DRAFT

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

State Clearinghouse Number: 2011112055

Central Estuary Implementation Guide



Prepared for:

CITY OF OAKLAND

Planning, Building and Neighborhood Preservation
Strategic Planning Division

Prepared By:

circlepoint

1814 Franklin Street, Suite 1000
Oakland, CA 94612

November 2012

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CITY OF OAKLAND

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Department of Planning, Building and Neighborhood Preservation
Strategic Planning Division

(510) 238-3941
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COMBINED NOTICE OF AVAILABILITY AND RELEASE OF A DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (SEIR) AND NOTICE OF PUBLIC HEARINGS ON THE DRAFT SEIR FOR THE CENTRAL ESTUARY IMPLEMENTATION GUIDE

TO: All Interested Parties

PROJECT NAME: Central Estuary Implementation Guide

PROJECT LOCATION: Central Estuary Area which is bounded by 19th Avenue to the north, 54th Avenue to the south, I-880 to the east and the Bay to the west.

PROJECT SPONSOR: Department of Planning, Building and Neighborhood Preservation

CASE FILE NO: **ER11-0016/ ZT12109 / GP12110**; CEQA State Clearinghouse No. 2011112055

REVIEW PERIOD: **November 9 through December 24, 2012**

PROJECT LOCATION: The Central Estuary area (project area) encompasses about 416 acres of land, including about 319 acres of individual parcels, and about 100 acres of public rights-of-way. The project area is bordered by Interstate 880 (I-880) to the northeast and the Oakland Estuary to the southwest. About sixty (60) properties within the Central Estuary area are identified on the California Environmental Protection Agency's list of hazardous waste sites (Cortese List).

PROJECT DESCRIPTION: The Draft CEIG is a 20-year planning document that would, if approved, modify or clarify land uses and associated densities within the Central Estuary area. As a companion document to the City's 1999 Estuary Policy Plan (EPP), the Draft CEIG identifies steps to be undertaken to implement the recommendations of the EPP. The CEIG requires changes to the general plan (text and map changes) and the zoning code; the development of design guidelines to reconcile conflicting land use priorities, and the implementation of transportation improvements to address infrastructure deficiencies.

General Plan and Zoning Code Amendments: The majority of the area is currently zoned for heavy industrial uses, although given the evolution of residential, commercial, park, and office uses, simply perpetuating the heavy industrial designation is no longer appropriate or viable. The Draft CEIG proposes to maintain existing industrial uses while allowing for an increment of new commercial, residential, and office development in appropriate locations.

With respect to the General Plan, the project would expand areas designated for *Park* uses, and would also designate new Residential Mixed-Use for a portion of the West Planning Area. With respect to the Planning Code, the project proposes new zoning districts for the entire Plan Area, allowing more flexibility for mixed-use development.

Design Guidelines: The Draft CEIG includes a set of area-specific Design Guidelines to help ensure that the new development is sensitive to the existing eclectic mix of industrial, commercial, and residential uses. The Draft Guidelines would provide detailed direction on a variety of site planning and design consideration intended to enhance the project area's livability and quality of place for both existing and future users.

Transportation and Infrastructure Improvements: The allowable increment of new development under the Draft CEIG is expected to increase demands on existing project area and nearby transportation and public services infrastructure. At present, certain project area and nearby roadways are known to operate at unacceptable conditions and several infrastructure deficiencies have been identified. The City may incorporate into the Draft CEIG certain strategies that would address either existing and/or projected deficiencies.

The Draft CEIG's proposed changes, if enacted, would not directly result in any new development. However, taken as a whole, the Draft CEIG's proposed program of land use changes would allow for an increment of new residential, live/work, industrial, and commercial/office development above what current regulations allow.

Electronic copies of the Draft CEIG, Draft General Plan Amendments, Draft Zoning Code and Draft Design Guidelines, are available on the project webpage:
http://www2.oaklandnet.com/Government/o/PBN/OurOrganization/PlanningZoning/DOWD009073

ENVIRONMENTAL REVIEW: The City issued a Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report (Draft SEIR) on November 21, 2011. The Draft SEIR is supplemental to the Estuary Policy Plan Environmental Impact Report adopted in 1998. A Draft SEIR now has been prepared for the Project, under the requirements of the California Environmental Quality Act (CEQA), pursuant to Public Resources Code Section 21000 et.seq.

The Draft SEIR analyzes potentially significant environmental impacts in the following categories: Air Quality, Greenhouse Gas Emissions/ Global Climate Change, Noise, Transportation/Traffic, Aesthetics, Biological Resources, Cultural and Historic Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use Planning, Population and Housing, Public Services, Recreation, and Utilities and Service Systems.

