,C	1,2,3	1,316	1,093	1,859	-	1,859	-	7	147	54	208
		Subtotal		1,316	1,093	1,859	-	1,859	(15)	(43)	117	54	113
95	4			-	-	-	-	-	-	-	-	-	-
95	2			-	-	-	-	-	-	-	-	-	-
799	1			-	-	-	-	-	-	-	-	-	-
		Total 2005-2010		**1,316**	**1,093**	**1,859**	**-**	**1,859**	**(15)**	**(43)**	**117**	**54**	**113**
2010													
95	5	A,F,G,B,C		1,316	1,093	1,859	-	1,859	-	7	147	54	208
95	4			-	-	-	-	-	36	9	-	-	45
95	2			-	-	-	-	-	25	-	5	10	40
799	1			-	-	-	-	-	-	50	-	1	51
		Total 2010 /a/		**1,316**	**1,093**	**1,859**	**-**	**1,859**	**61**	**66**	**152**	**65**	**344**
2010-2020/25													
95	5	D,E,H,J	4,5	1,010	838	1,425	-	1,425	-	4	160	78	242
95	4			-	-	-	-	-	(36)	(9)	-	-	(45)
	4	K,L	6	526	436	741	-	741	-	-	91	23	114
		Subtotal		526	436	741	-	741	(36)	(9)	91	23	69
95	2			-	-	-	-	-	(25)	-	(5)	(10)	(40)
95	2	M	7	387	321	546	-	546	-	-	5	12	17
		Subtotal		387	321	546	-	546	(25)	-	-	2	(23)
799	1			-	-	-	-	-	-	(50)	-	-	(50)
	1	N	8	346	288	490	-	490	-	-	13	29	42
		Subtotal		346	288	490	-	490	-	(50)	13	29	(8)
		Total 2010-2020/25		**2,269**	**1,883**	**3,202**	**-**	**3,202**	**(61)**	**(55)**	**264**	**132**	**280**
2020/25													
95	5	A,F,G,B,C	1,2,3										
		D,E,H,J	4,5	2,326	1,931	3,284	-	3,284	-	11	307	132	450
95	4	K,L	6	526	436	741	-	741	-	-	91	23	114
95	2	M	7	387	321	546	-	546	-	-	5	12	17
799	1	N	8	346	288	490	-	490	-	-	13	30	43
		Total 2020/25 /a/		**3,585**	**2,976**	**5,061**	**-**	**5,061**	**-**	**11**	**416**	**197**	**624**

/a/ Includes one service job in Subarea 1 at the existing Aquatic Center that remains in the area identified as the project site. Thus the employment totals in this tableinclude one more job than the totals for the project in Tables 4 and 5.

Source: Oakland Harbor Partners, September 21, 2004; Hausrath Economics Group

APPENDIX D.4

UPDATED CUMULATIVE GROWTH SCENARIO FOR OAKLAND AS PREPARED FOR OAK TO NINTH AVENUE PROJECT EIR

APPENDIX D.4

UPDATED CUMULATIVE GROWTH SCENARIO FOR OAKLAND AS PREPARED FOR *OAK TO NINTH AVENUE PROJECT EIR*

This appendix describes the cumulative growth scenario used for environmental impact analysis purposes in the *Oak to Ninth Avenue Project EIR*. The scenario provides the future cumulative development context for Oakland, identified in terms of future employment, households, and population. Use of the scenario for analyzing the project's environmental impacts ensures that those impacts are appropriately considered as part of the cumulative context of future citywide and regional growth and development.

The need for developing the cumulative growth scenario is explained below, followed by a description of the approach and the chronology of scenario development and updates. Then, the updated cumulative scenario for Oakland prepared for this EIR is summarized, followed by comparisons with projections from the Association of Bay Area Governments (ABAG). The specifics of the scenario for areas surrounding the Oak to Ninth Avenue Project are summarized next. The assumptions for growth in the rest of Alameda County and Bay Area region are then identified.

NEED FOR THE CUMULATIVE GROWTH SCENARIO

The cumulative growth scenario for Oakland was developed primarily for use in the cumulative transportation analyses in Oakland EIRs. The growth scenario was originally prepared in 2000 after analyses indicated that the growth projections from ABAG as incorporated into the Alameda County Congestion Management Agency (CMA) travel demand model did not reflect the level of growth and development occurring in Oakland. Those projections also did not reflect the locations of growth for future development projects under construction, approved, proposed, and reasonably foreseeable for Oakland. Since the cumulative growth scenario for Oakland was originally developed, it continues to be updated and refined as needed for EIR analyses and planning efforts, and to incorporate newly released 2000 Census data and new projections series from ABAG. The cumulative growth scenario is now used to review and provide input for new ABAG projections and for updates to the land use database in the CMA travel model.

Totals for the cumulative growth scenario for Oakland are now relatively similar to the ABAG projections currently incorporated into the CMA travel model. However, Oakland's cumulative growth scenario continues to be used in EIR analyses and planning efforts as it provides more specificity about growth and development occurring in Oakland and can be updated as needed for EIR and planning purposes.

FORECAST-BASED APPROACH THAT INCORPORATES FORESEEABLE FUTURE DEVELOPMENT PROJECTS

The cumulative growth scenario for Oakland is developed using a forecast-based approach, *i.e.*, an approach based on regional forecasts of economic activity and demographic trends. The cumulative growth scenario also considers recent and anticipated future development projects in Oakland as well as other changes in land use, employment, and population. Development projects and other changes are identified and updated based on input from City of Oakland and Port of Oakland staffs and on analysis of economic, demographic, and real estate market data and trends. Anticipated future development projects are identified and updated to include approved, proposed, probable, and potential development projects reasonably foreseeable over the next 20 to 25 years.

The growth that could be accommodated by recent and expected future development projects and other changes in land use, employment, and population is evaluated within the context of regional economic and demographic trends and projections. The ABAG projections provide the reference for citywide and county totals for future years. The list of development projects and other changes provide the ability to relate individual projects to the citywide context. The amount of growth represented by development projects and other changes is "fit" within the ABAG projections, to the extent possible. Citywide totals are increased above the ABAG projections if justified by recent and expected future development projects and other anticipated changes. The locations of specific projects and development sites are used for the allocation of growth to subareas and traffic analysis zones (TAZs) within the city. Transportation analyses using the CMA's travel demand model require inputs at the TAZ level.

CHRONOLOGY OF SCENARIO DEVELOPMENT

The cumulative growth scenario for Oakland was originally prepared and continues to be updated by Hausrath Economics Group (HEG), working closely with City of Oakland staff. The scenario was first completed in November 2000. Since that time, the scenario has been updated and refined for different parts of the City as needed for EIR analyses and planning efforts. It also has been updated to incorporate newly released 2000 Census data and new projections from ABAG. The following identifies the different updates that were completed prior to the scenario developed for this EIR:

- June 2001, updated scenario for *Metroport Project EIR*, focusing on updates in the Oakland Airport/Coliseum area;

- August 2001, updated scenario for *Leona Quarry Project EIR*, focusing on the area surrounding the Leona Quarry project;

- January 2002, updated scenario for *Oakland Army Base (OARB) Redevelopment Project EIR*, focusing on updates in the harbor and OARB redevelopment project area and adjacent parts of West Oakland;

- September 2002, 2000 Census data is incorporated into the land use database, along with future demographic factors consistent with the 2000 Census data, as provided by ABAG *Projections 2002*;

- September 2002, updated scenario for *Central City East (CCE) Redevelopment Project EIR*, focusing on updates in East Oakland, within and surrounding the redevelopment project area;

- Early December 2002, updated scenario for *Jack London Square Redevelopment Project EIR*, focusing on updates in the Jack London District of downtown Oakland including Jack London Square;

- Later December 2002, updated scenario for *West Oakland Redevelopment Project EIR*, focusing on updates in West Oakland, and parts of North Oakland within the redevelopment project area, and in adjacent blocks;

- Early February 2003, updated scenario for *Coliseum Gardens Project EIR*, focusing on the project and surrounding Coliseum BART station area;

- January/February 2003, updated scenario to incorporate ABAG *Projections 2002* and to provide land use inputs for the CMA travel model update completed in May 2003;

- June 2003, updated scenario for *Uptown Project EIR*, focusing on the project and updates in downtown Oakland areas surrounding the project; and

- December 2003, updated scenario for *Central Station/Wood Street Project EIR*, focusing on the project and surrounding areas of West Oakland and the Harbor as well as updates for major projects in downtown Oakland and elsewhere in the city.

The updated cumulative growth scenario prepared for this EIR as of November 2004, incorporates and builds on all of the updates listed above. In addition, for this EIR, changes were made to the citywide land use database to incorporate the Oak to Ninth Avenue Project as currently proposed, and to update assumptions for other growth and development in surrounding areas of Oakland including other parts of the Estuary waterfront to the west and east of the project, downtown Oakland to the northwest of the project, and the San Antonio area neighborhoods to the north and northeast of the project. Assumptions also were updated for major projects elsewhere in Oakland, as identified by City staff, Port staff, and other sources.

UPDATED CUMULATIVE GROWTH SCENARIO FOR OAKLAND

Cumulative Growth Scenario for *Oak to Ninth Avenue Project EIR*

The cumulative growth scenario for Oakland identifies employment, households, and population. Employment is disaggregated into four types: service, retail, manufacturing, and other, as required for use in the Alameda County CMA travel model. The projections are allocated to the large number of traffic analysis zones identified throughout the city.[1] Scenarios are developed for the years 2005, 2010, and 2025, consistent with the analysis years in the CMA travel model. The cumulative growth scenario for Oakland includes a 2000 base year scenario, consistent with 2000 Census data, although the CMA model does not include year 2000.

The cumulative growth scenario for the City of Oakland, as updated for the *Oak to Ninth Avenue Project EIR*, is summarized in Table D.4-1 below. The scenario includes the Oak to Ninth Avenue Project. The estimates of population and employment for the project and the net changes in population and employment on the project site are described in Appendix D.3: Background for Estimates of Population and Employment for the Oak to Ninth Avenue Project.

TABLE D.4-1
UPDATED CUMULATIVE GROWTH SCENARIO
FOR OAKLAND, AS OF NOVEMBER 2004

	2000 /a/	2005	2010	2025	Growth 2000-2025	Growth 2005-2025
Households	150,790	155,400	162,530	174,950	+24,160	+19,550
Household Population /b/	392,310	410,030	424,250	445,910	+53,600	+35,880
Total Population /b/	399,480	417,350	431,670	453,520	+54,040	+36,170
Employed Residents /b/	174,740	181,230	198,340	232,680	+57,940	+51,450
Total Employment	185,160	198,470	213,770	241,340	+56,180	+42,870
Manufacturing	17,610	17,380	17,920	18,580	+970	+1,200
Other /c/	74,060	78,940	83,170	91,680	+17,620	+12,740
Retail	23,840	25,860	29,080	32,660	+8,820	+6,800
Service	69,650	76,290	83,600	98,420	+28,770	+22,130

NOTE: The cumulative growth scenario includes the Oak to Ninth Avenue Project.
/a/ Households, household population, total population, and employed residents are from the 2000 Census.
/b/ Projections for 2005, 2010, and 2025 incorporate changes in demographic characteristics of the population in the existing housing stock in Oakland as evidenced in persons per household and employed persons per household factors from ABAG *Projections 2002*. The demographic characteristics of residents of new housing to be built in Oakland by 2005, 2010, and 2025 are based on those same ABAG factors or are estimated using special factors that better reflect the anticipated population in new housing, for TAZs with little or no housing in 2000 of the types being built (as the ABAG factors are based on the existing population in 2000).
/c/ Includes employment in finance, insurance, real estate (FIRE); government; construction; transportation, communications, and utilities (TCU); wholesale; and agriculture and mining.

Source: City of Oakland and Hausrath Economics Group based on approach and methodology described in this appendix.

[1] The traffic analysis zones (TAZs) are Census Tracts or subdivisions of Census Tracts identified for transportation analysis purposes and used in the CMA travel demand model.

Following the approach described earlier, analysis to develop the cumulative growth scenario for Oakland evaluated how the amount and type of growth represented by future development projects identified by the City and Port compared to the ABAG projections for Oakland. Other changes in land use, employment, and population also were accounted for. Other additions to employment and population included those resulting from increased occupancies of existing buildings, the re-leasing of space vacated by existing businesses and government activities relocating to newly developed projects, the renovation of space that had previously sat vacant, and the conversion of space in existing buildings to new and more intensive uses. Reductions in employment and population included changes as a result of base closures, displacements by development projects, and the movement of some types of businesses out of the area due to increasing rents and land values as well as other factors. In addition, the cumulative growth scenario also incorporates changes in demographic characteristics of the population in the City's existing housing stock, consistent with the ABAG projections.

Comparison with CMA/ABAG Projections

The Updated Cumulative Growth Scenario for Oakland is compared in Table D.4-2 with the ABAG *Projections 2002* for Oakland and the ABAG projections as incorporated into the Alameda County CMA Travel Model for use in transportation analyses. The ABAG *Projections 2002* series provides the basis for the numbers in the CMA model at the time of the analysis for this EIR.

The cumulative growth scenario for Oakland compares to the CMA/ABAG projections (*Projections 2002*) as follows:

- **Employment**: Employment projections under the cumulative growth scenario are relatively similar to and fall within about one percent of the ABAG projections for Oakland for future years. The economic activity and employment growth to be accommodated by identified major development projects and other anticipated changes in land use and employment in Oakland are estimated to "fit" within the employment growth for Oakland reflected by the ABAG projections for both the shorter term (2010) and longer term (2025) futures.

- **Housing and Households**: Household projections for Oakland in 2010 and 2025 are higher under the cumulative growth scenario than the ABAG projections, about four percent higher in both the near term (2010) and longer term (2025) futures. Housing currently under development in Oakland and housing anticipated to be developed in the future (including the new housing proposed for the project) would accommodate more household growth than reflected by ABAG *Projections 2002*.

TABLE D.4-2
CUMULATIVE GROWTH SCENARIO FOR *OAK TO NINTH AVENUE PROJECT EIR*
AND CMA/ABAG PROJECTIONS FOR OAKLAND

	Jobs	Households	Household Population	Total Population	Employed Residents
2000					
Oakland Cumulative Scenario, 11/2004 /a/	185,160	150,790 /d/	392,310 /d/	399,480 /d/	174,740 /d/
2005					
Oakland Cumulative Scenario, 11/2004 /a/	198,470	155,400	410,030	417,350	181,230
CMA Model/ABAG *P2002* /b/	202,060	154,780	410,350	-	175,080 /e/
ABAG *Projections 2002*	202,080	153,530	407,900	415,700	173,000 /e/
2010					
Oakland Cumulative Scenario, 11/2004 /a/	213,770	162,530	424,250	431,670	198,340
CMA Model/ABAG *P2002* /b/	213,820	158,130	418,420	-	186,080 /e/
ABAG *Projections 2002* /c/	215,580	156,610	415,200	423,200	183,800 /e/
2025					
Oakland Cumulative Scenario, 1/2004 /a/	241,340	174,950	445,910	453,520	232,680
CMA Model/ABAG *P2002* /b/	245,060	169,080	442,370	-	217,040 /e/
ABAG *Projections 2002* /c/	243,500	168,640	441,200	449,500	217,600 /e/

/a/ *Oakland Cumulative Growth Scenario for Oak to Ninth Avenue Project EIR*, November 2004, prepared as described in this appendix.
/b/ ABAG *Projections 2002*, as included in the updated Alameda County CMA travel demand model released May 2003.
/c/ From ABAG *Projections* 2002 publication.
/d/ From 2000 Census.
/e/ Not based on 2000 Census, as developed prior to release of employed resident data.

Source: Hausrath Economics Group based on sources identified above, and as described further in this appendix.

- **Population**: The cumulative growth scenario shows somewhat higher population in Oakland than the ABAG projections due to the larger number of households anticipated. Population under the cumulative growth scenario is about two percent higher than the ABAG projections in the near term future (2010) and about one percent higher over the longer term (2025). The differences in population are less than the differences in households because the cumulative growth scenario incorporates demographic assumptions for residents in new housing in Oakland that are specific to the types of new housing being built (as is the case for the project). Under the ABAG projections, the demographic characteristics of residents of new housing are based on the characteristics of residents in existing housing nearby, which may not necessarily be applicable for the types of new housing being built (such as for the higher-density types of new housing proposed for the project and being built downtown, or for new loft housing in other parts of Oakland). In many cases, the types of higher-density new housing being developed include smaller housing units and attract households with smaller than average household sizes. The characteristics of residents in the existing housing stock and overall demographic trends are similar in both cases, as those assumed for the growth scenario are based on ABAG projections.

- **Employed Residents**: The cumulative growth scenario anticipates more employed residents in Oakland in the future compared to the ABAG projections. One reason is that 2000 Census data that provide the base year for the cumulative growth scenario show about three percent more employed residents in Oakland in 2000, compared to the ABAG projections which were prepared before release of employed resident data from the 2000 Census. The higher number of employed residents in Oakland in 2000 also are included in the future year totals under the cumulative scenario. Other reasons are because of the higher number of households under the cumulative scenario, and because of the demographic characteristics for residents in the types of new housing being built in Oakland, which generally include proportionally more residents who work, compared to demographic characteristics for the population overall.

The cumulative analysis in this EIR assumes the updated cumulative growth scenario for Oakland.[2] This approach ensures that the cumulative effects of all locally anticipated growth and development can be evaluated within the EIR analysis period.

AREAS SURROUNDING THE OAK TO NINTH AVENUE PROJECT

Attention was given to the cumulative growth scenario for traffic analysis zones (TAZs) in areas surrounding the Oak to Ninth Avenue Project. Growth and change in these areas are of particular interest for the cumulative traffic analysis. Analysis was done to review and update the projections for the surrounding areas for use in the cumulative analyses for this EIR.

The updated cumulative scenario for areas including and surrounding the Oak to Ninth Avenue Project is summarized in Table D.4-3 (on the next page). A map outlining the surrounding areas is included in Figure D.4-1 at the end of this appendix. The surrounding areas include the following:

[2] Except for a part of the transportation analysis that specifically requires use of the CMA/ABAG *Projections 2002* land use database, as noted in the Transportation section.

- The **Estuary waterfront**, south of I-880 from Brush Street/MLK Jr. Way east to 66th Avenue. The waterfront includes the Jack London District to the west of the project site, the project site and the rest of the Oak to Ninth Avenue District, and the San Antonio/ Fruitvale Waterfront District to the east of the project site.

- The **San Antonio**, to the north and northeast of the project site, above I-880 between Lake Merritt and the Channel and Fruitvale Avenue. The Lower San Antonio neighborhood is included in this area.

- **Downtown Oakland** and the rest of the larger **Downtown/Oakland Central** area to the north and northwest of the project site, above I-880 to Grand Avenue and from Grand Avenue to I-580 on the north, between I-980 on the west, and Lake Merritt and the Channel on the east.

TABLE D.4-3
CUMULATIVE GROWTH SCENARIO FOR AREAS INCLUDING AND SURROUNDING THE OAK TO NINTH AVENUE PROJECT

	2000	2005	2010	2025	Growth 2000-2025	Growth 2005-2025
Estuary Waterfront, (South of I-880, Brush St./MLK Way east to 66th Avenue)						
Employment	12,940	13,420	15,630	18,130	+5,190	+4,710
Households	640	2,010	3,570	6,310	+5,670	+4,300
Population	1,420	3,950	6,720	11,570	+10,150	+7,620
San Antonio, north of I-880 (North of I-880 to I-580, Lake Merritt east to Fruitvale Ave.)						
Employment	11,520	11,810	12,000	12,590	+1,070	+780
Households	22,190	22,450	22,620	23,060	+870	+610
Population	66,310	67,520	68,030	68,390	+2,080	+870
Downtown/Oakland Central, north of I-880 (North of I-880 to I-580, I-980 east to Lake Merritt/Channel)						
Employment	70,620	75,670	83,120	91,660	+21,040	+15,990
Households	17,790	18,670	21,070	25,810	+8,020	+7,140
Population	31,790	36,570	40,750	49,150	+17,360	+12,580
TOTAL PROJECT AND SURROUNDING AREAS						
Employment	95,080	100,900	110,750	122,380	+27,300	+21,480
Households	40,620	43,130	47,260	55,180	+14,560	+12,050
Population	99,520	108,040	115,500	129,110	+29,590	+21,070

Source: City of Oakland and Hausrath Economics Group based on approach and methodology described in this appendix.

Tables presented at the end of this appendix provide more detailed versions of the estimates and projections for the surrounding areas. Table D.4-4 (parts a. through f.) presents the estimates and projections for subareas and for all of the traffic analysis zones (TAZs) in the surrounding areas. The projections include the growth associated with the project. (The subareas are shown on the map in Figure D.4-1, and the TAZs within the surrounding areas are identified on the maps in Figure D.4-2 and Figure D.4-3, all included at the end of this appendix.[3])

Table D.4-5 (surrounding areas except Downtown/Oakland Central) and Table D.4-6 (Downtown/Oakland Central) list the development projects identified for the surrounding areas based on input from City of Oakland and Port of Oakland staffs as well as other sources. Each list has two parts, one listing housing projects (part a) and the other listing commercial/industrial developments and other changes (part b). The lists include major projects under construction, approved and proposed projects, potential projects under consideration and anticipated to be developed by 2025, as well as other possible developments and changes within the analysis timeframe. In most cases, the project assumptions identified on the lists describe the new development; they do not identify existing uses and activities on development sites that would be removed for development, although the latter are accounted for in the cumulative growth scenario.

The projects on the lists for the surrounding areas all "fit" within the updated cumulative growth scenario summarized herein and used for the cumulative analysis in this EIR. As explained earlier in this appendix, the scenario also includes other changes in land use and in employment and population besides those associated with development of projects on the lists. Thus, the lists alone do not equate to the changes over time in the growth scenario.

The amounts of employment, household, and population growth reflected by the growth scenario, and those represented by the projects on the lists, are more important than the specific projects identified. It is to be expected that the projects on the lists will change over time, and some will be added while others will be deleted. The lists reflect the best information at the time of the analysis. The growth scenario itself can remain valid as changes occur over time in the specifics of the development projects anticipated for the surrounding areas.

GROWTH IN THE REST OF ALAMEDA COUNTY AND BAY AREA REGION

The growth scenario used for the cumulative transportation analysis for this EIR assumes growth in employment, households, and population as projected by ABAG *Projections 2002* and included in the CMA travel demand model for the rest of Alameda County and the Bay Area region outside of Oakland.[4] Because of the close proximity of the City of Alameda to the project

[3] Note that the Lower San Antonio subarea as shown on the attached maps is defined by TAZ boundaries for purposes of tabulating the growth scenario data in the cumulative database. The boundaries differ somewhat from those used to define the Lower San Antonio neighborhood for other purposes.

[4] The land use database in the Alameda County CMA travel model at the time of the analysis for this EIR was that updated as of May 2003 to incorporate ABAG *Projections 2002*, and then revised as of March 2004 to incorporate ABAG's revisions to the allocations of *Projections 2002* employment data to Census Tracts within cities in the region.

site and other parts of Oakland's Estuary waterfront, the CMA/ABAG land use/growth projections included in the CMA model for Alameda were reviewed and discussed with City of Alameda staff. Inconsistencies in the data across analysis years and variables were identified, and the data were adjusted as needed, in coordination with Alameda staff. The adjusted CMA/ABAG projections for Alameda were included in the cumulative database[5]

COMMENTS REGARDING ABAG'S RECENT SMART GROWTH FORECASTS

The ABAG *Projections 2002* referred to throughout this appendix, can be identified as ABAG's trends projections, as they are the most recent ABAG projections based largely on regional and local economic, demographic, real estate, and land use trends. Since those projections, ABAG has recently developed policy-based projections that incorporate regional Smart Growth policy goals over the long-term future. The recently released ABAG *Projections 2005* provide a Smart Growth forecast that assumes the implementation of policies to encourage more growth in central parts of the region, less growth in more outlying areas, and more total housing production in the region at higher overall densities of development and more focused in locations with proximity to employment centers and transit services. Substantial changes in state, regional, and local policies affecting land use, local government tax base, funding for affordable housing, investment in infrastructure, and various other incentives would be required to achieve the Smart Growth forecast. Because of its central location and its role as a center city within the region, long-term growth in Oakland (by 2025 and 2030) would be higher under ABAG's Smart Growth Forecast, compared to the *Projections 2002* trends forecast or the Oakland Cumulative Growth Scenario.

The cumulative analysis for this EIR is based on the Oakland Cumulative Growth Scenario for Oakland and on ABAG's *Projections 2002* for the rest of the region. A primary reason is that the Alameda County CMA's travel demand model and the CMA requirements for transportation analysis continue to be based on the ABAG *P2002* projections.[6] The *P2002* projections are the only ones that have been allocated to TAZs throughout Alameda County and the rest of the region as required for land use inputs to the countywide transportation model. Another reason is that Oakland's Cumulative Growth Scenario reflects an accurate and realistic forecast of current and anticipated future growth and change in Oakland based on the analyses described in this appendix and the City's continuing process of reviewing and updating the cumulative scenario to incorporate new information/data and changing trends. Oakland's cumulative scenario already reflects local Smart Growth land use policies as set forth in the City's *General Plan* Land Use and Transportation Elements. The cumulative scenario also has somewhat higher levels of growth in Oakland than ABAG's *Projections 2002*, particularly household growth, consistent with the intent of the region's Smart Growth policy goals.

[5] Communications occurred in July 2004 and December 2004 with Andrew Thomas of the City of Alameda Planning Department who signed off on use of the adjusted CMA/ABAG projections for Alameda in the cumulative database for the transportation analysis.

[6] The ACCMA has just begun the development of a new travel demand model for Alameda County. That model is to include a new TAZ-level land use database based on ABAG's *Projections 2005*. Completion of that effort is currently targeted for mid-2006 at the earliest.

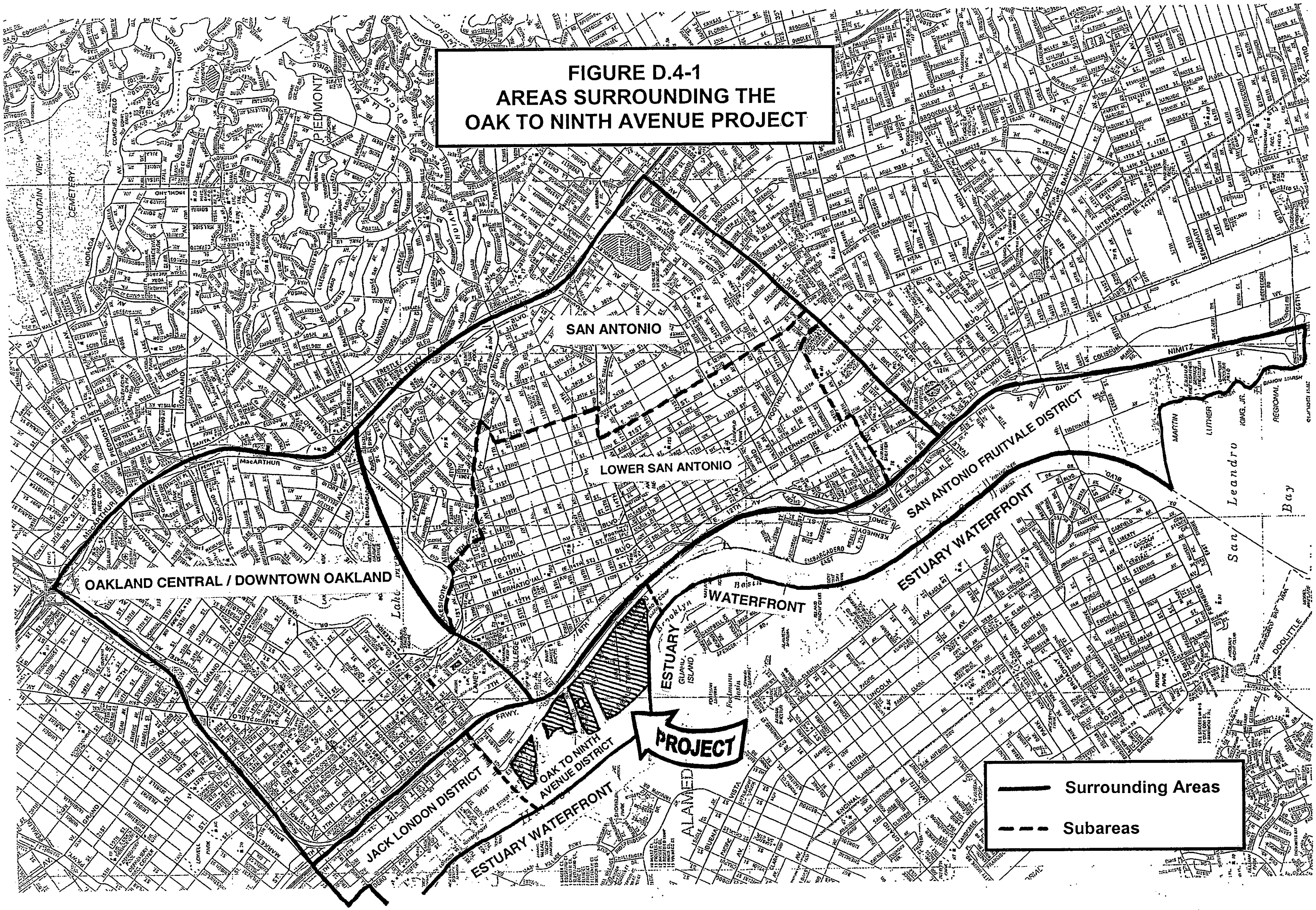


FIGURE D.4-1
AREAS SURROUNDING THE
OAK TO NINTH AVENUE PROJECT
SAN ANTONIO
LOWER SAN ANTONIO
OAKLAND CENTRAL / DOWNTOWN OAKLAND
SAN ANTONIO FRUITVALE DISTRICT
ESTUARY WATERFRONT
WATERFRONT
ESTUARY
PROJECT
OAK TO NINTH AVENUE DISTRICT
JACK LONDON DISTRICT
ESTUARY WATERFRONT
Surrounding Areas
Subareas

FIGURE D.4-2
BOUNDARIES OF TRAFFIC ANALYSIS ZONES (TAZs) IN ESTUARY WATERFRONT AND SAN ANTONIO AREAS

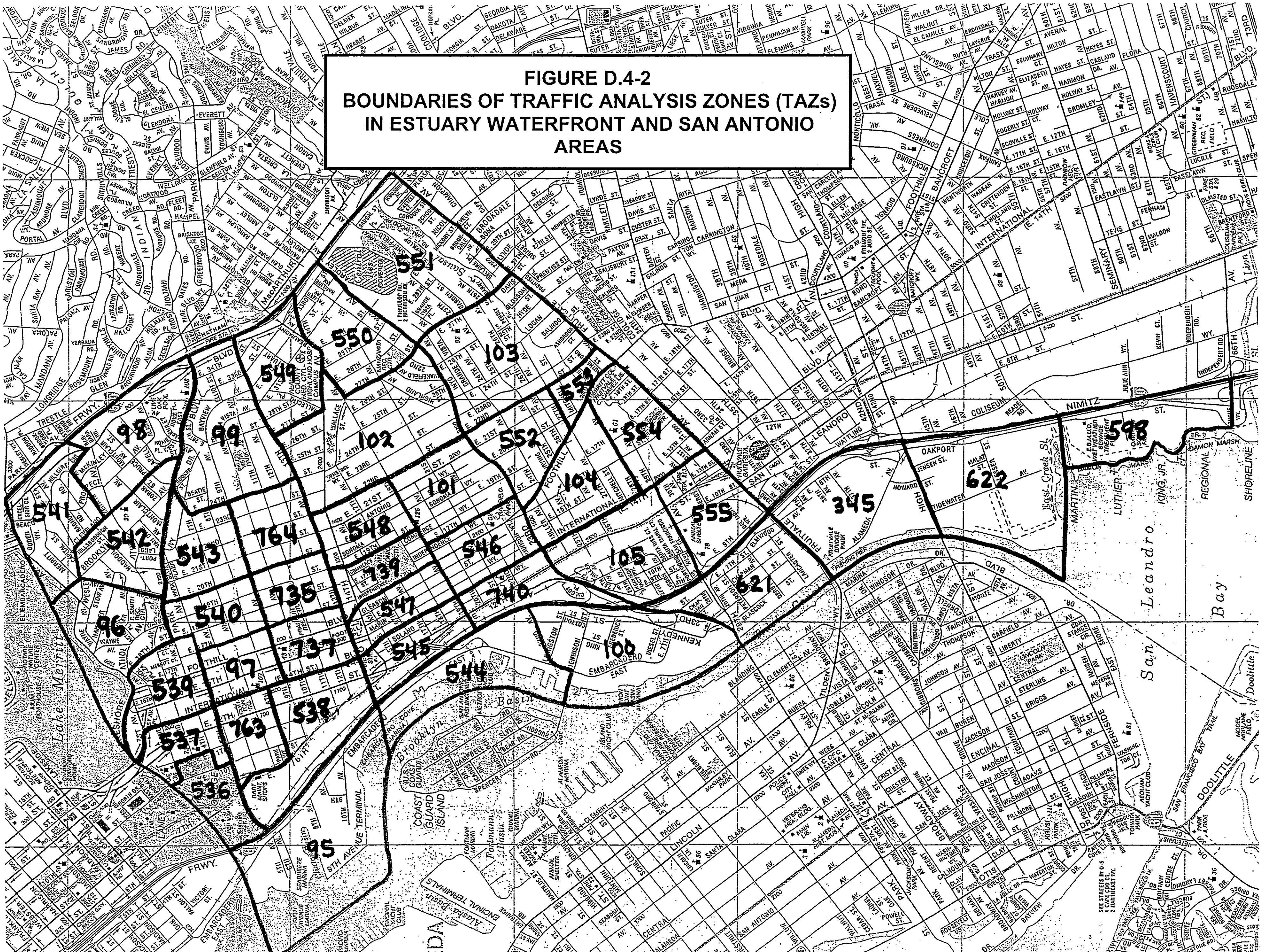


FIGURE D.4-3
BOUNDARIES OF TRAFFIC ANALYSIS ZONES (TAZs)
IN THE DOWNTOWN/OAKLAND CENTRAL AREA

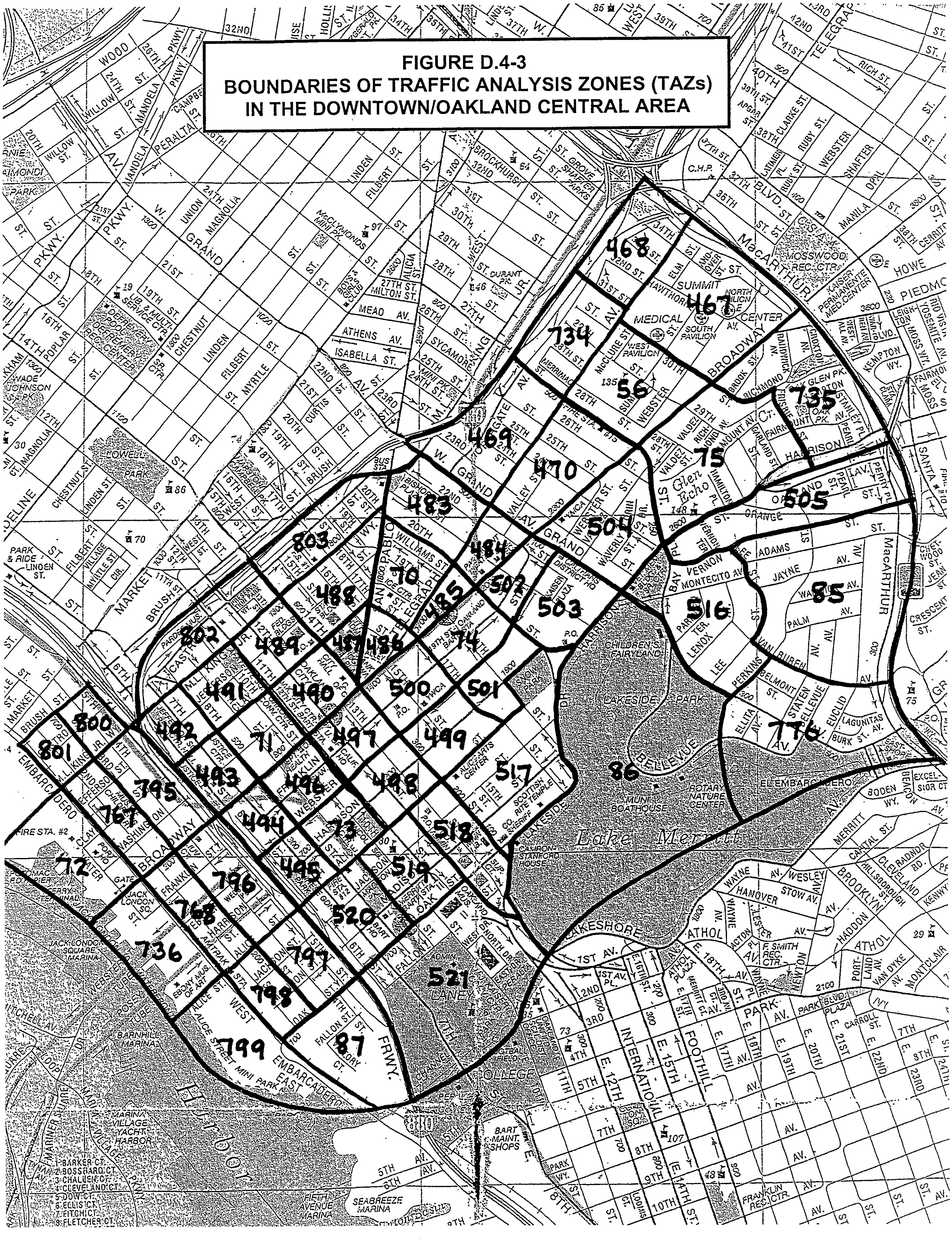


TABLE D.4-4a: 2000 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	11	6	15	0	15	81	47	14	12	154	80900
801	481	402000	OC	6	3	10	0	10	0	3	0	4	7	80900
72	72	403200	OC	0	0	0	0	0	0	567	218	181	966	0
736	72	403200	OC	2	1	2	0	2	0	72	524	181	777	50600
767	72	403200	OC	0	0	0	0	0	0	115	324	310	749	0
768	72	403200	OC	8	8	11	0	11	64	498	98	406	1066	50600
795	72	403200	OC	1	1	1	0	1	70	713	110	223	1116	50600
796	72	403200	OC	34	36	48	1	49	134	627	69	254	1084	50600
797	87	403300	OC	1	1	2	1	3	71	23	189	24	307	45800
798	87	403300	OC	0	0	0	0	0	231	54	29	32	346	45800
799	87	403300	OC	212	192	305	0	305	0	216	18	18	252	45800
		Subtotal		***275***	***248***	***394***	***2***	***396***	***651***	***2935***	***1593***	***1645***	***6824***	
Oak to 9th District														
87	87	403300	OC	0	0	0	0	0	72	294	50	43	459	0
95	95	406000	SA	20	17	33	0	33	106	119	63	80	368	36100
		Subtotal		***20***	***17***	***33***	***0***	***33***	***178***	***413***	***113***	***123***	***827***	
San Antonio / Fruitvale District														
100	100	406000	FV	43	70	108	0	108	457	312	28	211	1008	36100
544	544	406000	SA	36	37	60	10	70	240	217	138	565	1160	36100
345	345	406100	FV	88	58	209	0	209	532	146	200	75	953	43500
621	621	406100	FV	248	207	588	5	593	446	102	26	90	664	43500
622	622	407300	AP	2	3	6	0	6	183	689	100	227	1199	39300
598	598	409000	AP	0	0	0	0	0	0	85	0	218	303	0
		Subtotal		***417***	***375***	***971***	***15***	***986***	***1858***	***1551***	***492***	***1386***	***5287***	
Estuary Waterfront - TOTAL				***712***	***640***	***1398***	***17***	***1415***	***2687***	***4899***	***2198***	***3154***	***12938***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	133	156	420	0	420	10	55	0	103	168	31000
803	69	402700	OC	184	197	582	0	582	0	136	33	84	253	33100
70	70	402800	OC	14	26	47	5	52	0	0	75	84	159	19300
483	483	402800	OC	170	429	589	32	621	43	103	17	393	556	19300
484	484	402800	OC	0	0	0	0	0	36	365	70	735	1206	0
485	485	402800	OC	0	0	0	0	0	0	122	260	100	482	0
486	486	402800	OC	19	45	67	0	67	5	567	35	464	1071	19300
487	487	402800	OC	0	1	1	0	1	0	725	0	50	775	19300
488	488	402800	OC	319	719	911	258	1169	20	1560	40	160	1780	19300
74	74	402900	OC	32	44	76	0	76	97	690	135	1722	2644	39300
499	499	402900	OC	485	823	1163	0	1163	58	603	135	332	1128	39300
500	500	402900	OC	19	23	28	17	45	133	1090	239	1034	2496	39300
501	501	402900	OC	1	2	2	0	2	269	2067	100	2134	4570	39300
502	502	402900	OC	2	1	4	0	4	30	200	60	353	643	39300
503	503	402900	OC	0	1	1	0	1	540	3444	147	3574	7705	39300
73	73	403000	OC	54	43	140	0	140	449	132	475	142	1198	33100
494	494	403000	OC	55	70	131	10	141	176	78	192	192	638	33100
495	495	403000	OC	68	60	176	0	176	519	132	191	92	934	33100
496	496	403000	OC	425	564	1102	0	1102	178	881	475	968	2502	33100
497	497	403000	OC	118	213	306	0	306	165	1408	267	1525	3365	33100
498	498	403000	OC	335	482	869	0	869	438	112	197	136	883	33100
71	71	403100	OC	33	78	132	1	133	71	54	234	901	1260	19700
489	489	403100	OC	0	0	0	0	0	0	2500	0	40	2540	0
490	490	403100	OC	0	0	0	0	0	1505	1883	324	3048	6760	0
491	491	403100	OC	92	149	367	0	367	202	71	92	77	442	19700
492	492	403100	OC	240	177	288	666	954	0	436	26	97	559	19700
493	493	403100	OC	49	40	53	140	193	70	1840	26	117	2053	19700
519	519	403300	OC	460	334	843	0	843	41	605	51	255	952	45800
520	520	403300	OC	378	245	691	2	693	26	1665	51	212	1954	45800
521	521	403300	OC	254	141	425	41	466	0	1200	80	172	1452	45800
517	517	403400	OC	2010	2336	3477	67	3544	100	804	85	542	1531	58000
518	518	403400	OC	87	89	153	0	153	44	2167	33	231	2475	58000
		Subtotal		***6036***	***7488***	***13044***	***1239***	***14283***	***5225***	***27695***	***4145***	***20069***	***57134***	
Oakland Central, 580 to Grand														
56	56	401300	OC	213	240	431	209	640	6	450	240	1276	1972	26500
467	467	401300	OC	71	64	107	107	214	0	320	280	2136	2736	26500
468	468	401300	OC	190	275	564	9	573	7	160	30	320	517	26500
734	468	401300	OC	100	153	300	0	300	7	160	40	350	557	26500
469	469	401300	OC	238	423	716	0	716	28	160	50	450	688	26500
470	470	401300	OC	122	190	367	0	367	97	390	188	470	1145	26500
86	86	403400	OC	0	0	0	0	0	0	340	0	110	450	0
75	75	403500	OC	1137	1262	1989	0	1989	65	168	369	300	902	47300
735	75	403500	OC	754	652	1308	10	1318	17	154	325	310	806	47300
504	504	403500	OC	143	137	249	0	249	40	650	360	560	1610	47300
505	505	403500	OC	1193	1218	2072	15	2087	0	30	20	20	70	47300
85	85	403600	OC	2915	2573	4319	81	4400	0	40	0	360	400	62200
516	516	403700	OC	1791	1908	2756	40	2796	0	95	45	400	540	60000
776	516	403700	OC	1190	1210	1853	3	1856	5	210	200	675	1090	60000

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
		Subtotal		***10057***	***10305***	***17031***	***474***	***17505***	***272***	***3327***	***2147***	***7737***	***13483***	
Rest of Downtown / Oakland Central - TOTAL				***16093***	***17793***	***30075***	***1713***	***31788***	***5497***	***31022***	***6292***	***27806***	***70617***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	1559	1465	2895	0	2895	15	88	335	115	553	51000
97	97	405400	SA	831	699	2152	7	2159	69	138	50	102	359	43200
737	97	405400	SA	635	426	1642	7	1649	57	60	75	134	326	43200
540	540	405400	SA	1002	966	2577	23	2600	0	15	16	45	76	43200
738	540	405400	SA	760	706	1855	118	1973	0	0	0	0	0	43200
543	543	405500	SA	941	925	2157	0	2157	0	0	9	10	19	48900
764	543	405500	SA	867	616	1990	0	1990	0	0	0	0	0	48900
101	101	405900	SA	793	577	2419	0	2419	0	0	6	65	71	48000
546	546	405900	SA	713	544	2131	45	2176	9	28	39	108	184	48000
547	547	405900	SA	388	311	1179	4	1183	0	24	90	80	194	48000
739	547	405900	SA	195	167	596	1	597	0	0	0	40	40	48000
548	548	405900	SA	494	439	1508	0	1508	0	0	6	67	73	48000
536	536	406000	OC	0	0	0	1	1	0	738	0	0	738	0
537	537	406000	SA	523	560	1300	0	1300	5	26	59	174	264	36100
538	538	406000	SA	487	359	1247	0	1247	161	166	95	358	780	36100
763	538	406000	SA	227	190	566	0	566	42	43	76	166	327	36100
545	545	406000	SA	96	67	239	0	239	142	146	126	275	689	36100
740	545	406000	SA	36	21	91	0	91	71	63	39	215	388	36100
105	105	406100	FV	706	415	1576	112	1688	155	143	95	149	542	43500
104	104	406200	SA	1359	1060	4480	79	4559	1	152	65	182	400	41800
552	552	406200	SA	834	693	2794	5	2799	0	0	8	22	30	41800
553	553	406200	SA	223	177	750	0	750	0	0	35	40	75	41800
		Subtotal		***13669***	***11383***	***36144***	***402***	***36546***	***727***	***1830***	***1224***	***2347***	***6128***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	976	743	1507	0	1507	0	65	26	432	523	65100
541	541	405200	SA	1067	893	1644	3	1647	68	19	64	61	212	65100
542	542	405200	SA	1190	853	1837	0	1837	0	4	38	28	70	65100
96	96	405300	SA	1584	1615	2908	35	2943	0	36	50	50	136	51000
99	99	405600	SA	1831	1438	3734	0	3734	4	48	4	111	167	57700
549	549	405700	SA	577	436	1267	145	1412	0	114	135	2047	2296	46800
550	550	405700	SA	959	901	2345	0	2345	0	0	0	8	8	46800
102	102	405800	SA	1606	1320	4777	0	4777	0	0	0	20	20	48500
103	103	406300	SA	1537	1199	4277	133	4410	0	15	14	178	207	51100
551	551	406400	SA	804	679	1909	367	2276	0	77	23	344	444	68900
555	555	406100	FV	41	31	98	1	99	141	105	305	169	720	43500
554	554	406200	FV	828	698	2632	146	2778	3	72	84	429	588	41800
		Subtotal		***13000***	***10806***	***28935***	***830***	***29765***	***216***	***555***	***743***	***3877***	***5391***	
Rest of San Antonio / Fruitvale - TOTAL				**26669**	**22189**	**65079**	**1232**	**66311**	**943**	**2385**	**1967**	**6224**	**11519**	
GRAND TOTAL				**43474**	**40622**	**96552**	**2962**	**99514**	**9127**	**38306**	**10457**	**37184**	**95074**	

Source: Hausrath Economics Group

TABLE D.4-4a: 2000 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	11	6	15	0	15	81	47	14	12	154	80900
801	481	402000	OC	6	3	10	0	10	0	3	0	4	7	80900
72	72	403200	OC	0	0	0	0	0	0	567	218	181	966	0
736	72	403200	OC	2	1	2	0	2	0	72	524	181	777	50600
767	72	403200	OC	0	0	0	0	0	0	115	324	310	749	0
768	72	403200	OC	8	8	11	0	11	64	498	98	406	1066	50600
795	72	403200	OC	1	1	1	0	1	70	713	110	223	1116	50600
796	72	403200	OC	34	36	48	1	49	134	627	69	254	1084	50600
797	87	403300	OC	1	1	2	1	3	71	23	189	24	307	45800
798	87	403300	OC	0	0	0	0	0	231	54	29	32	346	45800
799	87	403300	OC	212	192	305	0	305	0	216	18	18	252	45800
		Subtotal		***275***	***248***	***394***	***2***	***396***	***651***	***2935***	***1593***	***1645***	***6824***	
Oak to 9th District														
87	87	403300	OC	0	0	0	0	0	72	294	50	43	459	0
95	95	406000	SA	20	17	33	0	33	106	119	63	80	368	36100
		Subtotal		***20***	***17***	***33***	***0***	***33***	***178***	***413***	***113***	***123***	***827***	
San Antonio / Fruitvale District														
100	100	406000	FV	43	70	108	0	108	457	312	28	211	1008	36100
544	544	406000	SA	36	37	60	10	70	240	217	138	565	1160	36100
345	345	406100	FV	88	58	209	0	209	532	146	200	75	953	43500
621	621	406100	FV	248	207	588	5	593	446	102	26	90	664	43500
622	622	407300	AP	2	3	6	0	6	183	689	100	227	1199	39300
598	598	409000	AP	0	0	0	0	0	0	85	0	218	303	0
		Subtotal		***417***	***375***	***971***	***15***	***986***	***1858***	***1551***	***492***	***1386***	***5287***	
Estuary Waterfront - TOTAL				***712***	***640***	***1398***	***17***	***1415***	***2687***	***4899***	***2198***	***3154***	***12938***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	133	156	420	0	420	10	55	0	103	168	31000
803	69	402700	OC	184	197	582	0	582	0	136	33	84	253	33100
70	70	402800	OC	14	26	47	5	52	0	0	75	84	159	19300
483	483	402800	OC	170	429	589	32	621	43	103	17	393	556	19300
484	484	402800	OC	0	0	0	0	0	36	365	70	735	1206	0
485	485	402800	OC	0	0	0	0	0	0	122	260	100	482	0
486	486	402800	OC	19	45	67	0	67	5	567	35	464	1071	19300
487	487	402800	OC	0	1	1	0	1	0	725	0	50	775	19300
488	488	402800	OC	319	719	911	258	1169	20	1560	40	160	1780	19300
74	74	402900	OC	32	44	76	0	76	97	690	135	1722	2644	39300
499	499	402900	OC	485	823	1163	0	1163	58	603	135	332	1128	39300
500	500	402900	OC	19	23	28	17	45	133	1090	239	1034	2496	39300
501	501	402900	OC	1	2	2	0	2	269	2067	100	2134	4570	39300
502	502	402900	OC	2	1	4	0	4	30	200	60	353	643	39300
503	503	402900	OC	0	1	1	0	1	540	3444	147	3574	7705	39300
73	73	403000	OC	54	43	140	0	140	449	132	475	142	1198	33100
494	494	403000	OC	55	70	131	10	141	176	78	192	192	638	33100
495	495	403000	OC	68	60	176	0	176	519	132	191	92	934	33100
496	496	403000	OC	425	564	1102	0	1102	178	881	475	968	2502	33100
497	497	403000	OC	118	213	306	0	306	165	1408	267	1525	3365	33100
498	498	403000	OC	335	482	869	0	869	438	112	197	136	883	33100
71	71	403100	OC	33	78	132	1	133	71	54	234	901	1260	19700
489	489	403100	OC	0	0	0	0	0	0	2500	0	40	2540	0
490	490	403100	OC	0	0	0	0	0	1505	1883	324	3048	6760	0
491	491	403100	OC	92	149	367	0	367	202	71	92	77	442	19700
492	492	403100	OC	240	177	288	666	954	0	436	26	97	559	19700
493	493	403100	OC	49	40	53	140	193	70	1840	26	117	2053	19700
519	519	403300	OC	460	334	843	0	843	41	605	51	255	952	45800
520	520	403300	OC	378	245	691	2	693	26	1665	51	212	1954	45800
521	521	403300	OC	254	141	425	41	466	0	1200	80	172	1452	45800
517	517	403400	OC	2010	2336	3477	67	3544	100	804	85	542	1531	58000
518	518	403400	OC	87	89	153	0	153	44	2167	33	231	2475	58000
		Subtotal		***6036***	***7488***	***13044***	***1239***	***14283***	***5225***	***27695***	***4145***	***20069***	***57134***	
Oakland Central, 580 to Grand														
56	56	401300	OC	213	240	431	209	640	6	450	240	1276	1972	26500
467	467	401300	OC	71	64	107	107	214	0	320	280	2136	2736	26500
468	468	401300	OC	190	275	564	9	573	7	160	30	320	517	26500
734	468	401300	OC	100	153	300	0	300	7	160	40	350	557	26500
469	469	401300	OC	238	423	716	0	716	28	160	50	450	688	26500
470	470	401300	OC	122	190	367	0	367	97	390	188	470	1145	26500
86	86	403400	OC	0	0	0	0	0	0	340	0	110	450	0
75	75	403500	OC	1137	1262	1989	0	1989	65	168	369	300	902	47300
735	75	403500	OC	754	652	1308	10	1318	17	154	325	310	806	47300
504	504	403500	OC	143	137	249	0	249	40	650	360	560	1610	47300
505	505	403500	OC	1193	1218	2072	15	2087	0	30	20	20	70	47300
85	85	403600	OC	2915	2573	4319	81	4400	0	40	0	360	400	62200
516	516	403700	OC	1791	1908	2756	40	2796	0	95	45	400	540	60000

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
776	516	403700	OC	1190	1210	1853	3	1856	5	210	200	675	1090	60000
		Subtotal		***10057***	***10305***	***17031***	***474***	***17505***	***272***	***3327***	***2147***	***7737***	***13483***	
Rest of Downtown / Oakland Central - TOTAL				***16093***	***17793***	***30075***	***1713***	***31788***	***5497***	***31022***	***6292***	***27806***	***70617***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	1559	1465	2895	0	2895	15	88	335	115	553	51000
97	97	405400	SA	831	699	2152	7	2159	69	138	50	102	359	43200
737	97	405400	SA	635	426	1642	7	1649	57	60	75	134	326	43200
540	540	405400	SA	1002	966	2577	23	2600	0	15	16	45	76	43200
738	540	405400	SA	760	706	1855	118	1973	0	0	0	0	0	43200
543	543	405500	SA	941	925	2157	0	2157	0	0	9	10	19	48900
764	543	405500	SA	867	616	1990	0	1990	0	0	0	0	0	48900
101	101	405900	SA	793	577	2419	0	2419	0	0	6	65	71	48000
546	546	405900	SA	713	544	2131	45	2176	9	28	39	108	184	48000
547	547	405900	SA	388	311	1179	4	1183	0	24	90	80	194	48000
739	547	405900	SA	195	167	596	1	597	0	0	0	40	40	48000
548	548	405900	SA	494	439	1508	0	1508	0	0	6	67	73	48000
536	536	406000	OC	0	0	0	1	1	0	738	0	0	738	0
537	537	406000	SA	523	560	1300	0	1300	5	26	59	174	264	36100
538	538	406000	SA	487	359	1247	0	1247	161	166	95	358	780	36100
763	538	406000	SA	227	190	566	0	566	42	43	76	166	327	36100
545	545	406000	SA	96	67	239	0	239	142	146	126	275	689	36100
740	545	406000	SA	36	21	91	0	91	71	63	39	215	388	36100
105	105	406100	FV	706	415	1576	112	1688	155	143	95	149	542	43500
104	104	406200	SA	1359	1060	4480	79	4559	1	152	65	182	400	41800
552	552	406200	SA	834	693	2794	5	2799	0	0	8	22	30	41800
553	553	406200	SA	223	177	750	0	750	0	0	35	40	75	41800
		Subtotal		***13669***	***11383***	***36144***	***402***	***36546***	***727***	***1830***	***1224***	***2347***	***6128***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	976	743	1507	0	1507	0	65	26	432	523	65100
541	541	405200	SA	1067	893	1644	3	1647	68	19	64	61	212	65100
542	542	405200	SA	1190	853	1837	0	1837	0	4	38	28	70	65100
96	96	405300	SA	1584	1615	2908	35	2943	0	36	50	50	136	51000
99	99	405600	SA	1831	1438	3734	0	3734	4	48	4	111	167	57700
549	549	405700	SA	577	436	1267	145	1412	0	114	135	2047	2296	46800
550	550	405700	SA	959	901	2345	0	2345	0	0	0	8	8	46800
102	102	405800	SA	1606	1320	4777	0	4777	0	0	0	20	20	48500
103	103	406300	SA	1537	1199	4277	133	4410	0	15	14	178	207	51100
551	551	406400	SA	804	679	1909	367	2276	0	77	23	344	444	68900
555	555	406100	FV	41	31	98	1	99	141	105	305	169	720	43500
554	554	406200	FV	828	698	2632	146	2778	3	72	84	429	588	41800
		Subtotal		***13000***	***10806***	***28935***	***830***	***29765***	***216***	***555***	***743***	***3877***	***5391***	
Rest of San Antonio / Fruitvale - TOTAL				**26669**	**22189**	**65079**	**1232**	**66311**	**943**	**2385**	**1967**	**6224**	**11519**	
GRAND TOTAL				**43474**	**40622**	**96552**	**2962**	**99514**	**9127**	**38306**	**10457**	**37184**	**95074**	

Source: Hausrath Economics Group

TABLE D.4-4b: 2005 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS														
OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	11	6	15	0	15	81	47	14	12	154	86900
801	481	402000	OC	48	30	72	0	72	0	53	0	4	57	76000
72	72	403200	OC	0	0	0	0	0	0	567	218	181	966	0
736	72	403200	OC	2	1	2	0	2	0	103	473	133	709	53700
767	72	403200	OC	0	0	0	0	0	0	115	324	340	779	0
768	72	403200	OC	45	31	66	0	66	64	498	131	406	1099	83600
795	72	403200	OC	1	1	1	0	1	70	779	83	429	1361	53700
796	72	403200	OC	34	36	49	1	50	134	584	155	211	1084	53700
797	87	403300	OC	596	477	853	1	854	71	43	234	96	444	93900
798	87	403300	OC	416	311	603	0	603	140	54	29	45	268	94000
799	87	403300	OC	530	463	772	0	772	0	218	18	19	255	74600
		Subtotal		***1683***	***1356***	***2433***	***2***	***2435***	***560***	***3061***	***1679***	***1876***	***7176***	
Oak to 9th District														
87	87	403300	OC	0	0	0	0	0	72	294	50	43	459	0
95	95	406000	SA	20	17	33	0	33	106	59	58	166	389	37300
		Subtotal		***20***	***17***	***33***	***0***	***33***	***178***	***353***	***108***	***209***	***848***	
San Antonio / Fruitvale District														
100	100	406000	FV	44	70	110	0	110	450	319	28	216	1013	37300
544	544	406000	SA	37	37	61	10	71	240	219	138	623	1220	37300
345	345	406100	FV	88	58	212	0	212	532	146	308	75	1061	44800
621	621	406100	FV	587	468	1084	5	1089	400	80	16	90	586	69900
622	622	407300	AP	2	3	6	0	6	173	696	110	237	1216	40500
598	598	409000	AP	0	0	0	0	0	0	85	0	218	303	0
		Subtotal		***758***	***636***	***1473***	***15***	***1488***	***1795***	***1545***	***600***	***1459***	***5399***	
Estuary Waterfront - TOTAL				***2461***	***2009***	***3939***	***17***	***3956***	***2533***	***4959***	***2387***	***3544***	***13423***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	280	276	668	0	668	10	55	0	103	168	58000
803	69	402700	OC	180	197	588	0	588	0	136	33	84	253	34500
70	70	402800	OC	0	0	0	0	0	0	27	75	141	243	0
483	483	402800	OC	171	429	1009	32	1041	28	421	37	355	841	20000
484	484	402800	OC	0	0	0	0	0	36	365	70	735	1206	0
485	485	402800	OC	0	0	0	0	0	0	432	289	346	1067	0
486	486	402800	OC	19	45	115	0	115	5	717	107	990	1819	20000
487	487	402800	OC	0	1	2	0	2	0	745	0	117	862	20000
488	488	402800	OC	322	719	1560	258	1818	20	1576	40	383	2019	20000
74	74	402900	OC	32	44	90	0	90	97	790	145	1872	2904	46800
499	499	402900	OC	487	823	1379	0	1379	58	611	150	607	1426	46800
500	500	402900	OC	19	23	33	127	160	133	1090	239	1077	2539	46800
501	501	402900	OC	1	2	2	0	2	269	2067	100	2134	4570	46800
502	502	402900	OC	2	1	5	0	5	30	400	60	353	843	46800
503	503	402900	OC	0	1	1	0	1	540	3844	147	3174	7705	46800
73	73	403000	OC	54	43	149	0	149	404	132	475	156	1167	37600
494	494	403000	OC	55	70	139	10	149	169	76	192	206	643	37600
495	495	403000	OC	69	60	187	0	187	494	125	191	106	916	37600
496	496	403000	OC	528	648	1313	0	1313	168	891	500	1103	2662	43400
497	497	403000	OC	121	223	337	0	337	165	1409	286	1546	3406	37600
498	498	403000	OC	337	482	923	0	923	418	105	187	143	853	37600
71	71	403100	OC	79	116	230	1	231	71	54	234	901	1260	40900
489	489	403100	OC	0	0	0	0	0	175	2800	10	1090	4075	0
490	490	403100	OC	0	0	0	0	0	1505	1883	299	3073	6760	0
491	491	403100	OC	226	260	648	0	648	152	56	116	77	401	47000
492	492	403100	OC	242	177	360	666	1026	0	436	26	97	559	20700
493	493	403100	OC	49	40	66	140	206	20	1740	56	137	1953	20700
519	519	403300	OC	458	372	1102	0	1102	41	905	38	325	1309	47300
520	520	403300	OC	370	245	866	2	868	26	1675	38	221	1960	47300
521	521	403300	OC	249	141	533	41	574	0	1200	80	172	1452	47300
517	517	403400	OC	2333	2593	4252	67	4319	100	804	85	557	1546	63600
518	518	403400	OC	145	137	249	0	249	42	2167	33	231	2473	67900
		Subtotal		***6828***	***8168***	***16806***	***1344***	***18150***	***5176***	***29734***	***4338***	***22612***	***61860***	
Oakland Central, 580 to Grand														
56	56	401300	OC	285	299	557	209	766	6	450	290	1306	2052	38100
467	467	401300	OC	72	64	113	107	220	0	320	295	2161	2776	27200
468	468	401300	OC	192	275	597	9	606	0	140	30	320	490	27200
734	468	401300	OC	101	153	318	0	318	0	140	40	350	530	27200
469	469	401300	OC	428	563	1032	0	1032	10	140	57	447	654	40300
470	470	401300	OC	123	190	389	0	389	40	314	376	460	1190	27200
86	86	403400	OC	0	0	0	0	0	0	365	0	122	487	0
75	75	403500	OC	1145	1262	2058	0	2058	65	168	369	310	912	48000
735	75	403500	OC	759	652	1353	10	1363	17	154	335	315	821	48000
504	504	403500	OC	144	137	258	0	258	40	650	385	585	1660	48000
505	505	403500	OC	1201	1218	2144	15	2159	0	30	113	20	163	48000
85	85	403600	OC	2935	2573	4366	81	4447	0	40	0	360	400	66400
516	516	403700	OC	1804	1908	2816	96	2912	0	95	45	430	570	61300
776	516	403700	OC	1198	1210	1893	3	1896	5	214	200	688	1107	61300

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
		Subtotal		***10387***	***10504***	***17894***	***530***	***18424***	***183***	***3220***	***2535***	***7874***	***13812***	
Rest of Downtown / Oakland Central - TOTAL				***17215***	***18672***	***34700***	***1874***	***36574***	***5359***	***32954***	***6873***	***30486***	***75672***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	1617	1553	3058	0	3058	15	89	377	120	601	51400
97	97	405400	SA	837	699	2175	7	2182	64	138	58	104	364	47000
737	97	405400	SA	639	426	1660	7	1667	52	60	85	134	331	47000
540	540	405400	SA	1009	966	2605	23	2628	0	15	16	46	77	47000
738	540	405400	SA	765	706	1875	118	1993	0	0	0	0	0	47000
543	543	405500	SA	947	925	2180	0	2180	0	0	9	10	19	49900
764	543	405500	SA	873	616	2011	0	2011	0	0	0	0	0	49900
101	101	405900	SA	798	577	2444	0	2444	0	0	6	65	71	48800
546	546	405900	SA	718	544	2153	45	2198	8	28	39	111	186	48800
547	547	405900	SA	426	335	1244	4	1248	0	25	95	83	203	50700
739	547	405900	SA	197	167	602	1	603	0	0	0	40	40	48800
548	548	405900	SA	497	439	1524	0	1524	0	0	6	68	74	48800
536	536	406000	OC	0	0	0	1	1	0	728	0	0	728	0
537	537	406000	SA	552	618	1415	0	1415	3	26	64	179	272	37300
538	538	406000	SA	507	359	1269	0	1269	153	166	105	364	788	37300
763	538	406000	SA	229	190	576	0	576	40	43	84	168	335	37300
545	545	406000	SA	97	67	243	0	243	136	146	126	275	683	37300
740	545	406000	SA	36	21	93	0	93	68	63	39	215	385	37300
105	105	406100	FV	828	488	1777	112	1889	163	128	95	244	630	49500
104	104	406200	SA	1369	1060	4528	79	4607	1	154	67	184	406	43400
552	552	406200	SA	840	693	2824	5	2829	0	0	8	22	30	43500
553	553	406200	SA	225	177	758	0	758	0	0	35	40	75	43500
		Subtotal		***14006***	***11626***	***37014***	***402***	***37416***	***703***	***1809***	***1314***	***2472***	***6298***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	982	743	1523	0	1523	0	66	26	434	526	68900
541	541	405200	SA	1074	893	1661	3	1664	68	19	64	65	216	68900
542	542	405200	SA	1198	853	1856	0	1856	0	4	38	29	71	68900
96	96	405300	SA	1611	1632	2970	35	3005	0	40	70	53	163	51400
99	99	405600	SA	1843	1438	3774	0	3774	4	49	5	113	171	59400
549	549	405700	SA	581	436	1281	145	1426	0	116	134	2071	2321	47700
550	550	405700	SA	966	901	2370	0	2370	0	0	0	10	10	47700
102	102	405800	SA	1617	1320	4828	0	4828	0	0	0	21	21	50200
103	103	406300	SA	1548	1199	4322	133	4455	0	15	16	185	216	54700
551	551	406400	SA	809	679	1930	367	2297	0	79	26	349	454	71200
555	555	406100	FV	42	31	100	1	101	141	105	305	199	750	44800
554	554	406200	FV	834	698	2660	146	2806	3	72	89	429	593	43500
		Subtotal		***13105***	***10823***	***29275***	***830***	***30105***	***216***	***565***	***773***	***3958***	***5512***	
Rest of San Antonio / Fruitvale - TOTAL				**27111**	**22449**	**66289**	**1232**	**67521**	**919**	**2374**	**2087**	**6430**	**11810**	
GRAND TOTAL				**46787**	**43130**	**104928**	**3123**	**108051**	**8811**	**40287**	**11347**	**40460**	**100905**	

Source: Hausrath Economics Group

TABLE D.4-4c: 2010 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	11	6	15	0	15	81	47	14	12	154	94100
801	481	402000	OC	48	30	72	0	72	0	53	0	4	57	79200
72	72	403200	OC	0	0	0	0	0	0	576	597	235	1408	0
736	72	403200	OC	2	1	2	0	2	0	173	1033	476	1682	56700
767	72	403200	OC	0	0	0	0	0	0	100	427	340	867	0
768	72	403200	OC	172	137	246	0	246	64	598	183	640	1485	96100
795	72	403200	OC	1	1	1	0	1	70	789	83	449	1391	56700
796	72	403200	OC	139	123	197	1	198	134	584	155	245	1118	86300
797	87	403300	OC	704	567	1006	1	1007	36	43	234	126	439	98400
798	87	403300	OC	416	311	603	0	603	110	53	33	78	274	98500
799	87	403300	OC	530	463	772	0	772	0	218	18	19	255	77800
		Subtotal		***2023***	***1639***	***2914***	***2***	***2916***	***495***	***3234***	***2777***	***2624***	***9130***	
Oak to 9th District														
87	87	403300	OC	0	0	0	0	0	72	294	50	43	459	0
95	95	406000	SA	1336	1110	1892	0	1892	91	16	175	220	502	97600
		Subtotal		***1336***	***1110***	***1892***	***0***	***1892***	***163***	***310***	***225***	***263***	***961***	
San Antonio / Fruitvale District														
100	100	406000	FV	276	214	455	0	455	410	299	49	296	1054	70200
544	544	406000	SA	39	37	61	10	71	240	219	178	700	1337	38600
345	345	406100	FV	92	58	210	0	210	532	166	308	75	1081	46900
621	621	406100	FV	659	506	1169	5	1174	340	80	16	90	526	73600
622	622	407300	AP	2	3	6	0	6	163	704	120	247	1234	42600
598	598	409000	AP	0	0	0	0	0	0	85	0	218	303	0
		Subtotal		***1068***	***818***	***1901***	***15***	***1916***	***1685***	***1553***	***671***	***1626***	***5535***	
Estuary Waterfront - TOTAL				***4427***	***3567***	***6707***	***17***	***6724***	***2343***	***5097***	***3673***	***4513***	***15626***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	343	324	749	0	749	10	55	0	103	168	64100
803	69	402700	OC	187	197	571	0	571	0	136	33	84	253	36300
70	70	402800	OC	965	747	1373	0	1373	0	27	149	276	452	85600
483	483	402800	OC	178	429	1012	32	1044	28	421	37	355	841	20300
484	484	402800	OC	0	0	0	0	0	36	365	87	735	1223	0
485	485	402800	OC	0	0	0	0	0	0	467	324	446	1237	0
486	486	402800	OC	20	45	115	0	115	5	717	107	990	1819	20300
487	487	402800	OC	0	1	2	0	2	0	745	0	117	862	20300
488	488	402800	OC	335	719	1565	262	1827	0	2426	35	363	2824	20300
74	74	402900	OC	34	44	91	0	91	97	800	155	1892	2944	48900
499	499	402900	OC	508	823	1392	0	1392	58	611	150	607	1426	48900
500	500	402900	OC	192	167	278	127	405	173	1502	249	1890	3814	91700
501	501	402900	OC	1	2	2	0	2	269	2077	100	2144	4590	48900
502	502	402900	OC	2	1	5	0	5	110	1451	109	818	2488	48900
503	503	402900	OC	0	1	1	6	7	590	4261	147	4018	9016	48900
73	73	403000	OC	56	43	149	0	149	404	132	485	156	1177	41200
494	494	403000	OC	239	221	396	10	406	169	76	202	148	595	71500
495	495	403000	OC	72	60	187	0	187	494	125	191	106	916	41200
496	496	403000	OC	547	648	1313	0	1313	168	908	520	1124	2720	47000
497	497	403000	OC	126	223	337	0	337	165	1467	292	1862	3786	41200
498	498	403000	OC	464	576	1083	0	1083	418	105	197	156	876	48400
71	71	403100	OC	80	116	230	1	231	71	66	234	989	1360	42500
489	489	403100	OC	289	241	410	0	410	175	2800	18	1090	4083	98500
490	490	403100	OC	0	0	0	0	0	1640	2308	339	4498	8785	0
491	491	403100	OC	329	343	789	0	789	152	56	116	77	401	57800
492	492	403100	OC	252	177	360	676	1036	0	436	26	97	559	21500
493	493	403100	OC	51	40	66	142	208	0	890	56	137	1083	21500
519	519	403300	OC	633	502	1274	0	1274	41	905	38	325	1309	61600
520	520	403300	OC	386	245	826	2	828	26	1675	38	221	1960	48700
521	521	403300	OC	259	141	508	42	550	0	1211	80	178	1469	48700
517	517	403400	OC	2507	2667	4374	68	4442	100	804	93	577	1574	66800
518	518	403400	OC	149	137	249	0	249	42	2167	33	231	2473	70700
		Subtotal		***9204***	***9880***	***19707***	***1368***	***21075***	***5441***	***32192***	***4640***	***26810***	***69083***	
Oakland Central, 580 to Grand														
56	56	401300	OC	294	299	560	212	772	6	450	367	1336	2159	39800
467	467	401300	OC	75	64	114	109	223	0	320	305	2191	2816	28600
468	468	401300	OC	200	275	602	9	611	0	140	30	320	490	28600
734	468	401300	OC	105	153	320	0	320	0	140	40	350	530	28600
469	469	401300	OC	438	563	1037	0	1037	10	140	67	447	664	42200
470	470	401300	OC	665	631	1136	0	1136	30	268	370	410	1078	79100
86	86	403400	OC	0	0	0	0	0	0	365	0	122	487	0
75	75	403500	OC	1193	1262	2085	0	2085	65	168	379	330	942	50200
735	75	403500	OC	791	652	1371	10	1381	17	154	345	325	841	50200
504	504	403500	OC	440	379	672	0	672	35	650	399	610	1694	81000
505	505	403500	OC	1252	1218	2172	15	2187	0	30	113	32	175	50200
85	85	403600	OC	3059	2573	4361	82	4443	0	40	0	360	400	69200
516	516	403700	OC	1880	1908	2813	96	2909	0	95	45	430	570	63700
776	516	403700	OC	1249	1210	1891	3	1894	5	235	200	750	1190	63700

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
		Subtotal		*11641*	*11187*	*19134*	*536*	*19670*	*168*	*3195*	*2660*	*8013*	*14036*	
Rest of Downtown / Oakland Central - TOTAL				**20845**	**21067**	**38841**	**1904**	**40745**	**5609**	**35387**	**7300**	**34823**	**83119**	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	1685	1553	3055	0	3055	15	92	397	130	634	53500
97	97	405400	SA	873	699	2173	7	2180	64	138	66	106	374	49100
737	97	405400	SA	666	426	1658	7	1665	52	60	93	139	344	49100
540	540	405400	SA	1052	966	2602	23	2625	0	15	16	46	77	49100
738	540	405400	SA	798	706	1873	120	1993	0	0	0	0	0	49100
543	543	405500	SA	987	925	2177	0	2177	0	0	9	10	19	51200
764	543	405500	SA	910	616	2008	0	2008	0	0	0	0	0	51200
101	101	405900	SA	832	577	2441	0	2441	0	0	6	65	71	50400
546	546	405900	SA	748	544	2151	46	2197	8	28	39	111	186	50400
547	547	405900	SA	443	335	1243	4	1247	0	25	97	83	205	52500
739	547	405900	SA	205	167	601	1	602	0	0	0	40	40	50400
548	548	405900	SA	518	439	1522	0	1522	0	0	6	68	74	50400
536	536	406000	OC	0	0	0	1	1	0	728	0	0	728	0
537	537	406000	SA	576	618	1403	0	1403	3	26	69	184	282	38600
538	538	406000	SA	529	359	1258	0	1258	145	166	115	370	796	38600
763	538	406000	SA	239	190	571	0	571	38	43	92	172	345	38600
545	545	406000	SA	101	67	241	0	241	136	146	156	275	713	38600
740	545	406000	SA	38	21	92	0	92	68	63	39	215	385	38600
105	105	406100	FV	987	560	2035	114	2149	163	128	95	254	640	51100
104	104	406200	SA	1427	1060	4524	80	4604	1	154	67	184	406	44900
552	552	406200	SA	876	693	2822	5	2827	0	0	8	22	30	44900
553	553	406200	SA	234	177	757	0	757	0	0	35	40	75	44900
		Subtotal		*14724*	*11698*	*37207*	*408*	*37615*	*693*	*1812*	*1405*	*2514*	*6424*	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	1024	743	1521	0	1521	0	66	26	434	526	71900
541	541	405200	SA	1120	893	1660	3	1663	68	19	64	65	216	71900
542	542	405200	SA	1249	853	1855	0	1855	0	4	38	29	71	71900
96	96	405300	SA	1680	1632	2967	36	3003	0	40	70	53	163	53500
99	99	405600	SA	1982	1484	3889	0	3889	4	49	5	113	171	61000
549	549	405700	SA	605	436	1279	147	1426	0	116	134	2071	2321	49100
550	550	405700	SA	1007	901	2367	0	2367	0	0	0	10	10	49100
102	102	405800	SA	1686	1320	4825	0	4825	0	0	0	21	21	51600
103	103	406300	SA	1636	1216	4379	135	4514	0	15	16	185	216	56700
551	551	406400	SA	844	679	1927	373	2300	0	79	26	349	454	73400
555	555	406100	FV	45	32	102	1	103	141	105	305	199	750	46900
554	554	406200	FV	916	735	2799	148	2947	3	72	89	493	657	44900
		Subtotal		*13794*	*10924*	*29570*	*843*	*30413*	*216*	*565*	*773*	*4022*	*5576*	
Rest of San Antonio / Fruitvale - TOTAL				**28518**	**22622**	**66777**	**1251**	**68028**	**909**	**2377**	**2178**	**6536**	**12000**	
GRAND TOTAL				**53790**	**47256**	**112325**	**3172**	**115497**	**8861**	**42861**	**13151**	**45872**	**110745**	

Source: Hausrath Economics Group

TABLE D.4-4d: 2025 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	12	6	15	0	15	41	25	14	172	252	106800
801	481	402000	OC	48	30	72	0	72	0	53	0	7	60	90600
72	72	403200	OC	0	0	0	0	0	0	729	597	382	1708	0
736	72	403200	OC	2	1	2	0	2	25	315	1055	741	2136	64700
767	72	403200	OC	0	0	0	0	0	0	194	490	617	1301	0
768	72	403200	OC	328	267	467	0	467	64	514	261	829	1668	111300
795	72	403200	OC	1	1	1	0	1	70	789	83	482	1424	64700
796	72	403200	OC	212	181	295	1	296	106	479	178	365	1128	103200
797	87	403300	OC	704	567	1006	1	1007	3	63	251	219	536	112600
798	87	403300	OC	728	571	1045	0	1045	28	136	81	248	493	112700
799	87	403300	OC	898	751	1257	0	1257	0	168	31	48	247	98600
		Subtotal		***2933***	***2375***	***4160***	***2***	***4162***	***337***	***3465***	***3041***	***4110***	***10953***	
Oak to 9th District														
87	87	403300	OC	115	96	163	0	163	72	294	50	43	459	112700
95	95	406000	SA	3291	2730	4654	0	4654	48	16	426	366	856	111900
		Subtotal		***3406***	***2826***	***4817***	***0***	***4817***	***120***	***310***	***476***	***409***	***1315***	
San Antonio / Fruitvale District														
100	100	406000	FV	588	406	908	0	908	330	269	119	370	1088	89000
544	544	406000	SA	43	37	56	10	66	240	239	203	820	1502	45800
345	345	406100	FV	101	58	209	0	209	442	166	375	275	1258	55900
621	621	406100	FV	839	602	1396	5	1401	220	40	31	130	421	86000
622	622	407300	AP	2	3	6	0	6	163	734	125	267	1289	51100
598	598	409000	AP	0	0	0	0	0	0	85	0	218	303	0
		Subtotal		***1573***	***1106***	***2575***	***15***	***2590***	***1395***	***1533***	***853***	***2080***	***5861***	
Estuary Waterfront - TOTAL				***7912***	***6307***	***11552***	***17***	***11569***	***1852***	***5308***	***4370***	***6599***	***18129***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	357	324	746	0	746	10	55	0	113	178	72800
803	69	402700	OC	298	274	695	0	695	0	110	28	126	264	57100
70	70	402800	OC	1320	1007	1854	0	1854	0	47	180	315	542	101800
483	483	402800	OC	823	1070	2430	32	2462	0	421	51	223	695	67500
484	484	402800	OC	0	0	0	0	0	36	385	97	815	1333	0
485	485	402800	OC	0	0	0	0	0	0	517	344	661	1522	0
486	486	402800	OC	21	45	114	0	114	5	727	137	1090	1959	22000
487	487	402800	OC	0	1	2	0	2	0	809	20	143	972	22000
488	488	402800	OC	461	796	1685	274	1959	0	2536	70	388	2994	29400
74	74	402900	OC	37	44	90	0	90	137	1273	195	2527	4132	54800
499	499	402900	OC	708	948	1595	0	1595	58	621	163	647	1489	62400
500	500	402900	OC	194	167	278	127	405	172	1982	279	2673	5106	104700
501	501	402900	OC	1	2	2	0	2	269	2087	113	2164	4633	54800
502	502	402900	OC	2	1	5	0	5	110	1481	129	918	2638	54800
503	503	402900	OC	0	1	1	6	7	590	4422	214	4268	9494	54800
73	73	403000	OC	62	43	148	0	148	404	138	495	182	1219	47700
494	494	403000	OC	516	447	779	10	789	169	76	227	108	580	90100
495	495	403000	OC	79	60	186	0	186	494	131	201	132	958	47700
496	496	403000	OC	591	648	1306	0	1306	168	952	545	1274	2939	54200
497	497	403000	OC	346	396	629	0	629	165	1467	332	1972	3936	69700
498	498	403000	OC	730	768	1403	0	1403	348	111	209	258	926	66400
71	71	403100	OC	245	250	457	1	458	11	79	269	1151	1510	74800
489	489	403100	OC	289	241	410	0	410	395	3221	18	2396	6030	112700
490	490	403100	OC	0	0	0	0	0	1640	2308	399	4548	8895	0
491	491	403100	OC	526	499	1052	0	1052	52	36	141	167	396	75800
492	492	403100	OC	478	345	644	706	1350	0	456	26	117	599	59800
493	493	403100	OC	148	117	197	148	345	0	1290	76	414	1780	72500
519	519	403300	OC	679	502	1267	0	1267	20	905	49	375	1349	71800
520	520	403300	OC	654	437	1147	2	1149	25	1736	42	249	2052	75300
521	521	403300	OC	1091	813	1647	44	1691	0	1271	90	218	1579	103100
517	517	403400	OC	2717	2667	4347	71	4418	98	804	103	735	1740	75700
518	518	403400	OC	399	338	590	0	590	41	2387	34	281	2743	90900
		Subtotal		***13772***	***13251***	***25706***	***1421***	***27127***	***5417***	***34841***	***5276***	***31648***	***77182***	
Oakland Central, 580 to Grand														
56	56	401300	OC	317	299	557	221	778	6	455	377	1366	2204	45400
467	467	401300	OC	82	64	113	114	227	0	325	315	2236	2876	32500
468	468	401300	OC	220	275	598	9	607	0	145	35	335	515	32500
734	468	401300	OC	116	153	318	0	318	0	145	45	365	555	32500
469	469	401300	OC	776	824	1477	0	1477	10	140	67	467	684	63900
470	470	401300	OC	677	631	1134	0	1134	20	268	420	440	1148	90500
86	86	403400	OC	0	0	0	0	0	0	385	0	127	512	0
75	75	403500	OC	1312	1262	2071	0	2071	65	173	394	350	982	58500
735	75	403500	OC	869	652	1362	10	1372	17	159	360	345	881	58500
504	504	403500	OC	1788	1490	2559	0	2559	25	650	417	630	1722	107700
505	505	403500	OC	1376	1218	2157	15	2172	0	34	113	42	189	58500
85	85	403600	OC	3363	2573	4333	85	4418	0	40	0	335	375	80200
516	516	403700	OC	2067	1908	2863	96	2959	0	95	49	450	594	74300
776	516	403700	OC	1373	1210	1925	3	1928	5	235	210	790	1240	74300

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
		Subtotal		***14336***	***12559***	***21467***	***553***	***22020***	***148***	***3249***	***2802***	***8278***	***14477***	
Rest of Downtown / Oakland Central - TOTAL				***28108***	***25810***	***47173***	***1974***	***49147***	***5565***	***38090***	***8078***	***39926***	***91659***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	1878	1575	3080	0	3080	15	95	417	148	675	62300
97	97	405400	SA	960	699	2159	7	2166	64	141	78	112	395	55700
737	97	405400	SA	733	426	1647	7	1654	52	60	109	149	370	55700
540	540	405400	SA	1156	966	2585	24	2609	0	15	16	48	79	55700
738	540	405400	SA	877	706	1861	126	1987	0	0	0	0	0	55700
543	543	405500	SA	1085	925	2162	0	2162	0	0	9	10	19	58700
764	543	405500	SA	1000	616	1994	0	1994	0	0	0	0	0	58700
101	101	405900	SA	922	582	2447	0	2447	0	0	6	72	78	58300
546	546	405900	SA	823	544	2137	48	2185	6	29	43	121	199	58300
547	547	405900	SA	557	385	1364	4	1368	0	26	107	93	226	63500
739	547	405900	SA	225	167	598	1	599	0	0	0	40	40	58300
548	548	405900	SA	570	439	1512	0	1512	0	0	6	72	78	58300
536	536	406000	OC	0	0	0	1	1	0	718	10	20	748	0
537	537	406000	SA	920	858	1720	0	1720	3	25	79	104	211	60400
538	538	406000	SA	718	447	1410	0	1410	143	171	139	425	878	50600
763	538	406000	SA	263	190	533	0	533	36	46	107	182	371	45800
545	545	406000	SA	111	67	225	0	225	136	170	161	307	774	45800
740	545	406000	SA	42	21	86	0	86	68	65	39	226	398	45800
105	105	406100	FV	1074	560	2023	119	2142	143	128	105	284	660	60400
104	104	406200	SA	1584	1070	4537	83	4620	1	160	77	198	436	52100
552	552	406200	SA	963	693	2803	5	2808	0	0	8	22	30	52100
553	553	406200	SA	258	177	752	0	752	0	0	43	50	93	52100
		Subtotal		***16719***	***12113***	***37635***	***425***	***38060***	***667***	***1849***	***1559***	***2683***	***6758***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	1126	743	1511	0	1511	0	70	28	466	564	83800
541	541	405200	SA	1231	893	1649	3	1652	68	19	70	85	242	83800
542	542	405200	SA	1373	853	1842	0	1842	0	4	40	31	75	83800
96	96	405300	SA	1847	1632	2948	38	2986	0	40	78	55	173	62300
99	99	405600	SA	2178	1484	3862	0	3862	4	49	5	120	178	70400
549	549	405700	SA	666	436	1271	153	1424	0	123	140	2101	2364	56600
550	550	405700	SA	1107	901	2353	0	2353	0	0	0	11	11	56600
102	102	405800	SA	1889	1346	4874	0	4874	0	0	0	24	24	59500
103	103	406300	SA	1798	1216	4348	141	4489	0	15	22	205	242	65600
551	551	406400	SA	929	679	1909	390	2299	0	79	30	379	488	84500
555	555	406100	FV	49	32	101	1	102	100	105	320	239	764	55900
554	554	406200	FV	1007	735	2781	154	2935	3	76	101	523	703	52100
		Subtotal		***15200***	***10950***	***29449***	***880***	***30329***	***175***	***580***	***834***	***4239***	***5828***	
Rest of San Antonio / Fruitvale - TOTAL				**31919**	**23063**	**67084**	**1305**	**68389**	**842**	**2429**	**2393**	**6922**	**12586**	
GRAND TOTAL				**67939**	**55180**	**125809**	**3296**	**129105**	**8259**	**45827**	**14841**	**53447**	**122374**	

Source: Hausrath Economics Group

TABLE D.4-4e: 2000-2025 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	1	0	0	0	0	-40	-22	0	160	98	25900
801	481	402000	OC	42	27	62	0	62	0	50	0	3	53	9700
72	72	403200	OC	0	0	0	0	0	0	162	379	201	742	0
736	72	403200	OC	0	0	0	0	0	25	243	531	560	1359	14100
767	72	403200	OC	0	0	0	0	0	0	79	166	307	552	0
768	72	403200	OC	320	259	456	0	456	0	16	163	423	602	60700
795	72	403200	OC	0	0	0	0	0	0	76	-27	259	308	14100
796	72	403200	OC	178	145	247	0	247	-28	-148	109	111	44	52600
797	87	403300	OC	703	566	1004	0	1004	-68	40	62	195	229	66800
798	87	403300	OC	728	571	1045	0	1045	-203	82	52	216	147	66900
799	87	403300	OC	686	559	952	0	952	0	-48	13	30	-5	52800
		Subtotal		***2658***	***2127***	***3766***	***0***	***3766***	***-314***	***530***	***1448***	***2465***	***4129***	
Oak to 9th District														
87	87	403300	OC	115	96	163	0	163	0	0	0	0	0	112700
95	95	406000	SA	3271	2713	4621	0	4621	-58	-103	363	286	488	75800
		Subtotal		***3386***	***2809***	***4784***	***0***	***4784***	***-58***	***-103***	***363***	***286***	***488***	
San Antonio / Fruitvale District														
100	100	406000	FV	545	336	800	0	800	-127	-43	91	159	80	52900
544	544	406000	SA	7	0	-4	0	-4	0	22	65	255	342	9700
345	345	406100	FV	13	0	0	0	0	-90	20	175	200	305	12400
621	621	406100	FV	591	395	808	0	808	-226	-62	5	40	-243	42500
622	622	407300	AP	0	0	0	0	0	-20	45	25	40	90	11800
598	598	409000	AP	0	0	0	0	0	0	0	0	0	0	0
		Subtotal		***1156***	***731***	***1604***	***0***	***1604***	***-463***	***-18***	***361***	***694***	***574***	
Estuary Waterfront - TOTAL				***7200***	***5667***	***10154***	***0***	***10154***	***-835***	***409***	***2172***	***3445***	***5191***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	224	168	326	0	326	0	0	0	10	10	41800
803	69	402700	OC	114	77	113	0	113	0	-26	-5	42	11	24000
70	70	402800	OC	1306	981	1807	-5	1802	0	47	105	231	383	82500
483	483	402800	OC	653	641	1841	0	1841	-43	318	34	-170	139	48200
484	484	402800	OC	0	0	0	0	0	0	20	27	80	127	0
485	485	402800	OC	0	0	0	0	0	0	395	84	561	1040	0
486	486	402800	OC	2	0	47	0	47	0	160	102	626	888	2700
487	487	402800	OC	0	0	1	0	1	0	84	20	93	197	2700
488	488	402800	OC	142	77	774	16	790	-20	976	30	228	1214	10100
74	74	402900	OC	5	0	14	0	14	40	583	60	805	1488	15500
499	499	402900	OC	223	125	432	0	432	0	18	28	315	361	23100
500	500	402900	OC	175	144	250	110	360	39	892	40	1639	2610	65400
501	501	402900	OC	0	0	0	0	0	0	20	13	30	63	15500
502	502	402900	OC	0	0	1	0	1	80	1281	69	565	1995	15500
503	503	402900	OC	0	0	0	6	6	50	978	67	694	1789	15500
73	73	403000	OC	8	0	8	0	8	-45	6	20	40	21	14600
494	494	403000	OC	461	377	648	0	648	-7	-2	35	-84	-58	57000
495	495	403000	OC	11	0	10	0	10	-25	-1	10	40	24	14600
496	496	403000	OC	166	84	204	0	204	-10	71	70	306	437	21100
497	497	403000	OC	228	183	323	0	323	0	59	65	447	571	36600
498	498	403000	OC	395	286	534	0	534	-90	-1	12	122	43	33300
71	71	403100	OC	212	172	325	0	325	-60	25	35	250	250	55100
489	489	403100	OC	289	241	410	0	410	395	721	18	2356	3490	112700
490	490	403100	OC	0	0	0	0	0	135	425	75	1500	2135	0
491	491	403100	OC	434	350	685	0	685	-150	-35	49	90	-46	56100
492	492	403100	OC	238	168	356	40	396	0	20	0	20	40	40100
493	493	403100	OC	99	77	144	8	152	-70	-550	50	297	-273	52800
519	519	403300	OC	219	168	424	0	424	-21	300	-2	120	397	26000
520	520	403300	OC	276	192	456	0	456	-1	71	-9	37	98	29500
521	521	403300	OC	837	672	1222	3	1225	0	71	10	46	127	57300
517	517	403400	OC	707	331	870	4	874	-2	0	18	193	209	17700
518	518	403400	OC	312	249	437	0	437	-3	220	1	50	268	32900
		Subtotal		***7736***	***5763***	***12662***	***182***	***12844***	***192***	***7146***	***1131***	***11579***	***20048***	
Oakland Central, 580 to Grand														
56	56	401300	OC	104	59	126	12	138	0	5	137	90	232	18900
467	467	401300	OC	11	0	6	7	13	0	5	35	100	140	6000
468	468	401300	OC	30	0	34	0	34	-7	-15	5	15	-2	6000
734	468	401300	OC	16	0	18	0	18	-7	-15	5	15	-2	6000
469	469	401300	OC	538	401	761	0	761	-18	-20	17	17	-4	37400
470	470	401300	OC	555	441	767	0	767	-77	-122	232	-30	3	64000
86	86	403400	OC	0	0	0	0	0	0	45	0	17	62	0
75	75	403500	OC	175	0	82	0	82	0	5	25	50	80	11200
735	75	403500	OC	115	0	54	0	54	0	5	35	35	75	11200
504	504	403500	OC	1645	1353	2310	0	2310	-15	0	57	70	112	60400
505	505	403500	OC	183	0	85	0	85	0	4	93	22	119	11200
85	85	403600	OC	448	0	14	4	18	0	0	0	-25	-25	18000
516	516	403700	OC	276	0	107	56	163	0	0	4	50	54	14300
776	516	403700	OC	183	0	72	0	72	0	25	10	115	150	14300

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
		Subtotal		***4279***	***2254***	***4436***	***79***	***4515***	***-124***	***-78***	***655***	***541***	***994***	
Rest of Downtown / Oakland Central - TOTAL				***12015***	***8017***	***17098***	***261***	***17359***	***68***	***7068***	***1786***	***12120***	***21042***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	319	110	185	0	185	0	7	82	33	122	11300
97	97	405400	SA	129	0	7	0	7	-5	3	28	10	36	12500
737	97	405400	SA	98	0	5	0	5	-5	0	34	15	44	12500
540	540	405400	SA	154	0	8	1	9	0	0	0	3	3	12500
738	540	405400	SA	117	0	6	8	14	0	0	0	0	0	12500
543	543	405500	SA	144	0	5	0	5	0	0	0	0	0	9800
764	543	405500	SA	133	0	4	0	4	0	0	0	0	0	9800
101	101	405900	SA	129	5	28	0	28	0	0	0	7	7	10300
546	546	405900	SA	110	0	6	3	9	-3	1	4	13	15	10300
547	547	405900	SA	169	74	185	0	185	0	2	17	13	32	15500
739	547	405900	SA	30	0	2	0	2	0	0	0	0	0	10300
548	548	405900	SA	76	0	4	0	4	0	0	0	5	5	10300
536	536	406000	OC	0	0	0	0	0	0	-20	10	20	10	0
537	537	406000	SA	397	298	420	0	420	-2	-1	20	-70	-53	24300
538	538	406000	SA	231	88	163	0	163	-18	5	44	67	98	14500
763	538	406000	SA	36	0	-33	0	-33	-6	3	31	16	44	9700
545	545	406000	SA	15	0	-14	0	-14	-6	24	35	32	85	9700
740	545	406000	SA	6	0	-5	0	-5	-3	2	0	11	10	9700
105	105	406100	FV	368	145	447	7	454	-12	-15	10	135	118	16900
104	104	406200	SA	225	10	57	4	61	0	8	12	16	36	10300
552	552	406200	SA	129	0	9	0	9	0	0	0	0	0	10300
553	553	406200	SA	35	0	2	0	2	0	0	8	10	18	10300
		Subtotal		***3050***	***730***	***1491***	***23***	***1514***	***-60***	***19***	***335***	***336***	***630***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	150	0	4	0	4	0	5	2	34	41	18700
541	541	405200	SA	164	0	5	0	5	0	0	6	24	30	18700
542	542	405200	SA	183	0	5	0	5	0	0	2	3	5	18700
96	96	405300	SA	263	17	40	3	43	0	4	28	5	37	11300
99	99	405600	SA	347	46	128	0	128	0	1	1	9	11	12700
549	549	405700	SA	89	0	4	8	12	0	9	5	54	68	9800
550	550	405700	SA	148	0	8	0	8	0	0	0	3	3	9800
102	102	405800	SA	283	26	97	0	97	0	0	0	4	4	11000
103	103	406300	SA	261	17	71	8	79	0	0	8	27	35	14500
551	551	406400	SA	125	0	0	23	23	0	2	7	35	44	15600
555	555	406100	FV	8	1	3	0	3	-41	0	15	70	44	12400
554	554	406200	FV	179	37	149	8	157	0	4	17	94	115	10300
		Subtotal		***2200***	***144***	***514***	***50***	***564***	***-41***	***25***	***91***	***362***	***437***	
Rest of San Antonio / Fruitvale - TOTAL				**5250**	**874**	**2005**	**73**	**2078**	**-101**	**44**	**426**	**698**	**1067**	
GRAND TOTAL				**24465**	**14558**	**29257**	**334**	**29591**	**-868**	**7521**	**4384**	**16263**	**27300**	

Source: Hausrath Economics Group

TABLE D.4-4f: 2005-2025 OAKLAND CUMULATIVE SCENARIO FOR OAK TO 9TH PROJECT AND SURROUNDING AREAS

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
ESTUARY WATERFRONT														
Jack London District														
800	481	402000	OC	1	0	0	0	0	-40	-22	0	160	98	19900
801	481	402000	OC	0	0	0	0	0	0	0	0	3	3	14600
72	72	403200	OC	0	0	0	0	0	0	162	379	201	742	0
736	72	403200	OC	0	0	0	0	0	25	212	582	608	1427	11000
767	72	403200	OC	0	0	0	0	0	0	79	166	277	522	0
768	72	403200	OC	283	236	401	0	401	0	16	130	423	569	27700
795	72	403200	OC	0	0	0	0	0	0	10	0	53	63	11000
796	72	403200	OC	178	145	246	0	246	-28	-105	23	154	44	49500
797	87	403300	OC	108	90	153	0	153	-68	20	17	123	92	18700
798	87	403300	OC	312	260	442	0	442	-112	82	52	203	225	18700
799	87	403300	OC	368	288	485	0	485	0	-50	13	29	-8	24000
		Subtotal		***1250***	***1019***	***1727***	***0***	***1727***	***-223***	***404***	***1362***	***2234***	***3777***	
Oak to 9th District														
87	87	403300	OC	115	96	163	0	163	0	0	0	0	0	112700
95	95	406000	SA	3271	2713	4621	0	4621	-58	-43	368	200	467	74600
		Subtotal		***3386***	***2809***	***4784***	***0***	***4784***	***-58***	***-43***	***368***	***200***	***467***	
San Antonio / Fruitvale District														
100	100	406000	FV	544	336	798	0	798	-120	-50	91	154	75	51700
544	544	406000	SA	6	0	-5	0	-5	0	20	65	197	282	8500
345	345	406100	FV	13	0	-3	0	-3	-90	20	67	200	197	11100
621	621	406100	FV	252	134	312	0	312	-180	-40	15	40	-165	16100
622	622	407300	AP	0	0	0	0	0	-10	38	15	30	73	10600
598	598	409000	AP	0	0	0	0	0	0	0	0	0	0	0
		Subtotal		***815***	***470***	***1102***	***0***	***1102***	***-400***	***-12***	***253***	***621***	***462***	
Estuary Waterfront - TOTAL				***5451***	***4298***	***7613***	***0***	***7613***	***-681***	***349***	***1983***	***3055***	***4706***	
REST OF DOWNTOWN / OAKLAND CENTRAL														
Downtown, Grand to 880														
802	68	402600	OC	77	48	78	0	78	0	0	0	10	10	14800
803	69	402700	OC	118	77	107	0	107	0	-26	-5	42	11	22600
70	70	402800	OC	1320	1007	1854	0	1854	0	20	105	174	299	101800
483	483	402800	OC	652	641	1421	0	1421	-28	0	14	-132	-146	47500
484	484	402800	OC	0	0	0	0	0	0	20	27	80	127	0
485	485	402800	OC	0	0	0	0	0	0	85	55	315	455	0
486	486	402800	OC	2	0	-1	0	-1	0	10	30	100	140	2000
487	487	402800	OC	0	0	0	0	0	0	64	20	26	110	2000
488	488	402800	OC	139	77	125	16	141	-20	960	30	5	975	9400
74	74	402900	OC	5	0	0	0	0	40	483	50	655	1228	8000
499	499	402900	OC	221	125	216	0	216	0	10	13	40	63	15600
500	500	402900	OC	175	144	245	0	245	39	892	40	1596	2567	57900
501	501	402900	OC	0	0	0	0	0	0	20	13	30	63	8000
502	502	402900	OC	0	0	0	0	0	80	1081	69	565	1795	8000
503	503	402900	OC	0	0	0	6	6	50	578	67	1094	1789	8000
73	73	403000	OC	8	0	-1	0	-1	0	6	20	26	52	10100
494	494	403000	OC	461	377	640	0	640	0	0	35	-98	-63	52500
495	495	403000	OC	10	0	-1	0	-1	0	6	10	26	42	10100
496	496	403000	OC	63	0	-7	0	-7	0	61	45	171	277	10800
497	497	403000	OC	225	173	292	0	292	0	58	46	426	530	32100
498	498	403000	OC	393	286	480	0	480	-70	6	22	115	73	28800
71	71	403100	OC	166	134	227	0	227	-60	25	35	250	250	33900
489	489	403100	OC	289	241	410	0	410	220	421	8	1306	1955	112700
490	490	403100	OC	0	0	0	0	0	135	425	100	1475	2135	0
491	491	403100	OC	300	239	404	0	404	-100	-20	25	90	-5	28800
492	492	403100	OC	236	168	284	40	324	0	20	0	20	40	39100
493	493	403100	OC	99	77	131	8	139	-20	-450	20	277	-173	51800
519	519	403300	OC	221	130	165	0	165	-21	0	11	50	40	24500
520	520	403300	OC	284	192	281	0	281	-1	61	4	28	92	28000
521	521	403300	OC	842	672	1114	3	1117	0	71	10	46	127	55800
517	517	403400	OC	384	74	95	4	99	-2	0	18	178	194	12100
518	518	403400	OC	254	201	341	0	341	-1	220	1	50	270	23000
		Subtotal		***6944***	***5083***	***8900***	***77***	***8977***	***241***	***5107***	***938***	***9036***	***15322***	
Oakland Central, 580 to Grand														
56	56	401300	OC	32	0	0	12	12	0	5	87	60	152	7300
467	467	401300	OC	10	0	0	7	7	0	5	20	75	100	5300
468	468	401300	OC	28	0	1	0	1	0	5	5	15	25	5300
734	468	401300	OC	15	0	0	0	0	0	5	5	15	25	5300
469	469	401300	OC	348	261	445	0	445	0	0	10	20	30	23600
470	470	401300	OC	554	441	745	0	745	-20	-46	44	-20	-42	63300
86	86	403400	OC	0	0	0	0	0	0	20	0	5	25	0
75	75	403500	OC	167	0	13	0	13	0	5	25	40	70	10500
735	75	403500	OC	110	0	9	0	9	0	5	25	30	60	10500
504	504	403500	OC	1644	1353	2301	0	2301	-15	0	32	45	62	59700
505	505	403500	OC	175	0	13	0	13	0	4	0	22	26	10500
85	85	403600	OC	428	0	-33	4	-29	0	0	0	-25	-25	13800

OAK TAZ	CMA TAZ	CENSUS TRACT	PLAN DIST	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
516	516	403700	OC	263	0	47	0	47	0	0	4	20	24	13000
776	516	403700	OC	175	0	32	0	32	0	21	10	102	133	13000
		Subtotal		***3949***	***2055***	***3573***	***23***	***3596***	***-35***	***29***	***267***	***404***	***665***	
Rest of Downtown / Oakland Central - TOTAL				***10893***	***7138***	***12473***	***100***	***12573***	***206***	***5136***	***1205***	***9440***	***15987***	
REST OF SAN ANTONIO / FRUITVALE TO FRUITVALE AVE.														
Lower San Antonio														
539	539	405300	SA	261	22	22	0	22	0	6	40	28	74	10900
97	97	405400	SA	123	0	-16	0	-16	0	3	20	8	31	8700
737	97	405400	SA	94	0	-13	0	-13	0	0	24	15	39	8700
540	540	405400	SA	147	0	-20	1	-19	0	0	0	2	2	8700
738	540	405400	SA	112	0	-14	8	-6	0	0	0	0	0	8700
543	543	405500	SA	138	0	-18	0	-18	0	0	0	0	0	8800
764	543	405500	SA	127	0	-17	0	-17	0	0	0	0	0	8800
101	101	405900	SA	124	5	3	0	3	0	0	0	7	7	9500
546	546	405900	SA	105	0	-16	3	-13	-2	1	4	10	13	9500
547	547	405900	SA	131	50	120	0	120	0	1	12	10	23	12800
739	547	405900	SA	28	0	-4	0	-4	0	0	0	0	0	9500
548	548	405900	SA	73	0	-12	0	-12	0	0	0	4	4	9500
536	536	406000	OC	0	0	0	0	0	0	-10	10	20	20	0
537	537	406000	SA	368	240	305	0	305	0	-1	15	-75	-61	23100
538	538	406000	SA	211	88	141	0	141	-10	5	34	61	90	13300
763	538	406000	SA	34	0	-43	0	-43	-4	3	23	14	36	8500
545	545	406000	SA	14	0	-18	0	-18	0	24	35	32	91	8500
740	545	406000	SA	6	0	-7	0	-7	0	2	0	11	13	8500
105	105	406100	FV	246	72	246	7	253	-20	0	10	40	30	10900
104	104	406200	SA	215	10	9	4	13	0	6	10	14	30	8700
552	552	406200	SA	123	0	-21	0	-21	0	0	0	0	0	8600
553	553	406200	SA	33	0	-6	0	-6	0	0	8	10	18	8600
		Subtotal		***2713***	***487***	***621***	***23***	***644***	***-36***	***40***	***245***	***211***	***460***	
Rest of San Antonio / Fruitvale to 580 and Fruitvale Ave.														
98	98	405200	SA	144	0	-12	0	-12	0	4	2	32	38	14900
541	541	405200	SA	157	0	-12	0	-12	0	0	6	20	26	14900
542	542	405200	SA	175	0	-14	0	-14	0	0	2	2	4	14900
96	96	405300	SA	236	0	-22	3	-19	0	0	8	2	10	10900
99	99	405600	SA	335	46	88	0	88	0	0	0	7	7	11000
549	549	405700	SA	85	0	-10	8	-2	0	7	6	30	43	8900
550	550	405700	SA	141	0	-17	0	-17	0	0	0	1	1	8900
102	102	405800	SA	272	26	46	0	46	0	0	0	3	3	9300
103	103	406300	SA	250	17	26	8	34	0	0	6	20	26	10900
551	551	406400	SA	120	0	-21	23	2	0	0	4	30	34	13300
555	555	406100	FV	7	1	1	0	1	-41	0	15	40	14	11100
554	554	406200	FV	173	37	121	8	129	0	4	12	94	110	8600
		Subtotal		***2095***	***127***	***174***	***50***	***224***	***-41***	***15***	***61***	***281***	***316***	
Rest of San Antonio / Fruitvale - TOTAL				**4808**	**614**	**795**	**73**	**868**	**-77**	**55**	**306**	**492**	**776**	
GRAND TOTAL				**21152**	**12050**	**20881**	**173**	**21054**	**-552**	**5540**	**3494**	**12987**	**21469**	
Source: Hausrath Economics Group														

TABLE D.4-5a
OAKLAND CUMULATIVE GROWTH SCENARIO
ASSUMPTIONS FOR HOUSING PROJECTS IN AREAS INCLUDING AND SURROUNDING OAK TO 9TH PROJECT EXCLUSIVE OF DOWNTOWN / OAKLAND CENTRAL
OAK TO 9TH PROJECT EIR - NOVEMBER 2004

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/
	PROJECTS TO BE COMPLETED 2000 - 2005 (Post Census 2000)											
C	Cotton Mill Studios (work/live)	1		105	105	FV	74	73	LOFT-2	1091 Calcot	2	Under construction 3/04; conversion of historic building to live-work
x	Water Park Lofts	1		621	621	FV	27	26	DT-1	2875 Glascock	1	Completed (Signature)
O	Derby/Live-Work / Boathouse Lofts	1	C	621	621	FV	35	34	LOFT-2	400-450 Derby St.	1	Adaptive reuse; completed
x	Glascock Lofts, The Estuary	1		621	621	FV	100	96	DT-1	2893 Glascock @ Derby (2 blocks)	2	Under construction 2004 (Signature)
O	Chapman Street	1	N	621	621	FV	8	8	LOFT-2	Chapman / Derby to Lancaster	2	Under construction (HEG est. of units)
O	Ford/Lancaster	1	N	621	621	FV	20	19	LOFT-2	Corner Ford + Lancaster	2	Under construction (HEG est. of units)
O	Ford Street Lofts / Harbor Walk	1	T	621	621	FV	81	78	DT-1	3041, 3061, 3065 Ford / Lancaster to Glasscock	2	Under construction 2004 (Signature)
x	Lakeview Court	1		96	96	SA	18	17		E. 18th St. & Athol	1	Completed 2002
x	Evergreen Annex/Irene Cooper Terrace	1		537	537	SA	40	39	SENIOR	1218 2nd Ave.	1	Completed 2000; senior housing
O	E. 12th St. @ 4th Ave.	1	N	537	537	SA	20	19		E. 12th St. @ 4th Ave.	1	Completed (HEG est. of units)
O	Oak Park Homes / affordable rental	1	N	539	539	SA	35	34		2616 E. 16th St.	2	Under construction 2004
O	Lake Merritt Apartments / senior rental	1	N	539	539	SA	55	54	SENIOR	1417 1st Ave.	1	Completed 2004
O	District Homes	1	N	547	547	SA	25	24	TV-1	1515 14th Ave.	1	Completed 2004 (HEG est. of units)
	PROJECTS TO BE COMPLETED 2000 - 2005 TOTAL						**538**	**521**				
	PROJECTS TO BE COMPLETED 2005 - 2010											
O	Embarcadero Cove	2	N	100	100	FV	150	144	NEW-1	1820-1830 Embarcadero + 945 22nd St.	5	Predevelopment; small lot single-family
x	1091 Calcot	2		105	105	FV	73	72		1091 Calcot	4	In site acquisition for affordable project as of 7/1/02
O	Seven Directions	2	C	554	554	FV	38	37		2946 International Blvd.	3	Approved 10/03
x	AACWA-homeownership	2		555	555	FV	1	1		1230 31st Ave.	4	Predevelopment 7/1/02; funded affordable project
O	Fruitvale Waterfront / Kennedy Tract	2	N	621	621	FV	40	38	NEW-2			Additional infill; smaller sites
O	Oak to 9th Project - Phass 1, 2, 3	2	N	95	95	SA	1,139	1,093	PROJ	Oak to 9th Parcels A,F,G,B,C	5	Predevelopment 2004; see project tables for more detail
x	1173 28th St.	2		99	99	SA	47	46		1173 28th St.	4	In site acquisition for affordable project as of 7/1/02
O	Sausal Creek	2	N	103	103	SA	17	17		2464 26th Ave.	5	In predevelopment 2004; affordable housing
	PROJECTS TO BE COMPLETED 2005 - 2010 TOTAL						**1,505**	**1,448**				
	PROJECTS TO BE COMPLETED 2010 - 2020											
O	Con Agra Site or nearby	3	T	100	100	FV	200	192	NEW-1		7	Opportunity Site
O	Fruitvale Waterfront / Kennedy Tract	3	T	621	621	FV	100	96	NEW-2		7	Additional infill; possible larger site

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/
O	Fifth Avenue / Oak to 9th	3	N	95	95	SA	25	25	PROJ	Fifth Avenue Artisans Area	7	Intensification/infill under Estuary Policy Plan
O	Oak to 9th Project - Phases 4, 5, 6, 7	3	N	95	95	SA	1,661	1,595	PROJ	Oak to 9th Parcels D,E,H,J,K,L,M	5	Predevelopment 2004; also see Downtown Projects List for 300 units in TAZ 799 west of the channel.
O	EO-42/E. 22nd	3	C	102	102	SA	7	7		2202 E. 22nd St.	7	Housing Opportunity Site
x	Channel Area	3		537	537	SA	250	240	DT-2	Oak/5th Ave/Embarcadero/12th St.	7	Housing Opportunity Site DT-28
O	EO-45/E. 10th	3	C	538	538	SA	14	13		1000 E. 10th St. at 9th Ave; 1002, 920, 926 E. 10th	7	Housing Opportunity Site
O	E. 12th Street	3	N	538	538	SA	50	48	TV-1	E. 12th St. / 8th to 14th Aves.		Additional infill here or in vicinity
x	EO-47/E. 15th St. + 14th Ave.	3		547	547	SA	13	12		E. 15th St. + 14th Ave.	7	Housing Opportunity Site
O	14th Avenue	3	N	547	547	SA	40	38	TV-1	14th Ave. in vicinity of E. 14th, E. 15th, + Fruitvale Streets		Additional infill in vicinity
	PROJECTS TO BE COMPLETED 2010 - 2020 TOTAL						**2,360**	**2,266**				
	PROJECTS TO BE COMPLETED 2020 - 2025											
O	EO-43 / 23rd Ave.	4	C	101	101	SA	5	5		2141 23rd Ave.	7	Housing Opportunity Site
O	EO-44 / 23rd Ave.	4	C	102	102	SA	20	19		E. 23rd St. + 23rd Ave.	7	Housing Opportunity Site
x	EO-41 / Foothill	4		104	104	SA	10	10		2301 Foothill Blvd.	7	Housing Opportunity Site
O	EO-46 / 8th Ave.	4	C	538	538	SA	28	27		1100 8th Ave. @ E. 11th St.	7	Housing Opportunity Site
x	EO-48 / International	4		539	539	SA	7	7		252 International Blvd @ 3rd Ave.	7	Housing Opportunity Site
x	EO-49 / 1st	4		539	539	SA	16	15		1420 1st Ave.	7	Housing Opportunity Site
	PROJECTS TO BE COMPLETED 2020 - 2025 TOTAL						**86**	**83**				
	TOTAL 2000 - 2025						**4,489**	**4,318**				

NOTE: The Oak to 9th Project also includes 300 units to be developed west of the channel in TAZ 799 in the downtown area. That portion of the project is included on the Housing Projects List for the Downtown/Oakland Central area.