The Draft SEIR identifies significant and unavoidable impacts related to Air Quality (exposure to TACs and odors), Greenhouse Gas Emissions/Global Climate Change (GHG emissions), and Transportation/Traffic (intersection/roadway) impacts.

Starting on November 9, 2012, copies of the Draft SEIR will be available for review or distribution to interested parties at no charge at the Department of Planning, Building and Neighborhood Preservation, Strategic Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612, Monday through Friday, 8:30 a.m. to 5:00 p.m. The Draft SEIR may also be reviewed at the following website:
http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/DOWD009157. This project is document number 17.

PUBLIC HEARINGS ON DEIR:

1. The Oakland City Planning Commission will conduct a public hearing on the Draft SEIR on **December 5, 2012, at 6:00 p.m.** in Hearing Room 1, City Hall, 1 Frank H. Ogawa Plaza; and

2. The Oakland Landmarks Preservation Advisory Board will conduct a public hearing on the cultural resource aspects of the Draft SEIR on **December 10, 2012, at 6:00 p.m.** in Hearing Room 1, City Hall, 1 Frank H. Ogawa Plaza.

The City of Oakland is hereby releasing this Draft SEIR, finding it to be accurate and complete and ready for public review. Members of the public are invited to comment on the Draft SEIR. There is no fee for commenting, and all comments received will be considered by the City prior to finalizing the SEIR and making a decision on the Project. In light of the SEIR's purpose to provide useful and accurate information about such factors,

comments on the Draft SEIR should focus on the sufficiency of the Draft SEIR in discussing possible impacts on the physical environment, ways in which potential adverse effects might be minimized, and alternatives to the Project. Comments may be made at the public hearings described above or in writing. Please address all written comments to: Alicia Parker, City of Oakland, Department of Planning Building and Neighborhood Preservation, Strategic Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612; (510) 238-6538 (fax); or emailed to aparker@oaklandnet.com. Comments should be received no later than **4:00 p.m. on December 24, 2012**. Please reference case number **ER 11-0016** in all correspondence.

If you challenge the SEIR or Project in court, you may be limited to raising only those issues raised at the Planning Commission public hearing described above, or in written correspondence received by the Department of Planning Building and Neighborhood Preservation on or prior to 4:00 p.m. on **December 24, 2012**.

After all comments are received, a Response to Comments/Final SEIR will be prepared and the Planning Commission will consider certification of the Final SEIR and making a recommendation on the Project to the City Council at a meeting date to be scheduled. For further information, please contact Alicia Parker **at (510) 238-3362** or at **aparker@oaklandnet.com**.

for.

SCOTT MILLER
Interim Planning Director

Date of Notice: **November 5, 2012**
File Number ER 11-0016

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Print Form

Appendix C

Notice of Completion & Environmental Document Transmittal

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

SCH #2011112055

Project Title: Central Estuary Implementation Guide

Lead Agency: City of Oakland | Contact Person: Alicia Parker
Mailing Address: 250 Frank H. Ogawa Plaza, Ste 3315 | Phone: (510) 238-3362
City: Oakland | Zip: 94612 | County: Alameda

Project Location: County: Alameda | City/Nearest Community: Oakland
Cross Streets: Interstate 880 (I-880) to the northeast & the Oakland Estuary to the southwest; see pg. 3 | Zip Code: 94601
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W | Total Acres: 416
Assessor's Parcel No.: Multiple | Section: ____ | Twp.: ____ | Range: ____ | Base: ____
Within 2 Miles: State Hwy #: Interstate 880 | Waterways: Oakland Estuary
Airports: ____ | Railways: Union Pacific | Schools: Beacon Day School

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☒ Supplement/Subsequent EIR (Prior SCH No.) 98031116 ☐ Other: ____
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

Local Action Type:

☐ General Plan Update ☒ General Plan Amendment ☐ General Plan Element ☒ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☒ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other: ____

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☐ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☐ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☐ Forest Land/Fire Hazard ☒ Geologic/Seismic ☐ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☒ Schools/Universities ☐ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☐ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☒ Other: GHG Emmissions

Present Land Use/Zoning/General Plan Designation:

GP - LI-2, WCR-2, PWD-2, RMU, HI, GC-1, LI-3, WPD-3, Parks; Zoning: M-30, M-40, HBX-3