/a/ 'X' in first column indicates updated assumptions compared to original 11/21/00 Cumulative Scenario. 'U' indicates updated assumptions for Uptown Project EIR, May 2003. 'C' indicates updated assumptions for Central Station Project, December 2003. 'O' indicates updated assumptions for Oak to 9th EIR, November 2004.

/b/ Codes indicate change made for Oak to 9th Project EIR. C = change in number of units and/or number of households; N = new project added to list; T = change in time period assumed for development and occupancy.

/c/ Households equal units multiplied by an assumed vacancy factor.

/d/ Status as of the end of 2002: 1 = completed; 2 = under construction; 3 = approved; 4 = affordable housing project in predevelopment; 5 = other projects in predevelopment; 6 = in planning or part of existing plan; 7 = other housing opportunity site.

/e/ Housing Opportunity Sites are those identified in Oakland's Draft Housing Element (September 2002). The numbers (e.g., DT-11) are those used in Housing Element tables.

/f/ YWCA housing for CCAC students, Perkins Residential Care housing for people with Alzheimer's, and UC Berkeley student housing are treated as group quarters in the growth scenario.

/g/ The total units completed during 2000 were 293 for Acorn Parcels 1, 2, and 3, and 71 for Bayporte Village, replacing 480 and 196 original units, respectively, that were removed by 2000.

/h/ Includes additional housing units and households in the downtown and rest of Oakland Central (OC) planning district as well as along the channel in TAZ 537 (SA).

/i/ This list reflects Maximum Trips Alternative with residential, retail, and office development.

Source: City of Oakland; Hausrath Economics Group

TABLE D.4-5b
OAKLAND CUMULATIVE GROWTH SCENARIO
ASSUMPTIONS FOR COMMERCIAL/INDUSTRIAL PROJECTS IN AREAS INCLUDING AND SURROUNDING OAK TO 9TH PROJECT EXCLUSIVE OF DOWNTOWN / OAKLAND CENTRAL
OAK TO 9TH PROJECT EIR - NOVEMBER 2004

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Sq. Ft.	Empls	SF/Emp	Location	Comments
	PROJECTS COMPLETED BY 2000										
	K-Mart (42nd & High)			345	345	FV	130,000	173	750	42nd + High	Space estimate now appears low (see below)
	Fruitvale Station Retail (I-880)			555	555	FV	120,000	200	600		
	PROJECTS TO BE COMPLETED 2000 - 2005										
x	Homewood Suites by Hilton	1		95	95	SA	144 rms	86	0.6 empl/rm	1103 Embarcadero	Completed 2002
O	Albertson's expansion	1	C	539	539	SA	+19,400	32	600	247 East 18th St.	Under construction 2004; new 36,400 s.f. store to replace 17,000 s.f. store
x	Executive Inn expansion	1		544	544	SA	82 rms	33	0.4 emp/rm	1755 Embarcadero	Completed
O	Ground floor commercial in residential development	1	N	547	547	SA	3,000	9	350	1515 14th Ave.	Completed 2004
O	New public school facilities	1	C	105	105	FV		70		Former Montgomery Wards site	
O	Former K-Mart occupied by Home Depot, and adjacent tenant	1	N	345	345	FV	211,000	281	750	42nd + High	165,000 s.f. Home Depot and 46,000 s.f. in adjacent space; additional on-site employment of 108
O	Cal Crew development	1	N	621	621	FV		1		Glasscock at Derby	Includes relocated historic boathouse
	PROJECTS TO BE COMPLETED 2005 - 2010										
O	Oak to 9th Project - Phases 1, 2, 3	2	N	95	95	SA					Predevelopment 2004
O	Retail/commercial: neighborhood streets	2	N	95	95	SA	27,000	77	350	Oak to 9th Parcels A, F, B, C	Predevelopment 2004
O	Central area neighborhood retail	2	N	95	95	SA	42,000	112	375	Oak to 9th Parcel G	Predevelopment 2004
O	Project management and maintenance	2	N	95	95	SA		19		Oak to 9th Parcels A, F, G, B, C	Predevelopment 2004
O	Removal of existing uses	2	N	95	95	SA		(95)		Oak to 9th Parcels A, F, G, B, C	Predevelopment 2004
O	Eastlake commercial intensification/infill	2	N	97	97	SA		10			
O	Commercial intensification/infill - E. 18th area + Eastlake	2	N	539	539	SA		33			Intesnficiation of commercial district
O	Additional waterfront commercial	2	N	544	544	SA	40,000	117	350	Embarcadero Cove	Crowley site or other location
O	Additional development / infill / intensification	2	N	545	545	SA		30			Along International and/or near freeway
O	Eastlake commercial intensification	2	N	763	538	SA		10			
O	Embarcadero Cove, mixed use project	2	N	100	100	FV	39,000	111	350	1820-1830 Embarcadero + 924 22nd Ave.	Pre-application filed; also replaces some existing employment
O	Seven Directions, clinic	2	N	554	554	FV	25,600	64	400	2946 International Blvd.	Approved 10/03; part of mixed-use housing project
	PROJECTS TO BE COMPLETED 2010 - 2020/2025										
O	Oak to 9th Project - Phases 4, 5, 6, 7	3	N	95	95	SA					Predevelopment 2004; also see Downtown Projects List for additional commercial space in Oak to 9th Project.
O	Retail/commercial: neighborhood streets	3	N	95	95	SA	14,000	40	350	Oak to 9th Parcels D, E	Predevelopment 2004
O	Community, cultural, recreation uses	3	N	95	95	SA	18,000	30	600	9th Ave. Terminal	Predevelopment 2004
O.	Waterfront retail/restaurant	3	N	95	95	SA	79,000	264	300	Oak to 9th Parcels H, J, K, L	Predevelopment 2004
O	Retail/commercial: park-oriented	3	N	95	95	SA	5,000	13	400	Oak to 9th Parcel M	Predevelopment 2004
O	Project management and maintenance	3	N	95	95	SA		26		Oak to 9th Parcels D, E, H, J, K, L, M	Predevelopment 2004
O	Removal of existing uses	3	N	95	95	SA		(85)		Oak to 9th Parcels K, L, M	Predevelopment 2004

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Sq. Ft.	Empls	SF/Emp	Location	Comments
O	Eastlake commercial intensification/infill	3	N	97	97	SA		20			
O	Con Agra site or nearby - mixed use development	3	N	100	100	SA	40,000	114	350		Opportunity site; development also replaces existing employment
O	Ground floor commercial in residential development	3	N	538	538	SA	10,000	29	350	E. 12th St.	Additional infill
O	Commercial infill and intensification	3	N	538	538	SA		50			Along International and/or near freeway
O	Commercial intensification/infill - E. 18th area + Eastlake	3	N	539	539	SA		40			
O	Additional development/infill	3	N	544	544	SA	40,000	117	350	Along Embarcadero and vicinity	Infill/intensification
x	Additional development/infill/intensification	3		545	545	SA		40		East 12th to 880 in vicinity of 14th Ave. and 17th Ave.	Older industrial areas near freeway transition to auto/service and other uses
O	Ground floor commercial in residential development	3	N	547	547	SA	3,000	9	350	Vicinity of 14th Ave.	
O	Eastlake commercial intensification/infill	3	N	763	538	SA		26			
O	Light Industrial / R+D and Retail infill	3	N	345	345	FV		200			Upgrading and infill
O	Commercial / Light Industrial infill	3	N	622	622	AP		55			Infill and intensification
								988			

NOTE: The Oak to 9th Project also includes a site west of the channel in TAZ 799 in the downtown area. That portion of the project is included on the Commercial Projects List for the Downtown/Oakland Central area.

/a/ 'X' in first column indicates updated assumptions compared to original 11/21/00 Cumulative Scenario. 'U' indicates updated assumptions for Uptown Project EIR, May 2003. 'C' indicates updated assumptions for Central Station Project, December 2003. 'O' indicates updated assumptions for Oak to 9th EIR, November 2004.

/b/ Codes indicate change made for Oak to 9th Project EIR. C = change in number of employees, amount of space, and/or number of hotel rooms; N = new project added to list or significantly changed project; T = change in time period assumed for development and occupancy.

Source: City of Oakland; Port of Oakland; Hausrath Economics Group

TABLE D.4-6a
OAKLAND CUMULATIVE GROWTH SCENARIO
ASSUMPTIONS FOR HOUSING PROJECTS IN DOWNTOWN / OAKLAND CENTRAL
OAK TO 9TH PROJECT EIR - NOVEMBER 2004

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	OC/DT Subarea	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/
	PROJECTS TO BE COMPLETED 2000 - 2005 (Post Census 2000)												
O	Le Property Marks Building (senior housing)	1	T	497	497	OC	CC	10	10	SENIOR	380-388 12th St.	2	Under construction 2004
x	YWCA /f/	1		500	500	OC	CC	70	-	GROUP	1515 Webster St.	1	Completed 2000
O	Oak Street Terrace (senior rental)	1	T	519	519	OC	CM	39	38	SENIOR	1109 Oak St.	2	Under construction 2004
	Arioso Project / SNK Development	1		496	496	OC	CT	88	84	DT-2	901 Franklin @ 9th St.	2	Approved 8/00; under construction 3/04
x	Tower Lofts	1		768	72	OC	JLD	24	23	LOFT-1	SW corner 3rd + Alice	1	Completed (not in 2000 Census)
	4th Street Lofts	1		797	87	OC	JLD	61	59	LOFT-1	247 4th	1	Completed (not in 2000 Census)
O	Sierra (former Dreyers)	1	C	797	87	OC	JLD	220	211	DT-1	311 Oak	1	Completed 2004
	New Market Lofts (former Safeway)	1		797	87	OC	JLD	46	44	DT-1	201 4th St. @ Jackson	1	Completed 2001
x	Allegro	1		797	87	OC	JLD	168	162	DT-1	308 Jackson; 189 3rd	1	Completed 2001 (312 total units)
x	Allegro	1		798	87	OC	JLD	144	138	DT-1	2nd to 3rd / Jackson to Madison	1	Completed 2001 (312 total units)
x	Brick House Lofts	1		798	87	OC	JLD	10	10	LOFT-1	SW corner 3rd + Jackson	1	Completed (not in 2000 Census)
C	Harbor View Lofts (Second Street Lofts)	1		798	87	OC	JLD	100	96	LOFT-1	121-129 Second St.	2	Under construction 2004
C	206 Second St. (Miller Smoked Meats)	1		798	87	OC	JLD	70	67	DT-1	206 Second St.	2	Approved/under construction 2004 (part of Housing Opportunity Site DT-40)
	The Landing - Legacy Partners	1		799	87	OC	JLD	282	271	DT-1	99 Embarcadero	1	Completed 2000
	Phoenix Lofts	1		801	481	OC	JLD	31	30	LOFT-2	737 2nd	1	Completed 2000
x	Removal of Housing in Census	1		801	481	OC	JLD	(3)	(3)		2nd to 3rd / Bush to Castro	1	Housing no longer there
	Lake Point Tower / The Essex	1		517	517	OC	KC	270	257	DT-1	108 17th St. @ Lakeshore Blvd.	1	Completed 2002
x	Jackson Courtyard Condominiums	1		518	518	OC	KC	50	48	DT-2	210 14th St. @ Jackson	2	Under construction 10/04
x	Perkins Street Residential Care (Lakeside Park) /f/	1		516	516	OC	LGA	56	-	GROUP	468-484 Perkins @ Bellevue	1	Completed
	Swan's Market	1		71	71	OC	OO	39	38	DT-2	9th & Washington	1	Completed 2001
O	Housewives Market - Phase 1	1	C	491	491	OC	OO	116	111	DT-2	8th/9th/Clay/Jefferson	2	Under construction 10/04
	Preservation Park III / Landmark Place	1		802	68	OC	OO	92	88	DT-1	11th/12th & MLK	1	Completed 2004
	8th & Castro Lofts	1		802	68	OC	OO	18	17	DT-2	8th & Castro	1	Completed 2002
	Gem Building Condos (Eighth Street)	1		802	68	OC	OO	16	15	DT-2	485 8th St.	1	Completed 2000
U	Removal of Housing for Uptown Development	1		70	70	OC	UT	(33)	(26)				
x	425 28th St. / 427 27th St. / The Midtown	1		56	56	OC	VSA	20	19	DT-2	27th/28th/Telegraph/Broadway	1	Completed 2004
x	371 30th St.	1		56	56	OC	VSA	22	21	DT-2	371 30th St.	1	Completed 2003
O	McClure Street Housing	1	N	56	56	OC	VSA	20	19	DT-2	2941/43 McClure St.	1	Completed 10/2004; HEG estimate of units
	Former Sears	1		469	469	OC	VSA	53	51	LOFT-2	27th & Telegraph	1	Completed 2003
	Telegraph Gateway	1		469	469	OC	VSA	50	48	DT-2	2401 Telegraph @ 24th St.	1	Completed 2004
x	Northgate Apartments	1		469	469	OC	VSA	42	41	DT-2	2301 Northgate (23rd + Northgate)	1	Completed 2004
	PROJECTS TO BE COMPLETED 2000 - 2005 TOTAL							**2,191**	**1,987**				

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	OC/DT Subarea	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/
	PROJECTS TO BE COMPLETED 2005 - 2010												
O	City Center T10 / Olson Company	2	C	489	489	OC	CC	251	241	DT-1	13th/14th/MLK/Jefferson	3	Approved 2004; Housing Opportunity Site DT-2
	14th & Harrison Residential (1331 Harrison Project)	2		498	498	OC	CC	98	94	DT-2	1331 Harrison	3	Approved 12/3/03
	1640 Broadway (17th & Broadway)	2		500	500	OC	CC	150	144	DT-1	1640 Broadway	3	Approved 10/01; Assumes mixed use project
C	Jackson Center II	2		519	519	OC	CM	100	96	DT-1	11th/12th/Alice	3	Approved 9/03
O	1018-26 Jackson	2	N	519	519	OC	CM	35	34	DT-1	1018-26 Jackson	5	Predevelopment
O	Broadway/6th/7th - 8 Orchids	2	N	494	494	OC	CT	157	151	DT-2	620-636 Broadway	5	Predevelopment; Howard Johnson's site
O	3rd + Broadway Mixed Use (Roscoe's site)	2	T	768	72	OC	JLD	110	106	DT-1	200-228 Broadway	3	Approved 2002
O	300 Harrison / Signature	2	C	796	72	OC	JLD	91	87	DT-1	3rd + Harrison	3	Approved 2003/04
x	Wheelink	2		797	87	OC	JLD	94	90	DT-1	426 Alice @ 4th St.	3	Approved 2002
O	Rectory at new cathedral	2	N	503	503	OC	KC	6	-	GROUP	2121 Harrison @ Grand	3	Approved 2004
O	Madison Lofts	2	C,T	517	517	OC	KC	76	74	DT-2	160 14th St.	3	Approved 12/03
O	Housewives Market - Phase 2	2	C,T	491	491	OC	OO	86	83	DT-2	8th/9th/Clay/Jefferson	3	Approved 3/04; total of 202 units
O	Castro Courts	2	N	802	68	OC	OO	50	48	DT-2	683 9th St.	5	Predevelopment
O	Forest City Residential / Uptown - apartments	2	C	70	70	OC	UT	700	678	PROJ	San Pablo/Telegraph/20th/18th	3	Approved 2004
O	Uptown - affordable apartments	2	N	70	70	OC	UT	70	69	PROJ	San Pablo/Telegraph/20th/18th	3	Approved 2004
O	Broadway/West Grand Mixed use	2	N	470	470	OC	VSA	475	456	DT-1	NW corner Broadway + West Grand	5	Predevelopment 2004; environmental review underway
O	Removal of housing for Broadway/W. Grand Mixed Use	2	N	470	470	OC	VSA	(16)	(15)		24th St., near Valley St.		
O	2300 Broadway	2	N	504	504	OC	VSA	48	46	DT-1	2300 Broadway	5	Predevelopment
O	Valdez + 23rd / Upper Lake Merritt Residential	2	C,T	504	504	OC	VSA	204	196	DT-1	2315 Valdez @ 23rd	3	Approved 1/02 and modified 2004
	PROJECTS TO BE COMPLETED 2005 - 2010 TOTAL							**2,785**	**2,678**				
	PROJECTS TO BE COMPLETED 2010 - 2020												
x	18th + Jefferson	3		488	488	OC	CC	80	77	DT-2	18th/Jefferson/San Pablo	7	Housing Opportunity Site DT-14
	17th + Harrison	3		499	499	OC	CC	60	58	DT-1	17th + Harrison	7	Housing Opportunity Site DT-6
x	15th + Harrison	3		499	499	OC	CC	70	67	DT-1	15th + Harrison	7	Housing Opportunity Site DT-4
x	13th + Madison	3		518	518	OC	CM	70	67	DT-2	1309 and 1329 Madison	7	Housing Opportunity Site DT-31
x	Channel Area	3		521	521	OC	CM	450	432	DT-1	Oak/5th Ave/Embarcadero/12th St.	7	Housing Opportunity Site DT-11 (Peralta/City)
x	Salvation Army	3		494	494	OC	CT	175	168	DT-2	6th/7th/Franklin	7	Housing Opportunity Site DT-7
x	Channel Area	3		87	87	OC	JLD	100	96	DT-1	Oak/5th/Embarcadero/12th	7	Housing Opportunity Site DT-11
C	Jack London Area (Meyers Plumbing site)	3		768	72	OC	JLD	75	72	DT-1	2nd + Harrison	7	Housing Opportunity Site DT-43
	Jack London Area Lofts (conversions or new constr)	3		796	72	OC	JLD	60	58	DT-1	4th + Alice	7	
x	Jack London Area (Monahan Paper site)	3		798	87	OC	JLD	135	130	DT-1	175 2nd	7	Housing Opportunity Site DT-42
C	Jack London Area (Miller Meat Packing Site)	3		798	87	OC	JLD	60	58	DT-1	2nd / Alice to Jackson	7	Housing Opportunity Site DT-40 (part)
O	Oak to 9th Project - Phase 8	3	N	799	799	OC	JLD	300	288	PROJ	Oak to 9th Parcel N, west of channel	5	Predevelopment 2004; also see Surrounding Areas List for rest of Oak to 9th Project.
x	Old Oakland/Rattos block	3		71	71	OC	OO	100	96	DT-2	8th/9th/Washington/Clay	7	Housing Opportunity Site DT-26
	8th + Washington	3		71	71	OC	OO	40	38	DT-2	8th + Washington	7	Housing Opportunity Site DT-15

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	OC/DT Subarea	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/
x	901 Jefferson	3		491	491	OC	OO	82	79	DT-2	Jefferson/9th/10th	5	Pre-application 2002; Housing Opportunity Site DT-5
x	St. Mary's	3		492	492	OC	OO	75	72	DT-2	MLK/7th/8th	7	Housing Opportunity Site DT-21
x	7th/Clay/Washington	3		493	493	OC	OO	80	77	DT-2	7th/Washington/Clay	7	Housing Opportunity Site DT-36
O	Uptown - condos	3	T	70	70	OC	UT	270	260	PROJ	San Pablo/Telegraph/18th/19th	3	Approved 2004
U	Dones / Berkley Square Project Housing	3		483	483	OC	UT	98	95	DT-2	San Pablo/21st/20th	5	Predevelopment; Housing Opportunity Site DT-27
U	Old Cathedral Site	3		483	483	OC	UT	100	96	DT-2	20th/22nd/San Pablo	7	Housing Opportunity Site DT-19
O	Uptown - student housing	3	T	483	483	OC	UT	400	400	PROJ	Telegraph/20th/21st	5	1000 beds of student housing; assumed in 400 units/hh's for transportation modeling purposes
O	Uptown - faculty housing	3	T	483	483	OC	UT	50	50	PROJ	Telegraph/20th/21st	5	50 units of faculty housing
	Former Sears - Phase II	3		469	469	OC	VSA	200	190	DT-2	27th & Telegraph	7	Housing Opportunity Site DT-8
x	Telegraph Gateway 2	3		469	469	OC	VSA	74	71	DT-2	24th + Telegraph	7	Housing Opportunity Site DT-22
	Grand + Webster	3		504	504	OC	VSA	200	190	DT-1	Valdez + 23rd St. + Webster	7	Housing Opportunity Site DT-9 (Westmark Labor Temple)
x	24th + Webster	3		504	504	OC	VSA	120	115	DT-1	24th/Webster/Valdez	7	Housing Opportunity Site DT-10
x	West Coast Properties	3		504	504	OC	VSA	140	134	DT-1	23rd/24th/Valdez/Waverly	7	Housing Opportunity Site DT-3
	PROJECTS TO BE COMPLETED 2010 - 2020 TOTAL							**3,664**	**3,534**				
	PROJECTS TO BE COMPLETED 2020 - 2025												
x	Merchants Garage	4		497	497	OC	CC	180	173	DT-2	1314 Franklin St.	7	Housing Opportunity Site DT-34
x	Cochran and Celli site	4		498	498	OC	CC	200	192	DT-2	12th + Harrison	7	Housing Opportunity Site DT-13
x	Post Office Parking	4		518	518	OC	CM	140	134	DT-2	13th/14th/Jackson/Alice	7	Housing Opportunity Site DT-24
x	BART - Lake Merritt	4		520	520	OC	CM	200	192	DT-2	8th/9th/Fallon/Oak	7	Housing Opportunity Site DT-23
x	Channel Area	4		521	521	OC	CM	250	240	DT-1	Oak/5th Ave./Embarcadero/12th St.	7	Housing Opportunity Site DT-11
x	Broadway + 7th	4		494	494	OC	CT	60	58	DT-2	7th/8th/Broadway	7	Housing Opportunity Site DT-16
	Jack London Area Lofts (Mid-Block Parking)	4		768	72	OC	JLD	60	58	DT-1	2nd to 3rd / Webster to Harrison	7	Housing Opportunity Site DT-41
x	Jack London Area	4		798	87	OC	JLD	75	72	DT-1	2nd to 3rd / Oak to Madison	7	
x	Flower Warehouse	4		491	491	OC	OO	80	77	DT-2	8th + Jefferson	7	Housing Opportunity Site DT-38
x	Mexicali Rose	4		492	492	OC	OO	100	96	DT-2	7th/8th/Clay	7	Housing Opportunity Site DT-37
x	Greyhound Site	4		803	69	OC	UT	80	77	DT-2	San Pablo/Telegraph/21st/19th	7	Housing Opportunity Site DT-20
x	Valdez Area	4		504	504	OC	VSA	250	240	DT-1	24th/27th/Valdez	7	Housing Opportunity Site DT-12
x	Valdez Area	4		504	504	OC	VSA	350	336	DT-1	23rd/24th/Waverly/Harrison	7	Housing Opportunity Site DT-18
x	27th + Broadway	4		504	504	OC	VSA	100	96	DT-1	26th/27th/Broadway	7	Housing Opportunity Site DT-35
	PROJECTS TO BE COMPLETED 2020 - 2025 TOTAL							**2,125**	**2,041**				
	TOTAL 2000 - 2025							**10,765**	**10,240**				

/a/	Project	Time Period	Change /b/	Oak TAZ	CMA TAZ	Plan Dist	OC/DT Subarea	Units	House Holds /c/	Special Factor	Location	Status /d/	Comments/Status /e/

Notes:
/a/ 'X' in first column indicates updated assumptions compared to original 11/21/00 Cumulative Scenario. 'U' indicates updated assumptions for Uptown Project EIR, May 2003. 'C' indicates updated assumptions for Central Station Project, December 2003. 'O' indicates updated assumptions for Oak to 9th EIR, November 2004.
/b/ Codes indicate change made for Oak to 9th Project EIR. C = change in number of units and/or number of households; N = new project added to list; T = change in time period assumed for development and occupancy.
/c/ Households equal units multiplied by an assumed vacancy factor.
/d/ Status of project: 1 = completed; 2 = under construction; 3 = approved; 4 = affordable housing project in predevelopment; 5 = other projects in predevelopment; 6 = in planning or part of existing plan; 7 = other housing opportunity site.
/e/ Housing Opportunity Sites are those identified in Oakland's Draft Housing Element (September 2002). The numbers (e.g., DT-11) are those used in Housing Element tables.
/f/ YWCA housing for CCAC students, Perkins Residential Care housing for people with Alzheimer's, and clergy housing in the rectory of the new Catholic Cathedral are treated as group quarters in the growth scenario.
For the transportation analyses, the student housing proposed nearthe Uptown Project is treated as households although it could provide group quarters housing.

Source: City of Oakland; Hausrath Economics Group

TABLE D.4-6b
OAKLAND CUMULATIVE GROWTH SCENARIO
ASSUMPTIONS FOR COMMERCIAL/INDUSTRIAL PROJECTS IN DOWNTOWN / OAKLAND CENTRAL
OAK TO 9TH PROJECT EIR - NOVEMBER 2004

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
	PROJECTS COMPLETED 1990 - 2000											
	City Administration - Wilson Building (office)			486	486	OC	CC	165,430	414	400	14th + Broadway	
x	City Administration - Wilson Building (retail)			486	486	OC	CC	4,000	10	400	14th + Broadway	
	City Administration - Dalziel Building (office only)			487	487	OC	CC	225,710	564	400	Frank Ogawa Plaza	
	City Hall			487	487	OC	CC	80,000	200	400	Frank Ogawa Plaza	
	State Building			488	488	OC	CC	600,000	1,500	400	Clay Street	
	Federal Building			489	489	OC	CC	1,000,000	2,500	400	Clay/12th/14th/Jefferson	
	1111 Broadway			490	490	OC	CC	535,000	1,783	300	1111 Broadway	
	UC Office of the President			497	497	OC	CC	232,500	1,000		Franklin/11th to 12th	
	Tribune Tower			497	497	OC	CC	89,000	297	300	13th + Franklin	
	New County Building			519	519	OC	CM		334		Madison + 11th	
x	115 Broadway Office			767	72	OC	JLD	10,000	29	350	115 Broadway	
x	Kimball's Salsa Club			767	72	OC	JLD	10,000	29	350	mid-blk 2nd/3rd near Washington	
x	Upper Floor Entertainment & Add'l Retail/Restaurant (infill)			796	72	OC	JLD	12,000	32	376	Broadway	
x	415 20th Street (LBL Supercomputer)			74	74	OC	KC	70,000	140	500	415 20th Street	
	Caltrans Building			503	503	OC	KC		1,180		Grand/Webster	
	Warriors Practice Facility			71	71	OC	OO	60,000	20		530 10th Street	
x	Washington & 8th Street (renovation)			71	71	OC	OO	68,000	60		Washington + 8th	
x	Swan's Market			71	71	OC	OO				9th/10th/Clay/Washington	
x	Office			71	71	OC	OO	17,000	49	350		
x	Retail			71	71	OC	OO	25,000	55	450		
x	Rattos + others in area (renovations)			71	71	OC	OO		80		Washington	
	Oakland Ice Center			70	70	OC	UT		35		18th + San Pablo	
x	I. Magnin Building (renovation)			484	484	OC	UT	63,000	210	300	20th + Broadway	
x	Sweets Ballroom - Supper Club			485	485	OC	UT	12,000	15	800	Broadway/19th to 20th	
x	Rehabs/infill for office 17th-19th Blk			485	485	OC	UT		100		17th-19th/Broadway to Telegraph	
	PROJECTS TO BE COMPLETED 2000 - 2005											
	Rotunda Building	1		486	486	OC	CC				16th & Broadway	Completed
	Office	1		486	486	OC	CC	187,000	534	350		
	Retail	1		486	486	OC	CC	50,000	111	450		
	17th Street Parking Garage (retail - 500 spaces)	1		486	486	OC	CC	23,000	51	450	16th/17th/San Pablo	Approved 11/02
x	City Administration - Wilson Building (retail)	1		486	486	OC	CC	12,800	32	400	Broadway + 14th	
	Lathan Square Building (renovation)	1		486	486	OC	CC	107,000	122		Telegraph + Broadway	Assumes ~/+ 40%; completed
	City Administration - Dalziel Building (retail)	1		487	487	OC	CC	20,000	44	455	250 Frank Ogawa Plaza	
	Plaza Building	1		487	487	OC	CC	13,000	43	300	Frank Ogawa Plaza	Completed
	518 17th Street (renovation)	1		488	488	OC	CC	32,000	98	325	518 17th St.	
·	Old PG&E Building (renovation)	1		488	488	OC	CC	37,685	116	325	Clay + 17th	Completed
	Shorenstein T9 / 555 City Center	1		489	489	OC	CC				11th to 12th/Clay to Jefferson	Completed 2002
C	Office	1		489	489	OC	CC	450,000	1,500	300		
	Retail	1		489	489	OC	CC	7,500	25	300		

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
O	Tribune Press Building Rehabilitation	1	N	497	497	OC	CC				406-412 12th St.	Approved 2004
O	Retail	1	N	497	497	OC	CC	2,800	8	350		
O	Office	1	N	497	497	OC	CC	6,700	22	300		
O	Document / self-storage	1	N	497	497	OC	CC	45,300	1			
O	Le Property Marks Building - ground floor	1	T	497	497	OC	CC	~4,000	11	350	380-388 12th St.	Under construction 2004
U	Oakland Athletic Club - renovation to office	1		499	499	OC	CC	85,500	263	325	1438 Webster	Completed 2004
	1404 Franklin (renovation)	1		500	500	OC	CC	50,000	43		1404 Franklin	
C	1111 Jackson (former State Building)	1		519	519	OC	CM	111,000	370	300	1111 Jefferson	Completed
	Courtyard Marriott Hotel	1		496	496	OC	CT	150 rooms	75	0.5/rm	9th & Broadway	Completed
O	Arioso Mixed Use	1	C	496	496	OC	CT	6,000	25		900 Broadway/9th St.	Commercial/88 units; completed 2004
	Remove Jack London Village	1		736	72	OC	JLD		(81)		Waterfront JLS	Demolition for upcoming new construction
O	66 Franklin	1	C,T	736	72	OC	JLD					Rehabilitation of existing bldg.; approved 2004
O	Office	1	C,T	736	72	OC	JLD	61,200	204	300		Net change of 13 jobs for total project.
O	Retail/Restaurant	1	C,T	736	72	OC	JLD	32,600	142	230		
x	Jack London Cinema (seat reduction for stadium seating)	1		767	72	OC	JLD		(5)		Washington/2nd to 3rd	Seats reduced from 2,000 to 1,500; completed
O	Metrovation / Terranomics	1	N	767	72	OC	JLD	11,366	35	325	201 Clay St.	Additional office; with existing equals 25,000 s.f.
x	Oak Tree Commercial - retail/restaurant/entertainment	1		768	72	OC	JLD	10,000	33	300	Along Embarcadero	Reuse
x	Terranomics - office (conversion and new)	1		795	72	OC	JLD	31,000	78	400	Clay/3rd to 4th	Completed; removes light industrial
x	Terranomics - Iguana Amerimex Conversions	1		795	72	OC	JLD					
O	Additional Office	1	C	795	72	OC	JLD	60,000	171	350	4th/Jefferson/3rd/MLK	Completed 2004; removes retail
x	Reduced Retail	1		795	72	OC	JLD	(21,000)	(27)		4th/Jefferson/3rd/MLK	
x	Conversion to office	1		795	72	OC	JLD	10,587	35	300	4th + Washington	Government office replaces auto repair use; completed
x	Allegro Housing	1		797	87	OC	JLD	8,500	23	375	3rd and Jackson (2 blocks)	Completed 2001 (13,500 s.f. total commercial)
C	Sierra (former Dreyers)	1		797	87	OC	JLD	30,000	80	375	3rd to 4th / Oak to Madison	Completed 2004
	New Market Lofts (former Safeway) Housing	1		797	87	OC	JLD					Completed
	Office	1		797	87	OC	JLD	6,500	19	325	201 4th St. and Jackson	Ground floor commercial; completed 2002
	Retail/Commercial	1		797	87	OC	JLD	4,500	15	300	201 4th St. and Jackson	Ground floor commercial; completed 2002
x	Allegro Housing	1		798	87	OC	JLD	5,000	13	375	2nd to 3rd / Jackson to Madison	Completed 2001 (13,500 s.f. total commercial)
	Telecommunications Access Facility/Mortenson	1		801	481	OC	JLD	120,000	50		3rd/Brush to Castro	Completed
x	Wakefield Rehab (renovation)	1		74	74	OC	KC	68,000	194	350	17th St. / Broadway to Franklin	Renovation underway in 2000; occupied after 2000
U	20th & Broadway Renovation	1		502	502	OC	KC		200		20th + Broadway	Renovation of existing bank bldg; completed 2002
O	Cox Cadillac / Whole Foods	1	C,T	505	505	OC	LGA	56,000	93	600	Harrison/27th St./Bay Place	Under construction 10/2004; incl. renovation of historic showroom
O	Housewives Market / Residential Mixed-use	1	C	491	491	OC	OO	3,000	9	350	8th/9th/Clay/Jefferson	Ground floor commercial; under construction 10/04
x	Renovations for Office / Ice Center Block	1		70	70	OC	UT	36,000	110	325	510 17th St., 1727 Telegraph, etc.	Completed but not fully occupied; 2002/03/04
O	Berkley Square Project / County Building	1	T	483	483	OC	UT	111,000	350	Avg. 317	San Pablo / 20th to 21st	Includes office, public service, child care, and ground floor commercial uses; approved and under construction 2004
	Sears Building (upper floor office renovation)	1		485	485	OC	UT	180,000	514	350	20th + Broadway	Completed
U	Floral Depot Block - rehabs to office/retail/educational	1		485	485	OC	UT	~25,000	71	350	19th / Broadway to Telegraph	Includes J. Malnick and Big N Tall
x	Telegraph Gateway	1		469	469	OC	VSA	5,300	14	375	2401 Telegraph @ 24th St.	Ground floor commercial; under construction 3/04
O	Retail intensification - Telegraph	1	N	470	470	OC	VSA		45			Expansion of Korean-oriented retailing
	PROJECTS TO BE COMPLETED 2005 - 2010											
U	New Police Headquarters / Center	2		488	488	OC	CC	200,000	850		14th/16th/Jefferson/MLK	Moves from current location on Broadway + 7th
O	City Center T10 Housing - ground floor commercial	2	N	489	489	OC	CC	2,600	8	350	14th/MLK/Jefferson	Approved 2004
	Shorenstein T5/T6	2		490	490	OC	CC				11th/12th/Clay	Approved
C	Office	2		490	490	OC	CC	600,000	2,000	300		

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
	Retail	2		490	490	OC	CC	7,500	25	300		
O	Kerry's Office Supply Building	2	N	497	497	OC	CC				379-381 12th St.	Completed 2004 with shift of employment within TAZ. Employment growth occurs after 2005.
O	Retail	2	N	497	497	OC	CC	3,800	6	600		
O	Office	2	N	497	497	OC	CC	12,000	34	350		
O	Keystone Hotel/Hilton Gardens	2	T	497	497	OC	CC	214 rooms	140	0.65/rm	11th/12th/Broadway	Approved
O	13th and Broadway/Utility Building (renovation)	2	T	497	497	OC	CC	60,000	200	300	13th + Broadway	Underway / on hold
	14th & Harrison Project (1331 Harrison Project)	2		498	498	OC	CC	9,000	23	400	1331 Harrison @ 14th St.	Ground floor commercial; predevelopment
	1640 Broadway Mixed Use	2		500	500	OC	CC				1640 Broadway	Approved; assumes mixed-use project
	Office	2		500	500	OC	CC	177,680	592	300		
C	Retail	2		500	500	OC	CC	4,710	16	300		
C	Potential additional office development	2		500	500	OC	CC	200,000	667	300		Could be in this or nearby TAZ
O	Broadway / 6th / 7th - 8 Orchids	2	N	494	494	OC	CT	3,600	10	350	620-636 Broadway	Residential project with ground floor commercial
O	Embarcadero & Broadway (Site D)	2	C	72	72	OC	JLD				Embarcadero + Broadway	Variant 2b+; approved 2004; replaces 69 jobs
O	Office	2	C,T	72	72	OC	JLD	22,000	73	300		Rest of office absorbed after 2010.
O	Retail/restaurant	2	C	72	72	OC	JLD	6,350	21	300		
O	Cinema	2		72	72	OC	JLD	1700 seats	27			
O	Larger Retail	2	C	72	72	OC	JLD	64,550	144	450		
	Intensification	2		72	72	OC	JLD		81		Along Water St. and Washington St.	Additional retail / restaurant activity
O	Meadow Commercial (Site C) - restaurant uses	2	C,T	72	72	OC	JLD	33,000	165	200	Jack London Square	Approved 2004
O	Site F1 - JLS Phase 2 Area (Harvest Hall)	2	C	736	72	OC	JLD					Approved 2004
O	Office	2	C	736	72	OC	JLD	60,000	200	300		
O	Retail/restaurant	2	C	736	72	OC	JLD	125,000	492	264		
U	Site F3 - JLS Phase 2 Area (Hotel Site)	2		736	72	OC	JLD					Approved 2004
U	Hotel	2		736	72	OC	JLD	250 rooms	213	0.85/rm		
U	Restaurant/Retail	2		736	72	OC	JLD	10,000	39	250		
O	Pavillion 2 - retail	2	C,T	736	72	OC	JLD	10,000	29	350		Approved 2004
x	Union Machine Works - retail/off-price retail	2		767	72	OC	JLD	25,000	63	400	2nd/Clay	Adaptive reuse; could convert to office or residential instead
x	Terranomics - retail expansion	2		767	72	OC	JLD	16,000	40	400	3rd/Jefferson	Expansion into parking lot behind
O	Amtrak Station (Site G)	2	C	768	72	OC	JLD				Embarcadero/Alice/2nd	Approved 2004
O	Retail/restaurant	2	C	768	72	OC	JLD	15,000	59	254		
O	Parking garage	2	C	768	72	OC	JLD		11			
O	3rd & Broadway Mixed Use (Roscoe's site)	2	T	768	72	OC	JLD				3rd + Broadway	Approved 2002; Also includes 110 dwelling units
O	Office	2	T	768	72	OC	JLD	105,000	323	325		
O	Retail/restaurant	2	T	768	72	OC	JLD	9,000	33	275		
x	Office conversion/rehab	2		796	72	OC	JLD	12,000	34	350	4th / Harrison to Alice	Intensification of use in existing space
x	Wheelink Residential - ground floor office	2		797	87	OC	JLD	9,800	30	325	426 Alice @ 4th St.	Approved
C	206 2nd St.	2		798	87	OC	JLD				206 2nd St.	Approved and under construction 2004; Miller Smoked Meats site
C	Residential / Ground floor retail	2		798	87	OC	JLD	1,310	4	325		Housing developed by 2005; job growth follows
C	Live-work space	2		798	87	OC	JLD	2,380	6	400		
C	Second Street Lofts / Harbor View Lofts	2		798	87	OC	JLD	5,190	15	350	121-129 2nd St.	Under construction 2004; housing developed by 2005; job growth follows
U	Bermuda Building site	2		502	502	OC	KC	160,000	533	300	21st & Franklin	Demolished 2004
U	20th & Broadway	2		502	502	OC	KC				20th + Broadway	
U	Office (new)	2		502	502	OC	KC	325,000	1,083	300		Approved
U	Ground floor retail (new)	2		502	502	OC	KC	11,500	29	400		Approved
O	Cathedral of Christ the Light Center	2	N	503	503	OC	KC				2121 Harrison, SW corner Harrison + Grand	Approved 2004; replaces previously approved office tower
O	Sanctuary	2	N	503	503	OC	KC	25,000	-			

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
O	Offices, meeting facilities, retail, support facilities	2	N	503	503	OC	KC	93,000	144			
O	Potential additional office development	2	N	503	503	OC	KC	350,000	1,167	300	21st St. / Webster to Harrison	Site in Kaiser Center Master Plan; could replace Lakepoint Towers development
O	Madison Lofts - retail/commercial	2	N	517	517	OC	KC	2,666	8	350	160 14th St.	Ground floor commercial; approved project
	Grand Ave. Office	2		776	516	OC	LGA	25,000	83	300		
	Old Oakland (infill)	2		71		OC	OO		100			
O	Forest City/Uptown - ground floor commercial on Telegraph	2	C	70	70	OC	UT	14,500	42	350	Telegraph / 19th to 20th	Approved 2004
O	Uptown project / residential and parking maint. + mgmt	2	C	70	70	OC	UT		20		Telegraph/San Pablo/18th/20th	Approved 2004
U	Fox Theater (renovation)	2		70	70	OC	UT				Telegraph / 18th to 19th	In planning 2002/2003
U	Cabaret (~650 seats)	2		70	70	OC	UT		40			
U	Retail/commercial (side bldgs - ground floor)	2		70	70	OC	UT	18,000	51	350		
U	Office (side bldgs - upper floors)	2		70	70	OC	UT	30,100	93	325		
U	Relocated Sears Auto Center	2		484	484	OC	UT	10,000	25		Telegraph/20th to 22nd	To be relocated from TAZ 70 for Uptown Project
U	Floral Depot Block - rehabs to office/retail/educational	2		485	485	OC	UT	~35,000	100	350	19th / Broadway to Telegraph	
U	Additional Infill / Rehab 17th-19th Blk	2		485	485	OC	UT		70		Broadway to Telegraph / 17th to 19th	
O	Mercedes dealership expansion	2	N	56	56	OC	VSA	10,000+	47		370 29th St.	Expanded parts dept. and additional mechanic service bays
O	Broadway / West Grand Mixed Use - retail/commercial	2	N	470	470	OC	VSA	40,000	114	350	Broadway/West Grand/24th St.	New project removes auto-related uses and employment
O	Valdez + 23rd / Residential	2	N	504	504	OC	VSA	5,000	14	350	2315 Valdez @ 23rd St.	Ground floor commercial; approved project
	PROJECTS TO BE COMPLETED 2010 - 2020/2025											
	Shorenstein T12	3		489	489	OC	CC	584,000	1,947	300	11th/12th/Jefferson/MLK	
O	Additional infill/intensification	3	C	497	497	OC	CC		150			Could be in this or nearby TAZ
C	Potential additional office development	3		500	500	OC	CC	250,000	833	300		Could be in this or nearby TAZ
	Intensification	3		72	72	OC	JLD		33			Additional upper floor office uses
O	Embarcadero + Broadway (Site D)	3	C,T	72	72	OC	JLD	80,000	267	300	Embarcadero + Broadway	Absorption of rest of new office space
O	Site F2 - JLS Phase 2 Area	3	C	736	72	OC	JLD					Approved 2004
O	Office	3	C	736	72	OC	JLD	122,500	408	300		
O	Retail/Restaurant	3	C	736	72	OC	JLD	6,600	22	300		
O	Health Club	3	N	736	72	OC	JLD	20,300	17	1,200		
O	Parking garage	3	C	736	72	OC	JLD		7			
	Lower Broadway (reuse and/or new development)	3		767	72	OC	JLD					Removes some existing uses/space
	Office	3		767	72	OC	JLD	120,000	369	325		Allocated to TAZ 767 although could be TAZ 795
	Retail/entertainment/restaurant	3		767	72	OC	JLD	25,000	63	400		Allocated to TAZ 767 although could be TAZ 795
	Rehab and/or intensification	3		767	72	OC	JLD				2nd to 3rd / Jefferson to MLK	Marcus Hardware, Griffco, and nearby bldgs
	Retail	3		767	72	OC	JLD	5,000	13	400		Could be intensification of existing space
	Office	3		767	72	OC	JLD	5,000	15	325		
x	Mixed Use - Meyers Plumbing site / office/commercial	3		768	72	OC	JLD	20,000	67	300	2nd/Harrison to Embarcadero	Replaces lt. Ind.; ground floor commercial/office
	Conversions - Produce District Bldgs - office/retail/restaurant	3		768	72	OC	JLD	75,000	214	350		Replaces lt. Ind.; adds parking
x	Office development (Oak Tree commercial site)	3		768	72	OC	JLD	40,000	123	325	Embarcadero to 2nd / Webster to Franklin	Redevelopment - mid-block area
x	Office intensification	3		795	72	OC	JLD		33		Clay / 3rd to 4th	Intensification of use in existing space
	Conversions - Produce District Bldgs - office/retail/restaurant	3		796	72	OC	JLD	70,000	200	350		Replaces lt. Ind.; adds parking
x	Commercial/office expansion/new	3		797	87	OC	JLD	20,000	57	350	4th + Jackson	Replaces light industrial
x	Commercial/office infill	3		797	87	OC	JLD	15,000	43	350	4th / Madison to Oak	Replaces industrial over longer term
x	Monahan Paper Mixed Use - office/commercial	3		798	87	OC	JLD	20,000	62	325	2nd / Jackson to Madison	Replaces industrial use
C	Office/comm'l in mixed-use development - Miller Meat site	3		798	87	OC	JLD	35,000	108	325	2nd / Alice to Jackson	Replaces industrial; Miller Meat packing site
x	Mixed use development/office/light industrial	3		798	87	OC	JLD	50,000	143	350	2nd to 3rd / Madison to Oak	Replaces industrial

/a/	Project	Time Period	Change /b/	Oakland TAZ	CMA TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
O	Oak to 9th Project - Phase 8	3	N	799	87	OC	JLD				Oak to 9th Parcel N, west of channel	Predevelopment 2004; also see Surrounding Areas List for rest of Oak to 9th Project.
O	Retail/commercial: park-oriented	3	N	799	87	OC	JLD	15,000	38	400	Oak to 9th Parcel N	Predevelopment 2004
O	Project management and maintenance	3	N	799	87	OC	JLD		4		Oak to 9th Parcel N	Predevelopment 2005
O	Removal of existing uses	3	N	799	87	OC	JLD		(50)		Oak to 9th Parcel N	Predevelopment 2006
	Conversions / new development for office/commercial use	3		800	481	OC	JLD	60,000	172	350		Replaces light industrial (-74 jobs)
O	Potential additional office development	3	N	74	74	OC	KC	325,000	1,083	300	20th St. @ Webster or other site	Could replace Lakepoint Towers development
O	Potential additional office development	3	N	503	503	OC	KC	100,000	333	300	20th St. / Webster to Harrison	Site in Kaiser Center Master Plan; could replace Lakepoint Towers development
	Old Oakland (infill)	3		71	71	OC	OO		100			
U	Office development (police headquarters site)	3		493	493	OC	OO	200,000	667	300	Broadway + 7th	New office building on police headquarters site; could also be mixed use development
U	Additional infill / renovations	3		70	70	OC	UT	20,000	72	325	Telegraph / 17th to 18th	
O	Uptown / condo development	3	C,T	70	70	OC	UT	7,500	21	350	Telegraph/San Pablo/18th St./20th St.	Additional commercial - in this project or elsewhere in TAZ
O	Uptown / condo development - maintenance + management	3	C,T	70	70	OC	UT		7		Telegraph/San Pablo/18th St./20th St.	
	Additional infill	3		483	483	OC	UT		70			
O	Uptown / U.C. Housing - ground floor commercial	3	T	483	483	OC	UT	11,000	31	350	Telegraph/20th/21st	
O	Uptown / U.C. Housing - maint. + mgmt	3	T	483	483	OC	UT		30		Telegraph/20th/21st	
	Additional infill/rehab	3		484	484	OC	UT		110			
	Additional infill/rehab	3		485	485	OC	UT		285			
O	Additional entertainment venue	3	N	803	69	OC	UT	18,000	22	800	San Pablo area	Could be on or around Greyhound site
O	Retail/commercial intensification on Telegraph	3	N	470	470	OC	VSA		70			
									8,259			

Notes:
/a/ 'X' in first column indicates updated assumptions compared to original 11/21/00 Cumulative Scenario. 'U' indicates updated assumptions for Uptown Project EIR, May 2003. 'C' indicates updated assumptions for Central Station Project, December 2003. 'O' indicates updated assumptions for Oak to 9th EIR, November 2004.
/b/ Codes indicate change made for Oak to 9th Project EIR. C = change in number of employees, amount of space, and/or number of hotel rooms; N = new project added to list or significantly changed project; T = change in time period assumed for development and occupancy.

Source: City of Oakland; Port of Oakland; Hausrath Economics Group

APPENDIX E

EBMUD Letter Regarding Water Supply Assessment

EAST BAY MUNICIPAL UTILITY DISTRICT

August 12, 2004

Margaret Stanzione, Project Manager
City of Oakland
250 Frank Ogawa Plaza, Suite 3330
Oakland, CA 94607

Dear Ms. Stanzione:

RE: Water Supply Assessment – Oak to Ninth Avenue Mixed Use Development Project

This letter responds to your request of June 3, 2004 for water agency consultation concerning the Oak to Ninth Avenue Mixed Use Development Project (Enclosure 1). The East Bay Municipal Utility District (EBMUD) appreciates the opportunity to provide this response.

Pursuant to Sections 10910-10915 (SB-610) of the California Water Code, the project meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, which would be greater than the amount required by a 500 dwelling unit project.

Please note that this assessment addresses the issue of water supply only and is not a guarantee of service, and future water service is subject to rates and regulations in effect at the time.

Project Demand

The water demands for the Oak to Ninth Avenue Mixed Use Development Project area are accounted for in EBMUD's water demand projections as published in EBMUD's 2000 Urban Water Management Plan (UWMP/Enclosure 2). EBMUD's water demand projections account for anticipated future water demands within EBMUD's service boundaries and for variations in demand-attributed changes in development patterns. The current water demand for the existing land uses in the Oak to Ninth Avenue Mixed Use Development Project area is about 60,000 gallons per day (gpd). The projected demand, based on the projected water consumption by the applicant for the project area, is estimated to be 640,000 gpd and is consistent with EBMUD's demand projections that indicate densification of these types of land uses.

Project Area

The Oak to Ninth Avenue Mixed Use Development Project is located along the Oakland Estuary and consists of approximately 62 acres. The project is bounded by Embarcadero

Road to the north, Oakland Estuary to the south, Fallon Street to the west and 10th Avenue to the east (see Attachment A).

The project under consideration includes up to 3,100 residential units, 200,000 square feet of ground-floor commercial space, 3,500 structured parking spaces and approximately 27 acres of open space.

EBMUD Water Demand Projections

The water consumption of EBMUD customers has remained relatively level in recent years in spite of population and account growth. Between 1987 and the present, consumption has ranged from a high of approximately 220 million gallons per day (mgd) in 1987 to a low of 170 mgd in 1989. Based on extensive forecasting in EBMUD's Water Supply Management Program (WSMP) and recent land use based demand forecasting, the WSMP forecast for 2020 water demand of 277 mgd can be reduced to 229 mgd with successful water recycling and conservation programs that are in place. The Oak to Ninth Avenue Mixed Use Development Project will not change the EBMUD 2020 demand projection.

EBMUD Water Supply and Water Rights

EBMUD has water rights and facilities to divert up to a maximum of 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the prior water rights of other users. EBMUD's position in the hierarchy of Mokelumne River water users is determined by a variety of agreements between Mokelumne River water right holders, the appropriative water rights permits and licenses that have been issued by the State, pre-1914 rights and riparian rights. Conditions that restrict EBMUD's ability to use its 325 mgd entitlement include:

- Upstream water use by prior right holders.
- Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
- Drought, or less than normal rainfall for more than a year.
- Emergency outage.

During periods of drought, runoff from the Mokelumne River is insufficient to supply the 325 mgd entitlement. EBMUD studies indicate that, with its current water supply and the water demands expected in 2020, deficiencies in supply of up to 67 percent could occur during droughts.

EBMUD UWMP

The UWMP, adopted by the Board of Directors in Resolution No. 33242-01, includes planning level analyses at the County- and EBMUD-wide levels for existing and projected water demand. A summary of EBMUD's demand and supply projections in five-year increments is provided in a table (Enclosure 3) from the UWMP. The data reflects the latest actual and forecast values.

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD and State and Federal wildlife agencies. The JSA requires EBMUD to make minimum flow releases from its reservoirs to the lower Mokelumne River to benefit the fishery. As this water is released downriver, it is, therefore, not available for use by EBMUD's customers.

The available supply shown in the table (Enclosure 3) in years 1, 2 and 3 of a multiple-year drought was determined by EBMUD's hydrologic model with the following assumptions:

- EBMUD Drought Planning Sequence is used for 1976, 1977 and 1978.
- Total system storage is depleted by the end of the third year of the drought.
- The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir increase over time.
- Releases are made to meet the requirements of senior downstream water right holders and fishery releases are made according to the JSA.

As discussed under the Drought Management Program section in Chapter 3 of the UWMP, EBMUD's system storage generally allows it to continue serving its customers during dry-year events. EBMUD imposes rationing based on the projected storage at the end of September. By imposing rationing in the first dry year of potential drought, EBMUD attempts to minimize rationing in subsequent years if a drought persists while continuing to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies. Table 3-1 in the UWMP summarizes the guidelines for consumer water reduction goals based on system storage.

In the table (Enclosure 3), "Single Dry" year (or Year 1 of "Multiple Dry Years") is determined to be a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving between 0 to 15 percent reduction in customer demand. Year 2 of Multiple Dry Years is determined to be a year that EBMUD would implement Drought Management Program elements at the "severe" stage with the goal of achieving between 15 to 25 percent reduction in customer demand. In Year 3 of the multiple-year drought, deficiencies from about 48 percent in year 2005 to about 67 percent in year 2020 are forecast to occur. Therefore, a supplemental supply is needed, which is defined by EBMUD as the additional amount of water necessary to limit customer deficiency to 25 percent in a multiple-year drought while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA.

Supplemental Water Supply and Demand Management

The goals of meeting projected water needs and increased water reliability rely on three components: supplemental supply, water conservation and recycled water.