Project Description: *(please use a separate page if necessary)*

The project includes the preparation of the Draft Central Estuary Implementation Guide (a 20 year planning document), Draft General Plan Amendments, Draft Zoning Code Amendments, and Draft Design Guidelines to facilitate 420 new residential dwelling units, 374,857 square feet of industrial development, 712,022 square feet of commercial and office development and 10.7 acres of parks.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

x	Air Resources Board	x	Office of Historic Preservation
	Boating & Waterways, Department of		Office of Public School Construction
	California Emergency Management Agency		Parks & Recreation, Department of
	California Highway Patrol		Pesticide Regulation, Department of
x	Caltrans District #4		Public Utilities Commission
	Caltrans Division of Aeronautics	x	Regional WQCB #2
	Caltrans Planning		Resources Agency
	Central Valley Flood Protection Board		Resources Recycling and Recovery, Department of
	Coachella Valley Mtns. Conservancy	x	S.F. Bay Conservation & Development Comm.
	Coastal Commission		San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	Colorado River Board		San Joaquin River Conservancy
	Conservation, Department of		Santa Monica Mtns. Conservancy
	Corrections, Department of		State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of	x	SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
x	Fish & Game Region #3		Tahoe Regional Planning Agency
	Food & Agriculture, Department of	x	Toxic Substances Control, Department of
	Forestry and Fire Protection, Department of		Water Resources, Department of
	General Services, Department of		
	Health Services, Department of		Other:
	Housing & Community Development		Other:
x	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date November 9, 2012 Ending Date December 24, 2012

Lead Agency (Complete if applicable):

Consulting Firm: CirclePoint
Address: 1818 Franklin St., Ste. 1000
City/State/Zip: Oakland, CA 94612
Contact: John Cook
Phone: (415) 227-1100 x.129

Applicant: City of Oakland
Address: 250 Frank H. Ogawa Plaza, Ste, 3315
City/State/Zip: Oakland, CA 94612
Phone: (510) 238-3362

Signature of Lead Agency Representative: _____ **Date:** 11/2/12

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Project Location (Continued): Central Estuary Area of the City of Oakland which is bounded by 19th Avenue to the north, 54th Avenue to the south, I-880 to the east and the Bay to the west.

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1.0 INTRODUCTION

This draft supplemental environmental impact report (SEIR) describes the environmental consequences of adopting the proposed Central Estuary Implementation Guide (also referred to in this document as the CEIG or the project). The CEIG is a long-range (20-year) planning document that modifies/clarifies land use policy and associated densities and intensities to all properties within the Central Estuary Plan Area (Plan Area). In summary, the project proposes a coordinated program of changes to land use regulations that will allow portions of the Plan Area to be developed with denser commercial and/or mixed-use development while simultaneously preserving and enhancing industrial areas.

1.1 BACKGROUND AND CONTEXT

Oakland's waterfront is a significant citywide and regional resource that connects the city and the surrounding region to the San Francisco Bay. The Central Estuary Plan Area, the focus of this study, is an area generally encompassed by 19th Avenue, 54th Avenue, I-880, and the Oakland Estuary (see **Figure 1-1**). The Plan Area is roughly 416 acres, of which approximately 319 acres are made up of individual parcels and the remainder is public rights-of-way.

A significant citywide challenge of the last decade has been preserving a healthy diversity of employment and industry in the city. Historically, many industries have depended on waterfront access for raw materials or distribution; some industrial uses in the Plan Area have continued to rely on such access to this day. As a result, the Plan Area was predominantly zoned for industrial use, and a number of well-established industrial uses remain, including associated infrastructure such as railroad spur tracks.

In recent years, residential development interests have focused on industrial areas throughout the city because of the relative affordability of large parcels. The Plan Area, as a whole, has been particularly appealing because of its attractive views and central location. At the same time, the desire to increase public access and recreational uses of the city's waterfront adds a potentially conflicting demand with nearby industrial uses. Citywide policies, such as the City of Oakland General Plan



Legend

Plan Area

Regional Project Location

Figure 1-1

Source: Circlepoint, 2012

(General Plan) and city zoning, as well as a number of plans and studies that have focused on the Central Estuary, define the potential future for the Plan Area. Adopted in 1998, the General Plan defined a number of subsequent planning efforts that would be required to complete this process and further delineate the vision for certain Central Estuary subareas. The Estuary Policy Plan (EPP), adopted in June 1999, is an element of the General Plan that sets forth policies and principles to guide development in the Plan Area. Policy MF-2 of the EPP called for the city to prepare an "Estuary Plan Implementation Guide" as a subsequent companion document to the EPP. This policy encourages the scope of the implementation guide to provide specific strategies and standards to direct the initiation and evaluation of waterfront-related projects. The proposed CEIG fulfills the intent of this policy for the Plan Area.