Chapter 2 of the UWMP describes EBMUD's supplemental water supply project alternatives to meet its long-term water demand. To address the need for a supplemental water supply during droughts, EBMUD signed a contract in 1970 with the Federal government for a supplemental supply from the Central Valley Project (CVP). In 2001, EBMUD certified the environmental documentation amending its CVP contract 14-06-200-5183A, reducing EBMUD's contract from 150,000 acre-feet (AF)/year to an annual entitlement not to exceed 133,000 AF. In 2002, EBMUD signed a Memorandum of Agreement with the City of Sacramento, the County of Sacramento and the U.S. Bureau of Reclamation to study a joint regional water project on the Sacramento River near Freeport. The Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) of the Freeport Regional Water Project identifies several regulatory permits and approvals required for the implementation of the project alternatives. These are listed in Table 2-6 of the Freeport Regional Water Project Draft EIR/EIS, July 2003.

Chapter 2 of the UWMP also describes other supplemental water projects, including the development of groundwater storage within EBMUD's service area. EBMUD is studying the environmental impacts of these proposed projects. Specific capital outlay and financing information for these projects are included in EBMUD's FY02-03 Capital Improvement Program and Five-Year Plan. The Freeport project would also allow for a future groundwater conjunctive use component and, along with the proposed local groundwater projects, emergency interties and planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area. Without a supplemental water supply source, continued conservation efforts and further use of recycled water, deficiencies in supply are projected as noted above.

The Oak to Ninth Avenue Mixed Use Development Project presents an opportunity to incorporate many water conservation measures. We appreciate that the City of Oakland has a Article Section, Article 10 of Chapter 7, covering landscape water conservation. Conditions of approval for the implementation of the Oak to Ninth Avenue Mixed Use Development Project should require that the project comply with the Landscape Water Conservation Section of the Municipal Code of the City of Oakland, Article 10 of Chapter 7. EBMUD staff would like the opportunity to meet with staff to discuss water conservation programs and best management practices applicable to the project area. A key objective of this discussion will be to explore timely opportunities to expand conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the project.

The Oak to Ninth Avenue Mixed Use Development Project area is located within the service area boundary of the District's East Bayshore Recycled Water Project. The District anticipates recycled water delivery to the project area by the year 2005 and recommends that the developer of this project discuss with the District the installation of dual plumbing for use of recycled water where feasible.

The project sponsor should contact David J. Rehnstrom, Senior Civil Engineer, at (510) 287-1365 for further information.

Sincerely,

WILLIAM R. KIRKPATRICK
Manager of Water Distribution Planning Division

sb04_265.doc.doc

Enclosures:
1. Letter of Request for Water Supply Assessment dated June 3, 2004
2. EBMUD's 2000 Urban Water Management Plan Area
3. EBMUD's Projected Demand and Available Supply Table

cc: Board of Directors w/o Enclosure 2

Enclosure 1

CITY OF OAKLAND

Community and Economic Development Agency, Planning & Zoning Services Division
250 Frank H. Ogawa Plaza, Suite 3330, Oakland, California, 94612-2032

June 3, 2004

RECEIVED
JUN 7 2004
WATER SERVICE PLANNING

Mr. William Kirkpatrick
East Bay Municipal Utility District
Manager, Water Distribution Planning Division
P.O. Box 24055, MS 701
Oakland, CA 94607

RE: Request for Confirmation of Water Supply Assessment for the proposed Oak-to-Ninth Mixed Use Project, Oakland

Dear Mr. Kirkpatrick:

Per amendments to Section 10912 of the Water Code implemented by Senate Bill 610, the City of Oakland is submitting this request to the East Bay Municipal Utility District (EBMUD) to prepare a water supply assessment. The assessment is required in order to determine whether adequate water supply is available to meet the projected water demand of the proposed Oak-to-Ninth Mixed Use Project. A Notice of Preparation for an Environment Impact Report (EIR) was sent to you on June 1, 2004 with a request for similar information.

The project is proposed on approximately 62 acres of waterfront property owned by the Port of Oakland. It includes up to 3,100 residential units, 200,000 square feet of ground-floor commercial space, 3,500 structured parking spaces, approximately 27 acres of public open space, two renovated marinas, and a wetlands restoration area. The project is proposed to be constructed in phases over approximately ten years.

The City respectfully requests that EBMUD immediately prepare a water supply assessment for the proposed project as on the description in the Notice of Preparation mailed to you earlier. The City acknowledges that this request for an assessment is a required part of the environmental documental for the project. We appreciate your prompt response to this request.

Please contact me if you need additional information. I can be reached at (510) 238-4932 or by email at mstanzione@oaklandnet.com.

Sincerely,

Margaret Stanzione

Margaret Stanzione, Project Manager
Strategic Planning

cc: Patrick Van Ness, Oakland Harbor Partners
Katrina Koh, ESA

Enclosure 3

PROJECTED DEMAND AND AVAILABLE SUPPLY
EAST BAY MUNICIPAL UTILITY DISTRICT
(million gallons per day - mgd)

	2000	2005	2010	2015	2020
Customer Demand[1]	230	242	257	267	277
Adjusted for Conservation[2]	(8)	(14)	(20)	(27)	(34)
Adjusted for Recycled Water[3]	(6)	(9)	(11)	(12)	(14)
Planning Level of Demand	216	219	226	228	229
Available Supply & Need for Supplemental Supply					
Normal Year	>216	>219	>226	>228	>229
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Single Dry Year (Multiple Dry Years - Year 1) Moderate Stage (approximately 7% deficiency)[4]	200	203	210	212	213
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years - Year 2 Severe Stage (approximately 25% deficiency)[4]	162	164	169	171	172
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years - Year 3					
Available Supply	125	114	95	84	77
Deficiency	42%	48%	58%	63%	67%
Supplemental Supply Need[5] (to limit deficiency to 25%)	*87*	*102*	*128*	*142*	*154*

1. *Demand taken from the 2000 Demand Study.*
2. *Conservation water savings goals from the WCMP 1999 Annual Report, 2 mgd in 1999 and 34 mgd for year 2020, linearly interpolated into five-year increments.*
3. *Chapter 5 of UWMP.*
   Note: Conservation and Reclamation savings reported are those attributed to programs which are a part of the 1993 WSMP. Reference Chapter 6 of UWMP.
4. *Drought conditions per Table 3-1, UWMP.*
5. *The supplemental supply need is calculated from modeling studies and is the amount of water needed to limit customer deficiency to 25 percent and to implement all provisions of the 1998 Joint Settlement Agreement.*

APPENDIX F

Applicable Oakland General Plan and Other Agency/Jurisdiction Policies

Oak-to-Ninth Avenue District Policies (*Estuary Policy Plan* excerpt)

APPENDIX F: Applicable Oakland General Plan and Other Agency/Jurisdiction Policies / Oak-to-Ninth Avenue District Policies (*Estuary Policy Plan* excerpt)

The following goals, objectives, and policies in the Oakland General Plan, Redevelopment Plans, and other applicable documents apply to the Oak to Ninth Avenue Project. Additionally, policies that appropriately would be implemented by the City of Oakland or other agencies/jurisdictions, but that pertain to issues or conditions of the project are also included. Inclusion of such policies here is not intended to suggest that the project sponsor would be solely responsible for implementing those policies.

I. Oakland General Plan and Applicable Redevelopment Plans

Land Use and Transportation Element of the Oakland General Plan

The LUTE includes objectives and policies that pertain to five policies areas: Industry and Commerce (I/C), Transportation and Transit-Oriented Development (T), Downtown (D), Waterfront (W), and Neighborhoods (N). Objectives and policies in the Land Use and Transportation Element that apply to the project are stated below. (The project site is not considered to be part of "Downtown Oakland.")

LUTE Industry and Commerce Policies

- Retail uses should be focused in "nodes" of activity, characterized by geographic clusters of concentrated commercial activity, along corridors that can be accessed through many modes of transportation. *(LUTE Policy I/C3.3, Clustering Activity in "Nodes")*

- Existing industrial, residential, and commercial activities and areas which are consistent with long term land use plans for the City should be protected from the intrusion of potentially incompatible land uses. *(LUTE Policy I/C4.1, Protecting Existing Activities)*

- Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable uses, improve the marketability of existing vacant or underutilized sites, and encourage future use and development of these areas with activities consistent with the goals of this Plan. *(LUTE Policy I/C1.9, Locating Industrial and Commercial Area Infrastructure)*

LUTE Transportation and Transit-Oriented Development Policies

- "A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The city will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary." *(LUTE Policy Framework: Encouraging Alternative Means of Transportation)*

- The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible. *(Policy T3.5, Including Bikeways and Pedestrian Walks)*

- The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking. *(Policy T4.1, Incorporating Design Features for Alternative Travel)*

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

LUTE Waterfront Policies

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

- Public access improvements to the waterfront and along the water's edge should be implemented as projects are developed. The access improvement should conform to the requirements of the Bay Conservation and Development Commission. *(Policy W2.3, Providing Public Access Improvements)*

- To create safe access to the water, pedestrian, bicycle, and automobile railroad crossings should be provided where feasible. Crossings could include grade separations, at-grade crossings, skyway bridges, or connections between buildings. *(Policy W2.5, Improved Railroad Crossings)*

- Public Transportation to the waterfront should be encouraged, coordinated, and strategically located. Waterfront transportation should be marketed to enhance ease of access both locally and regionally. *(LUTE Policy W2.7, Encourage Public Transportation)*

- Parking should be developed at key points generally set back from the waterfront to minimize the impact of private automobile use in high-activity areas. Parking structures that incorporate ground floor uses, are available for day and night activities, and allow for shared use, are preferred. *(Policy W2.9, Parking at Key Points)*

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

- Waterfront development should incorporate public, educational and interpretive information for waterfront activities to encourage public knowledge and understanding of the historic, cultural, economic, and environmental context. *(Policy W2.11, Disseminating Public Information*)

- Preserve the high quality and uniqueness of the natural and built environment of the waterfront. *(Objective W3)*

- Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent and in compliance with the 1996 Open Space, Conservation, and Recreation Element of the City's General Plan. *(Policy W3.1, Requiring Consistency with Conservation Objectives and Policies)*

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

- Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced. *(LUTE Policy W3.3, Protecting and Preserving Wetland Plant and Animal Habitats)*

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

- Develop and encourage mixed use areas along the estuary shoreline, while enhancing and promoting economic opportunities in Oakland which take advantage of the waterfront's unique character to attract public uses and activities. *(Objective W9)*

- Mixed use areas are areas or developments where residential uses are integrated with other non-residential uses such as commercial, recreation, and industrial areas. Live/work units are appropriate mixed use developments and unique residential opportunities for the waterfront. *(Policy W9.1, Defining Mixed-use Along the Estuary*)

- Mixed land uses should be encouraged in areas where the integration of housing with other compatible uses will add to the overall environmental, social, and economic vitality of the waterfront, and will create a safe environment. *(Policy W9.2, Encouraging Mixed Land Uses Along the Estuary*)

- Mixed use and residential developments should be sensitive to adjacent properties and designed to enhance the existing and unique characteristics of the waterfront and immediate surroundings. Individual properties should be designed to encourage and provide sufficient public access to the waterfront and designed to avoid the feeling of "gated" or private communities. *(Policy W9.3, Defining Development Characteristics Along the Estuary*)

- Development along the estuary shore should reflect higher intensity mixed use activities and areas at Jack London Square. The balance of development along the estuary should be of lower intensity than at Jack London Square; however, higher density nodes of development may be appropriate at key locations. Access to transportation corridors and transit should be provided. The development intensity should significantly decrease adjacent to Martin Luther King Jr. Regional Shoreline. *(Policy W9.5, Defining Development Intensity Along the Estuary)*

- Housing quality, type, and services should be developed in a manner that is consistent with the policies and requirements of future detailed plans created for the Waterfront; the Housing Element of the General Plan; the City's Building Code; and/or other appropriate codes or regulations. *(Policy W9.6, Developing Housing Along the Estuary: Quality, Type, and Service)*

- The existing residential communities within and adjacent to the waterfront should be supported and enhanced. *(Policy W9.7, Supporting Existing Residential Communities Along the Estuary)*

- Programmed events and activities that take advantage of the unique waterfront setting should be encouraged. Appropriately scaled conference and convention facilities, hotels, etc., and businesses that benefit from the close proximity to the seaport and airport should be encouraged and be consistent with City economic development strategies. These uses may include retail, restaurants, destination entertainment, waterfront related commercial, and recreational services (boat tours, water taxis, etc.). *(Policy W9.8, Taking Advantage of the Unique Waterfront Along the Estuary)*

- Public access along the estuary should be facilitated by commercial and active recreational uses. It is important to have physical access to and between uses and activities along the waterfront, particularly along the shoreline. Opportunities for landscaped and signed linkages along Broadway, Webster, Harrison, and Oak Streets, as well as the Lake Merritt Channel, should be developed for (land and water) auto, bicycle, pedestrian, and public transportation. *(Policy W10.6, Specifying Public Access and Linkages)*

- Enhance and promote economic opportunities in Oakland which take advantage of the waterfront's unique character to attract public uses and activities. *(LUTE Objective W11)*

- The area should reflect its current variety of uses in areas with distinct characteristics. The area around Inner Harbor and 9th Street [sic] Terminal has an artists community mixed with some industrial uses that should be supported. Other uses such as commercial/service uses (restaurants, retail, office, hotel/motel, etc.) may be appropriate as well as marina with support services. *(LUTE Policy W11.2, Defining Embarcadero Cove Land Uses)*[1]

- The development intensity of the area should be moderate with lower use intensity and density than Jack London Square; however, nodes of higher intensity development may be appropriate. Access to transportation corridors and transit should be provided. Development intensity should be sensitive to the open feeling of the marina and view opportunities. Overall development of the area must be sensitive to the close proximity of the water's edge. Properties along the shoreline should be planned, developed, and operated with

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1 The Embarcadero Cove area defined in the LUTE (p.91) spans from Estuary Park to Dennison Street, which includes the project site. The Embarcadero Cove area defined in the Estuary Policy Plan (p.106) spans from the Ninth Avenue Terminal to Con-Agra (approx. 29th Avenue), which does not include the project site.

particular sensitivity to public access. *(LUTE Policy W11.3, Defining Embarcadero Cove Development Intensity and Characteristics)*

- The mixed use character for this area should incorporate a variety of uses throughout, including artist residential use, where appropriate. *(LUTE Policy W11.4, Defining Embarcadero Cove Mixed Use Characteristics)*

- Public access and linkages should be provided from the San Antonio neighborhoods to the Embarcadero Cove. Signage, landscaping, and gateways should be provided, where necessary, to access points and pathways. *(LUTE Policy W11.5, Specifying Public Access and Linkages)*

- Development in this area should be designed to enhance direct access to and along the water's edge, to maximize the waterfront views and vistas, and to make the public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings. *(LUTE Policy W11.6, Defining Embarcadero Cove Design Criteria)*

- Develop and encourage mixed use areas along the estuary shoreline. *(LUTE Objective W12)*

LUTE Neighborhood Policies

- Provide for healthy, vital, and accessible commercial areas that help meet local consumer needs in the neighborhoods. *(LUTE Objective N1)*

- Encourage the construction, conservation, and enhancement of housing resources in order to meet the current and future needs of the Oakland community. *(LUTE Objective N3)*

- Facilitating the construction of housing units should be considered a high priority for the City of Oakland. *(Policy N3.1, Facilitating Housing Construction)*

- In order to facilitate the construction of needed housing units, infill development that is consistent with the General Plan should take place throughout the City of Oakland.*(LUTE Policy N3.2, Encouraging Infill Development*)

- High quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements and procedures. *(LUTE Policy N3.8, Requiring High Quality Design*)

- Residential developments should be encouraged to face the street, and orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure. *(LUTE Policy N3.9, Orienting Residential Development*)

- Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized. *(LUTE Policy N3.10, Guiding the Development of Parking)*

- Residential areas should be buffered and reinforced from conflicting uses through the establishment of performance-based regulations, the removal of non-conforming uses, and other tools. *(LUTE Policy N5.2, Buffer Residential Areas)*

- The City will generally be supportive of a mix of projects that provide a variety of housing types, unit sizes, and lot sizes which are available to households with a range of incomes. *(LUTE Policy N6.1, Mixing Housing Types)*

- Housing developments that increase home ownership opportunities for households of all incomes are desirable. *(LUTE Policy N6.2, Increased Home Ownership)*

- Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height, scenic values, distance from public transit, and desired neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining "compatibility". These factors should be balanced with the citywide need for additional housing. *(LUTE Policy N7.2, Defining Compatibility)*

- Local Streets should be designed to create an intimate neighborhood environment and not support high speed nor large volumes of traffic. Providing on-site parking for cars and bicycles, planting and maintaining street trees, and landscaping, minimizing the width of driveway curb cuts, maintaining streets, bike routes, and sidewalks, and orienting residential buildings toward the street all contribute to the desired environment. *(LUTE Policy N7.4, Designing Local Streets)*

- Direct urban density and mixed use housing development to locate near transit or commercial corridors, transit stations, the Downtown, waterfront, underutilized properties where residential uses do not presently exist but may be appropriate, areas where this type of development already exists and is compatible with desired neighborhood character, and other suitable locations. *(LUTE Objective N8)*

- The height of development in urban residential and other higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development. *(LUTE Policy N8.2, Making Compatible Interfaces between Densities)*

- Identify locations of interest and historic significance by markers, signs, public art, landscape, installations, or by other means. *(LUTE Policy N9.5, Marking Significant Site).*

- Diversity in Oakland's built environment should be as valued as the diversity in population. Regulations and permit processes should be geared toward creating compatible and attractive development, rather than "cookie cutter" development. *(LUTE Policy N9.7, Creating Compatible but Diverse Development)*

- Locations that create a sense of history and community within the City should be identified and preserved where feasible. *(LUTE Policy N9.8, Preserving History and Community)*

- Provide adequate infrastructure to meet the needs of Oakland's growing community. *(LUTE Objective N12)*

- The development of public facilities and staffing of safety related services, such as fire stations, should be sequenced and timed to provide a balance between land use and population growth and public services at all times. *(LUTE Policy N12.1)*

- Adequate public school capacity should be available to meet the needs of Oakland's growing community. The City and the Oakland Unified School District (OUSD) should work together to establish a continuing procedure for coordinating residential and commercial development and exploring residential and commercial development and exploring the imposition of mutually agreed upon reasonable and feasible strategies to provide for adequate school capacity. The City and OUSD should jointly consider where feasible and appropriate, finding mechanisms such as assessment districts, Redevelopment Agency funding (AB 1290), use of surplus, City-owned land, bond issues, and adjacent or shared use of land or school facilities with recreations, libraries, child care and other public uses. *(LUTE Policy N12.2)*

- Electrical, telephone, and related distribution lines should be undergrounded in commercial and residential areas, except where special local conditions such as limited visibility of the poles and wires make this unneeded. They should also be undergrounded in appropriate institutional, industrial, and other areas, and generally along freeways, scenic routes, and heavily traveled streets. Programs should lead systematically toward the eventual undergrounding of all existing lines in such places. Where significant utility extensions are taking place in these areas, such as in new subdivisions, utilities should be installed underground at the start. *(LUTE Policy N12.4, Undergrounding Utility Lines)*

Estuary Policy Plan – An Element of the General Plan[2]

The Estuary Plan contains the following overall objectives for Land Use, Shoreline Access and Public Space, and Regional Circulation and Local Street Network:

- Provide for a broad mixture of activities within the estuary area. *(EPP Land Use Objective 1)*

- Provide for public activities that are oriented to the water. *(EPP Land Use Objective 2)*

- Expand opportunities and enhance the attractiveness of the estuary shoreline as a place to live. *(EPP Land Use Objective 3)*

- Develop the estuary area in a way that enhances Oakland's long-term economic development. *(EPP Land Use Objective 4)*

- Provide for the orderly transformation of land uses while acknowledging and respecting cultural and historical resources when applicable and feasible. *(EPP Land Use Objective 5)*

- Create greater land use continuity between the Estuary waterfront and adjacent inland districts. *(EPP Land Use Objective 6)*

2 The complete text of the "Oak-to-Ninth District" chapter of the Estuary Policy Plan is provided at the end of this Appendix.

- Create a clear and continuous system of public access along the estuary shoreline.*(EPP Shoreline Access Objective 1)*
- Punctuate the shoreline promenade with a series of parks and larger open spaces. *(EPP Shoreline Access Objective 2)*
- Emphasize visual corridors and open space links to surrounding inland areas. *(EPP Shoreline Access* Objective 3)
- Develop opportunities for recreational activities that are oriented to the waterfront and serve identified neighborhood needs. *(EPP Shoreline Access Objective 4)*
- Enhance natural areas along the shoreline. *(EPP Shoreline Access Objective 5)*
- Encourage the development of educational and cultural programs and interpretive facilities the enhance understanding of the waterfront environment. *(EPP Shoreline Access Objective 6)*
- Improve and clarify regional access to Oakland's waterfront. *(EPP Circulation Objective 1)*
- Establish a continuous waterfront parkway; a safe promenade for pedestrians, bicycles, and slow-moving automobiles. *(EPP Circulation Objective 2)*
- Balance through movement with local access along the waterfront. *(EPP Circulation Objective 3)*
- Strengthen local circulation connections between Oakland neighborhoods and the waterfront. *(EPP Circulation Objective 4)*
- Promote transit service to and along the waterfront. *(EPP Circulation Objective 5)*
- Improve pedestrian and bicycle circulation. *(EPP Circulation Objective 6)*
- Provide adequate parking without diminishing the quality of the urban environment. *(EPP Circulation Objective 7)*

The Estuary Plan provides specific land use policies (OAK) for the Oak-to-Ninth Avenue District[3]:

- Protect and enhance the natural and built components that establish the waterfront's unique environment. *(EPP Policy OAK-1)*
  - Encourage the preservation and enhancement of wetland areas. *(Policy OAK-1.1)*

[3] Various maps and text descriptions throughout the Estuary Policy Plan depict varying and generalized boundaries for the "Oak-to-Ninth Avenue" District, however the Oak Street-to-Ninth Avenue Terminal description initially stated in Section 1, Background (*Plan Organization*) of the Estuary Policy Plan is used for purposes of this EIR.

- Provide for continuous pedestrian and bicycle movements along the water's edge. *(EPP Policy OAK-1.2)*
- Undertake remediation of contaminants in conjunction with development and/or improvement of relevant sites. *(EPP Policy OAK-1.3)*

- Establish a well-structured, integrated system of major recreational facilities which accommodate a wide variety of activities and which take advantage of the unique waterfront setting. Promote a variety of recreational experiences. *(EPP Policy OAK-2):*
  - Expand Estuary Park. Encourage aquatic sports within the mouth of Lake Merritt Channel. *(EPP Policy OAK-2.1)*
    - Expand and Rehabilitate Estuary Park.
    - Develop the mouth of Lake Merritt Channel as a protected water space for aquatic sports.
  - Create a major new park on the east side of the mouth of the Lake Merritt Channel, at the Estuary. *(EPP Policy OAK-2.2)*
  - Clinton Basin: Enhance Clinton Basin. *(EPP Policy OAK-2.3)*
    - Rehabilitate the marina.
    - Establish a linear open space composed of a series of smaller parks around Clinton Basin.
    - Provide for a limited number of new recreational slips east of Fifth Avenue.
  - Ninth Avenue Terminal: Establish a large park in the area of the existing Ninth Avenue Terminal to establish a location for large civic events and cultural activities. *(EPP Policy OAK-2.4)*
    - The Port and City should investigate the facility the feasibility of keeping and reusing the building (or portions thereof). A Specific Plan for the entire District should be initiated prior to development.
    - Encourage the mooring of vessels adjacent to the Ninth Avenue Terminal.

- Lake Merritt Channel: Link the Estuary to Lake Merritt by enhancing the Lake Merritt Channel. *(EPP Policy OAK-3)*
  - Create a system of public open spaces that connects Lake Merritt Channel to the Estuary. *(EPP Policy OAK-3.1)*
  - Work with public agencies in the area to extend the open space system inland from the Channel. *(EPP Policy OAK-3.2)*
- Provide for lively, publicly oriented activities that complement the adjacent waterfront parks and open spaces. *(EPP Policy OAK-4)*
  - Preserve and expand the existing Fifth Avenue Point community as a neighborhood of artists and artisan studios, small businesses, and water-dependent activities. *(EPP Policy OAK-4.1)*
  - Promote development of educational and cultural interpretive facilities. *(EPP Policy OAK-4.2)*

    - The Oakland Museum is investigating options to expand and develop the 'Treasure House' concept. An appropriate location for this use would be adjacent to the planned waterfront open space flanking Clinton Basin and the Estuary.

  - Facilitate the relocation of break-bulk cargo operations from the Ninth Avenue Terminal. *EPP Policy OAK-4.3)*
  - Promote the development of commercial-recreational uses in the vicinity of the Crescent Park and Clinton Basin. *(EPP Policy OAK-4.4)*

- Initiate more specific planning of the entire Oak-to-Ninth District. *(EPP Policy OAK-5)*
- Explore the future potential for a new BART station and major parking facility on BART property at Fifth Avenue and East Eighth Street. *(EPP Policy OAK-6)*
- Coordinate with Caltrans on the upgrade of the I-880 Freeway to improve regional access to the waterfront. *(EPP Policy OAK-7)*
- Enhance the Fifth Avenue as the principal pedestrian and vehicular linkage to the public open space surrounding the mouth of the Lake Merritt Channel. *(EPP Policy OAK-8)*
- Improve the Embarcadero east of Oak Street as a multimodal landscaped parkway with bicycle, pedestrian and vehicular facilities. *(EPP Policy OAK-9)*
- Create a network of pedestrian-friendly streets that opens up views and access to the water. *(EPP Policy OAK-10)*
- Design parking to be convenient and complementary to the public orientation of uses within the area. *(EPP Policy OAK-11)*
- Establish a management program for special events access and parking. *(EPP Policy OAK-12)*

Historic Preservation Element (HPE) Goals and Policies

- To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, educational, architectural or aesthetic interest or value. Such properties or physical features include buildings, building components, structures, objects, districts, sites, natural features related to human presence, and activities taking place on or within such properties or physical features. *(HPE Goal 2)*

- Landmark and Preservation District Regulations *(HPE Policy 2.4)*

  (a) Demolitions and removal involving Landmarks or Preservation Districts will generally not be permitted or be subject to postponements unless certain findings are made. Demolition or removal of more important Landmarks and of Preservation District properties will normally not be permitted without the required findings, while demolition or removal of less important Landmarks will be subject only to postponement.

  (b) Alterations or new Construction involving Landmarks or Preservation Districts will normally be approved if they are found to meet the Secretary of the Interior's Standards for the Treatment of Historic Properties or if certain other findings are made.

(c) Findings for approval of demolitions, removals or alterations, or New Construction involving Landmarks or Preservation Districts will seek to balance preservation of these properties with other concerns.

- *Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions.* The City will make all reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of existing or Potential Designated Historic Properties which could result from private or public projects requiring discretionary City actions. *(HPE Policy 3.1)*

- For any project involving complete demolition of Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: (1) the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood; or (2) the public benefits of the proposed project outweigh the benefit of retaining the original structure; or (3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood. *(HPE Policy 3.5)*

- *Property Relocation Rather than Demolition.* As a condition of approval for all discretionary projects involving demolition of existing or Potential Designated Historic Properties, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site. *(HPE Policy 3.7)*

- *Definition of "Local Register of Historical Resources" and Historic Preservation "Significant Effects" for Environmental Review Purposes.* For purposes of environmental review under the California Environmental Quality Act, the following properties will constitute the City of Oakland's Local Register of Historic Resources:

  1) All Designated Historic Properties, and

  2) Those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance.

  3) Until complete implementation of Action 2.1.2 (Redesignation), the "Local Register" will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties. *(HPE Policy 3.8)*

Open Space, Conservation and Recreation Element (OSCAR) Policies

Objectives and policies in the OSCAR address recreation (REC), open space (OS), and conservation (CO).

- Use level of service standards of 10 acres of total parkland and four acres of local-serving parkland per 1,000 residents as a means of determining where unmet needs exist and prioritizing future capital investments. *(OSCAR Policy REC-3.1)*

- Increase the amount of urban parkland in the seven flatland planning areas, placing a priority on land in areas with limited public open space, land adjacent to existing parks, land with the potential to provide creek or shoreline access, land with historical or visual significance, land that can be acquired at no cost or reduced cost, land in areas with dense concentrations of people or workers, and land that is highly visible from major streets or adjacent to public buildings. *(OSCAR Policy OS-2.5)*

- Continue to require new multi-family development to provide useable outdoor open space for its residents. *(OSCAR Policy OS-4.1)*

- To develop a system of linear parks and trails which (a) links existing parks together; (b) provides safe, convenient access to open space from residential areas and employment centers; (c) provides places to hike, bike, and experience Oakland's scenery; and (d) provides a means of moving from one place to another without an automobile. *(OSCAR Objective OS-5)*

- Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront. *(OSCAR Policy OS-5.1)*

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

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

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

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

- On an on-going basis work with the Port, the EBRPD, the State Coastal Conservancy, and the Association of Bay Area Governments to coordinate construction of the Bay Trail on its adopted alignment through Oakland. Wherever feasible, the on-site segments for the Trail should be constructed as part of site development. *(OSCAR Action OS-7.5.2)*

- Particular attention should be paid to (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard. *(OSCAR Policy OS-10.1)*

- New development should minimize adverse visual impacts and take advantage of opportunities for new vistas and scenic enhancement. *(OSCAR Policy OS-10.2)*

- Oakland's underutilized visual resources, including the waterfront, creeks, San Leandro Bay, architecturally significant buildings or landmarks, and major thoroughfares should be enhanced. *(OSCAR Policy OS-10.3)*

- Regulate new development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction activities to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur. *(OSCAR Policy CO-1.1)*

- Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary. *(OSCAR Action CO-1.1.3)*

- Minimize hazards associated with soil contamination through appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site. *(OSCAR Policy CO-1.2)*

- Development on Filled Soils. Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards. *(OSCAR Policy CO-2.3)*

- Require the use of drought tolerant plants to the greatest extent possible and encourage the use of irrigation systems which minimize water consumption. *(OSCAR Policy CO-4.2)*

- Promote the use of reclaimed wastewater for irrigating landscape medians, cemeteries, parks, golf courses, and other areas requiring large volumes of non-potable water. *(OSCAR Policy CO-4.3)*

- Encourage groundwater recharge by protecting large open space areas, maintaining setbacks along creeks and other recharge features, limiting impervious surface where appropriate, and retaining natural drainage patterns within newly developing areas. *(OSCAR Policy CO-5.1)*

- Support efforts to improve groundwater quality, including use of nontoxic herbicides and fertilizers, enforcement of anti-litter laws, cleanup of sites contaminated by toxics, and ongoing monitoring by the Alameda County Flood Control and Water Conservation District. *(OSCAR Policy CO-5.2)*

- Control of Urban Runoff. Employ a broad range of strategies, compatible with the ACCWP, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, improper disposal of household hazardous wastes, illicit dumping, and marina "live-aboards" and (c) improve water quality in Lake Merritt to enhance the lake's aesthetic, recreational, and ecological functions. *(OSCAR Policy CO-5.3)*

- Continue to use the environmental review process to ensure that the future road construction and dredging projects incorporate measures to ensure water quality in potentially impacted lakes, creeks, wetlands, and nearshore waters. Consider developing standard mitigation measures for future road improvements and dredging projects in collaboration with Caltrans and the Port. (*OSCAR Policy CO-5.3.5)*

- Reduce water pollution from sanitary sewer collection and treatment systems, including wastewater collection lines and the regional treatment plant. Continue the systemwide improvement program to correct infiltration and inflow problems in the East Bay Municipal Utility District and City sewer systems. *(OSCAR Action CO-5.3.11)*

- Protect the surface waters of the San Francisco estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas. *(OSCAR Policy CO-6.5)*

- Prohibit bay fill unless there is compelling evidence that its benefits will outweigh the environmental and other costs. In such instances, support compliance with the mitigation requirements of BCDC and other regulatory agencies. *(OSCAR Policy CO-6.6)*

- Discourage the removal of trees on already developed sites unless removal is required for biological safety, or public works reasons. *(OSCAR Policy CO-7.4)*

- Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts. *(OCSCAR Policy CO-8.1*)

- Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas. *(OSCAR Policy CO-9.1)*

- Protect wildlife from the hazards of urbanization, including loss of habitat and predation from domestic animals. *(OSCAR Policy CO-11.1*)

- Protect and enhance migratory corridors for wildlife. Where such corridors are privately owned, require new development to retain native habitat or take other measures which help sustain local wildlife population and migratory patterns. *(OSCAR Policy CO-11.2*)

- Promote land use patterns and densities which help improve regional air quality conditions by: a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, and office development with ground-floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis. *(OSCAR Policy CO-12.1)*

- Maintain a coordinated bus, rail, and ferry transit system which provides efficient service to major destinations and promotes alternatives to the single passenger auto. *(OSCAR Policy CO-12.2)*

- Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single-passenger autos. *(OSCAR Policy CO-12.3*)

- Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: (1) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy sources and energy conservation measures; (c) designs which encourage transit use and facilitate bicycle pedestrian travel. *(OSCAR Policy CO-12.4)*

- Require construction, demolition and grading practices which minimize dust emissions. *(OSCAR Policy CO-12.6)*

- Encourage site plans for new development which maximize energy efficiency. *(OSCAR Policy CO-13.3)*

Oakland Safety Element Policies

- Continue, enhance or develop regulations and programs designed to minimize seismically related structural hazards from new and existing buildings. (*Safety Policy GE-3*)

- Maintain and enhance the city's capacity to prepare for, mitigate, respond to, and recover from disasters and emergencies. *(Safety Policy PS-1)*

- Minimize the potential risk to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials. (*Safety Policy HM-1*)

- Continue to strengthen city programs that seek to minimize the storm-induced flooding hazards. *(Safety Policy FL-2)*

- Minimize further the relatively low risks from non storm-related forms of flooding. *(Safety Policy FL-4)*

Housing Element Policies

- The City of Oakland will strive to meet its fair share of housing needed in the region. (*Housing Element Policy 1.7*)

- Seek voluntary agreements with private developers of market rate housing to include units affordable to lower-income households, especially those projects involving Redevelopment Agency support or requiring major planning approvals. (*Housing Element Policy 2.4*)

- The City will undertake a number of efforts to distribute assisted housing widely throughout the community and avoid the over-concentration of assisted housing in any particular neighborhood, in order to provide a more equitable distribution of households by income and by race and ethnicity. (*Housing Element Policy 2.11*) **[NOTE TO REVIEWER: City recommended addition of this policy. Confirm its applicability.]**

- Develop and promote programs to foster the incorporation of sustainable design principles, energy efficiency and Smart Growth principles into residential developments. *Housing Element Policy 7.1*)

- Continue to direct development toward existing communities and encourage infill development at densities consistent with the surrounding communities. (*Housing Element Policy 7.3*)

- Work with developers to construct new housing that reduces the footprint of new construction, preserves green spaces, and supports the use of public transit. (*Housing Element Policy 7.4*)

- Encourage a mix of land uses in the same zoning district or on the same site in certain zoning districts. (*Housing Element Policy 7.5*)

Noise Element Policies

The Noise Element contains two types of policy statements: policies and actions:

- Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment. *(Noise Element Policy 1)*
- Use the noise-land use compatibility matrix (Figure 6) in conjunction with the noise contour maps (especially for roadway traffic) to evaluate the acceptability of residential and other proposed land uses and also the need for any mitigation or abatement measures to achieve the desired degree of acceptability. *(Noise Element Action 1.1)*
- Reduce the community's exposure to noise by minimizing the noise levels that are received by Oakland residents and others in the City. *(Noise Element Policy 3)*
- Demand that Caltrans implement sound barriers, building retrofit programs and other measures to mitigate to the maximum extent feasible noise impacts on residential and other sensitive land uses from any new, widened or upgraded roadways; any new sound barrier must conform with City policies and standards regarding visual and aesthetic resources and quality. *(Noise Element Action 3.3)*

Bicycle Master Plan Policies

- Seize opportunities to improve bicycle access to the Oakland waterfront through completion and implementation f 1) the Estuary Policy Plan, 2) the Bay Trail alignment, and 3) joint City, Port, and BCDC's Public Access Plan. (BMP Action 4.4, *The Waterfront*)

- Upgrade the existing path along the Lake Merritt Channel from Lake Merritt to the Bay Trail… (BMP Action 4.6, *Channel Pathway*)

Pedestrian Master Plan Policies

- Improve pedestrian crossings in areas of high pedestrian activity where safety is an issue (PMP Policy 1.1, *Crossing Safety*).

- Use traffic signals and their associated features to improve pedestrian safety at dangerous intersections (PMP Policy 1.2, *Traffic Signals*).

- Strive to maintain a complete sidewalk network free of broken or missing sidewalks or curb ramps (PMP Policy 1.3, *Sidewalk Safety*).

- Create and maintain a pedestrian route network that provides direct connections between activity centers (PMP Policy 2.1, *Route Network*).

- Implement pedestrian improvements along major AC Transit lines and at BART stations to strengthen connections to transit (PMP Policy 2.3, *Safe Routes to Transit).*

- Encourage the inclusion of street furniture, landscaping, and art in pedestrian improvement projects (PMP Policy 3.1, *Streetscaping*).

- Promote land uses and site designs that make walking convenient and enjoyable (PMP Policy 3.2, *Land Use*).

Scenic Highways Element Policies

- Urban development should be related sensitively to the natural setting. *(Scenic Highways Element Policy 2)*

- Overhead utilities should be undergrounded along all freeways, scenic routes, and major streets...*(Scenic Highways Element Policy 6)*

Central City East Redevelopment Plan Goals

Central City East Redevelopment Plan goals:

- Stimulating in-fill development and land assembly opportunities on obsolete, underutilized and vacant properties within the Project Area
- Stimulating opportunities for adaptive re-use and preservation of existing building stock in the Project Area
- Attract new businesses and retain existing businesses in the Project Area, providing job training and employment opportunities for Project Area residents
- Improve transportation, open space, parking, and other public facilities and infrastructure throughout the Project Area
- Stimulate home ownership opportunities in the Project Area
- Improve the quality of the residential environment by assisting in new construction, rehabilitation and conservation of living units in the Project Area, including units affordable to low and moderate income households
- Revitalize neighborhood commercial areas and strengthen retail in the Project Area

Central District Urban Renewal Plan Goals

Central City East Redevelopment Plan goals:

- To strengthen the Project Area's role as an office center and historically a major regional retail center;

- To establish the Project Area as a cultural entertainment center;

- To re-establish residential areas for all economic levels, providing employment and other economic benefits for Project Area residents;

- To restore historically-significant structures; and
- To improve environmental design; to provide adequate infrastructure; and to support transit-oriented development.

II. Other Applicable Policies

San Francisco Bay Plan and *San Francisco Bay Area Seaport Plan Policies*

- To assure the benefits of fish, other aquatic organisms and wildlife for future generations , to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased. *(Fish, Other Aquatic Organisms and Wildlife,* Policy #1*)*
- New projects should be sited, designed, constructed and maintained to prevent or, if prevention is infeasible, to minimize the discharge of pollutants into the Bay by: (a) controlling pollutant sources at the project site; (b) using construction materials that contain non-polluting materials; and (c) applying appropriate, accepted and effective best management practices, especially where water dispersion is poor and near shellfish beds and other significant biotic resources. *(Water Quality,* Policy #3*)*
- Whenever practicable, native vegetation buffer areas should be provided as part of a project to control pollutants from entering the Bay, and vegetation should be substituted for rock riprap, concrete, or other hard surface shoreline and bank erosion control methods where appropriate and practicable. *(Water Quality,* Policy #7*)*
- To minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed developments should be sufficiently high above the highest estimated tide level for the expected life of the project. *(Safety of Fills* Policy #5*)*
- Dredging and dredged material disposal should be conducted in an environmentally and economically sound manner... *(Dredging,* Policy #1*)*
- The following general standards have been used in determining locations for each type of recreational facility (and should be used as a guide in allowing additional ones):

  Marinas. Marinas should be allowed at any suitable site on the Bay. Unsuitable sites are those that tend to fill up rapidly with sediment; have insufficient upland; contain valuable marsh, mudflat, or other wildlife habitat...At suitable sites, the Commission should encourage new marinas, particularly those... not containing valuable wetlands. (2) Fill should be permitted for marina facilities that must be in or over the Bay, such as breakwaters, shoreline protection, boat berths, ramps, launching facilities, pumpout and fuel docks, and short-term unloading areas. Fill for marina support facilities may be permitted at sites with difficult land configurations provided that the fill in the Bay is the minimum necessary and any unavoidable loss of Bay habitat, surface area, or volume is offset to the maximum amount feasible, preferably at or near the site. (3) No new marina or expansion of any existing marina should be approved unless water quality and circulation will be adequately protected and, if possible, improved, and an adequate number of vessel sewage pumpout facilities that are convenient in location and time of operation to recreational boat users should be provided free of charge or at a reasonable fee, as well as receptacles to dispose of waste oil. (4) In addition, all projects approved should provide public amenities such as viewing areas, restrooms, and public parking; substantial physical and visual access; and maintenance for all facilities. Frequent dredging should be avoided. *(Excerpt from Recreation On and Around the Bay,* Policy #4a*)*

Water-oriented commercial-recreation. Water-oriented commercial-recreational establishments, such as restaurants, specialty shops, theaters, and amusements, should be encouraged in urban areas adjacent to the Bay. Some suggested locations for this type of activity are indicated on the Plan maps. Effort should be made to link commercial-recreation centers (and major shoreline parks) by a fleet of small, inexpensive ferries similar to those operating on some European lakes and rivers. *(Excerpt from Recreation On and Around the Bay,* Policy #4b*)*

- To assure optimum use of the Bay for recreation, the following facilities should be encouraged in shoreside parks and in or near yacht harbors or commercial ferryboat facilities:

  In waterfront parks. (2) To capitalize on the attractiveness of their bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, viewpoints, beaches, and fishing facilities... (4) Public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible...(7) Trails that can be used as components of the San Francisco Bay Trail...should be developed in waterfront parks...(8) Bus stops, kiosks and other facilities to accommodate public transit should be provided in waterfront parks to the maximum extent feasible. Public parking should be provided in a manner that does not diminish the park-like character of the site. Traffic demand management strategies and alternative transportation systems should be developed where appropriate to minimize the need for large parking lots and to ensure parking for recreation uses is sufficient...(9) Interpretive information describing natural, historical and cultural resources should be provided in waterfront parks where feasible. *(Excerpt of Recreation On and Around the Bay* Policy #5a*).*

  In all recreation facilities. Access to marinas, launch ramps, beaches, fishing piers, and other recreation facilities should be clearly signed and easily available from parking reserved for the public or from public streets. *(Excerpt from Recreation On and Around the Bay,* Policy #5b*).*

  In addition to the major recreational facilities indicated on the Plan maps, public access should be included wherever feasible in any shoreline development, as described in the policies for Public Access to the Bay. That policy is intended to result in much more access to the Bay than can be provided by public parks alone, especially in urban areas, and to encourage private development of the shoreline. (*Recreation On and Around the Bay,* Policy #7)

  Because of the need to increase the recreational opportunities available to Bay Area residents, small amounts of Bay filling may be allowed for shoreline parks and recreational areas that provide substantial public benefits and that cannot be developed without some filling. (*Recreation On and Around the Bay,* Policy #9)

- 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. *(Excerpt from Public Access,* Policy 2*).*

- 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. (*Public Access,* Policy #8)

- 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. (*Public Access,* Policy #11)

- 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. (*Appearance, Design, and Scenic Views,* Policy #1)

- 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 area, from the Bay itself, and from the opposite shore...(*Appearance, Design, and Scenic Views,* Policy #2)

- 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...(*Appearance, Design, and Scenic Views,* Policy #4)

- Shoreline developments should be buil[t] in clusters, leaving open area around them to permit more frequent views of the Bay...(*Appearance, Design, and Scenic Views,* Policy #2)

- Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a "first view" of the Bay (shown in Bay Plan Maps). (*Appearance, Design, and Scenic Views,* Policy #14)

- Shore areas not proposed to be reserved for a priority use should be used for any purpose (acceptable to the local government having jurisdiction) that uses the Bay as an asset and in no way affects the Bay adversely. This means any use that does not adversely affect enjoyment of the Bay and its shoreline by residents, employees, and visitors within the site area itself or within adjacent areas of the Bay or shoreline. *(Other Bay and Shoreline Uses,* Policy #1)

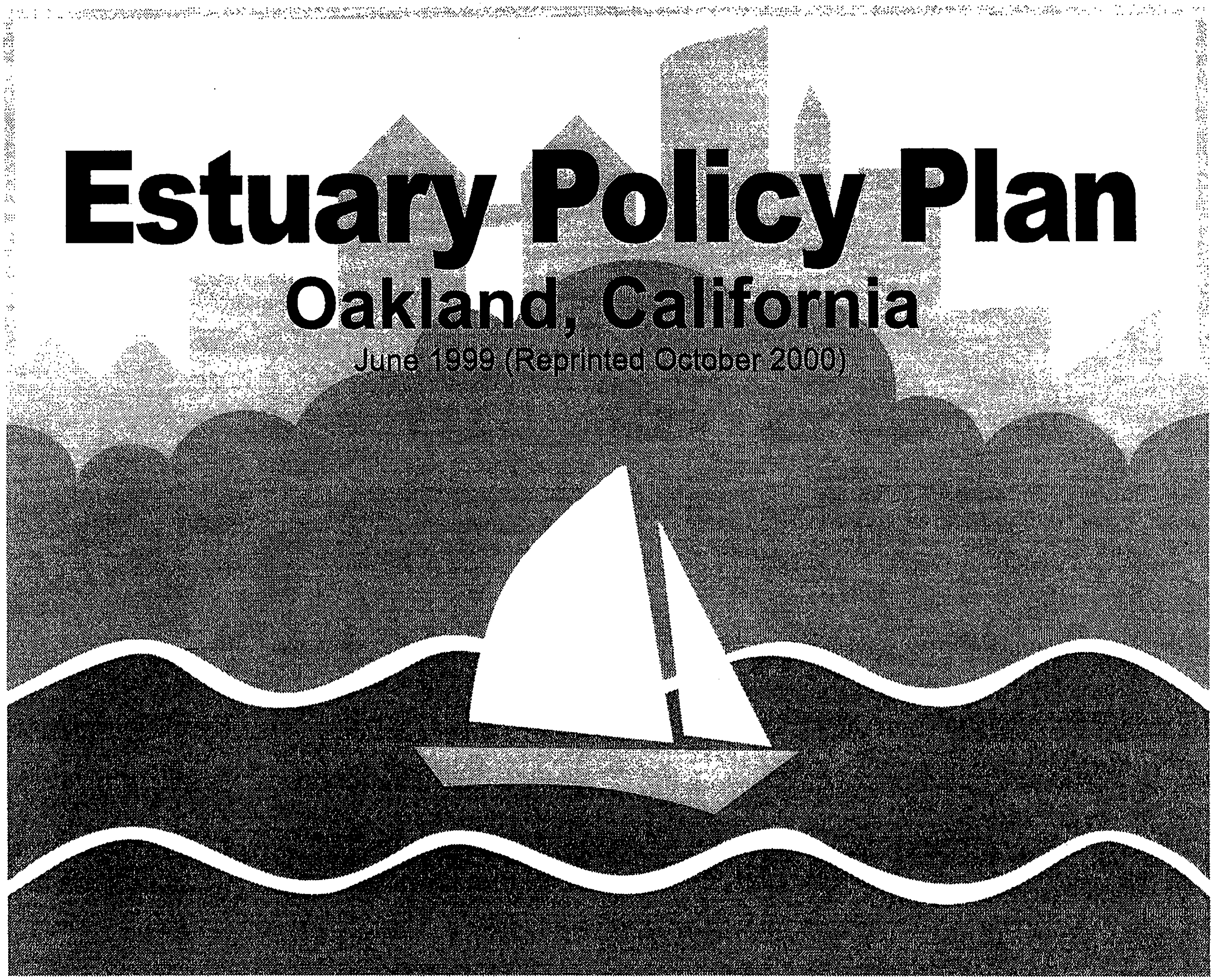
- Wherever waterfront areas are used for housing, whenever feasible, high densities should be encouraged to provide the advantages of waterfront housing to larger numbers of people. *(Other Bay and Shoreline Uses,* Policy #3)

- Power distribution and telephone lines should either be placed underground (or in an attractive combination of underground lines with streamlined overhead facilities) in any new residential, commercial, public, or view area near the shores of the Bay. *(Other Bay and Shoreline Uses,* Policy #6)

Estuary Policy Plan

Oakland, California

June 1999 (Reprinted October 2000)



CITY OF OAKLAND

PORT OF OAKLAND

Oak - to - Ninth Avenue District

The "Oak - to - Ninth Avenue" District of the Estuary planning area is situated south of I-880, east of Oak Street, and west of Embarcadero Cove. Encompassing approximately 120 acres, the district includes two distinct subareas separated by the Embarcadero and the main line rail corridor. They are the properties between Fifth and Ninth Avenues, projecting into the Estuary south of the Embarcadero. The district includes Estuary Park, the landside areas between Oak Street and Lake Merritt Channel, and the Ninth Avenue Terminal.

Although the Oak - to - Ninth District does not appear markedly different than it did several years ago, it has, in fact, undergone a number of changes. Historically, this portion of the Estuary waterfront primarily served as an industrial and warehousing support district, oriented to and served by the Union Pacific main line rail tracks and the cargo handling facilities at the Ninth Avenue Terminal. As such, it is isolated from the surrounding urban community, perhaps more than other reaches of the study area. The district is criss-crossed by rail tracks, the freeway, and the Lake Merritt Channel, all of which have become barriers to movement.

Today, the Oak-to-Ninth District is still dominated by warehousing, manufacturing, distribution , storage and transportation activities. However, historic waterfront industries have declined, and waterfront properties have begun the process of industrial conversion. New, smaller scale and nontraditional uses have also emerged within existing underutilized warehouse and industrial buildings to create a lively enclave of artist studios and artisan workshops.

Changes in transportation will create new opportunities for reuse and revitalization. With the consolidation of the Southern Pacific and Union Pacific railroads, the rail tracks along Third Street have been abandoned, providing the opportunity to extend Third Street eastward near West Oakland and will improve bicycle and pedestrian accessibility from the Estuary to Mandela Parkway.

Caltrans' planned seismic upgrade project for the Fifth Avenue interchange at I-880 could be designed to improve local accessibility and help achieve a better alignment for Fifth Avenue as well as an improved interchange. Finally, the prospect of consolidating maritime activities in the Outer Harbor provides a tremendous opportunity to improve the Ninth Avenue Terminal for greater public access and use.

Several unique circumstances within this district afford opportunities for positive changes that could benefit the entire community.

First, there is a considerable amount of public land. For example, Estuary Park is a significant public asset which can and should be upgraded. It has a historic relationship with nearby Lake Merritt and the Lake Merritt Channel, and there is now a chance to finally reconnect Lake Merritt with the Estuary. These opportunities offer the distinct opportunity to realize long-held community objectives for the creation of a major open space of citywide scale and significance.

With ambitious plans to change land use, this area of the shoreline could be converted into a large-scale network of open spaces and economic development that extend for over 60 acres from Estuary Park to Ninth Avenue. The assemblage of parkland would create the major open space resource in Oakland and, at the same time, establish a recreation asset of regional significance. In areas adjacent to the open spaces, additional development of hotels, cultural activites, and other attractions that take advantage of the unique setting, could help to energize the entire district. And, the

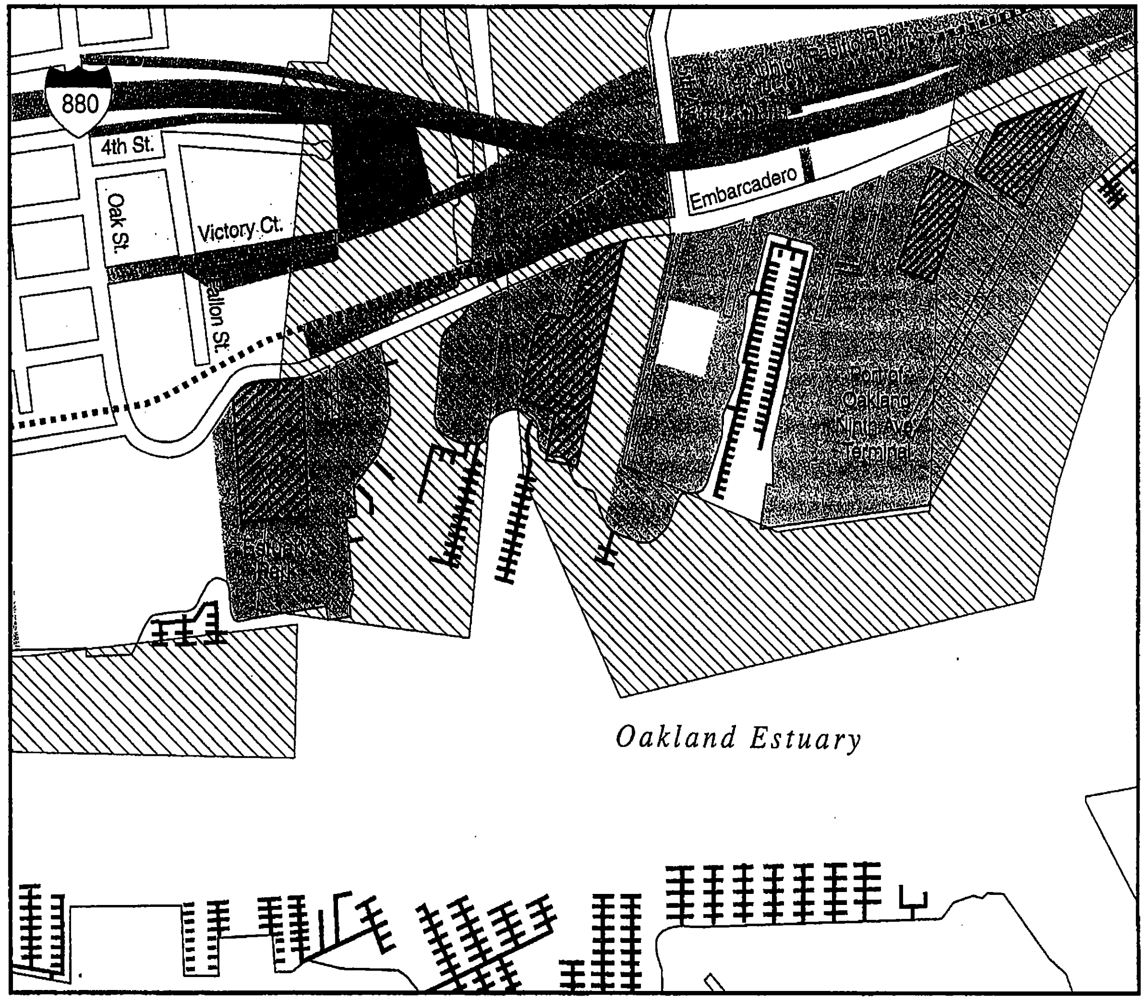


FIGURE III-8: **Oak to 9th District Current Ownership**

Port of Oakland
City of Oakland
Alameda County
Public/Quasi Public Utilities
Port Leases Beyond 2000
Private
Railroad
Tidelands Trust

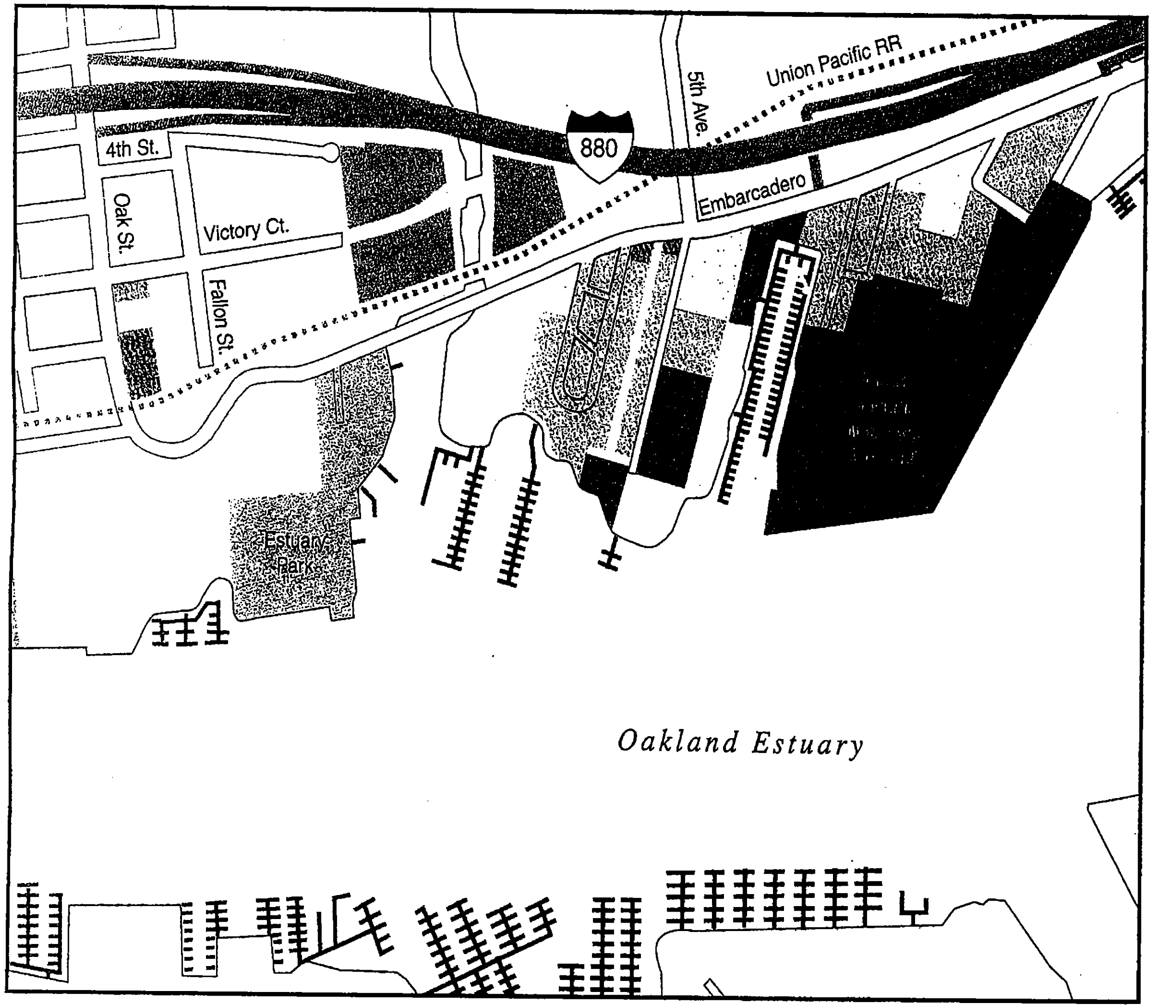


FIGURE III-9: **Oak to 9th District Existing Land Use**

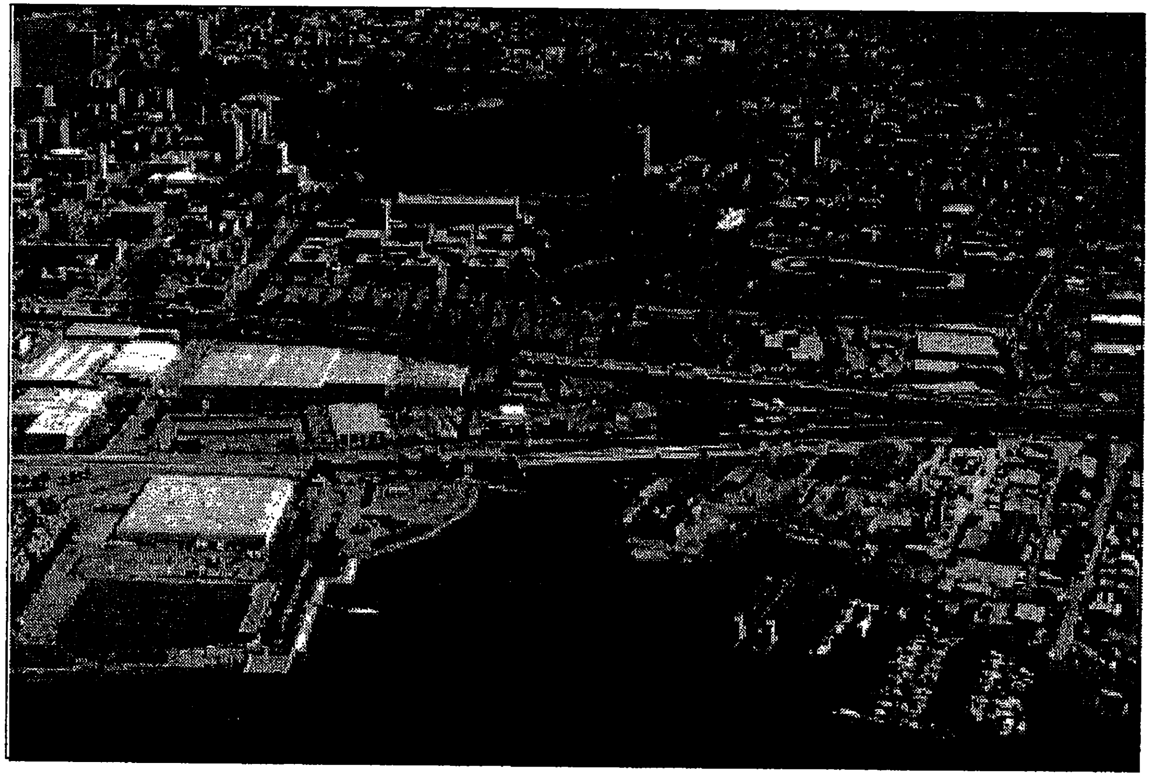
- RDE - Retail, Dining and Entertainment
- Wholesale and Off Price Retail
- Office
- Hotel/Motel
- Mid to High density Residential above 20 du/acre
- Low Density Residential up to 20 du/acre
- Public/Quasi-Public Institution
- Warehousing
- Light Industrial
- Heavy Industrial
- Open Space
- Tidal Marsh
- Vacant

artisan community that currently exists in the area can continue to play a valuable role in the life of the area, and the City.

SHORELINE ACCESS & PUBLIC SPACES

Shoreline access and public space policies are intended to establish this area of the Estuary as the major recreational destination in the city. The Estuary Policy Plan recommends a series of large open spaces, intended to provide for a wide variety of recreational experiences. Developing a series of well-defined open spaces would change the entire nature of the waterfront in this area, transforming it from an industrial backwater into a recreational centerpiece of the city. In total, these sites would represent one of the most significant additions of urban parkland within the entire Bay Area. They would create both a regional and local asset of major proportions.

These spaces are intended to be connected to each other and to a larger city-wide system of trails and parks. Policies recommend strong links to inland communities, Lake Merritt, and Lakeside Park, by enhancing the Lake Merritt Channel. Furthermore, the policies recognize the importance of preserving the area's wetlands, wildlife habitat and other natural features.



A continuous open space and public access link is planned between Lake Merritt and the Estuary.

POLICY OAK-1: PROTECT AND ENHANCE THE NATURAL AND BUILT COMPONENTS THAT ESTABLISH THE WATERFRONT'S UNIQUE ENVIRONMENT.

The Oak-to-Ninth reach of the waterfront has the potential to offer many recreational experiences, in both natural and developed settings. Given the scale and variety of environments encompassed by this segment of the waterfront, many kinds of recreational activity can take place. While it is advantageous to promote recreationaly activities, the sites' waterfront location is unique. It is important to focus first on preserving the intrinsic qualities of the shoreline, and to insure that the envi-

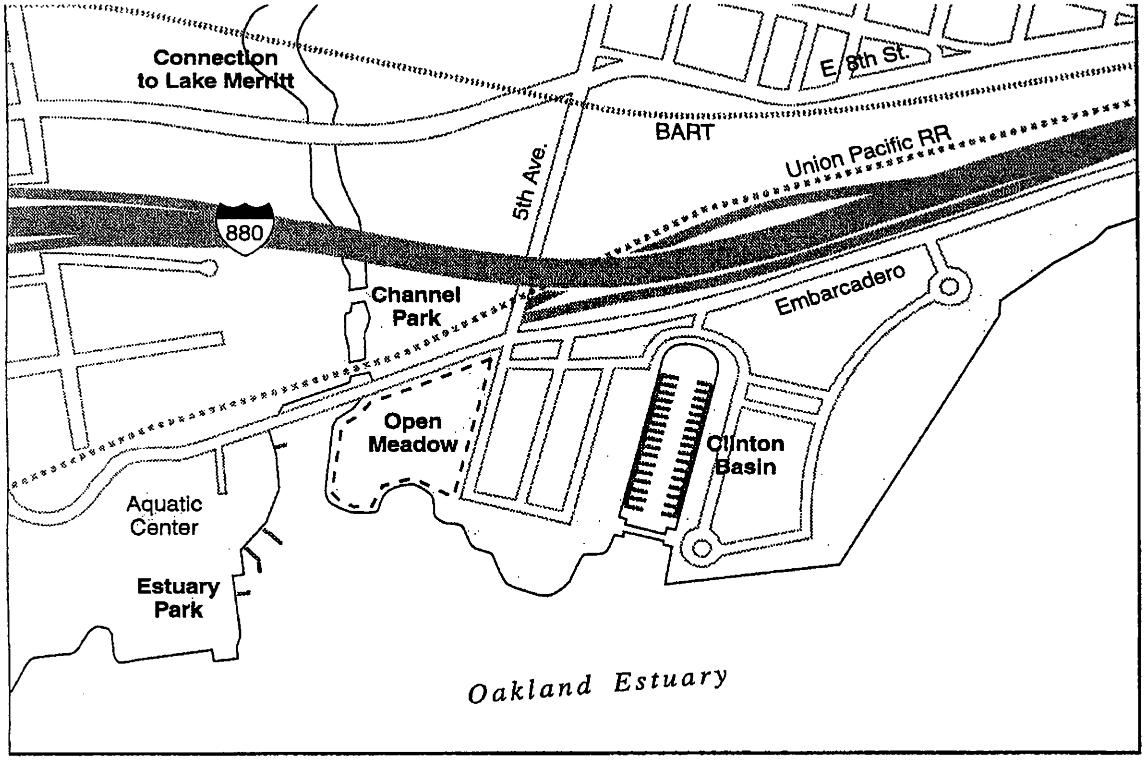


FIGURE III-10: Oak to 9th District Illustrative Open Space Key Map

ronmental values of the site are not compromised.

OAK-1.1: Encourage the preservation and enhancement of wetland areas. The waterfront should be improved in a manner that maintains and enhances the ecological value of the area in general and the Lake Merritt Channel in particular. In some locations, tidelands function as tidal wetlands, providing marsh habitat for fish, migratory waterfowl, and other animals.

Improvements should be encouraged that restore wetland and marsh habitat. Wetlands should be protected by such treatments as setting back trails from the shoreline, installing suitable buffer planting to prevent disruption to nesting and resting areas, seasonal routing of pedestrians to avoid sensitive habitats, etc. As improvements and projects are considered, the City and Port should work with interested groups and organizations to ensure appropriate treatments along the shoreline, particularly along the channel on the eastern bank between I-880 and Embarcadero.

OAK-1.2: Provide for continuous pedestrian and bicycle movement along the water's edge. In this and other areas of the Estuary, continuous bicycle and pedestrian movement is essential to achieving goals for access and implementation of the Bay Trail.

In this district, pedestrian and bicycle movement should be emphasized on all local streets. A network of facilities should provide for pedestrian and bicycle routes as close to the shoreline as possible. It should offer a range of experiences that take advantage of the varying water spaces along the shoreline.

To reduce the barrier effect of channels and waterways that penetrate the land in this area, the existing Embarcadero bridges should be improved across the Lake Merritt Channel on the south side of the Embarcadero, to provide for pedestrian and bicycle routes.

OAK-1.3: ***Undertake remediation of contaminants in conjunction with development and/or improvement of relevant sites.*** Typical of many waterfront areas that have historically been in intensive industrial use, contamination has been documented within this district. It will be a consideration in redevelopment of the sites identified.

To date, parties have undertaken initial efforts to characterize surface soil, subsurface soil and groundwater within the Oak to Ninth area. Further investigations should be undertaken to more accurately characterize contamination, and to determine the most appropriate and cost-effective remediation methods that can achieve reuse objectives for this area in a timely and coordinated fashion.

The level and type of soil and groundwater cleanup should be commensurate with the recommended re-use of the affected sites.

POLICY OAK-2: ESTABLISH A WELL-STRUCTURED, INTEGRATED SYSTEM OF MAJOR RECREATIONAL FACILITIES WHICH ACCOMMODATE A WIDE VARIETY OF ACTIVITIES AND WHICH TAKE ADVANTAGE OF THE UNIQUE WATERFRONT SETTING. PROMOTE A VARIETY OF RECREATIONAL EXPERIENCES.

There are opportunities to create several new public spaces and facilities, as discussed below. In keeping with their size, location and regional significance, they should not be developed as isolated elements. Rather, they should be developed as an integrated system extending along the shoreline and inland to Lake Merritt and other parts of the city. Looking at them from west-to-east:

Estuary Park & Mouth of Lake Merritt Channel

OAK-2.1: ***Expand Estuary Park. Encourage aquatic sports within the mouth of Lake Merritt Channel.*** Currently, the 5.5-acre Estuary Park is the only public open space within the Oak-to-Ninth area, and one of the few parks on the entire waterfront that is close to activity centers. Although it provides access to the water and is used intensively, it also suffers from a lack of accessibility and visibility.

- ❑ *Expand & Rehabilitate Estuary Park.* If Estuary Park is to fulfill its potential, it is important to make it more visible from the Embarcadero. It should be expanded and extended to the street, adding to the total amount of useable public space and improving park security.

  The entire park (including the expansion area) should be improved. It should be designed and programmed so that it can accommodate the planned Aquatic Center (see below) and a large space suitable for a wide range of informal and organized field sports such as soccer.

  The existing fishing pier, shoreline seating area, and boat launch provide opportunities to use and appreciate the water as a recreational resource. They should be maintained. Consideration should be given to providing places to observe major civic celebrations and water related festivals (e.g., the lighted yacht parade, rowing races, etc.).

- ❑ *Develop the Jack London Aquatic Center.* The new Jack London Aquatic Center is currently planned for Estuary Park to pro-

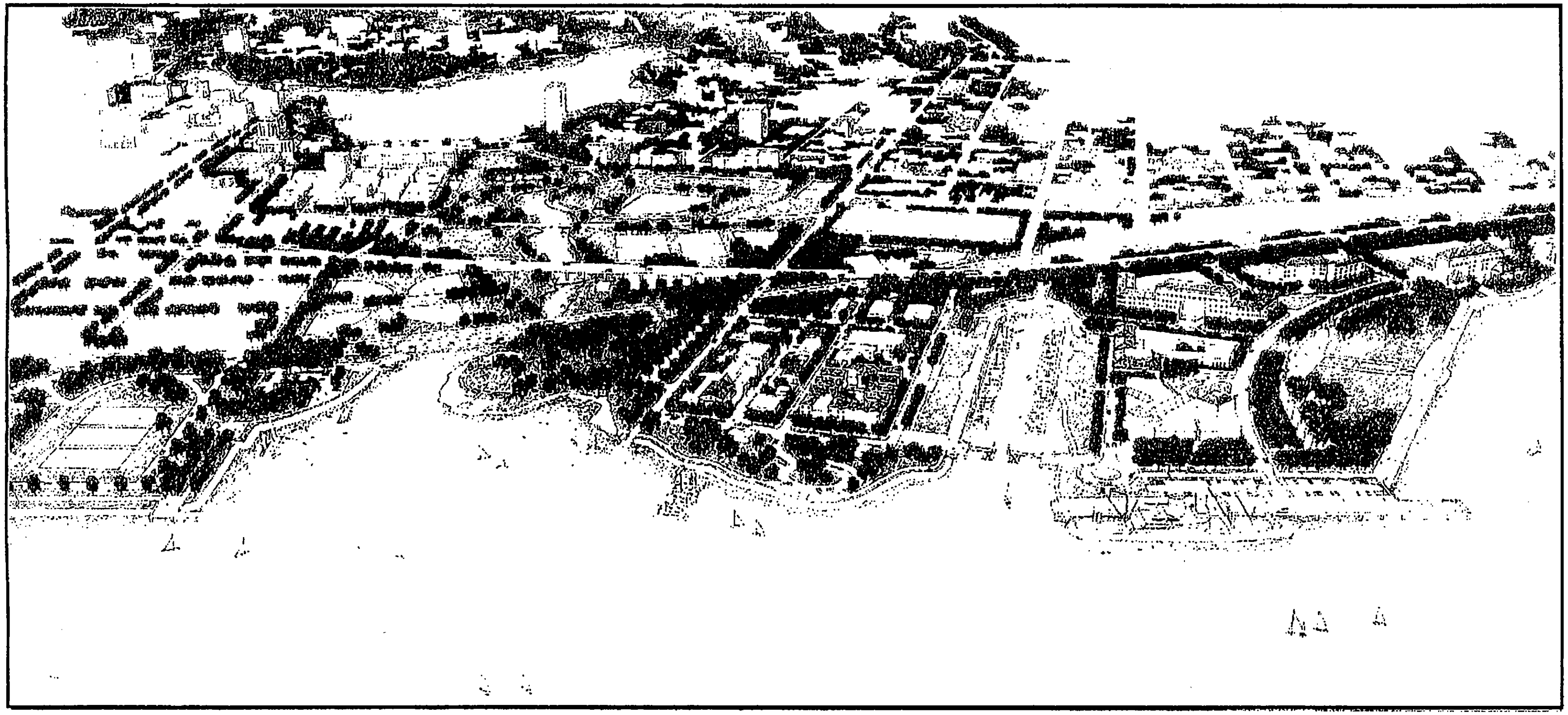


FIGURE III-11: **Oak to 9th Bird's-eye Perspective**

vide city residents a place to learn boating skills and gain proficiency in sailing, rowing, and kayaking. Like the programs now offered in the summer at Lake Merritt, the new Aquatic Center will be oriented to youth, but will focus on boating in the Estuary.

- *Develop the mouth of Lake Merritt Channel as a protected water space for aquatic sports.* A "no wake" zone or maximum speed limit for motorized vessels should be established within the U.S. Pierhead Line to recognize the environmental sensitivity of the mouth of Lake Merritt Channel.

OAK-2.2: Create a major new park on the east side of the mouth of the Lake Merritt Channel, at the Estuary. To complement Estuary Park to the west, the former Crowley site on the east side of the channel, between the water, a realigned Fifth Avenue (See Policy OAK-4.1) and the Embarcadero, should be converted into a major park suitable for passive recreation. Promenading, viewing and other contemplative activities should be emphasized. Shoreline edges should be restored to tidal wetlands.

Clinton Basin

*OAK-2.3: **Enhance Clinton Basin.*** Clinton Basin is a marina that recalls the maritime slipways and boat-building activities of a past age. While it has been used as a recreational marina for many years, it has fallen into disrepair, and has become functionally obsolete.

- ❑ *Rehabilitate the marina.* If economically feasible, the marina should be upgraded to contemporary standards. In addition to extending the life of the marina, improving the physical condition would provide an interesting focus for waterfront activities. Provisions in the marina for boat rentals and launches, fishing charters, water taxi/ferry services, a limited amount of food services, etc., would all contribute to to the liveliness of the area, and should be accommodated.

- ❑ *Establish a linear open space composed of a series of smaller parks around Clinton Basin.* The basin is hidden behind buildings and not highly accessible. In order to improve access to the water and visibility of the boating activities, a series of public spaces should be developed on both sides of the basin and at the head of the basin adjacent to the Embarcadero. This network of public spaces should be composed of a series of smaller connected parks, connected by a continuous promenade along the edge of the basin that connects the open spaces.

  To improve accessibility around the basin and to reduce its barrier effect, consideration should be given to developing a pedestrian bridge at the bayward end of the basin. Views into Clinton Basin from the Embarcadero should be maintained and enhanced.

- ❑ *Provide for a limited number of new recreational slips east of Fifth Avenue.* A small number of slips for the mooring of recreational boats should be provided east of Fifth Avenue, with support facilities provided accordingly. An area for supply drop-off and the provisioning of vessels should be provided to create a high-quality mooring area, attractive to patrons and complementary to landside uses within the district.

Ninth Avenue Terminal

OAK-2.4: Establish a large park in the area of the existing Ninth Avenue Terminal to establish a location for large civic events and cultural activities. Maritime activities and support services that operate in and around the terminal shed should be relocated. (See Policies OAK-4.3)

The park is envisioned as primarily an open, unobstructed green field that is flexible in use. It should be large enough to accommodate large numbers of people associated with special events, cultural activities, city festivals, etc.; yet, at the same time be designed to be attractive to individuals or small groups of people on a more regular basis.

The park should be oriented to maximize access and views of the Estuary. It should be adjoined by commercial, hotels, and public uses, which can benefit from the civic events and cultural activity programming. (See Policy OAK-4.2)

Recognize that the Ninth Avenue Terminal shed, or portions thereof, may be suitable for rehabilitation and adaptive reuse. However, the terminal building impedes public access to and views of a key area of the Esstuary.

- ☐ The Port and City should investigate the feasibility of keeping and reusing the building (or portions thereof). A Specific Plan for the entire District should be initiated prior to development. (See Policy Oak 5)

- ☐ *Encourage the mooring of vessels adjacent to the Ninth Avenue Terminal.* Along the southern boundary of the Ninth Avenue Terminal, a limited amount of vessel mooring is encouraged to complement the recreational and cultural uses of the area.

The 9th Avenue Terminal provides an exciting opportunity for public-oriented activities and open spaces.

OAK-2.5: Provide for mooring of the ARTSHIP. The ARTSHIP Foundation has recently acquired the *Golden Bear,* a former naval training vessel, to serve as headquarters and primary program venue for the numerous community outreach and art programs run by the Foundation and other art and cultural organizations. An extensive renovation project is proposed to convert the ship into theaters, gallery space, classrooms, meeting space, studios, and other facilities necessary to support a major arts initiative.

It is envisioned that the ARTSHIP could be an integral part of the waterfront, and a major waterfront attraction. It is a project that achieves almost all of the identified objectives for the waterfront. Provisions should be made for its permanent mooring in the vicinity of the Ninth Avenue Terminal. Some landside facilities, including parking and servicing, should also be accommodated.

Lake Merritt Channel

Policy OAK-3: Link the Estuary to Lake Merritt by enhancing the Lake Merritt Channel.

Although a pedestrian/bicycle path exists, the link between the Estuary and Lake Merritt is dominated by physical obstacles. Given the significant historical relationship between the Lake, the Channel and the Estuary, it is incongruous that a physical connection between them has not been completed.

The opportunity exists to achieve this long-standing community objective. Most of the properties north of the Embarcadero along the Lake Merritt Channel are publicly owned. In addition plans are under discussion to build a pedestrian and bicycle overpass between Estuary Park and the channel shoreline to the north.

To create the strongest possible connection between Lake Merritt and the Estuary, two measures should be undertaken:

OAK-3.1: Create a system of public open spaces that connects Lake Merritt Channel to the Estuary. The existing path on the Eastern side of the channel should be completed and enhanced. It should be developed to allow unimpeded movement between the Estuary and Lake Merritt. Where feasible, the path should be widened and fully integrated into adjacent public spaces that are currently underutilized.

Efforts to expand public uses in this area must be carried out in a manner that respects the wildlife habitat value of the wetland areas within and along the channel. Restoration of tidal wetlands along the shoreline edges should be included as part of the facility development programs that would extend through this area.

Surface parking should be relocated away from the channel's edge.

OAK-3.2: Work with public agencies in the area to extend the open space system inland from the Channel. Much of the land inland of the Embarcadero which is recommended to be enhanced as publicly-accessible space is owned by railroads, public agencies and institutions, including the City of Oakland, the Union Pacific Railroad, Laney College, Peralta College District, and EBMUD. The City should work with these entities to assemble or otherwise gain access to these properties (as necessary) to extend areas available for public use.

LAND USE

Public space is planned to be the primary new use within the Oak-to-Ninth District, occupying all of the land along the shoreline and extending inland at Lake Merritt Channel, Clinton Basin, and a new 'Crescent Park'. (See Policy OAK-2.4). Recreational use of the shoreline will be the most significant agent of change within the district. It will create a series of extraordinary amenities and recreational resources for the community, as well as an attractive setting for new and existing development.

Within the larger framework of a major waterfront open space system, development should be guided by the following policies:

Policy OAK-4: Provide for lively, publicly oriented activities that complement the adjacent waterfront parks and open spaces.

Development adjacent to the open recreational spaces should complement them, and should provide public attractions which add to the variety of activities and experiences found on the waterfront. Development should be encouraged on both sides of Clinton Basin, and in areas close to the Embarcadero, as follows.

Fifth Avenue Point

OAK-4.1: ***Preserve and expand the existing Fifth Avenue Point community as a neighborhood of artists and artisan studios, small businesses, and water-dependent activities.*** West of Clinton Basin, the Fifth Avenue Point community is one of Oakland's most unique neighborhoods. It has nestled among declining waterfront industrial uses, creating a spark of life and activity. The artisan work that takes place there is an economic asset which is valuable for local residents. In addition, the existing work/live units within the Fifth Avenue artisan village contribute to the inventory of affordable studio spaces within Oakland. These units should be maintained and reinforced through the provision of additional units, including artist and artisan work/live studios and small light industrial and water-dependent businesses. A limited amount of retail and restaurant use, such as the existing Seabreeze Cafe, should also be promoted within the area.

It should be noted that enclaves such as this are rarely planned. Rather, they develop through the spontaneous vision and dedication of creative, entrepreneurial property owners and residents. By their very nature and character, these enclaves are economically fragile. Policies that promote preservation and expansion of the Fifth Avenue Point community should be carefully applied, so as not to adversely affect property values, or inadvertently change the very essence of what makes it unique.

OAK-4.2: Promote development of educational and cultural interpretive facilities. The Oak-to-Ninth reach of the waterfront is an ideal location for cultural attractions and other development. (See Policy OAK-4.4) In addition to the recreational benefits associated with festivals, etc. (See Policy OAK-2.4 & 2.5), facilities housing museums, educational and cultural programs, etc. can be major waterfront attractions. Such facilities should be located and developed to add to the atmosphere established by the Fifth Avenue Point community and Clinton Basin (See Policies OAK-2.3, 2.5 & 4.1). Requisite parking and servicing should also be accommodated and, where feasible, consolidated.

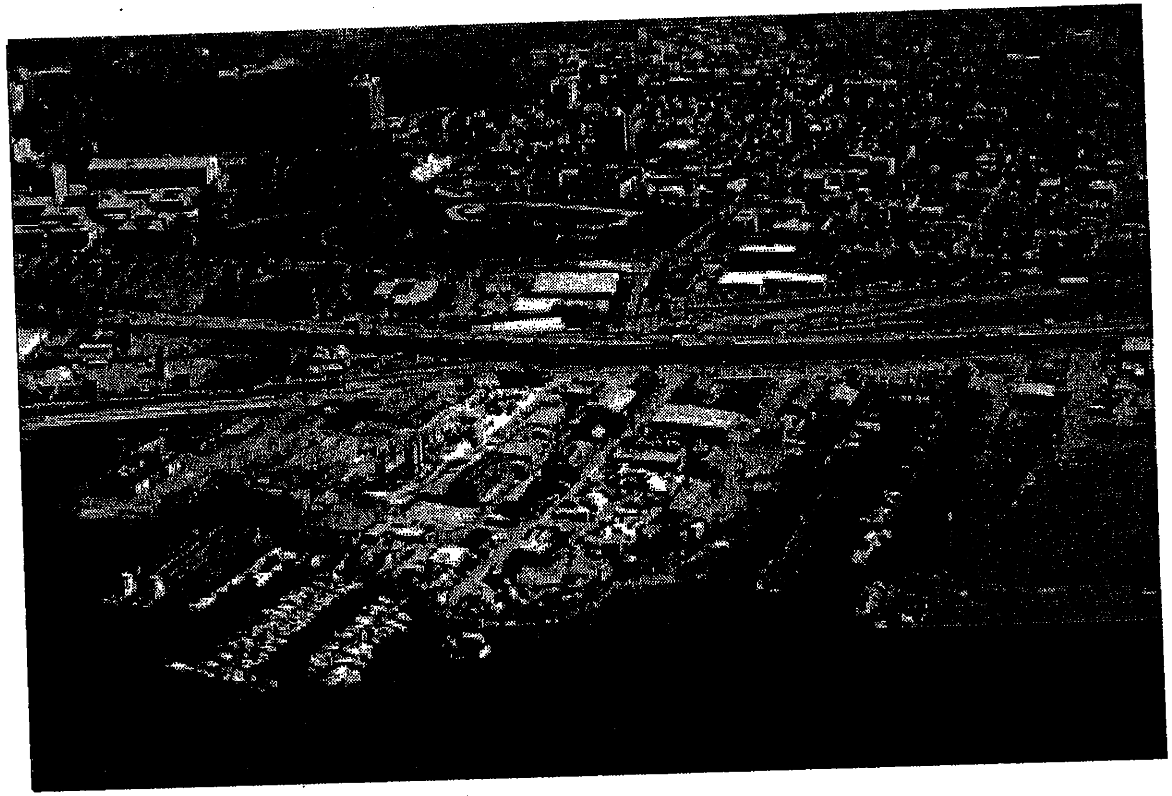
- The Oakland Museum is investigating options to expand and develop the 'Treasure House' concept. An appropriate location for this use would be adjacent to the planned waterfront open space flanking Clinton Basin and the Estuary.

- The ARTSHIP Foundation has recently acquired the *Golden Bear*, a former naval training vessel, to serve as headquarters and primary program venue for the numerous community outreach and art programs run by the Foundation and other art and cul-

The 5th Avenue Point community includes a synergistic grouping of artists, artisans and small industrial businesses.

tural organizations. Under an extensive renovation project, the ship will be converted into theaters, gallery space, classrooms, meeting space, studios, and other facilities necessary to support a major arts initiative.

OAK-4.3: Facilitate the relocation of break-bulk cargo operations from the Ninth Avenue Terminal. East of Clinton Basin, a major existing use within the district is the Ninth Avenue marine terminal, which is owned and operated by the Port of Oakland. In order to achieve the vision for the waterfront in the Oak-to-Ninth area, it is necessary that the existing terminal operations and those related maritime and warehousing activities adjacent to the terminal be accommodated elsewhere; thus enabling reuse of the Ninth Avenue Terminal site.



The 5th Avenue Point community will be retained as a unique mixed-use district with work-live units, studios, small businesses and water-dependent activities.

Mixed Use Development

OAK-4.4: Promote development of commercial-recreational uses in the vicinity of the Crescent Park and Clinton Basin. Relocation of cargo handling and clearance of the Ninth Avenue Terminal creates potential development parcels between the proposed Crescent Park (See Policy OAK-2.4), the Embarcadero and Clinton Basin (See Figure 10). Development of these sites should be planned and carried out in a comprehensive manner, and include possible hotel, conference, restaurant, retail, and similar commercial-recreational uses. A recreational 'resort' orientation, along with cultural and social programs, should be encouraged as an integral component of the development programs of hotel and other uses. Recreational elements could be developed as a part of the projects. Accommodating tennis, swimming, etc., could add another dimension to the recreational experience of the area.

New development within this area should be promoted along the Embarcadero Parkway, with "windows" to the water at intermittent points. It should be set back from the shoreline promenade. (See Policy OAK-5)

OAK-4.5: ***North of the Embarcadero, encourage a mixed-use district while maintaining viable industrial uses.*** In the more traditional warehouse and industrial area north of the Embarcadero between the Lake Merritt Channel and Oak Street, a mixed-use district is encouraged. Emphasis should be placed on maintaining the existing industrial and manufacturing uses, as well as providing for nontraditional higher density housing (work/live and artist studios). This area is essentially an extension of a larger mixed-use district to the west, extending to Webster Street in the Jack London District.

Policy OAK-5: Initiate more specific planning of the entire Oak-to-Ninth District.

The Oak-to-Ninth district is large and diverse, with several unique, complicated issues that dominate its real development potential. It should be planned in sufficient detail to identify all potential issues, and to understand the options available to address these issues in a timely manner.

A Specific Plan should be prepared prior to development. Planning should be based on a strategy which analyzes the area comprehensively and which accounts for the constraints imposed by subsoil environmental conditions. Transformation of the district will require that several outstanding issues be resolved simultaneously. Development feasibilities should be analyzed, phasing of improvements should be identified, and a funding strategy to finance and implement recommended open space should be addressed. These require that a realistic development program and site plan be developed.

REGIONAL CIRCULATION & LOCAL STREET IMPROVEMENTS

The Oak-to-Ninth area is isolated from other parts of the city by regional transportation facilities, all of which run parallel to the waterfront. The following policies are recommended to reduce the effect of these barriers and improving access to, and circulation through, the area.

Regional Access

Policy OAK-6: Explore the future potential for a new BART station and major parking facility on BART property at Fifth Avenue and East Eighth Street.

As the waterfront develops as a major destination, opportunities for the creation of a new BART station east of Fifth Avenue should be explored. In addition to improving regional transit service, easy BART connections would enhance the potential of the nearby waterfront as a major destination, and reduce parking problems associated with special events. The site might also include a significant parking facility for commuter parking, replacement parking for Laney College surface lots, and special events parking for the waterfront.

In addition to serving the waterfront area, a BART station at this location could have positive impacts on the revitalization of adjacent neighborhoods.

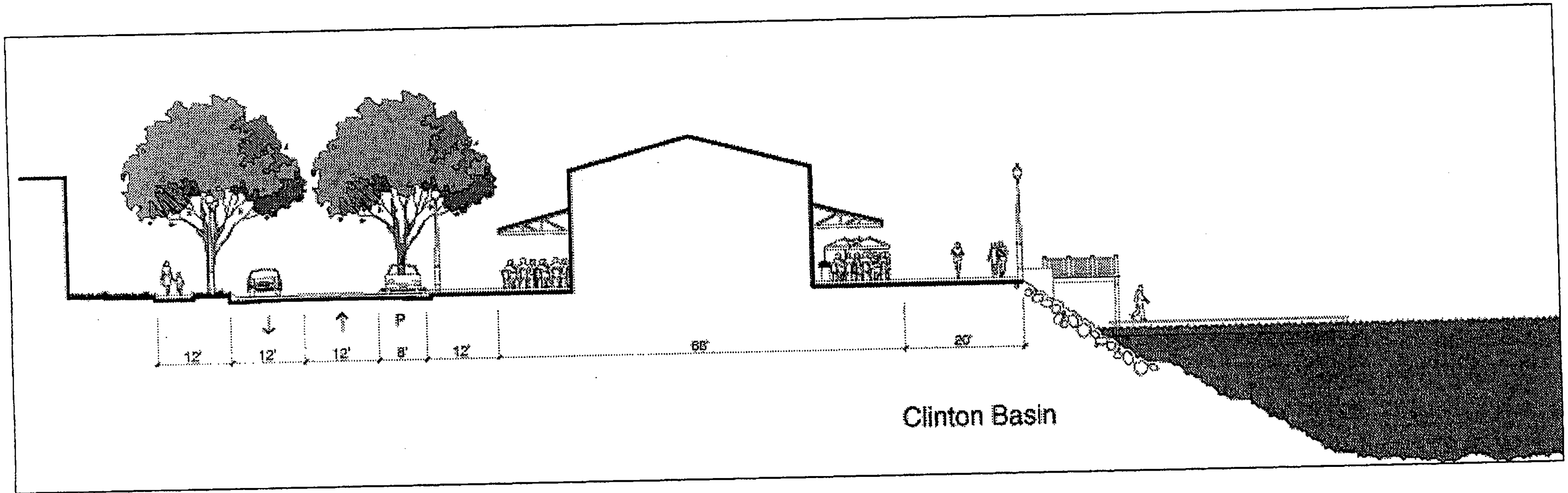


FIGURE III-12: Clinton Basin Illustrative Cross Section

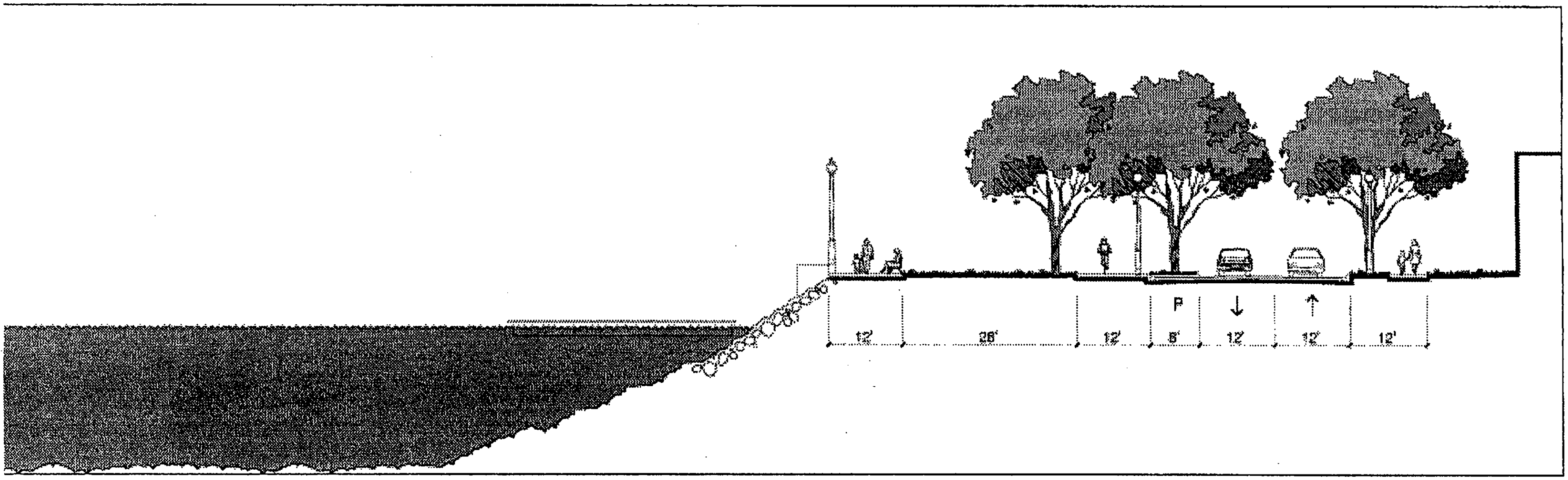
POLICY OAK-7: COORDINATE WITH CALTRANS ON THE UPGRADE OF THE I-880 FREEWAY TO IMPROVE REGIONAL ACCESS TO THE WATERFRONT.

As it passes through Oakland, I-880 is substandard. On and off-ramps occur in a random manner, creating short merging distances and associated safety problems. This is particularly true in the Oak-to-Ninth District. As the area evolves and becomes more of a regional attraction, the highway network that serves the district will become a busier and more dangerous place for drivers and pedestrians.

However, with the current seismic upgrade program for the freeway, this situation could be remedied to promote highway safety and to provide clear, safe and convenient access to the waterfront. The City should work with Caltrans to develop retrofit plans for the Fifth Avenue Interchange which also include a more direct way to the waterfront. At a minimum, the existing on and off-ramps along the Embarcadero between Fifth and Ninth Avenues should be removed and replaced with a configuration that provides both eastbound on-ramp and westbound off-ramp connecting to Fifth Avenue.

Local Street Improvements

POLICY OAK-8: ENHANCE FIFTH AVENUE AS THE PRINCIPAL PEDESTRIAN AND VEHICULAR LINKAGE TO THE PUBLIC OPEN SPACE SURROUNDING THE MOUTH OF THE LAKE MERRITT CHANNEL.



Fifth Avenue is a significant north-south street, connecting to Park Boulevard and linking the waterfront to downtown neighborhoods and the Oakland Hills. As such, it is important that Fifth Avenue be improved south of the Embarcadero as the principal pedestrian and vehicular connection to this segment of the waterfront. It should be realigned and straightened to become the edge of the open space and to establish a direct driving route that circumvents the Fifth Avenue Point community.

In order to enhance the pedestrian environment along Fifth Avenue, landscaping, lighting, and sidewalk improvements should be undertaken along its entire distance.

POLICY OAK-9: IMPROVE THE EMBARCADERO EAST OF OAK STREET AS A MULTIMODAL LANDSCAPED PARKWAY WITH BICYCLE, PEDESTRIAN AND VEHICULAR FACILITIES.

A key objective of the Estuary Policy Plan is to create a continuous multimodal parkway to improve access along the waterfront and enhance the continuity and identity of the Estuary within the city. Consistent with recommendations to develop segments of the parkway in other sections of this plan, the Embarcadero Parkway concept should be implemented between Ninth Avenue, Lake Merritt Channel and Embarcadero Cove, beyond.

A three-lane roadway (two moving lanes and a center left-turn lane) should be built, wherever feasible, with an adjacent landscaped corridor to accommodate a continuous bicycle trail and pedestrian promenade on the Estuary side.

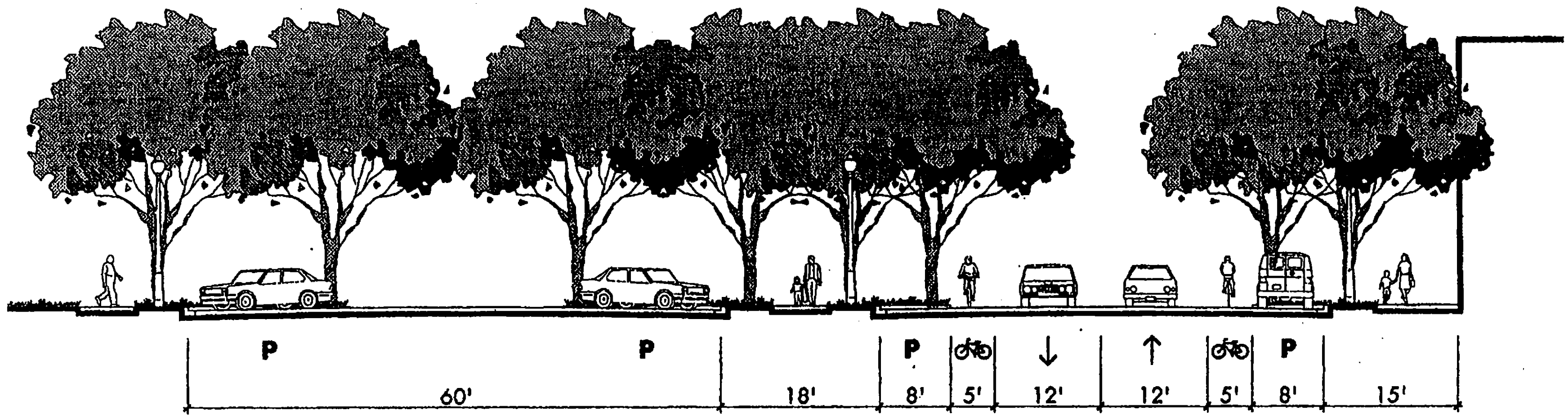


FIGURE III-13: 5th Avenue Illustrative Cross Section
(With one vehicular lane in each direction.)

Policy OAK-10: Create a network of pedestrian-friendly streets that opens up views and access to the water.

Within the Fifth Avenue Point area and the commercial-recreational district east of Clinton Basin, a network of local streets should be provided to serve individual properties.

In future planning (See Policy OAK-5) this network should be designed in a block configuration to allow for a diversity of ways through the district and a comfortable and safe pedestrian environment. The configuration of streets should be aligned to promote views and access to the shoreline, provide convenient access to and parking for open spaces, and discourage fast-moving through traffic. Streets should include generous provisions for pedestrians and be landscaped in a manner that extends the open space amenity inland from the shoreline.

New local streets should continuously follow the Estuary and Clinton Basin open space, in order to create a more public and open feeling along the water and increase accessibility. Connections should be made from this area across the head of Clinton Basin to the Fifth Avenue Point community to ensure that both sides of the basin are tied together by local streets.

Parking

OAK-11: Design parking to be convenient and complementary to the public orientation of uses within the area.

Convenient and visible parking is important in ensuring the success of open space improvements as well as new development. In future planning (See Policy OAK-5) parking should be provided in a manner that complements the open space character of the area. Large expanses of asphalt should be avoided in favor of landscaped roadways with parking alongside them. Such an approach will minimize the visual impact of parking while maximizing access and visibility to adjacent activities. Parking areas should be well lit and linked to pedestrian trails.

Development projects should provide all of their parking requirements onsite, and be generously landscaped to promote continuity with open space areas. Parking should be screened from predominant public view with landscaping and/or encapsulated and architecturally integrated within buildings. Parking that serves private uses should be made available to the public during nonpeak periods.

Permanent onsite parking along roadways can only satisfy a small percentage of the overall parking needs. Additional opportunities for events parking north of I-880 such as the existing railyards, existing parking facilities at

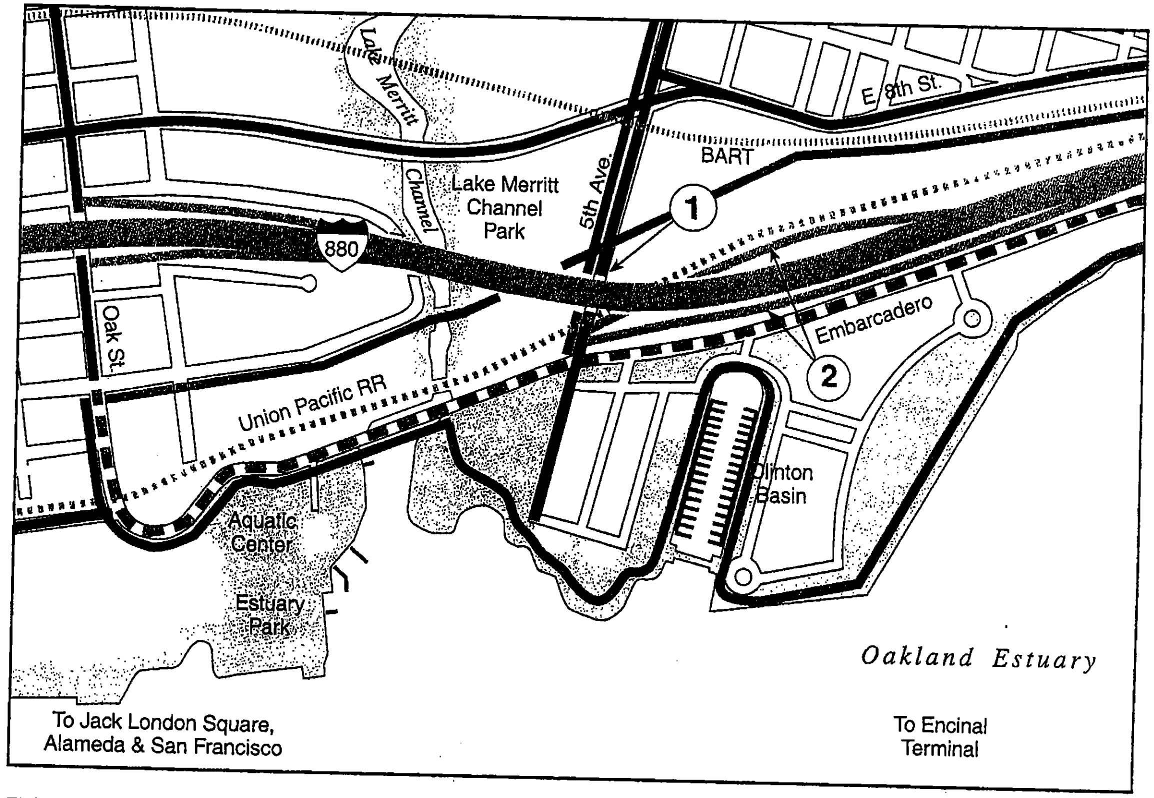


FIGURE III-14: **Oak to 9th District: Illustrative Circulation**

(1) Realigned 5th Avenue
(2) Rebuilt half diamond interchange at 5th Ave.
Estuary Parkway
Open Space and Public Access
Interstate 880
Major Linking Streets
Local Streets
Passenger/Freight Rail
BART - Bay Area Rapid Transit
Waterborne Transit (Ferry, Water Taxi)
Class I Bikeways/Pathways
Class II Bikeways/Pathways
Class III Bikeways/Pathways

Laney College, and private parking facilities within the waterfront area should be pursued and programmed.

OAK-12: Establish a Management Program for Special Events Access and Parking.

A major event at the waterfront (See Policy OAK-2.4) could attract several thousand people. As a result, transportation and parking will be significant issues. Events planning should include a comprehensive transportation management program that includes shuttles, vans, and special transit vehicles providing service to the downtown, the Jack London District, and key regional transit providers (e.g., BART, Amtrak, Transbay ferries). Events' parking should also be provided within walking distance of the planned celebration space.

APPENDIX G

Historic Resources Evaluation and Memorandum Regarding Landmark Boundary

CAREY & CO. INC.
ARCHITECTURE

Oak Street to 9th Avenue Redevelopment Project
Oakland, California

Historic Resources Evaluation

August 15, 2005

INTRODUCTION

Report Summary

This report provides Oakland Harbor Partners and the City of Oakland with a description of the proposed Oak Street to 9th Avenue Redevelopment Project, summary of the project site's history, physical and historical descriptions of each architectural resource on the project site, discussion of the regulatory setting for historic architectural resources, analysis of adverse impacts on historic architectural resources, and provision of mitigation measures to avoid or reduce these impacts to a less-than-significant level for California Environmental Quality Act (CEQA) environmental review purposes.

There is one historic resource as defined by CEQA located within the survey boundaries (project site), the 9th Avenue Terminal. This resource, which includes "a five-berth quay wharf, a transit shed, paved storage yards, and land for industrial tenants,"[1] appears to be individually eligible for listing on the NRHP and CRHR. Additionally, on May 10, 2004 the City of Oakland's Landmark Preservation Advisory Board recommended designation as a City Landmark and assigned the 9th Avenue Terminal a rating of "A" (highest importance). As a result of this "A" rating, the building is considered listed on Oakland's Local Register of Historic Resources. The next step in the process is for the Oakland Landmark and S-7 Preservation Combining Zone Application to be presented to the Oakland Planning Commission and for the Planning Commission to recommend designation to the City Council. Landmark designation would then be accomplished through adoption of an ordinance by the City Council. To date, neither the Planning Commission nor the City Council have met to consider the designation of the resource as a City Landmark. Regardless, the 9th Avenue Terminal is considered a historic resource under CEQA and its partial demolition resulting from the proposed project would a significant impact that could not be fully mitigated by retaining and reusing only the "Head House" portion of the building or through Historic American Building Survey (HABS) documentation or historical exhibits. As such, the impact would be significant and unavoidable.

Project Description

The Oak to Ninth Avenue project site is approximately 62 acres located along the Oakland Estuary and the Embarcadero, east of Jack London Square and south of Interstate 880 (I-880). Generally, the project area is located south of I-880, north of the Oakland Estuary (Inner Harbor), west of 10th Avenue, and east of Fallon Street. The project site includes Estuary Park, Clinton Basin, the southern portion of Lake Merritt Channel (also referred to throughout as "the

Channel"), but excludes approximately six acres of privately held property on two sites along 5th Avenue.

The proposed project would redevelop an underutilized, maritime and industrial area on the Oakland Estuary into a mixed-use neighborhood with residential, commercial/retail, open space, and marina uses. A total of 3,100 residential dwelling units would be developed, with up to 200,000 square feet of active ground-floor retail uses. The majority of existing structures and uses on the project site would be demolished, and about 28 acres (or 45 percent) of the project site would be developed with a system of new or improved parks and open spaces, including a continuous waterfront trail.

Shoreline Park would be a new nine-acre open space along the waterfront shoreline where a large section of the Ninth Avenue Terminal currently exists, and approximately 20,000 square feet of the 1929 portion of the Terminal would be saved and reused with the intent to develop it for public benefit. The remainder of the Terminal would be demolished to accommodate the nine acres of new public open space. In addition, a portion of the pile-supported pier along the southernmost edge of the site would be removed, and a portion of the area that is currently covered by the pile-supported pier would remain as public open space and utilized as a waterfront, landscaped plaza.

SETTING

Overall Project Site

Light industrial buildings and warehouses characterize the Oak Street to 9th Avenue neighborhood. The area contains large paved sections and numerous temporary structures. Smaller warehouses, clad in corrugated metal, are concentrated with high density along 6th Avenue. Fewer buildings, but of greater size, occupy the large space east of 8th Avenue to the harbor. The small portion of the neighborhood east of Oak Street to the Lake Merritt channel is equally dominated by light industrial use and open parkland. The majority of structures in the area were constructed in the middle of the 20th century or later. Overall, the architectural style of these simple, functional structures can be classified as industrial vernacular. The majority lack ornamentation and were built to serve light industrial purposes.

The geography of the area has been altered over the last century through both man-made changes in the form of dredging and by annexation. The 9th Avenue Terminal is located at Brooklyn Basin, but this was formerly called San Antonio Creek. Similarly, the Brooklyn Basin is located in the Oakland Inner Harbor, also known as the Oakland-Alameda Estuary, but which was formerly called the Estuary of San Antonio. These older names date back to the time before 1872 when this area was considered part of the town of Brooklyn, prior to annexation that year by Oakland.[2]

The construction of the railroad and the reclamation of the waterfront drove the development of the Oak Street to 9th Avenue area along Oakland's inner harbor. The transcontinental railroad was completed from Sacramento to the San Francisco Bay along the so-called Niles Route in 1869.[3] It is this route that currently runs along the north side of Embarcadero, bordering the Oak to 9th neighborhood.[4] The route was initially started under the Western Pacific Railroad Company, then completed by the Central Pacific Railroad, which later became part of the Southern Pacific Railroad.[5]

Reclamation of the waterfront occurred in stages during the decades following completion of the transcontinental railroad. In 1878 the area to the south of the tracks and east of the entrance into Lake Merritt was still separated from the mainland by water and marshes.[6] By 1893, this area had been formed to create the Brooklyn Basin and was connected to the shore.[7] Further work by the Army Corps of Engineers in the 1910s created a wider channel, making it more accessible to large merchant ships.[8] Harbor improvements ultimately resulted in creation of the 9th Avenue Terminal building in 1930.[9] As a result of its location between both the railroad and waterfront, the Oak to 9th neighborhood developed into an area dominated by buildings with industrial and warehouse uses, serving the shipping needs of both.[10] The lumber industry was well served by this, and through 1951 wholesale lumber distribution and manufacturing yards further characterized the area.[11]

A bond to fund harbor improvements, approved by voters in 1925, also stimulated action by The Port of Oakland.[12] Control of the port area was transferred to the Board of Port Commissioners in 1926, and the swearing in of the first permanent Board of Port Commissioners occurred in 1927.[13] This was the same bond that funded the construction of the 9th Avenue Terminal, and in 1929 the Port of Oakland requested bids for its construction.[14] In 1935 further waterfront improvements were made using over 500 laborers supplied through the Public Works Administration (PWA) and Works Progress Administration (WPA), both of which were work-relief programs created under Franklin Delano Roosevelt's New Deal policies during the Great Depression.[15] More improvements followed during the 1930s, including the purchase of 20 acres of waterfront land adjacent to the 9th Avenue Terminal (1936), a 506-foot wharf extension and other additional projects completed by the WPA with a PWA grant (1937), and more improvements funded by the PWA in 1938 such as construction of roadways and installation of sewer lines.[16] During World War II in 1943, the 9th Avenue Terminal was used in the war effort for shipping and was controlled by the Pacific Naval Air Base Command.[17]

Since World War II the 9th Avenue Terminal area has undergone changes, but the building itself continues to be used. The first freeway in Oakland, known as the Nimitz (after Admiral Chester W. Nimitz who commanded the Pacific Fleet during the War), was opened to traffic from Oak Street to 23rd Avenue in 1949.[18] The Terminal building received an addition in 1951, and in 1956 management of the Oakland's municipal maritime terminals, including 9th Avenue, was subcontracted to private firms.[19] Today, as mentioned above, the area is dominated by light industrial and warehouse buildings.

Individual Project Site Buildings and Structures

9th Avenue Terminal (Port of Oakland Bldg # H-309). Carey & Co. concurs with the description and history as written in the Oakland Landmark and S-7 Preservation Combining Zone Application Form for this structure, prepared by Cynthia L. Shartzer and accepted by the City of Oakland's Landmark Preservation Advisory Board on 10 May 2004. This description states that the "Ninth Avenue Terminal consists of a five-berth quay wharf, transit shed, paved storage yards and land for industrial tenants."[20] The landmark application goes on to quote from the description originally included in a 1997 Oakland Cultural Heritage Survey report:

> The 9th Avenue Terminal, located in Brooklyn Basin at the foot of 9th Avenue, is a Beaux-Arts derivative freight wharf and warehouse. It is high one story, long rectangular plan, with a curved and angled far end. It is about 1000' long, with the transit shed about

> 180' wide, railroad spur tracks on either side, and extensive open platform space along the west side. It has long bands of steel windows along the sides and a metal awning over a series of loading doors on the side, and a vast open interior. The outer 500' appears to have been added after 1951. The head house at the inland end, containing a small office, has a stepped and peaked parapet highest in the middle, and a monumental entry with tall paneled concrete pilasters and massive plain cornice. Exterior walls are concrete and steel-sash. Roof is composition. Structure is reinforced concrete with steel trusses. Designed for break-bulk cargo, the building is now little used. Visible alterations include some windows covered. The building is in good condition; its integrity is excellent. Its preliminary rating of B+3 reflects its interest as a fine and rare surviving example of a Beaux Arts derivative pier from the Port of Oakland's harbor improvement program of the 1920s: the similar Grove Street and Outer Harbor Terminals no longer exist.[21]

The landmark application also includes a verbal description of the wharf, "[The] marginal type wharf has a lower side in Clinton Basin of 312 feet, a main channel face of 952 feet and a Brooklyn Basin north channel face of 1,100 feet."[22] Port of Oakland documentation indicates that the wharf's type of construction is concrete pile and decking with a "timber pile fender system." A "concrete bulkhead with asphalt-surfaced solid fill" is also noted.[23]

Construction began on the 9th Avenue Terminal in 1929 and it was completed in October of 1930.[24] It was one of three municipal terminals funded under a 1925 voter-approved harbor bond; the others were the Grove Street Terminal and Outer Harbor Terminal, both of which have since been demolished.[25] Initially the terminal was 504 feet long, then an addition in 1951 added 500 feet, bringing the total length to 1004 feet.[26] The interior floor space is measured at 178,530 square feet (about four acres), and the ceiling rises to a height of 47 feet at the center and 27 feet at the sides.[27]

Design of the terminal has been attributed to Arthur A. Abel, who served as Assistant Chief Engineer and Assistant Port Manager from 1926 to May 1932, and Chief Engineer and Port Manager from May 1932 to 1952.[28] According to Shartzer:

9th Avenue Terminal (Port of Oakland Bldg #H-309)
Carev & Co., October 2004

> The Beaux-Arts style of the building, while very simple stylistically, represents an important phase in Oakland architecture and city planning during this period. The City Beautiful Movement, originating with the Classic Revival buildings constructed at the World's Columbian Exposition held in 1893 at Chicago, gave rise to the construction of [Beaux-Arts style] buildings in many cities across the country. The designers of these buildings, often municipally owned or related to public uses, such as power plants, used the Classic Revival style architectural vocabulary to convey the ideals of beauty, public benefit, and sound planning principals that would enhance the appearance of the city. The Ninth Avenue Terminal in its simple paneled

> pilasters, symmetrical façade, and other detailing represents these ideals very well. Other notable examples of this style and movement are Oakland City Hall, the bulkhead buildings along San Francisco's waterfront, and the Courthouse on St. James Park in San Jose.[29]

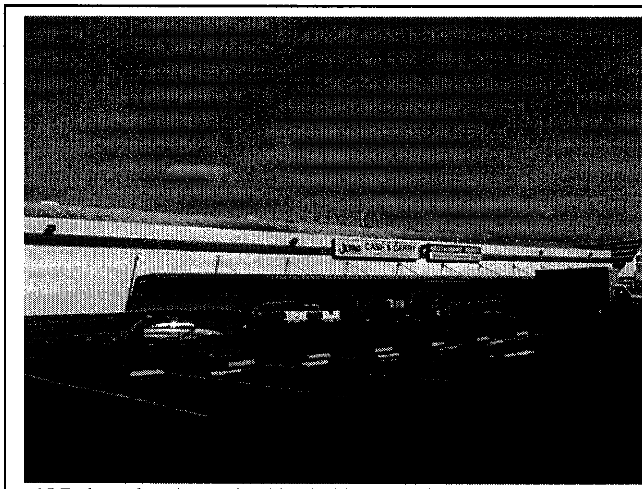
Shartzer notes that the terminal is an "amalgamation of water, rail and land transportation capability in one facility" and "an early example of an inter-modal transportation complex."[30] With its location at the waterfront, proximity to the railroad, and easy road access, the terminal was well-suited to its purpose. As further elaborated by Shartzer, "Significant features of the Terminal's operation were easy, twenty-four hour access by water, land, and rail and a facility tailor-made to enhance the Port of Oakland's ability to load, unload, and store cargo in the most efficient manner, in the least amount of time, with the least amount of damage."[31]

The following significant dates were identified in the landmark application form:[32]

> November 1925 – Bond approval
> August 5, 1929 – Bids due for Ninth Avenue Pier
> October 1930 – Construction completed
> June 1936 – Land purchase and WPA wharf extension
> May 1943 – Pacific Naval Air Bases Command control
> 1951 – Terminal addition; January 1952 – addition opened
> February 1956 – Encinal Terminals, Alameda manages terminal
> 1998 – Break-bulk operations moved from Ninth Avenue Terminal to Burma Road Terminal
> 2003 – Seaport Plan Amendment process completed to delete Port priority use area/marine terminal designation (as bulk cargo marine terminal)
> December 8, 2003 – LPAB agrees to proceed with the landmark nomination

The 9th Avenue Terminal is still used today by the Transmeridian Cotton Warehouse.

<u>105 Embarcadero (Port of Oakland Bldg # G-203)</u>. This one-story light industrial building is rectangular in plan with a multi-barrel vault roof covered in roll asphalt. It is of concrete construction and the exterior walls are painted concrete. The primary (south) facade is characterized by a mid-height projecting awning and a ramp at the west end. This facade also contains two automatic sliding doors, with the primary entry at the east end and the primary exit at the center. Eight loading docks are present on the west facade and infilled loading dock openings can be seen on the east facade. The building's only windows are a series of roof-mounted skylights.

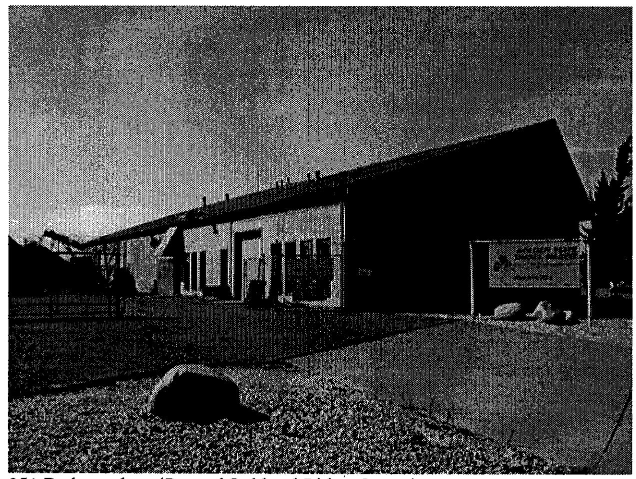


105 Embarcadero (Port of Oakland Bldg #G-203)
Carey & Co., October 2004

The large, square building located at 105 Embarcadero was originally constructed in the mid-to-late

1950s.[33] In the early 1970s it served as a tractor parts warehouse for Ford Motor Company's Tractor Division.[34] Currently it is a restaurant supply warehouse and store under occupant Jetro Cash & Carry. With its painted concrete walls, loading docks, and roll asphalt roof, this can be classified as a mid-20th Century industrial vernacular style building.

351 Embarcadero (Port of Oakland Bldg # G-309). This one-story light industrial building is rectangular in plan with a gable roof covered in composition shingles. It is of wood-frame construction with primarily vertical wood siding. Portions of the facade, including awnings over doors, a narrow band under the eaves, and a vertical section on the north elevation, are clad in wood shingles. The north facade – the gable end – is angled outward and comes to a point at the center; it is the east side of this formation, toward the center, that displays the aforementioned shingle-clad vertical section. Doors are visible at the east and west facades, topped by hip-shaped shingle-clad awnings. Two roll-up doors are also located on the east facade. Windows are primarily large vertical one-lite fixed set into wood sash.


351 Embarcadero (Port of Oakland Bldg #G-309)
Carey & Co., October 2004

The building at 351 Embarcadero was constructed in the 1950s.[35] In the early 1970s a wood working business used the south end and a barricade manufacturer used the north end.[36] By 1992, three businesses occupying the property were Continental Glass Repair, Golden State Diesel Marine, and Marine Surveyors.[37] With its roll-up doors and large fixed modern windows, this can be classified as a mid-20th Century industrial vernacular style building.

603 Embarcadero (Port of Oakland Bldg # H-103). This one-story light industrial building is rectangular in plan with a gable roof covered in corrugated metal. It is of wood-frame construction with corrugated metal siding. The primary (north) facade is the gable end, which also displays wood cladding at the base of the elevation. The wood entry door at the center of the primary facade is covered by a wood awning and a set of wood stairs with one rail leads to the door. Of the three visible windows on the north facade, one is six-lite wood fixed while the other two are covered by wire mesh. A wood fence surrounds the building and obscures the other facades.

The building at 603 Embarcadero dates to approximately 1947.[38] It has been


603 Embarcadero (Port of Oakland Bldg #H-103)
Carey & Co., October 2004

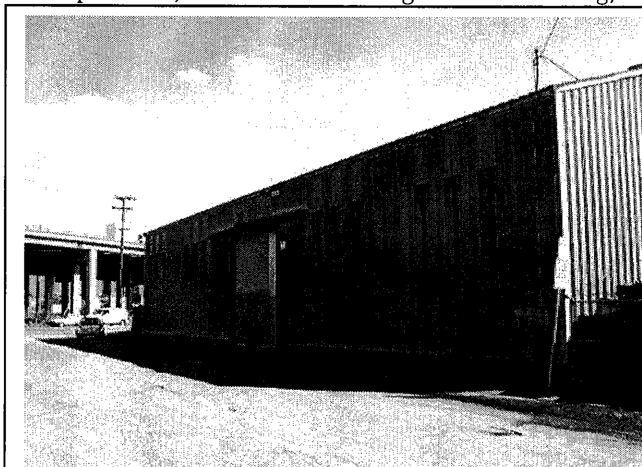
operated as a boat works under Philbrick Boat Works since soon after its construction, and continues in that use currently.[39] With its corrugated metal siding and small, mesh-filled windows, this can be classified as a mid-20th Century industrial vernacular style building.

<u>845 Embarcadero (Port of Oakland Bldg # H-232)</u>. This two-story light industrial and retail building is rectangular in plan with a flat roof. It is clad in brick veneer and metal paneling. The primary (north) facade is characterized by angled sections, wall projections, and wall recessions. The east portion of the facade is dominated by an overhanging metal bay that covers an elevated concrete walkway with a metal railing. This walkway gives access to the retail portion of the building. A garage is also present at the east end of the primary facade. The west portion of the primary facade angles back to the south and out toward the west and contains a receded entry. Metal-sash fixed windows are present at this section, separated by flat metal panels. This configuration of windows, brick and metal continues around to the north part of the west facade where two truck loading docks are located. This northwest portion of the building projects off of the main west facade. The south portion of the west facade is covered with plain corrugated metal siding with no openings. The east facade is clad in corrugated metal and contains three roll-up doors. The south facade was inaccessible during the site visit.

845 Embarcadero (Port of Oakland Bldg #H-232)
Carey & Co., October 2004

The original building located at 845 Embarcadero was constructed sometime between 1911 and 1947 (c.1930).[40] It was dramatically altered in 1979, and so visual observation cannot be employed to ascertain a more precise original date of construction.[41] From approximately 1952 through 1956 the building served as a produce and packing warehouse operated by Rexford Pre-pakt Co.[42] In the early 1970s it served as a warehouse for ladders, appliances and hardware.[43] Alterations in 1979 changed the footprint of the building by eliminating the angled northeast corner, creating a flat northern facade. An addition was also made to the west side.[44] Currently the building is occupied by National Furniture Liquidators, Inc. With its corrugated metal siding, roll-up doors and modern windows, this can be classified as a late-20th Century industrial vernacular style building.

<u>296 5th Avenue (Port of Oakland Bldg # H-108)</u>. This one-story warehouse building is rectangular in plan with a north-south oriented gable roof covered in metal. It is clad in corrugated metal and sits on a concrete foundation. The west facade contains a roll-up door with a metal door adjacent to it. A


296 5th Avenue (Port of Oakland Bldg #H-108)
Carey & Co., October 2004

surrounding fence obscures other facades, however no windows are visible.

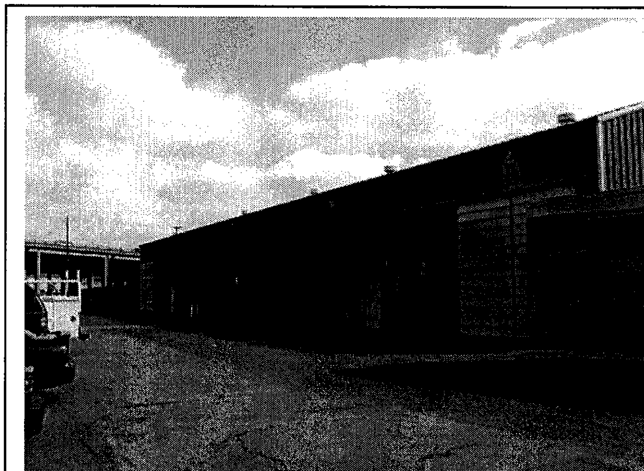
The building at 296 5th Avenue was constructed in the mid-to-late 1950s.[45] In the early 1970s it was operated as a carton warehouse.[46] With its corrugated metal siding and roll-up door, this can be classified as a mid-20th Century industrial vernacular style building.

295 6th Avenue (Port of Oakland Bldg # H-101). This one-story light industrial building is square in plan with two adjoining sections. The south section is clad in corrugated metal siding and has a flat roof. The east facade of this section is dominated by three tall garage-style openings with wood doors; the southern doors are sliders and the other two are hinged. A wood door with upper glass paneling is also located on the section. Windows are primarily industrial mult-lite with pivoting center sections, viewed on the south facade. A horizontal band of windows is also visible above the shed-roof addition on the north facade. This addition section is clad in horizontal wood siding. Projecting rafter tails support the overhanging roof and a fabric awning covers the entry on the north facade of this section. Windows on the north addition section are metal sliders.

295 6th Avenue (Port of Oakland Bldg #H-101)
Carey & Co., October 2004

The original building at 295 6th Avenue was constructed sometime between 1911 and 1951.[47] Based on visual observation, in Carey & Co's professional opinion the building was constructed circa 1925. An addition was made to the north facade in the mid-to-late 1950s.[48] From 1958 through at least 1960 the building was occupied by two packaging/carton companies, AAA Export Packaging Co. and Ajax Container Co.[49] The building continued to be used as both an export packaging warehouse and a carton warehouse in the early 1970s.[50] By 1992, the building was occupied by a window manufacturer, Jal Vue Glass, which continues to occupy the site currently as Jal-Vue Window.[51] With its corrugated metal siding, large wood garage doors, and industrial type windows, this can be classified as an early-to- mid-20th Century industrial vernacular style building.

296 6th Avenue (Port of Oakland Bldg # H-110). This one-story light industrial building is rectangular in plan with a north-south oriented gable roof clad in metal. It is clad in corrugated metal siding. Two horizontal sliding metal doors are located on the west facade, one at either end. A fabric awning projects over a metal door near the center of this facade, and a wood door is located at the north end. The south

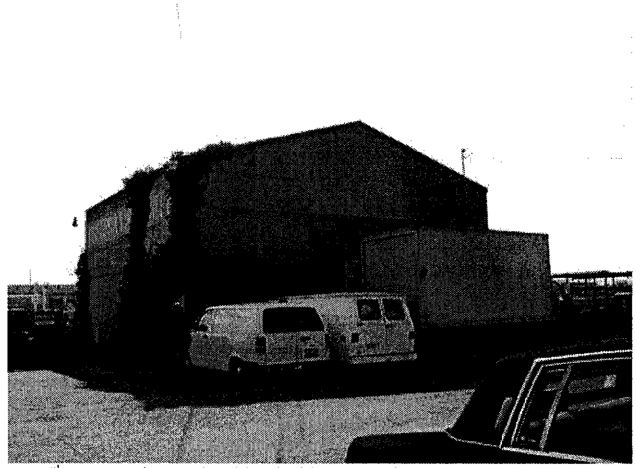


296 6th Avenue (Port of Oakland Bldg #H-110)
Carey & Co., October 2004

facade is unarticulated with no openings and the other facades are obscured by fencing; no windows were visible during the site visit.

The building at 296 6th Avenue was constructed in 1966 by CSB Const. Inc. for the Port of Oakland.[52] In the early 1970s it served as a carton stock warehouse.[53] By 1992, it was occupied by Chuck's Marine Repair.[54] With its corrugated metal siding and horizontal sliding metal doors, this can be classified as a mid-20th Century industrial vernacular style building.

<u>280 6th Avenue (Port of Oakland Bldg # H-112)</u>. This one-story light industrial building is square in plan with an east-west oriented gable roof covered in metal. It is clad in corrugated metal siding. The west facade contains two six-lite fixed metal windows and a metal door is located at the west end of the north facade. The south facade is unarticulated with no openings and the east facade was inaccessible during the site visit.



280 6th Avenue (Port of Oakland Bldg #H-112)
Carey & Co., October 2004

The square building at 280 6th Avenue was constructed in 1948 for owner L. LaBruzzi.[55] In 1952 it served as a boat works.[56] From 1965 through at least 1981 it was operated as Seabreeze Yacht Center and Boat Repair.[57] With its corrugated metal siding and industrial-style windows, this can be classified as a mid-20th Century industrial vernacular style building.

<u>280 6th Avenue (Port of Oakland Bldg # H-113)</u>. This one-story restaurant building is rectangular in plan with a flat roof. It is clad in metal siding. A projecting fabric awning and parapet extends across the primary (west) facade. These are supported on wood posts wrapped with rope. The awning covers an elevated walkway accessed by a ramp to the south and stairs to the north. A wood railing accented with rope decoration encloses the walkway. The primary entry, located toward the center of the primary facade, is infilled with plywood and a secondary wood door is located at the north end of the facade. Windows are metal sliders with screens and the center window at the south end of the west facade is covered by a metal grille. Other facades were obscured by fencing.

280 6th Avenue (Port of Oakland Bldg #H-113)
Carey & Co., October 2004

The small, rectangular building at 280 6th Avenue, also known as Port of Oakland

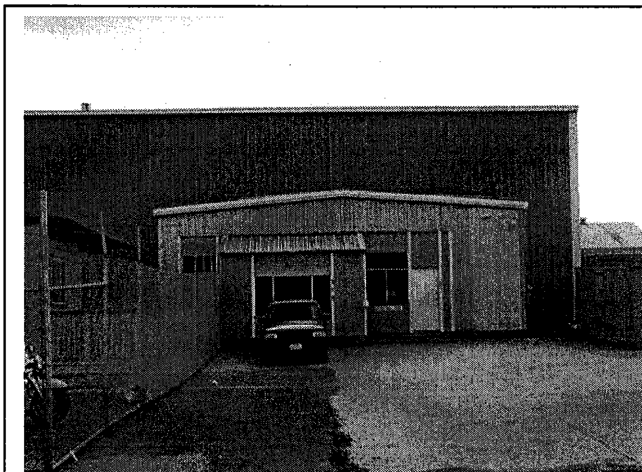
Building #H-113, was erected at this location in the 1980s or early 1990s.[58] Based on visual observation, in Carey & Co's professional opinion the building was constructed circa 1985. In 1992 it was operated as the Seabreeze Cafe, and based on visual observation it appears to have continued in that operation until recently.[59] With its metal siding and modern windows, this can be classified as a late-20th Century pre-fabricated vernacular style building.

305 6th Avenue (Port of Oakland Bldg # H-104). This one-story light industrial building is rectangular in plan with a north-south oriented gable roof covered in metal. It is clad in corrugated metal, with lighter colored metal at the upper portions of the facade for light penetration. The building sits on a concrete foundation. Two roll-up doors are visible, one at the north end of the east facade and on at the west end of the south facade. The north facade is unarticulated with no openings and the west facade was inaccessible during the site visit.


305 6th Avenue (Port of Oakland Bldg #H-104)
Carey & Co., October 2004

The building currently listed as 305 6th Avenue was constructed in 1962 with the address 91 6th Avenue; it was built by Calif. Steel Bldgs. Inc. for the Port of Oakland.[60] This building appears to have been constructed for use by an export packaging company operating out of 295 6th Avenue (Port of Oakland Building # H-101), located just to the south.[61] In the early 1970s it served as a carton manufacturing building.[62] With its corrugated metal siding and roll-up doors, this can be classified as a mid-20th Century industrial vernacular style building.

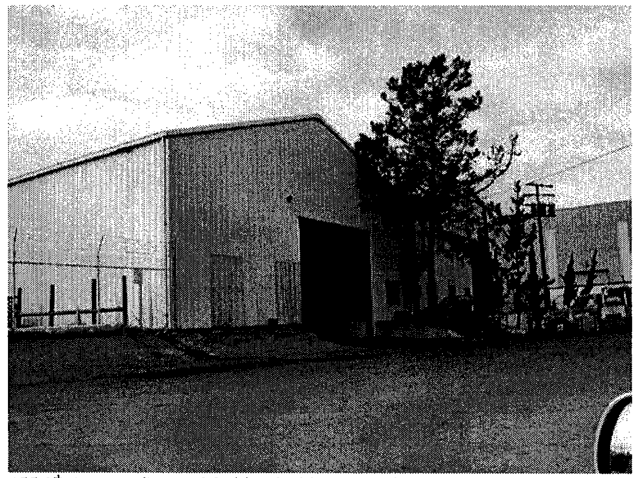
370 8th Avenue (Port of Oakland Bldg # H-228). This one-story office building is rectangular in plan and sits on a concrete foundation. It is clad in metal with portions of the west (primary) facade clad in stucco. The low-pitch gable roof is oriented on an east-west axis and a shed roof bay projects from the primary facade. A metal door is located to the south of the bay, set into the stucco section. The primary facade also contains fixed three-lite windows. The other facades were inaccessible during the site visit.


370 8th Avenue (Port of Oakland Bldg #H-228)
Carey & Co., October 2004

The small, corrugated metal building currently listed as 370 8th Avenue was constructed in the late 1960s or early 1970s (c.1970).[63] It was used as an office in the early 1970s.[64] In the past this address was associated with a large building that was constructed in 1929 and demolished in

1997.[65] With its metal siding and modern windows this can be classified as a late-20th Century industrial vernacular style building.

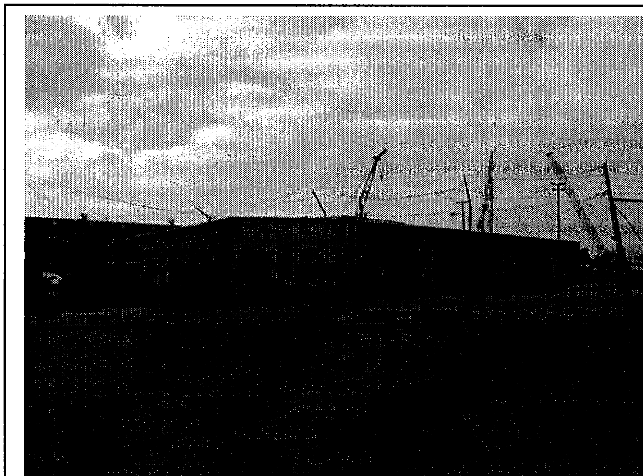
455 9th Avenue (Port of Oakland Bldg # H-314). This one-story light industrial building is rectangular in plan with a double-gable-roof covered in corrugated metal. The building form is characterized by two north-south oriented gable-roof sections that are joined along their long sides to form one building. It is clad in corrugated metal siding and displays a number of roll-up doors – one on the east facade, one on the south, and two on the north. An entry door and metal windows are visible at the north facade. A few trees and ground shrubs further define the entry on the north facade.



455 9th Avenue (Port of Oakland Bldg #H-314)
Carey & Co., October 2004

The building at 455 9th Avenue was constructed in 1965 for Sam Kalman & Co.[66] In the early 1970s it served as a metal working building.[67] With its corrugated metal siding, roll-up doors and modern windows, this can be classified as a late-20th Century industrial vernacular style building.

101 10th Avenue (Port of Oakland Bldg # H-318). This one-story light industrial building is rectangular in plan with a low-pitch gable roof oriented on a north-south axis. It is clad in corrugated metal siding and sits on a concrete block foundation. Three roll-up doors are visible on the west facade and one on the east. Two entry doors and metal windows are located on the west facade. The north facade also contains a window. The south facade was inaccessible during the site visit.



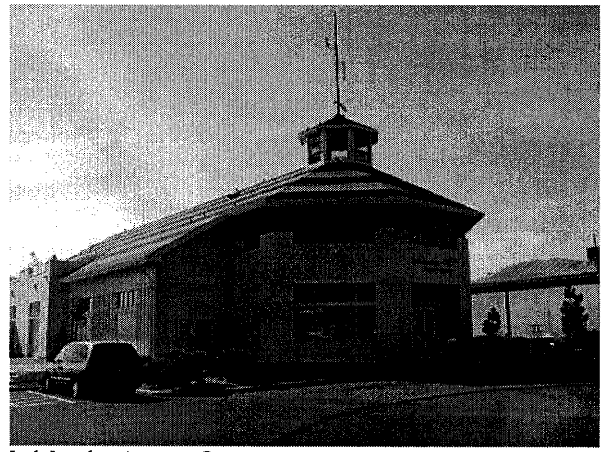
101 10th Avenue (Port of Oakland Bldg #H-318)
Carey & Co., October 2004

The building at 101 10th Avenue was constructed circa 1960.[68] In the early 1970s it served as a tile warehouse.[69] With its corrugated metal siding, roll-up doors and modern windows, this can be classified as a late-20th Century industrial vernacular style building.

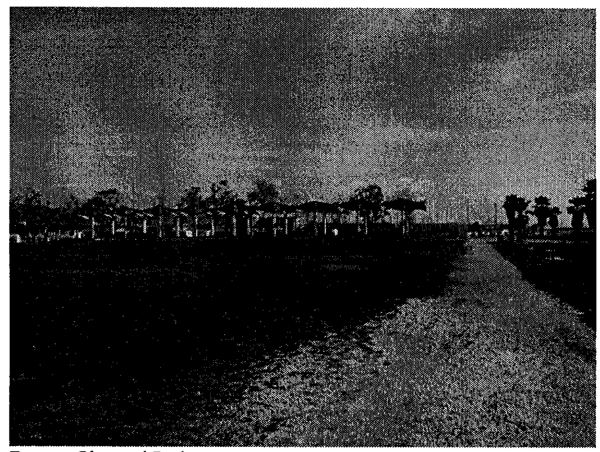
115 Embarcadero East/ Jack London Aquatics Center/Estuary Channel Park. This two-story boathouse building is rectangular in plan with a semi-octagonal northern section. The roof is gable at the south end and hip over the semi-octagonal portion on the north end. A cupola also projects above the octagonal section, topped by a decorative weathervane. The roof is covered in alternating bands of white and green composition shingles. It is located within Estuary Channel

Park. The park contains a field and a number of pieces of public art. A helix-style pergola covers a seating area and a dock projects out over the estuary. Seating and lines of trees are also located at the park.

Estuary Channel Park was created some time during the last quarter of the 20th century.[70] The building at 115 Embarcadero East, located in Estuary Channel Park, was constructed in 2000 and is known as the Jack London Aquatics Center (JLAC), or "The Boathouse."[71] It was designed by VBN Architects and Alan Dreyfuss AIA, and constructed by Hanson-Murikami-Eshima and J.H. Fitzmaurice, Inc. design-build team.[72] Waterside improvements were designed by Concept Marine Associates and constructed by Peak Engineering.[73] With its cupola, striped roof, and modern windows, this can be classified as a post-modern style building. The building is currently operated by the JLAC and owned by the City of Oakland.[74]



Jack London Aquatics Center
Carey & Co., October 2004



Estuary Channel Park
Carey & Co., October 2004

Regulatory Setting - Architectural and Historic Resource Designations

<u>The National Register of Historic Places (NRHP)</u>
The NRHP evaluates a property's historic significance based on the following four criteria:

- Criterion A (Event): Properties that are associated with events that have made a significant contribution to the broad patterns of our history.

- Criterion B (Person): Properties that are associated with the lives of persons significant in our past.

- Criterion C (Design/Construction): Properties that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

- Criterion D (Information Potential): Properties that have yielded, or may be likely to yield, information important in prehistory or history.

In addition to historic significance, an NRHP evaluation includes a determination of physical integrity, or the property's ability to convey its historic significance. Integrity consists of seven aspects: location, design, setting, materials, workmanship, feeling, and association.

All evaluations prepared before August 15, 2003 assigned properties one of the following NRHP status codes (1 to 7), as described below:

1. Listed in the National Register
2. Determined eligible for the National Register in a formal process involving federal agencies
3. Appears eligible for the National Register in the judgment of those completing an evaluation of an historic resource
4. Might be eligible for listing
5. Ineligible for the National Register but of local interest
6. Not eligible for the National Register
7. Undetermined.

Within each of these codes were a series of subcategories, indicating a more detailed description of a resource's status. For example, a building rated "4S7" was considered possibly eligible for individual listing on the NRHP if its architectural integrity were to be restored.

On August 15, 2003 the State Historic Preservation Office prepared new California Historical Resource Status Codes generally based on the earlier NRHP status codes. The new codes also rate buildings 1-7 and include subcategory listings; however, the "4" status code has been effectively eliminated and new subcategories have been created that take into account the California Register of Historical Resources (see below).

<u>The California Register of Historical Resources (CRHR)</u>
The CRHR evaluates a resource's historic significance based on the following four criteria:

- Criterion 1 (Event): Resources associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- Criterion 2 (Person): Resources associated with the lives of persons important to local, California or national history.

- Criterion 3 (Design/Construction): Resources that embody the distinctive characteristics of a type, period, region or method of construction, or that represent the work of a master or possess high artistic values.

- Criterion 4 (Information Potential): Resources that have yielded or have the potential to yield information important to the prehistory or history of the local area, California or the nation.

In addition to historic significance, a CRHR evaluation includes a determination of physical integrity, or the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity consists of seven aspects: location, design, setting, materials, workmanship, feeling, and association. Any resource listed in or determined eligible for listing in the NRHP is automatically eligible for listing in the CRHR.

California Environmental Quality Act (CEQA)
Generally, a resource is considered "historically significant" if it meets the following criteria for listing on the California Register of Historical Resources CEQA Guidelines section 15064.5:

1) A resource listed in, or determined to be eligible for listing in, CRHR.

2) A resource included in a local register of historical resources or identified as significant in an historical resource survey meeting the requirements of Section 5024.1 (g) of the Public Resources Code (PRC), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

   [Section 5024.1(g) states that a resource may be listed in the CRHR if the survey meets all of the following criteria 1) the survey has been or will be included in the State Historic Resources Inventory, 2) the survey was prepared in accordance with office procedures and requirements, 3) the resource is evaluated and determined by the office to have a significance rating of Category 1 to 5 on DPR Form 523, and 4) the survey is over 5 years old and has been updated to identify historical resources which have since become eligible (or ineligible).]

3) A resource identified as significant (e.g., rated 1-5) in a historical resource survey (DPR Form 523), unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

4) 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, provided the determination is supported by substantial evidence in light of the whole record.

5) A resource that is determined by a lead agency to be historically or culturally significant even though it does not meet the other four criteria listed here.

CEQA allows a lead agency to determine that a resource may be a historic resource at its own discretion (Section 15064.5[a]D.4). Although a property may not be listed or determined eligible for listing in the CRHR, included in a local register of local resources, or identified as significant in a DPR Form 523 historical resources survey, the lead agency may still determine that the resource is a "historical resource" for purposes of CEQA.

City of Oakland Local Register of Historical Resources and CEQA
The City of Oakland's local register of historical resources is a list of properties officially designated or recognized as historically significant by the City pursuant to a local ordinance or resolution, unless the preponderance of evidence demonstrates otherwise.

In March 1994, the Oakland City Council adopted a Historic Preservation Element of the General Plan. The Historic Preservation Element (HPE), amended July 21, 1998, sets out a graduated system of ratings and designations resulting from the Oakland Cultural Heritage Survey (OCHS) and Oakland Zoning Regulations. The HPE provides the following policy related to identifying historic resources under CEQA:

- Policy 3.8 (Definition of "Local Register of Historical Resources" and Historic Preservation "Significant Effects" for Environmental Review Purposes): For purposes of environmental review under the CEQA, the following properties will constitute the City of Oakland's Local Register of Historic Resources:

1) All Designated Historic Properties, and

2) Those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance.

3) Until complete implementation of Action 2.1.2 (Redesignation), the "Local Register" will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties.

The HPE includes other policies that seek to encourage the preservation of Oakland's significant historic resources within the context of balanced development and growth. These policies are presented below:

- Policy 3.1. (Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions). This City will make all reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of Existing or Potential Designated Historic Properties (PDHPs) which could result from private or public projects requiring discretionary actions.

- Policy 3.4 (City Acquisition for Historic Preservation Where Necessary). Where all other means of preservation have been exhausted, the City will consider acquiring, by eminent domain if necessary, existing or PDHPs, or portions thereof, in order to preserve them. Such acquisition may be in fee, as conservation easements, or a combination thereof.

- Policy 3.5 (Historic Preservation and Discretionary Permit Approvals). For any project involving the complete demolition of Heritage properties or PDHPs requiring discretionary City permits, the City will make a finding that: 1) the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood; or 2) the public benefits of the proposed project outweigh the benefit of retaining the original structure; or 3) the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood.

- Policy 3.7 (Property Relocation Rather than Demolition). As a condition of approval for all discretionary projects involving demolition of existing or PDHPs, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site.

<u>City of Oakland Historic Property Rating System</u>
The Oakland Cultural Heritage Survey (OCHS) uses a five-tier rating system for individual properties, ranging from "A" (highest importance), "B" (major importance), "C" (secondary importance), "D" (minor importance), and "E" (of no particular interest). This designation is termed the Individual Property Rating of a building and is based on the following criteria:

- Visual Quality/Design: Evaluation of exterior design, interior design, materials and construction, style or type, supporting elements, feelings of association, and importance of designer.

- History/Association: Association of person or organization, the importance of any event, association with patterns, and the age of the building.

- Context: Continuity and familiarity of the building within the district.
- Integrity and Reversibility: Evaluation of the building's condition, its exterior and interior alterations, and any structural removals.

Properties with conditions or circumstances that could change substantially in the future are assigned both an "existing" and a "contingency" rating. The existing rating describes the property under its present condition, denoted by an upper case letter, while the contingency rating denoted by a lower case letter, describes it under possible future circumstances, such as if the property were restored. For example, an property rated "E/b" is considered to be an "E" in its present condition (of no particular interest) but a possible "B" (major importance) if an altered property is restored in the future.

Properties generally appropriate for a "B" rating include those that are especially fine examples of an important style, type, or convention or that are intimately associated with a person, organization, event, or historical pattern of major importance, at the local level or of moderate importance at the state or national level.

District status is indicated as part of a property's rating by a number 1 = Area of Primary Importance, 2 = Area of Secondary Importance, 3 = not in an Area of Primary or Secondary Importance. Additional symbols after the district status indicates whether the property is a contributor to a district (+) or not (-). These symbols placed after the contingency ratings indicate higher (+) or lower (-) ratings. For example a building rated "Cb-2+" has an existing rating of C (secondary importance) but possibly a B (major importance) tending toward secondary importance (B-) if restored, and a contributor to an Area of Secondary Importance.

Existing Significance Ratings of Buildings on the Project Site and in the Project Vicinity
Neither the project site, nor the individual buildings and structures on the project site, have been previously evaluated for NRHP or CRHR status. The overall site has not been previously evaluated for local significance. However one resource, the 9th Avenue Terminal, has been assigned an "A" rating and therefore is considered listed on the City of Oakland's Local Register of Historic Resources. Seven of the buildings and structures on the project site have received "F" ratings by the OCHS (indicating that they are "less than 45 years old or modernized"). See the attached matrix for additional significance ratings and status information.

For this survey, the project vicinity was defined as approximately one city block surrounding the project site. The north boundary was the Union Pacific Railroad tracks, while the west boundary was Oak Street and the east boundary was the location of 12th Avenue if it were to be extended southward across the railroad tracks. The project vicinity also included the property bounded by First Street on the north, Madison Street on the west, and Fallon Street on the east as well as the "5th Avenue Artists Colony" area, a collection of mostly light industrial and residential buildings located along 5th Avenue that is also sometimes referred to as the "5th Avenue Point" or "5th Avenue Marina."

Within this project vicinity area, there are no buildings/structures listed or previously determined eligible for the NRHP, CRHR, or the City of Oakland's Local Register of Historic Resources. Excluding the 5th Avenue Artists Colony, whose status is described in more detail below, there are 16 buildings/structures that have been assigned ratings by the Oakland Cultural Heritage Survey: eight have an "F" rating (indicating that they are "less than 45 years old or modernized"), six have an "F3" rating (indicating that they are "less than 45 years old or modernized" and not located in an Area of Primary or Secondary Importance), and two have a "D3" rating (indicating minor importance and not located in an Area of Primary or Secondary Importance).

The 5th Avenue Artists Colony is not listed on the City of Oakland's Local Register of Historic Resources. This collection of mostly light industrial and residential buildings has been assigned a preliminary district rating of "Area of Secondary Importance" and is considered by OCHS staff as potentially qualifying for a SHPO rating of "5S."[75] For the area's individual buildings, the OCHS has assigned one "C" rating (secondary importance), one "E" rating (of no particular importance), and an unspecified number of the area's buildings have received an "F" rating (indicating that they are "less than 45 years old or modernized").[76]

Overall Project Site Status under CEQA

The Oak to 9th Avenue survey area does not appear to be eligible for listing as a historic district on the NRHP or CRHR and does not appear to be eligible for inclusion on the Local Register of Historic Resources as a local Preservation District ("S-7 Zone"). Since it is not listed or eligible for inclusion on federal, state, or local lists, the area is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

For purposes of listing on the National Register of Historic Places (NRHP), a historic district is defined as a unified entity that "possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development."[77] To be potentially eligible for listing on the NRHP, a historic district must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. The Oak to 9th Avenue neighborhood possesses a concentration of light industrial style buildings, all built between 1930 and 1979. Because the period of significance for this area would be 1930 to 1979 (reflecting the age of the buildings), this group is considered less than 50 years old under NRHP procedures. Therefore it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while together these buildings are an example of 20th century industrial vernacular, the grouping does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that there is the potential to yield exceptionally important information (Criterion D). Since physical integrity is based on historic significance, and this collection of buildings does not appear to posses historic significance, its physical integrity can not be evaluated.

Because period of significance for the project site ends within the last 50 years, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the neighborhood's lack of associations with historic events and people (Criteria 1 & 2), its 20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Finally, in Carey & Co.'s opinion the area does not qualify for inclusion on the Local Register of Historic Resources as a Preservation District because it does not exhibit historical, cultural, educational, aesthetic, or environmental value. The buildings have little in common except their location, which is not in itself an appropriate basis for district designation, and their general light industrial use patterns, which is not unique or special in any way.

Individual Project Site Buildings and Structures Status under CEQA

9th Avenue Terminal. This resource, which includes "a five-berth quay wharf, a transit shed, paved storage yards, and land for industrial tenants,"[78] appears to be individually eligible for listing on the NRHP and CRHR. Additionally, on May 10, 2004 the City of Oakland's Landmark Preservation Advisory Board recommended designation as a City Landmark and assigned the 9th Avenue Terminal a rating of "A" (highest importance). As a result of this "A" rating, the building is considered listed on Oakland's Local Register of Historic Resources. Since the building is locally designated and eligible for inclusion on federal and state lists, the property is considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).[79]

To be potentially eligible for listing on the NRHP or CRHR, a resource must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since the latest section of the resource was constructed 54 years ago, it meets the age requirement. Carey & Co. concurs with the argument for significance included in the Oakland Landmark and S-7 Preservation Combining Zone Application Form for this structure, prepared by Cynthia L. Shartzer and accepted by the City of Oakland's Landmark Preservation Advisory Board on 10 May 2004. This document states that the building appears eligible for individual listing on the NRHP based on significance of the building in the areas of Architecture, Commerce, Maritime Commerce, and Harbor Terminal. These correspond to NRHP Criterion A/CRHR Criterion 1, indicating an association with significant historic events, and NRHP Criterion C/CRHR Criterion 3, indicating that it embodies the distinctive characteristics of the style, type, or period. In terms of integrity, Carey & Co. concurs with the opinions of Shartzer and the Landmark Preservation Advisory Board, which indicate that the resource retains an overall high level of integrity. Major additions to the transit shed structure are in keeping with the original design and intent and therefore both the 1930 and 1951 sections of the transit shed qualify as historic under federal, state, and local criteria. As stated above, the resource also includes a quay wharf, storage yards, and related land which also qualify as historic under federal, state, and local criteria.

105 Embarcadero (Port of Oakland Bldg # G-203). The property at 105 Embarcadero does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 46-53 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's mid-20th century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 105 Embarcadero does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

351 Embarcadero (Port of Oakland Bldg # G-309). The property at 351 Embarcadero does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." However, it is now over 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 46-53 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's mid-20th century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 351Embarcadero does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

603 Embarcadero (Port of Oakland Bldg # H-103). The property at 603 Embarcadero does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 58 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's mid-20th century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 603 Embarcadero does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>845 Embarcadero (Port of Oakland Bldg # H-232)</u>. The property at 845 Embarcadero does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is still considered "less than 45 years old or modernized," and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Although this building was originally constructed more than 50 years ago, it was so radically altered in 1979 that it must by evaluated as a circa-1979 building. Because it is therefore less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a late-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is considered less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its late-20th century industrial vernacular architectural style (Criterion3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 845 Embarcadero does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>296 5th Avenue (Port of Oakland Bldg # H-108)</u>. The property at 296 5th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 46-53 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's mid-20^{th} century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 296 5^{th} Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>295 6^{th} Avenue (Port of Oakland Bldg # H-101)</u>. The property at 295 6^{th} Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 76 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's early-to-mid-20^{th} century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 295 6^{th} Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>296 6^{th} Avenue (Port of Oakland Bldg # H-110)</u>. The property at 296 6^{th} Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is still less than 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark

quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a mid-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its mid-20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 296 6th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

280 6th Avenue (Port of Oakland Bldg # H-112). The property at 280 6th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

To be potentially eligible for listing on the NRHP or CRHR, a building must usually be over 45-50 years old, must have historic significance, and must retain its physical integrity. Since this building was constructed approximately 57 years ago, it meets the age requirement. However, it does not appear to possess sufficient historic significance for listing. In Carey & Co.'s opinion, under NRHP Criterion A/CRHR Criterion 1 archival research yielded no information indicating an association with significant historic events. Under NRHP Criterion B/CRHR Criterion 2, archival research yielded no information indicating an association with significant historic individuals or entities. Under NRHP Criterion C/CRHR Criterion 3, the building's mid-20th century industrial vernacular style does not sufficiently embody the distinctive characteristics of the style, type, or period. Archival research provided no indication that the building has the potential to yield exceptionally important information (NRHP Criterion D/CRHR Criterion 4). Since physical integrity is based on historic significance, and the building does not appear to possess historic significance, its physical integrity can not be evaluated.

Similarly, in Carey & Co.'s opinion the property at 280 6th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

280 6th Avenue (Port of Oakland Bldg # H-113). The property at 280 6th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural

Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is still less than 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a late-20th century pre-fabricated vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its late-20th century pre-fabricated vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 280 6th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>305 6th Avenue (Port of Oakland Bldg # H-104)</u>. The property at 305 6th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is still less than 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a mid-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its mid-20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 305 6th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>370 8th Avenue (Port of Oakland Bldg # H-228)</u>. The Oakland Cultural Heritage Survey rating, "F" ("less than 45 years old or modernized"), and the OHP status code assigned to this address, "7R" ("Submitted as Part of a Reconnaissance Level Survey: NOT EVALUATED"), refers to a demolished building. The current property at 370 8th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey has not rated the building, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a late-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its late-20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 370 8th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>455 9th Avenue (Port of Oakland Bldg # H-314)</u>. The property at 455 9th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is still less than 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a late-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its late-20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 455 9th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>101 10th Avenue (Port of Oakland Bldg # H-318)</u>. The property at 101 10th Avenue does not appear to be individually eligible for listing on the NRHP or CRHR. In 1987, the Oakland Cultural Heritage Survey assigned this property an "F" rating, indicating that it is "less than 45 years old or modernized." As of 2005, this building is equal to or less than 45 years old, and it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a late-20th century industrial vernacular building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its late-20th century industrial vernacular architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.

Similarly, in Carey & Co.'s opinion the property at 101 10th Avenue does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

<u>115 Embarcadero East/ Jack London Aquatics Center/Estuary Channel Park</u>. The property at 115 Embarcadero East does not appear to be individually eligible for listing on the NRHP or CRHR. The Oakland Cultural Heritage Survey did not rate the building, and as of 2005 this building is less than 45 years old; it is Carey & Co.'s professional opinion that the property does not individually appear to be of Oakland Landmark quality. Since it is not listed or eligible for inclusion on federal, state, or local lists, the property is not considered a historic resource under CEQA Guidelines Section 15064.5(a)(1).

Because the building is less than 50 years old, it must be exceptionally significant to qualify for listing on the NRHP. In Carey & Co.'s opinion, archival research yielded no information indicating an association with exceptionally significant historic events or people (Criteria A & B). Moreover, while it is an example of a post-modern building, the building does not exceptionally embody the distinctive characteristics of its style, type, or period (Criterion C). Archival research provided no indication that the building has the potential to yield exceptionally important information (Criterion D).

Because the building is less than 50 years old, for the purposes of CRHR eligibility sufficient information must be known about the context history to provide a foundation for a valid evaluation. In Carey & Co.'s opinion, sufficient information is known regarding the building's lack of associations with historic events and people (Criteria 1 & 2), its post-modern architectural style (Criterion 3), and its lack of potential to yield important information (Criterion 4) to conclude that the property is not CRHR eligible.
Similarly, in Carey & Co.'s opinion the property at 115 Embarcadero East does not appear to be of Oakland Landmark quality because it is not an outstanding or especially fine architectural example and it does not possess extreme or major historical importance.

IMPACTS AND MITIGATION MEASURES

One of the buildings on the project site, the 9th Avenue Terminal, is considered a historic resource under CEQA criteria because it is listed in the City of Oakland's Local Register of Historic Resources and also appears eligible for listing in the National Register of Historic Places as an individual resource.

The following section identifies the significance criteria for determining the level of impact to historic resources, a description of significant direct, indirect and cumulative impacts to historic resources, as well as mitigation measures to reduce impacts to a less-than-significant level, if available.

Significance Criteria

Demolition or substantial alterations to historical resources or their setting would be considered a significant impact under CEQA. Specifically, CEQA Section 15604.5(b) states:

> A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. The significance of an historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion on, or eligibility for inclusion on, a historical resource list (including the CRHR, a local register, and historical resources survey forms (DPR 523).
>
> Generally, a project that follows the *Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards)* shall be considered as mitigated to a level of less than significant impact to an historical resource.

Direct Impacts

The proposed project would demolish all but one of the existing buildings and the western end of the pier structure on the project site to accommodate the new mixed use development. The 9th Avenue Terminal would be substantially demolished. Of the approximately 180,000 total square feet, approximately 160,000 square feet would be demolished and about 20,000 square feet adaptively used for public benefit.

Impact 1. The 9th Avenue Terminal is a historic resource for CEQA purposes. It was constructed in two phases, following construction of the entire pier. In 1930, the original terminal was approximately 504 feet long by 183 feet wide. In 1951, the terminal building was extended by approximately another 500 feet over the open pier to the west. The entire building, including the later addition, is considered a historic resource. By removing approximately 80% of the building, its ability to convey its historic significance would be permanently altered and materially impaired and the structure would no longer be eligible for listing in federal, state and local registers. Although the portion to be saved is the key elevation with the most architectural design treatment, the retention of this portion alone would not be enough to offset the loss of physical characteristics that are the reason for its eligibility at federal, state and local levels. The impact would remain significant.

Implementation of the Mitigation Measure 1 would minimize this impact as much as feasible. However, because the demolition of all or portions of a historical resource represents an irreversible change to the historical resource, this impact would remain significant and unavoidable, even after mitigation. Partial preservation of the head house would fulfill some of the objectives of the following mitigation measure, but would still result in a significant unavoidable impact to these buildings, because it would still result in substantial material impairment.

Impact 2. The pier structure supporting the 9th Avenue Terminal was constructed as part of the initial construction of the Terminal. It was larger than the original transit shed offering open space for storage. The 1951 addition to the transit shed was constructed over a portion the formerly open portion of the pier. The pier is considered an integral part of the 9th Avenue Terminal and is a historic resource for CEQA purposes. The pier will be retrofitted to improve its structural capacity and its southern and western edges will be shaved off, thus reducing its current width and length. With the majority of the transit shed demolished, this portion of the pier will be used as green open space. A walkway will be constructed along the water's edge with new retaining walls, light standards, and pavement. The use of this space as a "shoreline park" will require the addition of new surfacing materials on the majority of the pier, including top soil. By removing the edge and western portion of the pier structure and transforming it into a park, the pier will lose its industrial character and the result will be a significant effect on the environment.

Implementation of Mitigation Measure 1A would minimize this impact, but would not reduce it to a level of less than a significant impact.

Impact 3. The remaining buildings on the proposed project site will be demolished. As these buildings do not possess historic significance, their removal would not a significant effect on the environment and no mitigation measures are necessary.

Extensive new construction of a type of use distinctly different than the existing uses, would diminish the industrial character of the area. However, since this area has not been found to possess historic significance, the proposed new construction would not have a significant impact. Also, the potential of effects any new construction would have on the 9th Avenue Terminal is reduced to a level of less than significant given that the majority of the Terminal itself will be demolished and its standing a historic resource lost. No mitigation measures are necessary.

Impact 4. The project would construct a new mixed-use, multi-story development immediately adjacent to the remaining Bulkhead Building which may not be architecturally compatible with this structure as a potential future Oakland City Landmark.

As described in Mitigation Measure 1C, the City should consider landmark nomination of the Bulkhead Building. If designated as a landmark in the future, the proposed project may affect this building's historical significance through potentially incompatible or incongruous adjacent new construction. As the designs of the proposed mixed use, multi-story project have not been finalized, it is possible that the project could affect its historic setting as an Oakland City Landmark. This would be considered a significant and unavoidable impact.

Impact 5. The project would construct a new mixed-use, multi-story development, diminishing the industrial character of the project site and vicinity, and altering the existing setting of the Fifth Avenue Point neighborhood. The proposed project would be distinctly different than the existing uses on the project site and vicinity. The historic industrial character of the area would be diminished, but the previous and existing marina uses would be retained and improved. However, since no other historic resources have been identified on the project site or in the project vicinity, with the exception of the Ninth Avenue Terminal, the proposed new construction of residential and commercial retail uses would have a less-than-significant impact with regard to the loss of industrial character.

The project would appear as a new and visibly different building type immediately adjacent to Fifth Avenue Point, an artist's community of small industrial and commercial buildings. The project would change the setting of Fifth Avenue Point by replacing empty lots or light industrial uses in the immediate area with larger-scale mixed use residential and retail uses. Fifth Avenue Point has been assigned a preliminary rating as an Area of Secondary Interest (ASI) by OCHS. However, an ASI by definition does not qualify for listing in either the National Register or in the City of Oakland Local Register of Historical Landmarks, and is not considered an historic resource for CEQA purposes as defined by Policy 3.8. As a result, changes to the immediate setting of this neighborhood would have a less-than-significant impact on historic resources.

Mitigation Measure 1. The following measures would be implemented to preserve information about the resource for further study.

A. Photograph the affected historic resources through large-format, black and white photographs meeting the Photographic Specifications of the Historic American Building Survey (HABS). The documentary photographs would be archived locally at the Oakland History Room (OHR) of the Oakland Public Library along with a copy on archival paper of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the 9th Avenue Terminal. Xerographic copies of the photographs would be forwarded to the Oakland Cultural Heritage Survey.

   Even with extensive documentation, however, the demolition of a substantial portion of the building and pier would result in the permanent loss of the historic resource that is associated with Oakland's history. Therefore, this demolition would remain significant and unavoidable.

B. Although the historic resource would no longer retain its historic significance, adaptive use and rehabilitation of the Head House would comply with the Secretary of the Interior's

Standards for the Treatment of Historic Properties. The current concept depicts a design that appears to comply, although their conceptual nature precludes the ability to reach an informed conclusion. The project sponsor would be subject to submitting more detailed designs, including, but not limited to, proposed window treatments, materials palette, awnings, signage, and interior configurations for review. For the latter, particular attention would be paid to the significance of the interior's "Expansive, unimpeded space with exposed trusses",[80] and the statement "A key feature of the transit shed is its expansive interior with exposed trusses."[81] In addition, the first story of the existing office in the Head House, mentioned in Attachment 2 of the Oakland Landmark and S-7 Preservation Combining Zone Application Form for the 9th Avenue Terminal,[82] would be retained and rehabilitated.

The review would be conducted by a professional meeting the standards for Historic Architecture or Historic Preservation Planning as set forth in the Secretary of the Interior's Professional Qualification Standards, 1997 Proposed Changes (not adopted). The results of the review would be forwarded to the Secretary of the Landmarks Preservation Advisory Board, City of Oakland, for final approval.

The implementation of this mitigation would assure that the remaining portion of the historic resource would receive appropriate rehabilitation treatment despite losing its historic significance. Even so, the proposed demolition would remain significant and unavoidable.

C. The City of Oakland should consider landmark nomination of the Bulkhead Building and its associated structures. Even with a subsequent designation as a landmark, the impact of the proposed project would remain significant and unavoidable.

Cumulative Impacts

Impact 4. The 9th Avenue Terminal is the last remaining building from the Oakland Municipal Terminals built in the early 1920s. The Grove Street Terminal, Outer Harbor Terminal and 9th Avenue Terminal were custom- and purpose-built buildings "financed under a 1925 bond of $9,960,000." The partial demolition of the 9th Avenue Terminal would complete the loss of all of the buildings built as the Oakland Municipal Terminals and would result in significant, unavoidable cumulative impacts to historic resources.

Mitigation Measure 4

A. Previously, the demolition of the Grove Street Terminal was mitigated, in part, by the publication of a book on the history of the Port of Oakland, *Pacific Gateway: An Illustrated History of the Port of Oakland.*[83] This mitigation also can be used to partially mitigate the cumulative loss of historic resources, but not to the degree of lessening the impact. A significant adverse impact would still remain.

B. The implementation of Measure 1 also would mitigate the significant, cumulative impact associated with Impact 2, but not to a less-than-significant level. Even with the documentation recommended in Measure 1, the cumulative impact would remain significant and unavoidable.

C. Create a historical exhibit depicting the history of the Oakland Municipal Terminals. At a minimum, the exhibit would consist of the following:

1) Historic photographs of the Grove Street Terminal, Outer Harbor Terminal and 9th Avenue Terminal.

2) Contemporary photographs of the 9th Avenue Terminal taken as recommended in Mitigation A.

3) Examples of manifests, log books, invoices and other artifacts that may be in the possession of the Port of Oakland or private companies, if available. These may be reproductions.

4) Other displayable objects and narrative information.

5) An educative and documentary audio/visual history on the Oak to Ninth area and accessory areas as appropriate, including:

    a. Visual explanation of wharf design versus other types of pier design;

    b. Oral histories of people who worked at the building and/or other maritime industries in the area;

    c. Historic film clips.

    d. History of the development of the harbor;

    e. History of the development of the Port Board;

    f. PWA and WPA involvement at the Port;

    g. World War II uses;

    h. A visual film documentation of the existing warehouse/industrial character of the area, including views from the water to the City.

6) The proposed park design, to be located where the Ninth Avenue Terminal demolition is proposed, should incorporate landscaping, sculptural elements, paths, lighting, etc. that conceptually reference the expanse of the building's footprint and height.

7) The project sponsor would set aside a minimum of 200 square feet within the Head House for exhibit purposes.

Implementation of these mitigations would partially offset the cumulative adverse effect of partially demolishing the 9th Avenue Terminal, but the effect would remain as significant and unavoidable.

ENDNOTES

[1] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 3.

[2] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, page 1, and attachment 2, page 15.
[3] "Railroading History in Niles Canyon," in Niles Canyon Railway [online], cited 21 October 2004, available at: http://www.ncry.org/history.htm.
[4] Sanborn Fire Insurance Maps, "Oakland, California," 1911, 1952, c.1970; maps 174, 211, 212, 213, 214.
[5] "Railroading History in Niles Canyon," in Niles Canyon Railway [online], cited 21 October 2004, available at: http://www.ncry.org/history.htm.
[6] *Official and Historical Atlas Map of Alameda County, California.* (1878; reprint, Fresno, CA: Valley Publishers, 1976).
[7] Woodruff Minor, *Pacific Gateway: An Illustrated History of the Port of Oakland* (Oakland, CA: Port of Oakland, 2000), 6.
[8] Woodruff Minor, *Pacific Gateway: An Illustrated History of the Port of Oakland* (Oakland, CA: Port of Oakland, 2000), 24, 25.
[9] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.
[10] "Oak – to – Ninth Avenue District," in Complete Text of Estuary Policy Plan [online], cited 21 October 2004, available at: http://www.estuaryplan.com/wholetext.htm.
[11] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 5.
[12] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 2.
[13] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 2, 10.
[14] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 10.
[15] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 11.
[16] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 11, 12.
[17] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 12.
[18] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 12.
[19] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 12, 13.
[20] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 3.
[21] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 3.
[22] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 6.
[23] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 22.
[24] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.
[25] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.
[26] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 5.
[27] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 5.
[28] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.

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[29] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 5.
[30] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.
[31] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, attachment 2, page 4.
[32] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 4.
[33] Oakland City Permit Records, City of Oakland Permit Center, Oakland, CA; Sanborn Fire Insurance Maps, "Oakland, California," 1911, 1952, map 174; "Port of Oakland" pamphlet, *Oakland, Port of Oakland 1950-1959 (other than clippings)* file, Oakland History Room, Oakland, CA; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.
[34] Sanborn Fire Insurance Map, "Oakland, California," c.1970, map 174.
[35] Oakland City Permit Records, 351 Embarcadero, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps, "Oakland, California," 1911, 1952, c.1970, map 213; "Port of Oakland" pamphlet, *Oakland, Port of Oakland 1950-1959 (other than clippings)* file, Oakland History Room, Oakland, CA; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.
[36] Sanborn Fire Insurance Map, "Oakland, California," c.1970, map 213.
[37] "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992).
[38] "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211.
[39] Oakland City Permit Records, 603 Embarcadero, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211; "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.
[40] Oakland City Permit Records, 845 Embarcadero, City of Oakland Permit Center, Oakland, CA; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211, 212; "Port of Oakland" pamphlet, *Oakland, Port of Oakland 1950-1959 (other than clippings)* file, Oakland History Room, Oakland, CA; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.
[41] Oakland City Permit Records, 845 Embarcadero, City of Oakland Permit Center, Oakland, California; files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.
[42] Sanborn Fire Insurance Map, 1952, map 211, 212; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, (1954, 1956, 1957, 1958, 1960).
[43] Sanborn Fire Insurance Map, c.1970, map 212.
[44] Oakland City Permit Records, 845 Embarcadero, City of Oakland Permit Center, Oakland, California; "Oakland, California, United States 27 Feb 2004," aerial photograph in TerraServer USA [online], cited 21 October 2004, available at: http://www.terraservert.microsoft.com; files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.; Sanborn Fire Insurance Map c.1970, map 212.
[45] Oakland City Permit Records, City of Oakland Permit Center, Oakland, CA; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211; "Port of Oakland" pamphlet, *Oakland, Port of Oakland 1950-1959 (other than clippings)* file, Oakland History Room, Oakland, CA; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; *Telephone Directory for*

Oakland (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[46] Sanborn Fire Insurance Map, c.1970, map 211.

[47] Sanborn Fire Insurance Maps 1911, 1952, map 211; Oakland City Permit Records, 295 6th Avenue, City of Oakland Permit Center, Oakland, California.

[48] "Port of Oakland" pamphlet, *Oakland, Port of Oakland 1950-1959 (other than clippings)* file, Oakland History Room; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html

[49] *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960).

[50] Sanborn Fire Insurance Map, c.1970, map 211.

[51] "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[52] Oakland City Permit Records, 296 6th Avenue, City of Oakland Permit Center, Oakland, California; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.htm.

[53] Sanborn Fire Insurance Map, c.1970, map 211.

[54] "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[55] Oakland City Permit Records, 280 6th Avenue, City of Oakland Permit Center, Oakland, California.

[56] Sanborn Fire Insurance Map, 1952, map 211.

[57] Oakland City Permit Records, 280 6th Avenue, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954-1981); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[58] Oakland City Permit Records, 280 6th Avenue, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211; "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992); *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1965, 1967, 1980, 1981); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[59] "The 5th Avenue Peninsula Self-Guided Tour," (Center for Land Use Interpretation: Oakland, CA, 1992).

[60] Oakland City Permit Records, 295 6th Avenue, City of Oakland Permit Center, Oakland, California; files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 211; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html. *Note:* Permit records for 295 6th Avenue contained information regarding 305 6th Avenue.

[61] Oakland City Permit Records, 295 6th Avenue, City of Oakland Permit Center, Oakland, California.

[62] Sanborn Fire Insurance Map, c.1970, map 211; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960).

[63] Oakland City Permit Records, 370 8th Avenue, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 212; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html.

[64] Sanborn Fire Insurance Map, c.1970, map 212.

[65] Files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA; Oakland Cultural Heritage Survey, State of California Department of Parks and Recreation Historic Resources Inventory

form for "370 8th Ave/Port #H213," 1994. *Note:* Demolition of older building - that shared this address and had DPR form - in 1997 verified by Gail Lombardi at OCHS office.

[66] Oakland City Permit Records, 455 9th Avenue, City of Oakland Permit Center, Oakland, California; Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 212; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[67] Sanborn Fire Insurance Map, c.1970, map 212.

[68] Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 212, 214; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; *Telephone Directory for Oakland* (Oakland, CA: The Pacific Telephone and Telegraph Company, 1954, 1956, 1957, 1958, 1960); files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[69] Sanborn Fire Insurance Map, c.1970, map 212, 214.

[70] Sanborn Fire Insurance Maps 1911, 1952, c.1970, map 174; "Aerial photographs of the San Francisco Bay Area 1968," in UC Berkeley Earth Sciences & Map Library [online], cited 21 October 2004, available at: http://sunsite.berkeley.edu:8085/AerialPhotos/airphotovbzj/vbzj-2-97.html; files of Oakland Cultural Heritage Survey office, City of Oakland, Oakland, CA.

[71] "A Short History of the JLAC," in The Jack London Aquatic Center [online], cited 27 October 2004, available at: http://www.jlac.org/about/history.html.

[72] "A Short History of the JLAC," in The Jack London Aquatic Center [online], cited 27 October 2004, available at: http://www.jlac.org/about/history.html.

[73] "A Short History of the JLAC," in The Jack London Aquatic Center [online], cited 27 October 2004, available at: http://www.jlac.org/about/history.html.

[74]"A Short History of the JLAC," in The Jack London Aquatic Center [online], cited 27 October 2004, available at: http://www.jlac.org/about/history.html.

[75] Betty Marvin, Oakland Cultural Heritage Survey, personal communication with Sarah Dreller, 18 April 2005.

[76] The OCHS's survey map of the area (no. 213) is labeled, "many small structures all F."

[77] *How to Apply the National Register Criteria for Evaluation*, National Register Bulletin, no. 15 (Washington, D.C.: United States Department of the Interior, 1998), 5.

[78] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 3.

[79] Betty Marvin, Oakland Cultural Heritage Survey, personal communication with Bill Sugaya, 14 April 2005.

[80] Cynthia L. Shartzer, "Attachment 2", *Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal,"* 2004, p. 4.

[81] Cynthia L. Shartzer, "Attachment 2", *Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal,"* 2004, p. 16.

[82] Cynthia L. Shartzer, "Attachment 2", *Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal,"* 2004, p. 16.

[83] Woodruff Minor, *Pacific Gateway: An Illustrated History of the Port of Oakland* (Oakland, CA: Port of Oakland, 2000).

CAREY & CO. INC.
ARCHITECTURE

9th Avenue Terminal EIR
Oakland, California

August 15, 2005

HISTORIC DISTRICT BOUNDARY TECHNICAL MEMORANDUM

Designation as a Historic Resource

Carey & Co. has been asked to submit clarification of our professional opinion regarding the landmark boundary for the 9th Avenue Terminal in Oakland. This resource, which includes "a five-berth quay wharf, a transit shed, paved storage yards, and land for industrial tenants,"[1] appears to be individually eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR). This is the only historic resource, as defined by the California Environmental Quality Act (CEQA), located within the Oak to 9th Avenue project site.

Designation as a City Landmark would conform to the boundary of the resource as defined in the Landmark application prepared by Cynthia L. Shartzer in the "Verbal boundary description" provided on page six (see attached map). This boundary states: "Ninth Avenue Terminal's marginal type wharf has a lower side in Clinton Basin of 312 feet, a main channel face of 952 feet and a Brooklyn Basin north channel face of 1,100 feet." The description further details that the east boundary is Defremery Avenue, the northwest boundary is "open wharf on Inner Harbor Channel waterfront and paved storage yard to Clinton Basin waterfront," the north boundary is 10th Avenue, and the south boundary is the Brooklyn Basin waterfront. Per Shartzer:

> East (Transit Shed Main Entrance) – Defremery Avenue
> N.W. (Transit shed rear entrance) open wharf on Inner Harbor Channel waterfront and paved storage yard to Clinton Basin waterfront
> North (Transit shed land-side elevation) 10th Ave. South: Brooklyn Basin waterfront[2]

The verbal boundary description draws the north boundary of the historic resource along 10th Avenue, bisecting the parcel. This indicates that the portion of the parcel to the north of 10th Avenue is not part of the 9th Avenue Terminal historic resource. Thus the application does not identify the entire parcel on which the historic resource is located as the potential area for an S-7 zone. Carey & Co. agrees with this assessment.

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[1] Cynthia L. Shartzer, Oakland Landmark and S-7 Preservation Combining Zone Application Form for "Ninth Avenue Terminal," 2004, p. 3.
[2] Shartzer, 6.

Setting and Potential as a Historic District
City of Oakland comments raised concerns regarding overall historical/cultural/aesthetic importance of the waterfront and maritime uses in Oakland's history and character. Carey & Co. analyzed the development of Oakland's waterfront in the Oak to 9th Avenue area and provided an historical overview in the "Overall Project Site" description listed under the "Setting" heading (pages 2 to 3 of the technical report). Additional treatment of Oakland's waterfront is contained in the Shartzer report as well as Woodruff Minor's *Pacific Gateway: An Illustrated History of the Port of Oakland.*

Our evaluation of the structures in the proposed project area and this area's potential as a historic district found that it lacked sufficient significance (pages 17 to 18 of the technical report). This is not to say that the area is culturally unimportant, rather our analysis showed that it did not meet the criteria of significance that is required under CEQA. Although the proposed project area has played a role in the development of Oakland's waterfront, this role has not been historically, culturally or aesthetically significant. The 9th Avenue Terminal itself remains historically significant for its association with this development, but in Carey & Co.'s professional opinion the overall project area lacks this significance.

9th Avenue Terminal
Historic Resource Boundary

Carey & Co. Inc.
July 22, 2005

APPENDIX H

Special-Status Species Considered for the Project

APPENDIX H

SPECIAL-STATUS SPECIES CONSIDERED FOR THE PROJECT

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL AND STATE LISTED SPECIES			
ANIMALS			
Invertebrates			
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT/--	Native grasslands on serpentine soils in San Francisco Bay Area. Host plants: *Plantago erecta* (primary); *Castilleja densiflorus,* and *C. exserta*	**Low.** Host plant does not occur on project site. No suitable habitat occurs in the local project vicinity.
Mission blue butterfly *Icaricia icarioides missionensis*	FE/--	Grasslands and coastal scrub with larval food plants (*Lupinus albifrons, L. variicolor,* and *L. formosus*)	**Low.** Host plant does not occur on project site. No suitable habitat occur in the local project vicinity.
San Bruno elfin butterfly *Incisalia mossii bayensis*	FE/--	Coastal scrub and bunchgrass grassland habitats, with larval foodplant, *Sedum spathulifolium*; adults nectar on *Lomatium utriculatum, Achillea millefolium, Arabis blepharophylla, Erysimum franciscanum, Ranunculus californicus*, and *Fragaria californica*	**Low.** Host plant does not occur on project site. All known populations are from San Mateo County. No records or suitable habitat occur in the local project vicinity.
Fish			
Pacific Herring *Clupea harengeus*	MSFCMA	Shallow intertidals of bays, estuaries, and coastlines; including rocks, jetties, sandy beach, and pilings. Spawns October - March	**High.** Suitable spawning habitat occurs in the Oakland Esutary and within the Oakland Inner Harbor. Known spawning populations north end of Golden Gate Bridge and San Francisco water front.
Tidewater goby *Eucyclogobius newberryi*	FE/CSC	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels	**Low.** Know population at Lake Merritt in downtown Oakland. They avoid currents, such as tidal flows, to avoid being flushed to the ocean.
Coho salmon, Central California Coast ESU *Oncorhynchus kisutch*	FT/CE	Central and northern California coastal rivers and streams.	**Moderate**. The project is within the designated ESU; migrating individuals may occasionally move through Bay waters.
Steelhead, Central California Coast ESU *Oncorhynchus mykiss*	FT	Drainages of San Francisco and San Pablo bays, central Calif. Coastal rivers	**Moderate**. The project is within the designated ESU; migrating individuals may occasionally move through Bay waters.

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL AND STATE LISTED SPECIES			
ANIMALS (CONTINUED)			
Chinook Salmon, Central Valley-spring-run ESU *Oncorhynchus tshawytscha*	FT/CT	Central and northern California coastal rivers and streams	**Moderate**. The project is within the designated ESU; migrating individuals may occasionally move through Bay waters.
Fish			
Chinook Salmon, Central Valley (Sacramento) winter-run ESU *Oncorhynchus tshawytscha*	FE/CE	Bay waters	**Moderate**. The project is within the designated ESU; migrating individuals may occasionally move through Bay waters.
Chinook Salmon, Central Valley fall/late fall run *Oncorhynchus tshawytscha*	--/CSC	Spawns in the Sacramento and San Joaquin Rivers and their tributaries	**Moderate**. The project is within the designated ESU; migrating individuals may occasionally move through Bay waters.
Amphibians			
California tiger salamander *Ambystoma californiense*	FPT/CSC	Wintering sites occur in grasslands occupied by burrowing mammals; breed in ponds and vernal pools	**Low.** No suitable habitat in project vicinity.
California red-legged frog *Rana aurora draytonii*	FT/CSC	Breed in stock ponds, pools, and slow-moving streams	**Low.** No suitable habitat in project vicinity.
Birds			
Western snowy plover (nesting coastal population) *Charadrius alexandrinus nivosus*	FT/CSC	Sandy beaches on marine and estuarine shores - requires sandy, gravely, or friable soils for nesting	**Low.** No suitable habitat in project vicinity
American peregrine falcon *Falco peregrinus anatum*	FSC/CE	Nests in cliffs and outcrops usually adjacent to lakes	**Low.** Uncommon non-breeding resident in local vicinity.
California black rail *Laterallus jamaicensis coturniculus*	FSC/CT	Nests and forages in tidal emergent wetland with pickleweed	**Low.** No suitable habitat in project vicinity.
California clapper rail *Rallus longirostris obsoletus*	FE/CE	Nests and forages in emergent wetland with pickleweed, cordgrass, and bulrush	**Low.** No suitable habitat present.
California brown pelican (nesting colony) *Pelecanus occidentalis californicus*	FE/CE	Forages in open water – roosting in flatlands such as berms and islands	**Low (Nesting).** Occasional visitor in shore areas of Marina, especially on ocean side. No nesting in project region.

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL AND STATE LISTED SPECIES			
ANIMALS (CONTINUED)			
Birds			
California least tern (nesting colony) *Sterna antillarum browni*	FE/CE	Nests along the coast from San Francisco Bay south to northern Baja California - colonial breeder on bare or sparsely vegetated flat substrates including sand beaches, alkali flats, land fills, or paved areas	**Low**. Could forage within the Oakland Inner Harbor. No suitable nesting habitat occurs within the vicinity of the project area. Closest know nesting location is across the bay at the Alameda Naval Air Station 3.2 miles away (CNDDB, 2005).
Mammals			
Salt marsh harvest mouse *Reithrodontomys raviventris raviventris*	FE/CE	Prefers saline emergent marsh with dense stands of pickleweed and associated upland areas during high tides.	**Low.** No suitable pickleweed vegetation occurs in project vicinity. .
Steller (northern) sea lion *Eumetopias jubatus*	MMPA	Pacific Coast south to Santa Rosa Island, CA.	**Low**. Migrating individuals may occasionally move through Pacific Ocean outside of the Marina.
Harbor seal *Phoca vitulina*	MMPA	Littoral in nature, colonies found on protected tidal rocks, reefs, and breakwaters	**Moderate** Individual harbor seals may occur in the Oakland Inner Harbor. Closest known haul out site is located at the Alameda Breakwater Gap less than five miles from the project site (CNDDB, 2005).
California sea lion *Zalophus californianus*	MMPA	Littoral in nature, colonies found on protected tidal rocks, reefs, and breakwaters	**Low.** Project site provides no haul out areas. Populations observed west of project area, Pier 39 – San Francisco, and Angel's Island. Incidental within project area.
PLANTS			
Marsh sandwort *Arenaria paludicola*	FE/CE/1B	Marsh and swamps, growing through dense mats of *Typha*, *Juncus*, etc.	**Low.** No habitats on the project site support this species.
Robust spineflower *Chorizanthe robusta* var. *robusta*	FE/--/1B	Sandy terraces and bluffs, or in loose sand	**Low.** No habitats on the project site support this species.
Santa Cruz tarplant *Holocarpha macradenia*	FT/CE/1B	Coastal prairie, valley and foothill grassland	**Low.** No habitats on the project site support this species.
Beach layia *Layia carnosa*	FE/CE/1B	Sparsely vegetated semi-stabilized dunes, usually behind foredunes	**Low.** No habitats on the project site support this species.

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL AND STATE LISTED SPECIES			
PLANTS (CONTINUED)			
San Francisco popcorn flower *Plagiobotrys diffusus*	FSC/CE/1B	Coastal prairie; grassland with marine influence	**Low.** No habitat available at the project site.
FEDERAL OR STATE SPECIES OF SPECIAL CONCERN			
ANIMALS			
Fish			
Sacramento perch *Archoplites interruptus*	FSC/CSC	Prefer warm water. Aquatic vegetation is essential for young. Tolerate wide range of physio-chemical water conditions	**Low.** No habitat available at the project site.
Amphibians			
Foothill yellow-legged frog *Rana boylii*	FSC/CSC	Fast-moving streams and rivers in chaparral, forests, and woodlands	**Low.** No habitat available at the project site.
Birds			
Cooper's hawk *Accipiter cooperii*	--/ CSC	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains, also, live oaks	**Moderate.** Ornamental trees on the project site provide suitable habitat. CNDDB reports one known occurrence at Lakeshore Park less than 5 miles from the project area.
Northern harrier *Circus cyaneus*	--/CSC	Nests in coastal salt and freshwater marshes. Nests and forages in grasslands, from salt grass in desert sink to mountains	**Low (breeding).** No habitat available at the project site.
California yellow warbler *Dendroica petechia brewsteri*	--/CSC	Nests in riparian areas dominated by willows, cottonwoods, sycamores, alders, or mature chaparral; may use urban areas near waterways	**Low.** No habitat available at the project site.
White-tailed kite *Elanus leucurus*	FSC/CFP	Nests in rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodlands	**Low.** No habitat available at the project site.

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL OR STATE SPECIES OF SPECIAL CONCERN			
ANIMALS (CONTINUED)			
Birds			
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	FSC/CSC	Nests in fresh and saltwater marshes, needs thick continuous cover down to water surface for foraging	**Low.** No habitat available at the project site.
Double-crested cormorant (rookery site) *Phalacrocorax auritus*	--/CSC	Forages in a variety of habitats and nests in riparian forests or on protected islands.	**Low (Nesting).** Nesting at Bay Bridge, but no such habitat occurs in the project vicinity (CNDDB, 2003).
Mammals			
Pallid bat *Antrozous pallidus*	--/CSC	Day roosts are mainly in caves, crevices, and mines; also found in buildings and under bark. Forages in open lowland areas	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Greater western mastiff bat *Eumops perotis californicus*	FSC/CSC	Needs rock crevices, grassland, coastal scrub; may use urban areas	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Long-eared myotis *Myotis evotis*	FSC/--	Roosts in buildings, crevices, under bark, snags, and in forests. Caves are the primary night roost	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Fringed myotis *Myotis thysansodes*	FSC/--	Roosts in caves, old buildings, and under bark	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Long-legged myotis *Myotis volans*	FSC/--	Roosts in rock crevices, buildings, tree bark, snags, mines, and caves. Trees are perhaps the most important daytime roosts for this species.	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Yuma myotis *Myotis yumanensis*	FSC/CSC	Roosts in caves, old buildings, and under bark. Forms maternity colony in the spring.	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Townsend's western big-eared bat *Corynorhinus townsendii*	FSC/CSC	Roosts in caves, mines, buildings or other human-made structures for roosting. Forages in open lowland areas	**Low.** Abandoned buildings located on the project site but no suitable foraging habitat present on project site..
Salt marsh vagrant shrew *Sorex vagrans halicoetes*	FSC/CSC	Inhabits tidal salt marshes dense with pickleweed around south San Francisco Bay	**Low.** No habitat available at the project site.

Common Name *Scientific Name*	Listing Status USFWS/CDFG/CNPS	Habitat Requirements	Potential Species Occurrence In Project Study Area
FEDERAL OR STATE SPECIES OF SPECIAL CONCERN			
PLANTS			
Bent-flowered fiddleneck *Amsinckia lunaris*	FSC/--/1B	Cismontane woodland, valley and foothill grasslands.	**Low.** No habitat occurs in the project vicinity.
Franciscan manzanita *Arctostaphylos hookeri* ssp. *franciscana*	FSC/--/1A	Serpentine outcrops in chaparral and serpentinite coastal scrub.	**Low.** No habitat occurs in the project vicinity.
Montara manzanita *Arctostaphylos imbricate*	FSC/--/1B	Chaparral, coastal scrub. Endemic to San Mateo County	**Low.** No habitat occurs in the project vicinity.
Alkali milk-vetch *Astragalus tener* var. *tener*	FSC/--/1B	Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools.	**Low.** No habitat occurs in the project vicinity.
San Francisco spineflower *Chorizanthe cuspidata* var. *cuspidata*	FSC/--/1B	Sandy terraces and slopes of coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub	**Low.** No habitat occurs in the project vicinity.
Point Reyes bird's beak *Cordylanthus maritimus* ssp. *palustris*	FSC/--/1B	Usually found in coastal salt marsh with *Salicornia* sp., *Distichlis* sp., *Jaumea* sp., and *Spartina* sp.	**Low.** No habitat occurs in the project vicinity.
Saline clover *Trifolium depauperatum* var. *hydrophilum*	FSC/--/1B	Marshes and swamps, valley and foothill grassland, vernal pools	**Low.** No habitat occurs in the project vicinity.
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	FSC/--/1B	Coastal bluff scrub, coastal scrub, valley, and foothill grassland; slopes with sandy or serpentinite soils	**Low.** No habitat occurs in the project vicinity.
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	FSC/--/1B	In openings of closed-coned coniferous forest, coastal scrub, maritime chaparral; sandy, or gravelly soils	**Low.** No habitat occurs in the project vicinity.
Rose linanthus *Linanthus rosaceus*	FSC/--/1B	Coastal bluff scrub.	**Low.** No habitat occurs in the project vicinity.

Status codes:

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

FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPT = Listed as Proposed Threatened by the Federal Government
FSC = Federal Species of Concern
FC3c = Too widespread and/or not threatened
FD = Delisted. Status monitored for five years.

State Categories (California Department of Fish and Game)

CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CR = Listed as Rare by the State of California

CSC = California Species of Special Concern
CFP = Listed as Fully Protected by the State of California
* = California Natural Diversity Data Base Special Animals List

MMPA= Protection under the Marine Mammal Protection Act
MSFCMA=Protection under Magnuson-Stevens Fishery Conservation and Management Act

California Native Plant Society (CNPS)

List 1A = Plants presumed extinct in California
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but more common
List 3 = Plants about which more information is needed
List 4 = Plants of limited distribution

-- No listing status

APPENDIX I

Traffic, Air Quality, and Noise Analysis of Alternatives

NOISE TECHNICAL APPENDIX – ALTERNATIVES

Road Segment	PM Peak-Hour Noise Level, dBA, Leq											
	Existing	Cumulative (Year 2025) No Project	Cumulative (Year 2025) plus Project	Cumulative (Year 2025) plus Alt. 1B	Incremental Increase (Existing vs. Cumulative Plus Alt. 1B)	Significant? (Yes or No)[c]	Cumulative (Year 2025) plus Alt. 2	Incremental Increase (Existing vs. Cumulative Plus Alt. 2)	Significant? (Yes or No)[c]	Cumulative (Year 2025) plus Alt. 3	Incremental Increase (Existing vs. Cumulative Plus Alt. 3)	Significant? (Yes or No)[c]
1. 5th Street (between Madison and Oak Streets)[a]	71.7	73.9	74.4	74	2.3	No	74.2	2.5	No	73.9	2.2	No
2. Oak Street (between 5th Street and Embarcadero)[a]	69.6	72.5	73.8	72.9	3.3	**Yes**	73.2	3.6	**Yes**	72.7	3.1	**Yes**
3 Embarcadero (north of 5th Avenue)[b]	68.3	69	72.6	70.3	2	No	71.2	2.9	No	69.8	1.5	No
4. Embarcadero (between 5th Avenue and 6th Avenue)[b]	71	71.6	74.7	72.7	1.7	No	73.7	2.7	No	72.3	1.3	No
5. Embarcadero (between 6th Avenue and 10th Avenue)[b]	70.3	70.3	73.7	72	1.7	No	72.7	2.4	No	70.9	0.6	No
6. 5th Avenue (west of Embarcadero)[a]	50.8	59.8	65.5	62.6	11.8	**Yes**	59.8	9	**Yes**	59.8	9	**Yes**
7. East 8th Street (between Oak Street and 5th Avenue)[a]	72	74.7	75.1	74.8	2.8	No	74.9	2.9	No	74.8	2.8	No
8. 5th Avenue (between East 8th Street and Embarcadero)[a]	70	70.7	73	73	3	No	71.5	1.5	No	72.1	2.1	No

AIR TECHNICAL APPENDIX - ALTERNATIVES

Scenario	Criteria Air Pollutant Emissions (lbs/day)			
	ROG	NOx	PM10	CO
Project				
Cumulative Plus Project (Year 2025)	73	54	**223**	667
Existing	20	18	13	227
Net Cumulative Plus Project Emissions	52	36	**210**	440
Significant? (Yes or No)	No	No	Yes	No
Alternative 1B - No Project/ Estuary Policy Plan				
Cumulative Plus Alternative 1B (Year 2025)	21	16	62	201
Existing	20	18	13	227
Net Cumulative Plus Alt. 1B Emissions	1	-2	49	-26
Significant? (Yes or No)	No	No	No	No
Alternative 2 - Enhanced Open Space				
Cumulative Plus Alternative 2 (Year 2025)	43	33	**136**	403
Existing	20	18	13	227
Net Cumulative Plus Alt. 2 Emissions	23	15	**122**	176
Significant? (Yes or No)	No	No	Yes	No
Alternative 3 - Reduced Density				
Cumulative Plus Alternative 3 (Year 2025)	16	13	53	154
Existing	20	18	13	227
Net Cumulative Plus Alt. 3 Emissions	-4	-5	40	-72
Significant? (Yes or No)	No	No	No	No

TRAFFIC SUMMARY (PROJECT IMPACT B.2) - ALTERNATIVES

I/S I.D.	Location	Control	2025 No Project		2025 With 540 Unit		2025 With Estuary Plan		2025 With 1,800 Unit		2025 With Project		2025 No Project		2025 With 540 Unit		2025 With Estuary Plan		2025 With 1,800 Unit		2025 With Project	
			AM PEAK HOUR										PM PEAK HOUR									
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Webster Street/Atlantic Avenue	Signal	74.6	E	No	No	No	No	No	No	Yes	Yes										
3	Embarcadero/Broadway	Stop											21.3	C	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	I-880 EB On-Ramp/Broadway/5th Street	Stop											>80	F	No	No	Yes	Yes	Yes	Yes	Yes	Yes
9	Oak Street/5th Street	Signal											60.7	E	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	Jackson Street/6th Street	Signal	77	E	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	>80	F	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	Harrison Street/West Grand Avenue	Signal	>80	F	No	No	No	No	No	No	Yes	Yes										
30	Foothill Boulevard/Lakeshore Avenue	Signal	58.1	E	No	No	No	No	Yes	Yes	Yes	Yes										
34	Lakeshore Avenue/MacArthur Boulevard	Signal											>80	F	No	No	Yes	Yes	Yes	Yes	Yes	Yes
35	Lakeshore Avenue/Lake Park	Signal											55.8	E	No	No	No	No	Yes	Yes	Yes	Yes
36	Embarcadero/5th Avenue	Stop/Signal											>50	F	No	No	No	No	Yes	Yes	Yes	Yes
37	Embarcadero/I-880 NB Off-Ramp	Stop/Signal											14.8	B	No	No	No	No	Yes	Yes	Yes	Yes
38	Embarcadero/I-880 SB On-Ramp	Stop											14.3	B	No	No	No	No	No	No	Yes	Yes
40	5th Avenue/7th/8th	Signal													No	No	No	No	No	No	Yes	Yes
41	14th Avenue/7th Street/E. 12 Street (SB)	Signal											72	E	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	14th Avenue (WB)/Foothill Boulevard	Signal	54.1	D	No	No	Yes	Yes	No	No	Yes	Yes										
50	14th Avenue (EB)/Foothill Boulevard	Signal											>80	F	No	No	No	No	No	No	Yes	Yes
52	23rd Avenue/16th Street	Signal											70.7	E	No	No	Yes	Yes	Yes	Yes	Yes	Yes

TRAFFIC SUMMARY (CUMULATIVE IMPACT B.3) - ALTERNATIVES

			2025 With 540 Unit		2025 With Estuary Plan		2025 With 1,800 Unit		2025 With Project		2025 With 540 Unit		2025 With Estuary Plan		2025 With 1,800 Unit		2025 With Project	
			AM PEAK HOUR								PM PEAK HOUR							
I/S I.D.	Location	Control	LOS	Percent	LOS	Percent	LOS	Percent	LOS	Percent	LOS	Percent	LOS	Percent	LOS	Percent	LOS	Percent
1	Webster Street/Atlantic Avenue	Signal	No	No	No	No	No	No	Yes	Yes	No	No	No	No	No	No	Yes	Yes
3	Embarcadero/Broadway	AWS									Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	Embarcadero/Oak Street	Signal									Yes	Yes	Yes	Yes	Yes	Yes	No	No
5	I-880 EB On-Ramp/Broadway/5th Street	Stop									Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Oak Street/5th Street	Signal									No	No	No	Yes	Yes	Yes	Yes	Yes
12	Jackson Street/6th Street	Signal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	Yes
30	Foothill Boulevard/Lakeshore Avenue	Signal	No	No	No	No	No	No	Yes	Yes								
34	Lakeshore Avenue/MacArthur Boulevard	Signal									No	No	No	No	No	No	Yes	Yes
35	Lakeshore Avenue/Lake Park	Signal									No	No	No	No	Yes	Yes	Yes	Yes
36	Embarcadero/5th Avenue	Stop	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	Embarcadero/I-880 NB Off-Ramp	Stop											Yes	Yes	Yes	Yes	Yes	Yes
38	Embarcadero/I-880 SB On-Ramp	Stop															Yes	Yes
40	5th Avenue/7th/8th	Signal															Yes	Yes
41	14th Avenue/7th Street/E. 12 Street (SB)	Signal									No	No	No	No	Yes	Yes	Yes	Yes
52	23rd Avenue/16th Street	Signal									No	No	No	Yes	Yes	Yes	Yes	Yes

APPENDIX J

Diesel Particulate Matter (DPM) Emissions Technical Documentation

Appendix J: Summary of yearly DPM emissions (lbs) from all sources in the vicinity of the Project (not related to the Project)

	Project		I-880 trucks	Trains	Boats	*TOTALS (lbs)*
	construction	*project trucks*				
2007	553.71	0	5,508.25	261.92	441.52	***6,765.40***
2008	2,227.19	0	5,049.06	259.01	441.52	***7,976.79***
2009	844.36	0	4,608.69	256.10	441.52	***6,150.68***
2010	1,567.91	35.95	4,117.40	253.19	441.52	***6,415.97***
2011	1,282.22	36.91	3,810.07	250.28	436.62	***5,816.10***
2012	929.72	37.87	3,595.27	247.37	431.71	***5,241.94***
2013	542.92	38.83	3,413.85	244.46	426.81	***4,666.87***
2014	1,049.32	39.80	3,225.99	241.55	421.90	***4,978.55***
2015	507.36	40.76	3,069.09	238.64	417.00	***4,272.83***
2016	1,064.69	41.72	2,874.23	235.73	412.09	***4,628.45***
2017	1,004.09	42.68	2,702.78	232.82	407.18	***4,389.56***
2018	526.55	43.65	2,528.85	229.91	402.28	***3,731.23***
2019	0	44.61	2,380.82	227.00	397.37	***3,049.80***
2020	0	45.57	2,234.67	224.09	392.47	***2,896.80***
2021	0	46.54	2,135.61	221.18	387.56	***2,790.88***
2022	0	47.50	2,037.80	218.27	382.65	***2,686.22***
2023	0	48.46	1,962.08	215.36	377.75	***2,603.64***
2024	0	49.42	1,811.58	212.45	372.84	***2,446.29***
2025	0	50.39	1,811.75	209.53	367.94	***2,439.61***
2026	0	*49.08*	1,764.99	*207.23*	363.03	***2,384.34***
2027	0	*48.24*	1,734.49	*204.95*	358.13	***2,345.81***
2028	0	*46.94*	1,687.73	*202.70*	353.22	***2,290.58***
2029	0	*46.12*	1,658.49	*200.47*	349.33	***2,254.41***
2030	0	*45.47*	1,635.11	*198.26*	345.49	***2,224.33***
2031	0	*44.69*	1,606.95	*196.08*	341.69	***2,189.41***
2032	0	*44.68*	1,606.78	*193.92*	337.93	***2,183.32***
2033	0	*44.06*	1,584.48	*191.79*	334.22	***2,154.55***
2034	0	*43.98*	1,581.33	*189.68*	330.54	***2,145.53***
2035	0	*43.92*	1,579.23	*187.59*	326.90	***2,137.65***
2036	0	*43.89*	1,578.27	*185.53*	323.31	***2,131.00***
2037	0	*43.22*	1,553.96	*183.49*	319.75	***2,100.41***
2038	0	*43.19*	1,553.01	*181.47*	316.23	***2,093.90***
2039	0	*43.16*	1,552.06	*179.48*	312.76	***2,087.46***
2040	0	*43.02*	1,546.87	*177.50*	309.31	***2,076.71***
						116,747.02

Screen 3 Runs:

Construction -

```
05/31/05

14:45:15
  ***  SCREEN3 MODEL RUN  ***
  *** VERSION DATED 95250 ***

 DPM for Construction, assumes 1008 lb./yr for 12 years

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE                   =         AREA
    EMISSION RATE (G/(S-M**2))    =      .260000E-07
    SOURCE HEIGHT (M)             =       1.0000
    LENGTH OF LARGER SIDE (M)     =    1280.0000
    LENGTH OF SMALLER SIDE (M)    =     450.0000
    RECEPTOR HEIGHT (M)           =        .0000
    URBAN/RURAL OPTION            =        URBAN
    MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION


 BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

 *** STABILITY CLASS  4 ONLY ***
 *** 10-METER WIND SPEED OF   2.00 M/S ONLY ***

 **********************************
 *** SCREEN AUTOMATED DISTANCES ***
 **********************************

 *** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

   DIST     CONC             U10M   USTK   MIX HT   PLUME   MAX DIR
    (M)   (UG/M**3)   STAB  (M/S)  (M/S)    (M)    HT (M)   (DEG)
 -------  ----------  ----  -----  -----  ------   ------  -------
    100.   .3618        4     2.0    2.0   640.0     1.00      7.
    200.   .3662        4     2.0    2.0   640.0     1.00      1.
    300.   .3751        4     2.0    2.0   640.0     1.00      0.
    400.   .3829        4     2.0    2.0   640.0     1.00      0.
    500.   .3897        4     2.0    2.0   640.0     1.00      0.
    600.   .3959        4     2.0    2.0   640.0     1.00      0.
    700.   .2956        4     2.0    2.0   640.0     1.00     19.
    800.   .1770        4     2.0    2.0   640.0     1.00     16.
    900.   .1384        4     2.0    2.0   640.0     1.00     12.
   1000.   .1160        4     2.0    2.0   640.0     1.00      6.
   1100.   .1006        4     2.0    2.0   640.0     1.00      1.
   1200.   .8857E-01    4     2.0    2.0   640.0     1.00      0.
   1300.   .7878E-01    4     2.0    2.0   640.0     1.00      0.
   1400.   .7064E-01    4     2.0    2.0   640.0     1.00      0.
   1500.   .6379E-01    4     2.0    2.0   640.0     1.00      0.
   1600.   .5794E-01    4     2.0    2.0   640.0     1.00      0.
   1700.   .5294E-01    4     2.0    2.0   640.0     1.00      0.
   1800.   .4861E-01    4     2.0    2.0   640.0     1.00      0.
   1900.   .4483E-01    4     2.0    2.0   640.0     1.00      0.
   2000.   .4154E-01    4     2.0    2.0   640.0     1.00      0.
```

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  2100.   .3863E-01    4      2.0      2.0    640.0     1.00        0.
  2200.   .3605E-01    4      2.0      2.0    640.0     1.00        0.
  2300.   .3377E-01    4      2.0      2.0    640.0     1.00        0.
  2400.   .3171E-01    4      2.0      2.0    640.0     1.00        0.
  2500.   .2987E-01    4      2.0      2.0    640.0     1.00        0.
  2600.   .2821E-01    4      2.0      2.0    640.0     1.00        0.
  2700.   .2670E-01    4      2.0      2.0    640.0     1.00        0.
  2800.   .2533E-01    4      2.0      2.0    640.0     1.00        0.
  2900.   .2408E-01    4      2.0      2.0    640.0     1.00        0.
  3000.   .2294E-01    4      2.0      2.0    640.0     1.00        0.
  3500.   .1847E-01    4      2.0      2.0    640.0     1.00        0.
  4000.   .1541E-01    4      2.0      2.0    640.0     1.00        0.
  4500.   .1324E-01    4      2.0      2.0    640.0     1.00        0.
  5000.   .1165E-01    4      2.0      2.0    640.0     1.00        0.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND   100. M:
   670.   .3985        4      2.0      2.0    640.0     1.00       17.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION       MAX CONC   DIST TO  TERRAIN
  PROCEDURE       (UG/M**3)   MAX (M)   HT (M)
--------------  -----------  -------  -------
SIMPLE TERRAIN    .3985         670.       0.


***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

Traffic and Trains -

```
05/31/05

16:17:51
  ***   SCREEN3 MODEL RUN   ***
  *** VERSION DATED 95250 ***

 2010 I-880 Trucks and Trains

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE                   =          AREA
    EMISSION RATE (G/(S-M**2))    =      .660000E-06
    SOURCE HEIGHT (M)             =        1.0000
    LENGTH OF LARGER SIDE (M)     =      300.0000
    LENGTH OF SMALLER SIDE (M)    =       30.0000
    RECEPTOR HEIGHT (M)           =        1.0000
    URBAN/RURAL OPTION            =         URBAN
    ANGLE RELATIVE TO LONG AXIS =       90.0000


 BUOY. FLUX =      .000 M**4/S**3;  MOM. FLUX =      .000 M**4/S**2.

 *** STABILITY CLASS  4 ONLY ***
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*** 10-METER WIND SPEED OF   2.00 M/S ONLY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

   DIST     CONC              U10M    USTK   MIX HT    PLUME   MAX DIR
    (M)    (UG/M**3)   STAB  (M/S)   (M/S)    (M)     HT (M)   (DEG)
 -------  ----------   ----  -----   -----   ------   ------  -------
    100.   .5738         4     2.0     2.0    640.0     1.00      90.
    200.   .2906         4     2.0     2.0    640.0     1.00      90.
    300.   .1962         4     2.0     2.0    640.0     1.00      90.
    400.   .1475         4     2.0     2.0    640.0     1.00      90.
    500.   .1162         4     2.0     2.0    640.0     1.00      90.
    600.   .9376E-01     4     2.0     2.0    640.0     1.00      90.
    700.   .7715E-01     4     2.0     2.0    640.0     1.00      90.
    800.   .6450E-01     4     2.0     2.0    640.0     1.00      90.
    900.   .5477E-01     4     2.0     2.0    640.0     1.00      90.
   1000.   .4712E-01     4     2.0     2.0    640.0     1.00      90.
   1100.   .4100E-01     4     2.0     2.0    640.0     1.00      90.
   1200.   .3605E-01     4     2.0     2.0    640.0     1.00      90.
   1300.   .3202E-01     4     2.0     2.0    640.0     1.00      90.
   1400.   .2864E-01     4     2.0     2.0    640.0     1.00      90.
   1500.   .2584E-01     4     2.0     2.0    640.0     1.00      90.
   1600.   .2344E-01     4     2.0     2.0    640.0     1.00      90.
   1700.   .2141E-01     4     2.0     2.0    640.0     1.00      90.
   1800.   .1965E-01     4     2.0     2.0    640.0     1.00      90.
   1900.   .1811E-01     4     2.0     2.0    640.0     1.00      90.
   2000.   .1678E-01     4     2.0     2.0    640.0     1.00      90.
   2100.   .1561E-01     4     2.0     2.0    640.0     1.00      90.
   2200.   .1457E-01     4     2.0     2.0    640.0     1.00      90.
   2300.   .1363E-01     4     2.0     2.0    640.0     1.00      90.
   2400.   .1280E-01     4     2.0     2.0    640.0     1.00      90.
   2500.   .1206E-01     4     2.0     2.0    640.0     1.00      90.
   2600.   .1139E-01     4     2.0     2.0    640.0     1.00      90.
   2700.   .1078E-01     4     2.0     2.0    640.0     1.00      90.
   2800.   .1022E-01     4     2.0     2.0    640.0     1.00      90.
   2900.   .9715E-02     4     2.0     2.0    640.0     1.00      90.
   3000.   .9251E-02     4     2.0     2.0    640.0     1.00      90.
   3500.   .7441E-02     4     2.0     2.0    640.0     1.00      90.
   4000.   .6199E-02     4     2.0     2.0    640.0     1.00      90.
   4500.   .5317E-02     4     2.0     2.0    640.0     1.00      90.
   5000.   .4678E-02     4     2.0     2.0    640.0     1.00      90.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    100. M:
    100.   .5738         4     2.0     2.0    640.0     1.00      90.

*********************************
*** SCREEN DISCRETE DISTANCES ***
*********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
60.	.9539	4	2.0	2.0	640.0	1.00	90.
75.	.7634	4	2.0	2.0	640.0	1.00	90.
90.	.6369	4	.2.0	2.0	640.0	1.00	90.
120.	.4792	4	2.0	2.0	640.0	1.00	90.
160.	.3613	4	2.0	2.0	640.0	1.00	90.
180.	.3220	4	2.0	2.0	640.0	1.00	90.

```
***************************************
*** SUMMARY OF SCREEN MODEL RESULTS ***
***************************************
```

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.9539	60.	0.

```
***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

Boats -
05/31/05

14:57:04

```
  ***  SCREEN3 MODEL RUN  ***
  *** VERSION DATED 95250 ***

 Boats (2007)

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE                  =        AREA
    EMISSION RATE (G/(S-M**2))   =     .600000E-07
    SOURCE HEIGHT (M)            =       3.0000
    LENGTH OF LARGER SIDE (M)    =     600.0000
    LENGTH OF SMALLER SIDE (M)   =      60.0000
    RECEPTOR HEIGHT (M)          =       1.0000
    URBAN/RURAL OPTION           =        URBAN
    ANGLE RELATIVE TO LONG AXIS  =      90.0000


 BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

 *** STABILITY CLASS  4 ONLY ***
 *** 10-METER WIND SPEED OF   2.00 M/S ONLY ***

 **********************************
 *** SCREEN AUTOMATED DISTANCES ***
 **********************************

 *** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***
```

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
100.	.1042	4	2.0	2.0	640.0	3.00	90.
200.	.5283E-01	4	2.0	2.0	640.0	3.00	90.
300.	.3570E-01	4	2.0	2.0	640.0	3.00	90.
400.	.2714E-01	4	2.0	2.0	640.0	3.00	90.
500.	.2200E-01	4	2.0	2.0	640.0	3.00	90.
600.	.1856E-01	4	2.0	2.0	640.0	3.00	90.
700.	.1608E-01	4	2.0	2.0	640.0	3.00	90.
800.	.1417E-01	4	2.0	2.0	640.0	3.00	90.
900.	.1265E-01	4	2.0	2.0	640.0	3.00	90.
1000.	.1138E-01	4	2.0	2.0	640.0	3.00	90.
1100.	.1031E-01	4	2.0	2.0	640.0	3.00	90.
1200.	.9396E-02	4	2.0	2.0	640.0	3.00	90.
1300.	.8600E-02	4	2.0	2.0	640.0	3.00	90.
1400.	.7905E-02	4	2.0	2.0	640.0	3.00	90.
1500.	.7295E-02	4	2.0	2.0	640.0	3.00	90.
1600.	.6758E-02	4	2.0	2.0	640.0	3.00	90.
1700.	.6278E-02	4	2.0	2.0	640.0	3.00	90.
1800.	.5853E-02	4	2.0	2.0	640.0	3.00	90.
1900.	.5475E-02	4	2.0	2.0	640.0	3.00	90.
2000.	.5132E-02	4	2.0	2.0	640.0	3.00	90.
2100.	.4827E-02	4	2.0	2.0	640.0	3.00	90.
2200.	.4547E-02	4	2.0	2.0	640.0	3.00	90.
2300.	.4295E-02	4	2.0	2.0	640.0	3.00	90.
2400.	.4068E-02	4	2.0	2.0	640.0	3.00	90.
2500.	.3857E-02	4	2.0	2.0	640.0	3.00	90.
2600.	.3666E-02	4	2.0	2.0	640.0	3.00	90.
2700.	.3493E-02	4	2.0	2.0	640.0	3.00	90.
2800.	.3330E-02	4	2.0	2.0	640.0	3.00	90.
2900.	.3180E-02	4	2.0	2.0	640.0	3.00	90.
3000.	.3044E-02	4	2.0	2.0	640.0	3.00	90.
3500.	.2492E-02	4	2.0	2.0	640.0	3.00	90.
4000.	.2104E-02	4	2.0	2.0	640.0	3.00	90.
4500.	.1825E-02	4	2.0	2.0	640.0	3.00	90.
5000.	.1616E-02	4	2.0	2.0	640.0	3.00	90.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 100. M:

100.	.1042	4	2.0	2.0	640.0	3.00	90.

****
*** SCREEN DISCRETE DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
150.	.6996E-01	4	2.0	2.0	640.0	3.00	90.
210.	.5038E-01	4	2.0	2.0	640.0	3.00	90.
230.	.4613E-01	4	2.0	2.0	640.0	3.00	90.
280.	.3815E-01	4	2.0	2.0	640.0	3.00	90.
420.	.2592E-01	4	2.0	2.0	640.0	3.00	90.

```
   480.   .2286E-01    4      2.0      2.0   640.0     3.00      90.

     ***************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ***************************************

 CALCULATION        MAX CONC    DIST TO  TERRAIN
  PROCEDURE        (UG/M**3)    MAX (M)   HT (M)
--------------  -----------   -------  -------
SIMPLE TERRAIN     .1042         100.       0.

***************************************************
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
***************************************************
```

URBEMIS Results:

Existing Scenario –
<Insert>

APPENDIX J – SECTION J.2

Project Diesel Particulate Matter (DPM) Emissions (lbs) from Project Sources

Construction Diesel Equipment DPM Emissions

Construction Emissions Calculations - Version II			
	Phase 1	Phase 2	Phase 3
Demolition	2007	2009	2011
clearing, grading, and soil handling	2008	2010	2011
site improvement	2008	2010	2012
building construction	2009 - 2014	2014 - 2017	2016 - 2018
		PM10 Emissions (lbs)	
	2007	554	
	2008	2,227	
	2009	844	
	2010	1,568	
	2011	1,282	
	2012	930	
	2013	543	
	2014	1,049	
	2015	507	
	2016	1,065	
	2017	1,004	
	2018	527	
	TOTAL	12,100	

Construction - 2007							rev. April 2005			
Building demolition at Phase 1 only										
Phase 1 - Building Demolition										
	1. On-Road Sources									
		YR 2007 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
		Vehicle Type	PM10							
		medium-heavy-duty trucks	0.306							
							PM10			
		Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/ month	months/ year
		Material transport								
		dump trucks	5	6	20	600	183.60	0.40	22	6
							Subtotal			***53.43***
	2. Off-Road Sources									
		Emission factors for 2007 (lbs/day)								
		from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
		Equipment Type	PM10							
		generator	0.39							
		325 excavator	0.29							
		bobcat (loader)	0.22							
		wood grinder	0.57							
		concrete grinder	0.57							
		barge mounted excavator	0.29							
		Assumes 8-hour operation of each piece of equipment.								
				PM10						
		Equipment Type	# of pieces	lbs/day	days/month	months/year	lbs/year			
		generator	1	0.39						
		excavator	3	0.87						
		bobcat (loader)	5	1.1						
		wood grinder	1	0.57						
		concrete grinder	1	0.57						
		barge mounted excavator	1	0.29						
		Subtotal		3.79	22	6	**500.28**			
		TOTAL (pounds/year)								**553.71**

Construction - 2008

Clearing, grading and soil handling, and site improvements at Phase 1 only rev. April 2005

Phase 1 - Clearing, grading and soil handling

1. On-Road Sources

YR 2008 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.294

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	PM10 lbs/day	days/ month	months/ year
Material transport								
dump trucks	25	6	20	3,000	882.00	1.94	22	12
					Subtotal			**513.34**

2. Off-Road Sources

Emission factors for 2008 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
barge excavator	0.29
365 excavator	0.29
825 compactor	0.44
14 blades (misc. portable eq	0.41
623 scraper	0.58

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
barge excavator	1	0.29			
365 excavator	4	1.16			
825 compactor	2	0.88			
14 blades	2	0.82			
623 scraper	3	1.74			
Subtotal		4.89	22	12	**1290.96**

Phase 1 - Site Improvements											
	1. On-Road Sources										
		YR 2008 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)									
		Vehicle Type	PM10								
		medium-heavy-duty trucks	0.294								
								PM10			
		Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day		grams/ day	lbs/day	days/month	months/year
		Material transport									
		delivery trucks	2	6	20	240		70.56	0.16	22	6
								Subtotal			**20.53**
	2. Off-Road Sources										
		Emission factors for 2008 (lbs/day)									
		from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*									
		Equipment Type	PM10								
		backhoes	0.14								
		excavator	0.29								
		bobcat (loader)	0.22								
		paving machine	0.22								
		curb and gutter machine (oth	0.5								
		transfer truck	0.58								
		concrete truck	0.58								
		Assumes 8-hour operation of each piece of equipment.									
				PM10							
		Equipment Type	# of pieces	lbs/day	days/month	months		lbs/year			
		backhoes	2	0.28	22	6		36.96			
		excavator	1	0.29	22	6		38.28			
		bobcat (loader)	2	0.44	22	6		58.08			
		paving machine	1	0.22	22	6		29.04			
		curb and gutter machine	1	0.5	22	6		66			
		transfer truck	15	8.7	10	1		87			
		concrete truck	15	8.7	10	1		87			
		Subtotal						**402.36**			
									TOTAL (pounds/y		**2227.19**

Construction - 2009

Building construction at Phase 1 and Building demolition at Phase 2 rev. April 2005

Phase 1- Building Construction

1. On-Road Sources

YR 2009 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.281

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	lbs/day	days/month	months/year
Material transport								
delivery trucks	2	6	20	240	67.44	0.15	22	12
cement truck	10	10	10	1,000	281.00	0.62	14	1
					Subtotal		*1 building*	*47.92*
							2 buildings	***95.85***

2. Off-Road Sources

Emission factors for 2009 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.31
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.38
pile auger	0.38
cement truck	0.58

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.62	22	8	109.12
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.38	22	3	25.08
pile auger	1	0.38	22	3	25.08
cement truck	1	0.58	14	1	8.12
Subtotal				*1 building*	*247.48*
				2 buildings	***494.96***

Phase 2 - Building Demolition								
1. On-Road Sources								
YR 2009 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.281							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/ month	months/ year
Material transport								
dump trucks	5	6	20	600	168.60	0.37	22	3
					Subtotal			***24.53***
2. Off-Road Sources								
Emission factors for 2009 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generator	0.31							
325 excavator	0.29							
bobcat (loader)	0.22							
wood grinder	0.45							
concrete grinder	0.45							
barge mounted excavator	0.29							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generator	1	0.31						
excavator	3	0.87						
bobcat (loader)	5	1.1						
wood grinder	1	0.45						
concrete grinder	1	0.45						
barge mounted excavator	1	0.29						
Subtotal		3.47	22	3	***229.02***			
						TOTAL (pounds/year)		**844.36**

Construction - 2010

Building Construction at Phase 1, and Clearing, grading, and soil handling, and Site Improvements at Phase 2

Phase 1- building construction

1. On-Road Sources

YR 2010 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.26

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	PM10 lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	62.40	0.14	22	12
					Subtotal		*1 building*	*36.32*
							2 buildings	***72.64***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
Subtotal				*1 building*	*226.16*
				2 buildings	***452.32***

Phase 2 - Clearing, grading, and soil handling								
1. On-Road Sources								
YR 2010 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.26							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/ month	months/ year
Material transport								
dump truck	12	6	20	1,440	374.40	0.83	22	6
					Subtotal			***108.95***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
barge excavator	0.29							
365 excavator	0.29							
825 compactor	0.34							
14 blades (misc. portable eq	0.32							
623 scraper	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
barge excavator	1	0.29						
365 excavator	2	0.58						
825 compactor	2	0.68						
14 blades	2	0.64						
623 scraper	3	1.74						
Subtotal		3.93	22	6	***518.76***			

Phase 2 - Site Improvements								
1. On-Road Sources								
YR 2010 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.26							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	62.40	0.14	22	6
					Subtotal			***18.16***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
backhoes	0.12							
excavator	0.29							
bobcat (loader)	0.22							
paving machine	0.22							
curb and gutter machine (oth	0.5							
transfer truck	0.58							
concrete truck	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
backhoes	2	0.24	22	6	31.68			
excavator	1	0.29	22	6	38.28			
bobcat (loader)	2	0.44	22	6	58.08			
paving machine	1	0.22	22	6	29.04			
curb and gutter machine	1	0.5	22	6	66			
transfer truck	15	8.7	10	1	87			
concrete truck	15	8.7	10	1	87			
Subtotal					***397.08***			
						TOTAL (pounds/year)		**1567.91**

Construction - 2011

Building Construction at Phase 1, and Building Demolition, and clearing, grading, and soil handling at Phase 3

Phase 1 - building construction | rev. April 2005

1. On-Road Sources

YR 2011 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.243

					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	58.32	0.13	22	12
cement truck	10	10	10	1,000	243.00	0.54	14	1
					Subtotal		*1 building*	*41.44*
							2 buildings	***82.89***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36
cement truck	0.58

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
cement truck	1	0.58	14	1	8.12
Subtotal				*1 building*	*234.28*
				2 buildings	***468.56***

Phase 3 - Building demolition

1. On-Road Sources

YR 2011 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.243

					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/ month	months/ year
Material transport								
dump truck	5	6	20	600	145.80	0.32	22	2
					Subtotal			***14.14***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generator	0.28
325 excavator	0.29
bobcat (loader)	0.22
wood grinder	0.4
concrete grinder	0.4
barge mounted excavator	0.29

Assumes 8-hour operation of each piece of equipment.

		PM10			
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year
generator	1	0.28			
excavator	3	0.87			
bobcat (loader)	5	1.1			
wood grinder	1	0.4			
concrete grinder	1	0.4			
barge mounted excavator	1	0.29			
Subtotal		3.34	22	2	***146.96***

Phase 3 - Clearing, grading, and soil handling								
1. On-Road Sources								
YR 2011 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.243							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/ month	months/ year
Material transport								
dump truck	12	6	10	720	174.96	0.39	22	6
					Subtotal			***50.91***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
barge excavator	0.29							
365 excavator	0.29							
825 compactor	0.34							
14 blades (misc. portable eq	0.32							
623 scraper	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
barge excavator	1	0.29						
365 excavator	2	0.58						
825 compactor	2	0.68						
14 blades	2	0.64						
623 scraper	3	1.74						
Subtotal		3.93	22	6	***518.76***			
						TOTAL (pounds/year)		**1282.22**

Construction - 2012

Building Construction at Phase 1, and Site improvement at Phase 3 rev. April 2005

Phase 1 - Building Construction

1. On-Road Sources

YR 2012 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.23

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	PM10 lbs/day	days/month	months/year
Material transport								
dump truck	2	6	20	240	55.20	0.12	22	12
					Subtotal		*1 building*	*32.13*
							2 buildings	***64.25***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
Subtotal				*1 building*	*226.16*
				2 buildings	***452.32***

Phase 3 - Site Improvements								
1. On-Road Sources								
YR 2012 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.23							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	55.20	0.12	22	6
					Subtotal			***16.06***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
backhoes	0.12							
excavator	0.29							
bobcat (loader)	0.22							
paving machine	0.22							
curb and gutter machine (oth	0.5							
transfer truck	0.58							
concrete truck	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
backhoes	2	0.24	22	6	31.68			
excavator	1	0.29	22	6	38.28			
bobcat (loader)	2	0.44	22	6	58.08			
paving machine	1	0.22	22	6	29.04			
curb and gutter machine	1	0.5	22	6	66			
transfer truck	15	8.7	10	1	87			
concrete truck	15	8.7	10	1	87			
Subtotal					***397.08***			
						TOTAL (pounds/year)		**929.72**

Construction - 2013								
Building Construction at Phase 1					rev. April 2005			
Phase 1 - Building Construction								
1. On-Road Sources								
YR 2013 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.218							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery trucks	2	6	20	240	52.32	0.12	22	12
cement truck	10	10	10	1,000	218.00	0.48	14	1
					Subtotal		*1 building*	*37.18*
							2 buildings	***74.36***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generators	0.28							
gradall	0.13							
scissor lift	0.13							
forklift	0.13							
pile driving rig	0.36							
pile auger	0.36							
cement truck	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generators	2	0.56	22	8	98.56			
gradall	1	0.13	22	6	17.16			
scissor lift	2	0.26	22	8	45.76			
forklift	1	0.13	22	6	17.16			
pile driving rig	1	0.36	22	3	23.76			
pile auger	1	0.36	22	3	23.76			
cement truck	1	0.58	14	1	8.12			
Subtotal				*1 building*	*234.28*			
				2 buildings	***468.56***			
TOTAL (pounds/year)								**542.92**

Construction - 2014

Building Construction at Phase 1 and Building construction at Phase 2 rev. April 2005

Phase 1 - Building Construction

1. On-Road Sources

YR 2014 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.207

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	PM10 lbs/day	days/month	months/year
Material transport								
delivery trucks	2	6	20	240	49.68	0.11	22	12
					Subtotal		*1 building*	*28.91*
							2 buildings	***57.83***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
Subtotal				*1 building*	*226.16*
				2 buildings	***452.32***

Phase 2 - Building Construction								
1. On-Road Sources								
YR 2014 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.207							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	49.68	0.11	22	12
cement truck	10	10	10	1,000	207.00	0.46	14	1
					Subtotal		*1 building*	*35.30*
							2 buildings	***70.61***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generators	0.28							
gradall	0.13							
scissor lift	0.13							
forklift	0.13							
pile driving rig	0.36							
pile auger	0.36							
cement truck	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generators	2	0.56	22	8	98.56			
gradall	1	0.13	22	6	17.16			
scissor lift	2	0.26	22	8	45.76			
forklift	1	0.13	22	6	17.16			
pile driving rig	1	0.36	22	3	23.76			
pile auger	1	0.36	22	3	23.76			
cement truck	1	0.58	14	1	8.12			
Subtotal				*1 building*	*234.28*			
				2 buildings	***468.56***			
						TOTAL (pounds/year)		**1049.32**

Construction - 2015					rev. April 2005			
Building Construction at Phase 2								
Phase 2 - Building Construction								
1. On-Road Sources								
YR 2015 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.197							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery trucks	2	6	20	240	47.28	0.10	22	12
					Subtotal		*1 building*	*27.52*
							2 buildings	***55.04***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generators	0.28							
gradall	0.13							
scissor lift	0.13							
forklift	0.13							
pile driving rig	0.36							
pile auger	0.36							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generators	2	0.56	22	8	98.56			
gradall	1	0.13	22	6	17.16			
scissor lift	2	0.26	22	8	45.76			
forklift	1	0.13	22	6	17.16			
pile driving rig	1	0.36	22	3	23.76			
pile auger	1	0.36	22	3	23.76			
Subtotal				*1 building*	*226.16*			
				2 buildings	***452.32***			
					TOTAL (pounds/year)			**507.36**

Construction - 2016

Building Construction at Phase 2 and Building Construction as Phase 3

rev. April 2005

Phase 2 - Building Construction

1. On-Road Sources

YR 2016 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.187

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	44.88	0.10	22	12
cement truck	10	10	10	1,000	187.00	0.41	14	1
					Subtotal		*1 building*	*31.89*
							2 buildings	***63.78***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36
cement truck	0.58

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
cement truck	1	0.58	14	1	8.12
Subtotal				*1 building*	*234.28*
				2 buildings	***468.56***

Phase 3 - Building Construction								
1. On-Road Sources								
YR 2016 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.187							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	44.88	0.10	22	12
cement truck	10	10	10	1,000	187.00	0.41	14	1
					Subtotal		*1 building*	*31.89*
							2 buildings	***63.78***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generators	0.28							
gradall	0.13							
scissor lift	0.13							
forklift	0.13							
pile driving rig	0.36							
pile auger	0.36							
cement truck	0.58							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generators	2	0.56	22	8	98.56			
gradall	1	0.13	22	6	17.16			
scissor lift	2	0.26	22	8	45.76			
forklift	1	0.13	22	6	17.16			
pile driving rig	1	0.36	22	3	23.76			
pile auger	1	0.36	22	3	23.76			
cement truck	1	0.58	14	1	8.12			
Subtotal				*1 building*	*234.28*			
				2 buildings	***468.56***			
						TOTAL (pounds/year)		**1064.69**

Construction - 2017

Building Construction at Phase 2 and Building Construction as Phase 3 — rev. April 2005

Phase 2 - Building Construction

1. On-Road Sources

YR 2017 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.178

					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
deliver truck	2	6	20	240	42.72	0.09	22	12
					Subtotal		*1 building*	*24.86*
							2 buildings	***49.73***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
Subtotal				*1 building*	*226.16*
				2 buildings	***452.32***

Phase 3 - Building Construction								
1. On-Road Sources								
YR 2017 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)								
Vehicle Type	PM10							
medium-heavy-duty trucks	0.178							
					PM10			
Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	grams/ day	lbs/day	days/month	months/year
Material transport								
delivery truck	2	6	20	240	42.72	0.09	22	12
					Subtotal		*1 building*	*24.86*
							2 buildings	***49.73***
2. Off-Road Sources								
Emission factors for 2010 (lbs/day)								
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*								
Equipment Type	PM10							
generators	0.28							
gradall	0.13							
scissor lift	0.13							
forklift	0.13							
pile driving rig	0.36							
pile auger	0.36							
Assumes 8-hour operation of each piece of equipment.								
		PM10						
Equipment Type	# of pieces	lbs/day	days/month	months	lbs/year			
generators	2	0.56	22	8	98.56			
gradall	1	0.13	22	6	17.16			
scissor lift	2	0.26	22	8	45.76			
forklift	1	0.13	22	6	17.16			
pile driving rig	1	0.36	22	3	23.76			
pile auger	1	0.36	22	3	23.76			
Subtotal				*1 building*	*226.16*			
				2 buildings	***452.32***			
						TOTAL (pounds/year)		**1004.09**

Construction - 2018

Building Construction at Phase 3 — rev. April 2005

Phase 3 - Building Construction

1. On-Road Sources

YR 2018 EMFAC2002 v2.2 Running Exhaust Emission Factors at 30 mph (grams/mile)

Vehicle Type	PM10
medium-heavy-duty trucks	0.17

Vehicle Type	# of trucks	One-way trips/day	Average Trip Length (miles)	Total miles/day	PM10 grams/ day	PM10 lbs/day	PM10 days/month	PM10 months/year
Material transport								
delivery truck	2	6	20	240	40.80	0.09	22	12
cement truck	10	10	10	1,000	170.00	0.37	14	1
					Subtotal		*1 building*	*28.99*
							2 buildings	***57.99***

2. Off-Road Sources

Emission factors for 2010 (lbs/day)
from Table 3-2 in SMAQMD's *Guide to Air Quality Assessment*

Equipment Type	PM10
generators	0.28
gradall	0.13
scissor lift	0.13
forklift	0.13
pile driving rig	0.36
pile auger	0.36
cement truck	0.58

Assumes 8-hour operation of each piece of equipment.

Equipment Type	# of pieces	PM10 lbs/day	days/month	months	lbs/year
generators	2	0.56	22	8	98.56
gradall	1	0.13	22	6	17.16
scissor lift	2	0.26	22	8	45.76
forklift	1	0.13	22	6	17.16
pile driving rig	1	0.36	22	3	23.76
pile auger	1	0.36	22	3	23.76
cement truck	1	0.58	14	1	8.12
Subtotal				*1 building*	*234.28*
				2 buildings	***468.56***

TOTAL (pounds/year) **526.55**

Project Diesel Truck DPM Emissions

O29 Project Diesel Particulate Matter (PM2.5) Emissions from Project Diesel Trucks - 2010 and 2025							
Table 1: Running Exhaust Emissions (grams/mile)							
Emfac2002 V2.2 Apr 23 2003, Run on 4/20/05							
Alameda County, Annual, 60F, 30% humidity, 20 MPH							
I. 2010							
Year: 2010 -- Model Years: 1965 to 2010							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.011	0.003	0.01	0.009	0.033	
number of trucks/day		100	27	91	82	301	9,120
fraction of trucks that are diesel		0.182	0.333	0.8	0.889		
number of diesel trucks/day		18	9	73	73		
emissions (grams/mile)		0.058	0.078	0.333	0.255		
total grams/mile/trucks/day		*1.06*	*0.71*	*24.30*	*18.61*		*44.67*
miles/truck	1						
grams/day		***1.06***	***0.71***	***24.30***	***18.61***		***44.67***
lbs/day							**0.10**
lbs/year							**35.95**
II. 2025							
Year: 2025 -- Model Years: 1980 to 2025							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.011	0.003	0.01	0.009	0.033	
number of trucks/day		298	81	271	244	895	27,111
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		60	27	211	244		
emissions (grams/mile)		0.03	0.039	0.17	0.098		
total grams/mile/truck/day		*1.79*	*1.06*	*35.86*	*23.91*		*62.61*
miles/truck	1						
grams/day		***1.79***	***1.06***	***35.86***	***23.91***		***62.61***
lbs/day							**0.14**
lbs/year							**50.39**

I-880 Diesel Truck Emissions

O29 Project Diesel Particulate Matter (PM2.5) Emissions from I-880 Diesel Trucks - 2005, 2010 and 2025

Emfac2002 V2.2 Apr 23 2003, Run on 4/22/05

Alameda County, Annual, 60F, 30% humidity, 30 MPH

I. 2005

Year: 2005 -- Model Years: 1965 to 2005

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.7	0.875		
number of diesel trucks/day		1,700	1,166	700	12,031		
emissions (grams/mile)		0.051	0.074	0.309	0.301		
grams/mile/truck/day		*86.70*	*86.25*	*216.30*	*3,621.41*		*4,010.65*
miles/truck	*2*						
grams/day		***173.4***	***172.49***	***432.6***	***7242.8125***		***8,021.31***
lbs/day							**17.68395**
lbs/year							**6454.643**

II. 2007

Year: 2007 -- Model Years: 1965 to 2007

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.5	0.8	0.889		
number of diesel trucks/day		1,547	1,750	800	12,224		
emissions (grams/mile)		0.047	0.067	0.282	0.246		
grams/mile/truck/day		*72.71*	*117.25*	*225.60*	*3,007.04*		*3,422.60*
miles/truck	*2*						
grams/day		***145.4***	***234.5***	***451.2***	***6014.085***		***6,845.20***
lbs/day							**15.09109**
lbs/year							**5508.248**

III. 2008							
Year: 2008 -- Model Years: 1965 to 2008							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.5	0.8	0.889		
number of diesel trucks/day		1,547	1,750	800	12,224		
emissions (grams/mile)		0.046	0.064	0.27	0.224		
grams/mile/truck/day		*71.16*	*112.00*	*216.00*	*2,738.12*		*3,137.28*
miles/truck	*2*						
grams/day		***142.3***	***224***	***432***	***5476.24***		***6,274.56***
lbs/day							**13.83305**
lbs/year							**5049.062**
IV. 2009							
Year: 2009 -- Model Years: 1965 to 2009							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.889		
number of diesel trucks/day		1,547	1,166	800	12,224		
emissions (grams/mile)		0.044	0.061	0.258	0.206		
grams/mile/truck/day		*68.07*	*71.10*	*206.40*	*2,518.09*		*2,863.66*
miles/truck	*2*						
grams/day		***136.1***	***142.19***	***412.8***	***5036.185***		***5,727.31***
lbs/day							**12.62656**
lbs/year							**4608.695**
V. 2010							
Year: 2010 -- Model Years: 1965 to 2010							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.889		
number of diesel trucks/day		1,547	1,166	800	12,224		
emissions (grams/mile)		0.042	0.056	0.239	0.183		
grams/mile/truck/day		*64.97*	*65.27*	*191.20*	*2,236.95*		*2,558.39*
miles/truck	*2*						
grams/day		***129.9***	***130.54***	***382.4***	***4473.8925***		***5,116.78***
lbs/day							**11.28056**
lbs/year							**4117.405**

VI. 2011							
Year: 2010 -- Model Years: 1966 to 2011							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.9112		
number of diesel trucks/day		1,547	1,166	800	12,529		
emissions (grams/mile)		0.039	0.052	0.224	0.165		
grams/mile/truck/day		*60.33*	*60.61*	*179.20*	*2,067.29*		*2,367.42*
miles/truck	*2*						
grams/day		***120.7***	***121.21***	***358.4***	***4134.57***		***4,734.85***
lbs/day							**10.43855**
lbs/year							**3810.072**
VII. 2012							
Year: 2012 -- Model Years: 1967 to 2012							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.9334		
number of diesel trucks/day		1,547	1,166	800	12,834		
emissions (grams/mile)		0.037	0.049	0.211	0.152		
grams/mile/truck/day		*57.24*	*57.11*	*168.80*	*1,950.81*		*2,233.95*
miles/truck	*2*						
grams/day		***114.5***	***114.22***	***337.6***	***3901.612***		***4,467.91***
lbs/day							**9.850053**
lbs/year							**3595.269**
VIII. 2013							
Year: 2013 -- Model Years: 1968 to 2013							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.9556		
number of diesel trucks/day		1,547	1,166	800	13,140		
emissions (grams/mile)		0.035	0.046	0.201	0.141		
grams/mile/truck/day		*54.15*	*53.61*	*160.80*	*1,852.67*		*2,121.23*
miles/truck	*2*						
grams/day		***108.3***	***107.23***	***321.6***	***3705.339***		***4,242.46***
lbs/day							**9.353012**
lbs/year							**3413.849**

IX. 2014							
Year: 2014 -- Model Years: 1969 to 2014							
***							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	0.9778		
number of diesel trucks/day		1,547	1,166	800	13,445		
emissions (grams/mile)		0.034	0.044	0.191	0.13		
grams/mile/truck/day		*52.60*	*51.28*	*152.80*	*1,747.82*		*2,004.50*
miles/truck	*2*						
grams/day		***105.2***	***102.56***	***305.6***	***3495.635***		***4,009.00***
lbs/day							**8.838321**
lbs/year							**3225.987**
X. 2015							
Year: 2015 -- Model Years: 1970 to 2015							
***							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.032	0.042	0.181	0.121		
grams/mile/truck/day		*49.50*	*48.95*	*144.80*	*1,663.75*		*1,907.01*
miles/truck	*2*						
grams/day		***99.01***	***97.902***	***289.6***	***3327.5***		***3,814.01***
lbs/day							**8.408453**
lbs/year							**3069.085**
XI. 2016							
Year: 2016 -- Model Years: 1971 to 2016							
***							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.031	0.04	0.172	0.113		
grams/mile/truck/day		*47.96*	*46.62*	*137.60*	*1,553.75*		*1,785.93*
miles/truck	*2*						
grams/day		***95.91***	***93.24***	***275.2***	***3107.5***		***3,571.85***
lbs/day							**7.87459**
lbs/year							**2874.225**

XII. 2017							
Year: 2017 -- Model Years: 1972 to 2017							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.03	0.038	0.164	0.106		
grams/mile/truck/day		*46.41*	*44.29*	*131.20*	*1,457.50*		*1,679.40*
miles/truck	*2*						
grams/day		***92.82***	***88.578***	***262.4***	***2915***		***3,358.80***
lbs/day							**7.404882**
lbs/year							**2702.782**
XIII. 2018							
Year: 2018 -- Model Years: 1973 to 2018							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.028	0.036	0.156	0.099		
grams/mile/truck/day		*43.32*	*41.96*	*124.80*	*1,361.25*		*1,571.32*
miles/truck	*2*						
grams/day		***86.63***	***83.916***	***249.6***	***2722.5***		***3,142.65***
lbs/day							**6.928353**
lbs/year							**2528.849**
XIV. 2019							
Year: 2019 -- Model Years: 1974 to 2019							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.027	0.034	0.149	0.093		
grams/mile/truck/day		*41.77*	*39.63*	*119.20*	*1,278.75*		*1,479.35*
miles/truck	*2*						
grams/day		***83.54***	***79.254***	***238.4***	***2557.5***		***2,958.69***
lbs/day							**6.522799**
lbs/year							**2380.822**

XV. 2020

Year: 2020 -- Model Years: 1975 to 2020

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.182	0.333	0.8	1		
number of diesel trucks/day		1,547	1,166	800	13,750		
emissions (grams/mile)		0.026	0.033	0.142	0.087		
grams/mile/truck/day		*40.22*	*38.46*	*113.60*	*1,196.25*		*1,388.53*
miles/truck	*2*						
grams/day		***80.44***	***76.923***	***227.2***	***2392.5***		***2,777.07***
lbs/day							**6.122385**
lbs/year							**2234.67**

XVI. 2021

Year: 2021 -- Model Years: 1976 to 2021

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.1856	0.333	0.7956	1		
number of diesel trucks/day		1,578	1,166	796	13,750		
emissions (grams/mile)		0.025	0.032	0.137	0.083		
grams/mile/truck/day		*39.44*	*37.30*	*109.00*	*1,141.25*		*1,326.98*
miles/truck	*2*						
grams/day		***78.88***	***74.592***	***217.9944***	***2282.5***		***2,653.97***
lbs/day							**5.850994**
lbs/year							**2135.613**

XVII. 2022

Year: 2022 -- Model Years: 1977 to 2022

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.1892	0.333	0.7912	1		
number of diesel trucks/day		1,608	1,166	791	13,750		
emissions (grams/mile)		0.024	0.031	0.133	0.079		
grams/mile/truck/day		*38.60*	*36.13*	*105.23*	*1,086.25*		*1,266.21*
miles/truck	*2*						
grams/day		***77.19***	***72.261***	***210.4592***	***2172.5***		***2,532.41***
lbs/day							**5.583017**
lbs/year							**2037.801**

XVIII. 2023							
Year: 2023 -- Model Years: 1978 to 2023							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.1928	0.333	0.7868	1		
number of diesel trucks/day		1,639	1,166	787	13,750		
emissions (grams/mile)		0.023	0.03	0.129	0.076		
grams/mile/truck/day		*37.69*	*34.97*	*101.50*	*1,045.00*		*1,219.15*
miles/truck	*2*						
grams/day		***75.38***	***69.93***	***202.9944***	***2090***		***2,438.31***
lbs/day							**5.375552**
lbs/year							**1962.076**

XIV. 2024							
Year: 2024 -- Model Years: 1979 to 2024							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of vehicles/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.1964	0.333	0.7824	1		
number of diesel trucks/day		1,669	1,166	782	13,750		
emissions (grams/mile)		0.021	0.028	0.122	0.07		
grams/mile/truck/day		*35.06*	*32.63*	*95.45*	*962.50*		*1,125.64*
miles/truck	*2*						
grams/day		***70.11***	***65.268***	***190.9056***	***1925***		***2,251.29***
lbs/day							**4.963241**
lbs/year							**1811.583**

VII. 2025							
Year: 2025 -- Model Years: 1980 to 2025							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.021	0.028	0.122	0.07		
grams/mile/truck/day		*35.70*	*32.63*	*94.92*	*962.50*		*1,125.75*
miles/truck	*2*						
grams/day		***71.40***	***65.27***	***189.83***	***1,925.00***		***2,251.50***
lbs/day							**4.963708**
lbs/year							**1811.753**

VIII. 2026							
Year: 2026 -- Model Years: 1981 to 2026							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.021	0.028	0.12	0.068		
grams/mile/truck/day		*35.70*	*32.63*	*93.36*	*935.00*		*1,096.69*
miles/truck	*2*						
grams/day		***71.40***	***65.27***	***186.72***	***1,870.00***		***2,193.39***
lbs/day							**4.835593**
lbs/year							**1764.991**
IX. 2027							
Year: 2027 -- Model Years: 1982 to 2027							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.02	0.027	0.117	0.067		
grams/mile/truck/day		*34.00*	*31.47*	*91.03*	*921.25*		*1,077.74*
miles/truck	*2*						
grams/day		***68.00***	***62.94***	***182.05***	***1,842.50***		***2,155.49***
lbs/day							**4.75204**
lbs/year							**1734.495**
X. 2028							
Year: 2028 -- Model Years: 1983 to 2028							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.02	0.027	0.115	0.065		
grams/mile/truck/day		*34.00*	*31.47*	*89.47*	*893.75*		*1,048.69*
miles/truck	*2*						
grams/day		***68.00***	***62.94***	***178.94***	***1,787.50***		***2,097.38***
lbs/day							**4.623925**
lbs/year							**1687.733**

XI. 2029

Year: 2029 -- Model Years: 1984 to 2029

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.019	0.026	0.113	0.064		
grams/mile/truck/day		*32.30*	*30.30*	*87.91*	*880.00*		*1,030.52*
miles/truck	*2*						
grams/day		***64.60***	***60.61***	***175.83***	***1,760.00***		***2,061.03***
lbs/day							**4.543802**
lbs/year							**1658.488**

XII. 2030

Year: 2030 -- Model Years: 1985 to 2030

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2	0.333	0.778	1		
number of diesel trucks/day		1,700	1,166	778	13,750		
emissions (grams/mile)		0.019	0.026	0.112	0.063		
grams/mile/truck/day		*32.30*	*30.30*	*87.14*	*866.25*		*1,015.99*
miles/truck	*2*						
grams/day		***64.60***	***60.61***	***174.27***	***1,732.50***		***2,031.98***
lbs/day							**4.479745**
lbs/year							**1635.107**

XIII. 2031

Year: 2031 -- Model Years: 1986 to 2031

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2044	0.333	0.778	1		
number of diesel trucks/day		1,737	1,166	778	13,750		
emissions (grams/mile)		0.018	0.025	0.11	0.062		
grams/mile/truck/day		*31.27*	*29.14*	*85.58*	*852.50*		*998.49*
miles/truck	*2*						
grams/day		***62.55***	***58.28***	***171.16***	***1,705.00***		***1,996.98***
lbs/day							**4.40259**
lbs/year							**1606.945**

XIV. 2032

Year: 2032 -- Model Years: 1987 to 2032

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2088	0.333	0.778	1		
number of diesel trucks/day		1,775	1,166	778	13,750		
emissions (grams/mile)		0.018	0.025	0.109	0.062		
grams/mile/truck/day		*31.95*	*29.14*	*84.80*	*852.50*		*998.39*
miles/truck	*2*						
grams/day		***63.89***	***58.28***	***169.60***	***1,705.00***		***1,996.77***
lbs/day							**4.402128**
lbs/year							**1606.777**

XV. 2033

Year: 2033 -- Model Years: 1988 to 2033

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2132	0.333	0.778	1		
number of diesel trucks/day		1,812	1,166	778	13,750		
emissions (grams/mile)		0.018	0.025	0.108	0.061		
grams/mile/truck/day		*32.62*	*29.14*	*84.02*	*838.75*		*984.53*
miles/truck	*2*						
grams/day		***65.24***	***58.28***	***168.05***	***1,677.50***		***1,969.06***
lbs/day							**4.341039**
lbs/year							**1584.479**

XVI. 2034

Year: 2034 -- Model Years: 1989 to 2034

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.2176	0.333	0.778	1		
number of diesel trucks/day		1,850	1,166	778	13,750		
emissions (grams/mile)		0.017	0.025	0.107	0.061		
grams/mile/truck/day		*31.44*	*29.14*	*83.25*	*838.75*		*982.58*
miles/truck	*2*						
grams/day		***62.89***	***58.28***	***166.49***	***1,677.50***		***1,965.15***
lbs/day							**4.332422**
lbs/year							**1581.334**

XVII. 2035							
Year: 2035 -- Model Years: 1990 to 2035							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.778	1		
number of diesel trucks/day		1,887	1,166	778	13,750		
emissions (grams/mile)		0.017	0.024	0.106	0.061		
grams/mile/truck/day		*32.08*	*27.97*	*82.47*	*838.75*		*981.27*
miles/truck	*2*						
grams/day		***64.16***	***55.94***	***164.94***	***1,677.50***		***1,962.54***
lbs/day							**4.326656**
lbs/year							**1579.229**
XVIII. 2036							
Year: 2036 -- Model Years: 1991 to 2036							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.7724	1		
number of diesel trucks/day		1,887	1,166	772	13,750		
emissions (grams/mile)		0.017	0.024	0.106	0.061		
grams/mile/truck/day		*32.08*	*27.97*	*81.87*	*838.75*		*980.68*
miles/truck	*2*						
grams/day		***64.16***	***55.94***	***163.75***	***1,677.50***		***1,961.35***
lbs/day							**4.324038**
lbs/year							**1578.274**
XIX. 2037							
Year: 2037 -- Model Years: 1992 to 2037							
**							
		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.7668	1		
number of diesel trucks/day		1,887	1,166	767	13,750		
emissions (grams/mile)		0.017	0.024	0.105	0.06		
grams/mile/truck/day		*32.08*	*27.97*	*80.51*	*825.00*		*965.57*
miles/truck	*2*						
grams/day		***64.16***	***55.94***	***161.03***	***1,650.00***		***1,931.13***
lbs/day							**4.257413**
lbs/year							**1553.956**

XX. 2038

Year: 2038 -- Model Years: 1993 to 2038

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.7612	1		
number of diesel trucks/day		1,887	1,166	761	13,750		
emissions (grams/mile)		0.017	0.024	0.105	0.06		
grams/mile/truck/day		*32.08*	*27.97*	*79.93*	*825.00*		*964.98*
miles/truck	*2*						
grams/day		***64.16***	***55.94***	***159.85***	***1,650.00***		***1,929.95***
lbs/day							**4.25482**
lbs/year							**1553.009**

XXI. 2039

Year: 2039 -- Model Years: 1994 to 2039

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.7556	1		
number of diesel trucks/day		1,887	1,166	756	13,750		
emissions (grams/mile)		0.017	0.024	0.105	0.06		
grams/mile/truck/day		*32.08*	*27.97*	*79.34*	*825.00*		*964.39*
miles/truck	*2*						
grams/day		***64.16***	***55.94***	***158.68***	***1,650.00***		***1,928.78***
lbs/day							**4.252228**
lbs/year							**1552.063**

XXII. 2040

Year: 2040 -- Model Years: 1995 to 2040

****

		2 axle	3 axle	4 axle	5+ axle		
vehicle type		LHD1	LHD2	MHD	HHD	Trucks	*TOTALS*
fraction of all vehicles		0.034	0.014	0.004	0.055	0.107	
number of trucks/day		8,500	3,500	1,000	13,750	26,750	250,000
fraction of trucks that are diesel		0.222	0.333	0.75	1		
number of diesel trucks/day		1,887	1,166	750	13,750		
emissions (grams/mile)		0.016	0.024	0.104	0.06		
grams/mile/truck/day		*30.19*	*27.97*	*78.00*	*825.00*		*961.16*
miles/truck	*2*						
grams/day		***60.38***	***55.94***	***156.00***	***1,650.00***		***1,922.33***
lbs/day							**4.238008**
lbs/year							**1546.873**

Train DPM Emissions

LOCOMOTIVE EMISSIONS

DPM emission factors (g/hr) - current

	Throttle Notches						
	3	*4*	*5*	*6*	*7*	*8*	
Model Number	***15***	***20***	***30***	***40***	***40***	***40***	***mph***
GP-60	292.5	310.73	381.57	659.25	734.16	928.05	
SD-70	229.83	298.26	388.58	603.96	880.88	1030	
GP-40	226.38	258.5	336.03	551.88	638.64	821.34	
GP-50	301.5	311.19	393.96	663.84	725.34	927.84	
GP-38	186	212	267	417	463	608	
Dash-9	232.4322	253.48	430.67	596.22	671.69	643.27	
Dash-8	291.462	293.16	327.744	373.52	469.406	615.09	
Dash-7	245	472.5	372	369	468	540	
C60-A	337.9375	305.4352	500.4864	604.6515	713.461	1063.951	
SD-90MACH	255.85	423.7	561.6	329.28	258.15	933.6	

I. 2007

A. AMTRAK TRAINS - DPM emissions (g/hr)

			Throttle Notches							
Model	***fraction***	***# of trains***	***3***	***4***	***5***	***6***	***7***	***8***		
GP-60	0.2	7.6	2223	2361.548	2899.932	5010.3	5579.616	7053.18		
GP-40	0.35	13.3	3010.854	3438.05	4469.199	7340.004	8493.912	10923.822		
Dash-9	0.2	7.6	1766.485	1926.4115	3273.0859	4531.2416	5104.8425	4888.8246		
Dash-8	0.25	9.5	2768.889	2785.02	3113.568	3548.44	4459.357	5843.355		
TOTAL	*1*	*38*	*9,769.23*	*10,511.03*	*13,755.78*	*20,429.99*	*23,637.73*	*28,709.18*		
fraction of time in each throttle			0	0.2	0.50	0.15	0.10	0.05	1	
TOTAL			*0*	*2,102.21*	*6,877.89*	*3,064.50*	*2,363.77*	*1,435.46*	*15,843.83*	g/hr/day
distance (miles)		2								
hours			0.03333	0.02500	0.01667	0.01250	0.01250	0.01250		
TOTAL (AMTRAK)			***0.00***	***52.56***	***114.63***	***38.31***	***29.55***	***17.94***	***252.98***	***grams/day***
									0.56	***lbs/day***

B. FREIGHT TRAINS - DPM emissions (g/hr)

			Throttle Notches							
Model	**fraction**	**# of engines**	***3***	***4***	***5***	***6***	***7***	***8***		
GP-40	0.6	7.2	1629.936	1861.2	2419.416	3973.536	4598.208	5913.648		
GP-38	0.2	2.4	446.4	508.8	640.8	1000.8	1111.2	1459.2		
Dash-8	0.2	2.4	699.5088	703.584	786.5856	896.448	1126.5744	1476.216		
TOTAL	*1*	*12*	*2,775.84*	*3,073.58*	*3,846.80*	*5,870.78*	*6,835.98*	*8,849.06*		
fraction of time in each throttle			0	0.2	0.50	0.15	0.10	0.05	1	
TOTAL			*0*	*614.72*	*1,923.40*	*880.62*	*683.60*	*442.45*	*4,544.79*	*g/hr*
distance (miles)		2								
hours			0.03333	0.02500	0.01667	0.01250	0.01250	0.01250		
TOTAL (AMTRAK)			***0.00***	***15.37***	***32.06***	***11.01***	***8.54***	***5.53***	***72.51***	***grams/day***
									0.16	***lbs/day***
							GRAND TOTAL		**325.49**	**grams/day**
									0.72	**lbs/day**
									261.92	**lbs/year**

II. 2025

assumes emission factors have been reduced to following fraction of current factors: ***0.8***

GRAND TOTAL		**260.39**	**grams/day**
		0.57	**lbs/day**
		209.53	**lbs/year**

Boat DPM Emissions

MARINE VESSELS							
U.S. Coast Guard - Existing (PM Emissions)							
Exponent (x)	**Intercept (b)**	**Coefficient (a)**	**Main Engine Emission Rate (g/kW-hr)**	**Emissions per vessel (lb/trip)**	**Total Emissions per day (lbs/day)**	**lbs/month**	**lbs/year**
					Total		
1.5	0.2551	0.0059	0.32	0.04	**0.17**	**3.74**	**44.89**
Source:							
EPA "Analysis of Commercial Marine Vessels Emissions and Fuel Consumption Data" (February 2000)							
Equations:							
Emission Rate (g/kW-hr) = a (Fractional Load)$^{-x}$ + b							
Fuel Consumption (g/kW-hr) = 14.1205/(Fractional Load) + 205.7169 [Page 3-24]							
Emissions = Emission Rate (g/kW-hr) * Mode Specific (kW) * Time (hours)							
Assumptions:							
Main Engine							
Engine rating (hp) =	2,415						
Engine rating (kW) =	1,802						
Maneuvering Load (kW) =	0.2						
Maneuvering (kW) =	360						
Maneuvering (hr/trip) =	0.16667						
Trips/day	2						
Number of vessels	2						
					Subtotal		**44.89**

Tug Boats - Existing (PM Emissions)

			Emission Rate (g/kW-hr)		Emissions per tug (lb/trip)			Total emissions/day (lb/day)			lbs/month	lbs/year
Exponent (x)	**Intercept (b)**	**Coefficient (a)**	**Departure**	**Arrival**	**Departure**	**Arrival**	**Total**	**Departure**	**Arrival**	**Total**		
1.5	0.2551	0.0059	0.32	0.32	0.11	0.08	**0.19**	0.90	0.60	**1.50**	**33.05**	**396.64**

Source:
EPA "Analysis of Commercial Marine Vessels Emissions and Fuel Consumption Data" (February 2000)

Equations:
Emission Rate (g/kW-hr) = a (Fractional Load)$^{-x}$ + b
Fuel Consumption (g/kW-hr) = 14.1205/(Fractional Load) + 205.7169 [Page 3-24]
Emissions = Emission Rate (g/kW-hr) * Mode Specific (kW) * Time (hours)

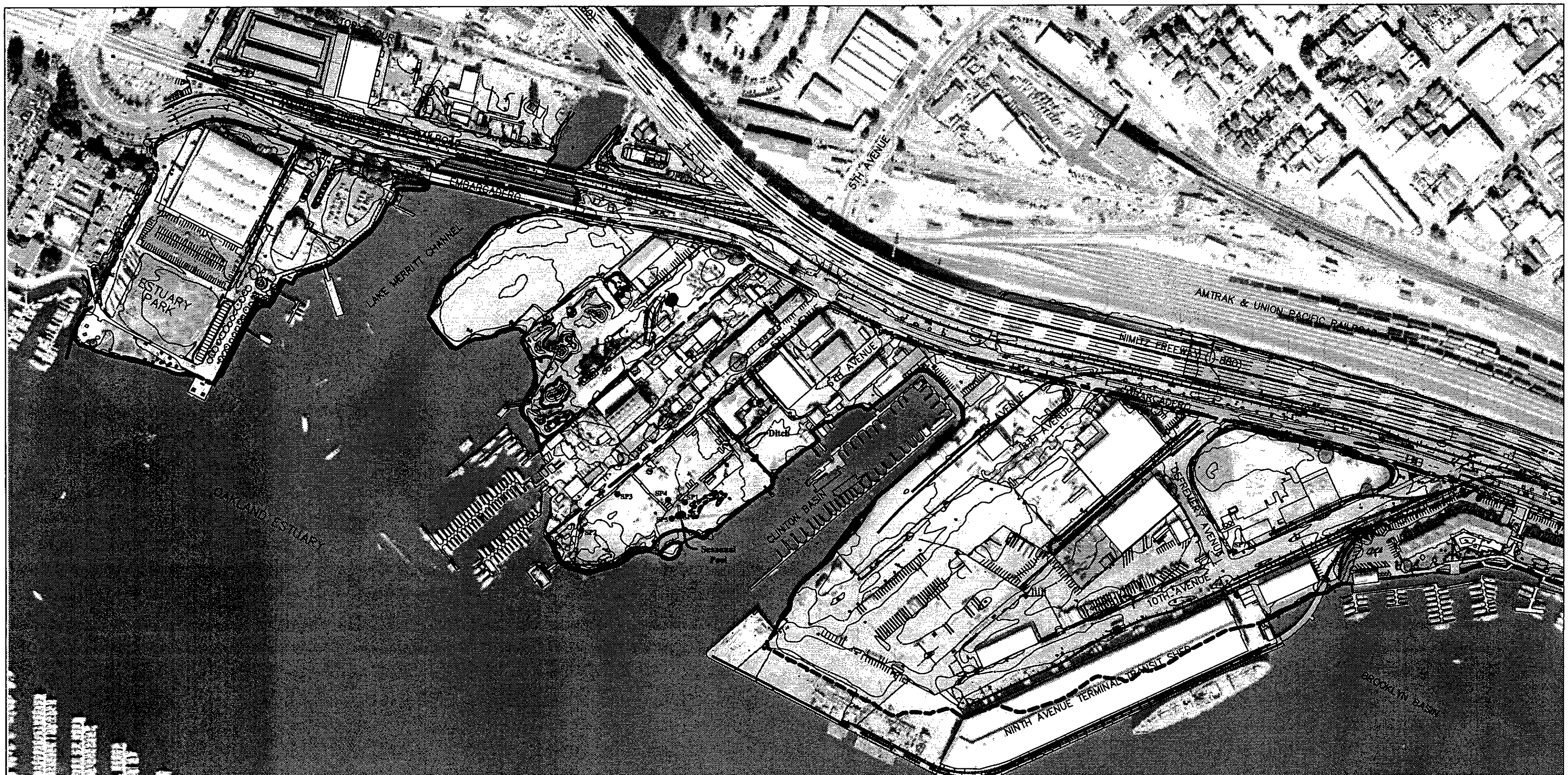
TOTAL	**441.52**

Assumptions:

Main Engine	Departure	Arrival
DWT (hp) =	4,268	4,268
DWT (kW) =	3,184	3,184
Maneuvering Load (kW) =	0.20	0.20
Maneuvering (kW) =	637	637
Maneuvering (hr/trip) =	0.25	0.1666667
Trip per day	1	1
Number of tug boats =	8	8

APPENDIX K

Draft Potentially Jurisdictional Wetland Delineation



NOTES:

1. Topography on this map is based on City of Oakland datum (OCD) (0.00 ft OCD=3.00 feet NGVD 1929);(0.00 ft OCD=5.88 feet Mean Low Low Water [MLLW])
2. The High Tide Line is approximately 6.44 feet above MLLW (0.56 feet OCD) at this location .
3. Mean High Water (MHW) is 5.82 feet above MLLW (-0.06 feet OCD) at this location.
4. This delineation is subject to verification by the U.S. Army Corps of Engineers. Verification still pending as of August 16, 2005.

LSA

N

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FEET

SOURCE: USGS 7.5' QUAD - EL TORO, 1988

LEGEND

PROJECT BOUNDARY

SP5 WETLAND SAMPLE POINT

SP3 NON-WETLAND SAMPLE POINT

POTENTIALLY JURISDICTIONAL FEATURES

SEASONAL POOL (600 FT²)

CULVERT (2' x 80')

DITCH (40' x 3')

HIGH TIDE LINE

HIGH TIDE LINE (LOCATED UNDER A PIER)

FIGURE 3

Oak to Ninth Project

Clean Water Act Jurisdictional Delineation - Project Site Overview

P:\SIP433\g\JurisdictionalDelineation.dwg (8/18/05) A-size

NOTES:
1. Topography on this map is based on City of Oakland datum (OCD) (0.00 ft OCD=3.00 feet NGVD 1929);(0.00 ft OCD=5.88 feet Mean Low Low Water [MLLW])
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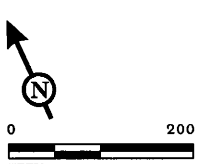

LEGEND

PROJECT BOUNDARY
SP5 WETLAND SAMPLE POINT
SP3 NON-WETLAND SAMPLE POINT

POTENTIALLY JURISDICTIONAL FEATURES

SEASONAL POOL (600 FT²)
CULVERT (2' x 80')
DITCH (40' x 3')
HIGH TIDE LINE
HIGH TIDE LINE (LOCATED UNDER A PIER)

FIGURE 3A

Oak to Ninth Project

Clean Water Act Jurisdictional Delineation

SOURCE: USGS 7.5' QUAD - EL TORO, 1988

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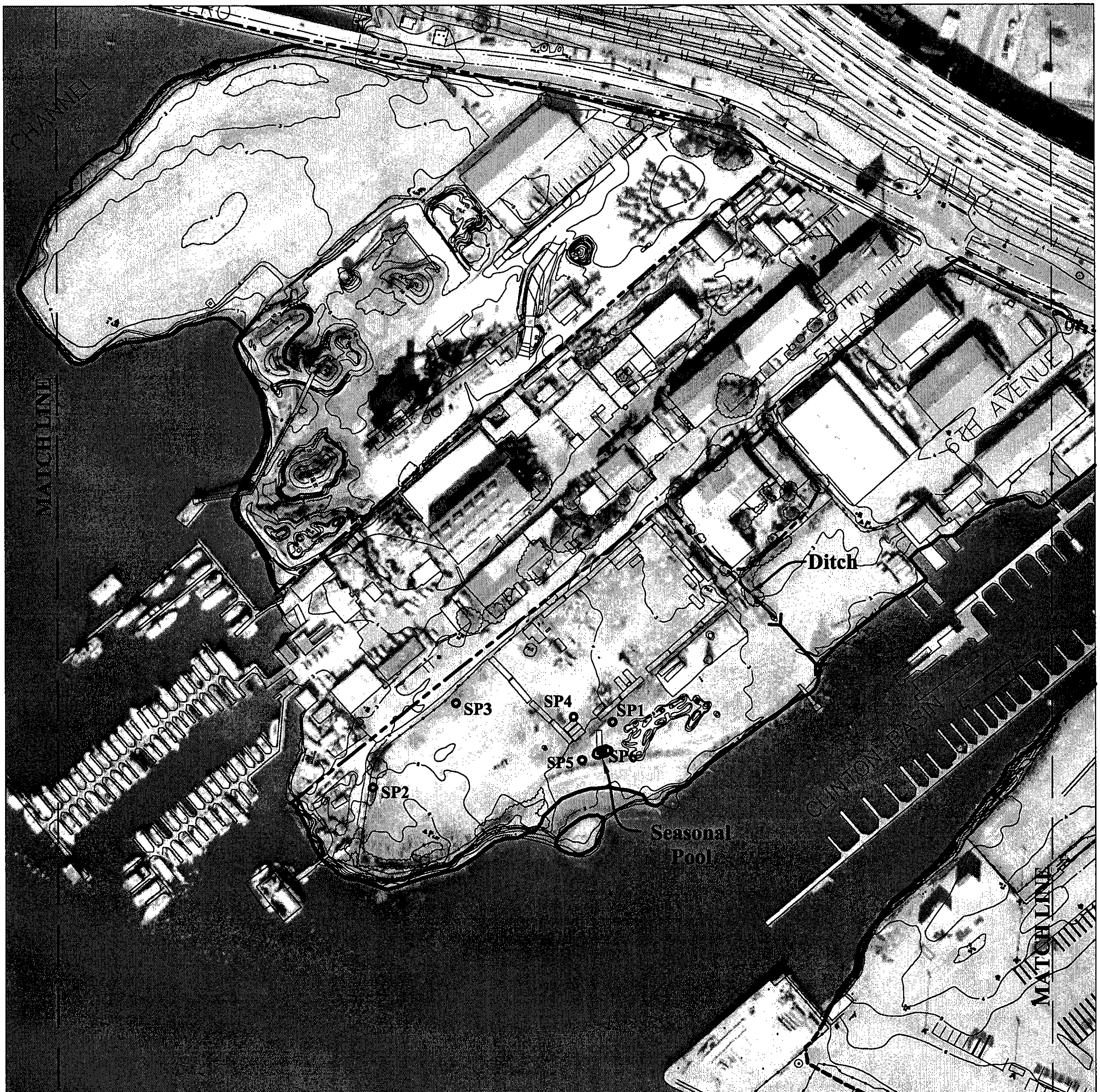

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LSA

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FEET

LEGEND

- PROJECT BOUNDARY
- SP5 WETLAND SAMPLE POINT
- SP3 NON-WETLAND SAMPLE POINT

POTENTIALLY JURISDICTIONAL FEATURES

- SEASONAL POOL (600 FT^2)
- CULVERT (2' x 80')
- DITCH (40' x 3')
- HIGH TIDE LINE
- HIGH TIDE LINE (LOCATED UNDER A PIER)

FIGURE 3B

Oak to Ninth Project

Clean Water Act Jurisdictional Delineation

SOURCE: USGS 7.5' QUAD - EL TORO, 1988

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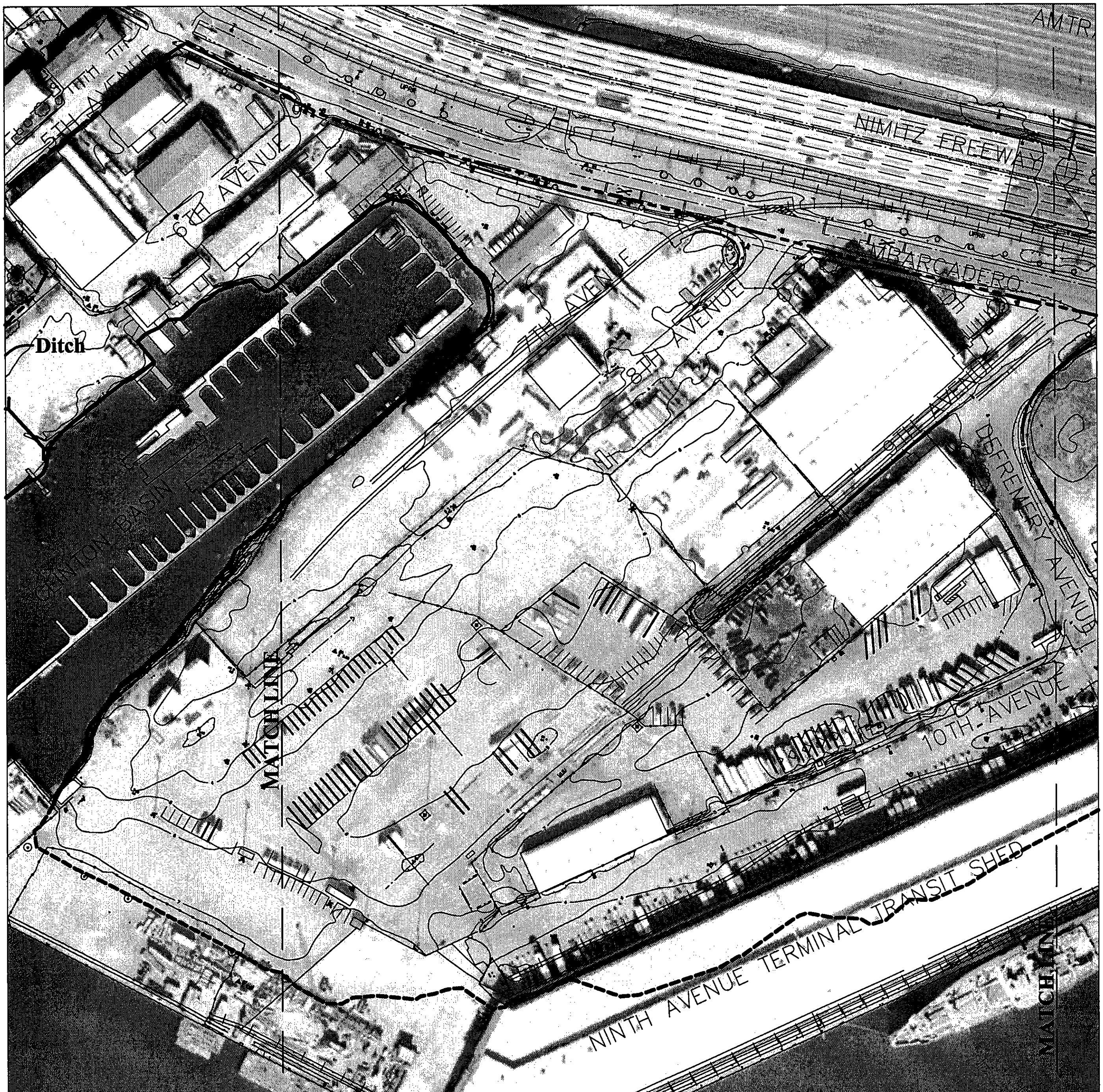

NOTES:

1. Topography on this map is based on City of Oakland datum (OCD) (0.00 ft OCD=3.00 feet NGVD 1929);(0.00 ft OCD=5.88 feet Mean Low Low Water [MLLW])
2. The High Tide Line is approximately 6.44 feet above MLLW (0.56 feet OCD) at this location .
3. Mean High Water (MHW) is 5.82 feet above MLLW (-0.06 feet OCD) at this location.
4. This delineation is subject to verification by the U.S. Army Corps of Engineers. Verification still pending as of August 16, 2005.

LSA

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FEET

LEGEND

PROJECT BOUNDARY

SP5 WETLAND SAMPLE POINT

SP3 NON-WETLAND SAMPLE POINT

POTENTIALLY JURISDICTIONAL FEATURES

SEASONAL POOL (600 FT²)

CULVERT (2' x 80')

DITCH (40' x 3')

HIGH TIDE LINE

HIGH TIDE LINE (LOCATED UNDER A PIER)

FIGURE 3C

Oak to Ninth Project

Clean Water Act Jurisdictional Delineation

SOURCE: USGS 7.5' QUAD - EL TORO, 1988

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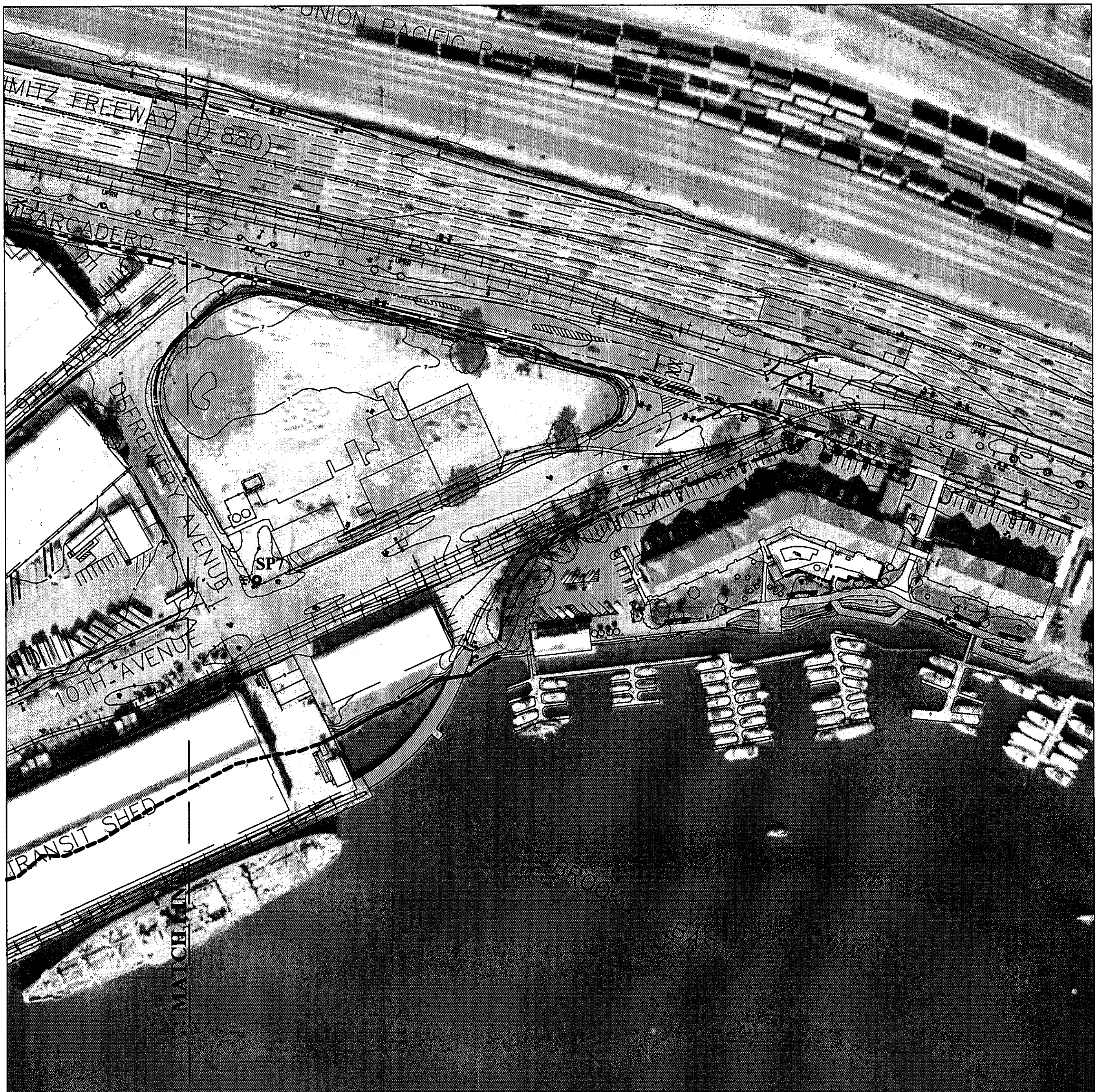

NOTES:
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4. This delineation is subject to verification by the U.S. Army Corps of Engineers. Verification still pending as of August 16, 2005.

LSA

LEGEND

PROJECT BOUNDARY
SP5 WETLAND SAMPLE POINT
SP3 NON-WETLAND SAMPLE POINT

POTENTIALLY JURISDICTIONAL FEATURES

SEASONAL POOL (600 FT^2)
CULVERT (2' x 80')
DITCH (40' x 3')
HIGH TIDE LINE
HIGH TIDE LINE (LOCATED UNDER A PIER)

N

0 200
FEET

SOURCE: USGS 7.5' QUAD - EL TORO, 1988

FIGURE 3D

Oak to Ninth Project

Clean Water Act
Jurisdictional Delineation

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