The purpose of the CEIG is to continue to carry out the goals and policies of the EPP, and provide more detailed guidance for specific areas within the Central Estuary Plan Area, where some land use change from existing conditions is anticipated. The proposed guidelines are intended to better allow the diverse range of land uses in the Plan Area to continue to co-exist. The CEIG is also intended to provide a framework for the future realization of transportation and infrastructure improvements in the Plan Area, including stronger internal connections between neighborhoods and to the Central Estuary's commercial areas and recreational assets.

1.2 PURPOSE OF THE DRAFT SEIR

An EIR is an informational document whose purpose is to make the public and decision-makers aware of the environmental consequences of a project. The City of Oakland is the lead agency for the EIR. Thus, the Oakland City Council and Planning Commission will review this report and weigh its contents against economic, social, neighborhood, and other considerations to determine whether the CEIG should be approved as proposed, approved with conditions, or not approved.

CEQA documents (Initial Studies or EIRs) on specific plans, policy documents, or individual residential and/or mixed-use development projects in the City of Oakland may be tiered from this EIR (CEQA Guidelines Sections, 15162-15164, 15168, 15183 and 15183.5). Pursuant to CEQA Guidelines Section 15085, tiering may occur from a broader environmental analysis to a narrower environmental analysis, or site-specific environmental analysis, by incorporating by reference the general discussions and concentrating solely on the issues specific to the EIR subsequently prepared. Tiering is appropriate when "the sequence of an EIR is from a general

plan, policy or program EIR to a program, plan or policy EIR of a lesser scope, or to a site-specific EIR of a lesser scope." (CEQA Guidelines Section 15383[a]). This SEIR for the Central Estuary Implementation Guide can function as a first-tier environmental document that assesses and documents the broad environmental impacts of the anticipated foreseeable growth in the Plan Area by 2035 (391 residential units, 31 live-work units, 712,022 net new square feet of commercial space, 374,857 net new square feet of industrial space), with the understanding that a more detailed project-level review may be required to assess future projects. The analysis contained in this SEIR may also be used as a reference for subsequent environmental review of transportation or infrastructure improvements, zoning amendments, impacts fees, or specific development proposals.

Pursuant to CEQA Guidelines Section 15183, streamlined environmental review is allowed for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project or the project site. CEQA Guidelines Section 15162 – 15164 allow for the preparation of a Subsequent EIR and/or Negative Declaration, Supplemental EIR, and Addendum, respectively, to a certified EIR when certain conditions are satisfied. CEQA Guidelines Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the recommendations and analysis contained in the program EIR. Such projects would not require the preparation of an environmental document.

The city has prepared this draft SEIR to evaluate the proposed CEIG, relying on previously adopted environmental impact reports (EIRs) such as the Historic Preservation Element EIR, the Land Use and Transportation Element (LUTE) EIR, the EPP EIR, and the Housing Element EIR.

The EPP EIR, certified in 1999, evaluated the environmental impacts of implementing the EPP at a program level and incorporated information from the LUTE EIR. Because the CEIG is an implementation of the EPP, it is anticipated that many (but not all) of the environmental effects identified in these earlier certified environmental documents fully encompass certain effects of the project. The Housing Element EIR, certified in 2010 documented the broad impacts of the future development of 14,629 residential units across the city, including the Plan Area. However, because of the time that has transpired since these documents were certified, there is new information regarding existing conditions, as well as new

requirements and regulatory updates for technical issue areas that require new analyses. Therefore, the city has prepared this draft SEIR to update the EPP EIR and fully disclose and analyze potential environmental effects of the project, given today's conditions.

1.3 LEVEL OF ANALYSIS

The degree of specificity in an EIR corresponds to the degree of specificity in the underlying activity described in the EIR.

Per CEQA Guidelines Section 15168[a], a lead agency may prepare a program-level EIR to address a series of actions that can be characterized as one large project or series of actions that are linked geographically; logical parts of a sequence of contemplated events; rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts that can be mitigated in similar ways.

This draft supplemental EIR was developed to assess the environmental impacts of the proposed Central Estuary Implementation Guide. Program-level environmental review is used to analyze a series of actions that can be characterized as one large project because they are logically related. For some site-specific purposes, a program-level environmental document may provide sufficient detail to enable an agency to make informed site-specific decisions within the program. This approach would allow agencies the ability to carry out an entire program without having to prepare additional site-specific environmental documents. In other cases, the formulation of site-specific issues is unknown until subsequent design occurs leading to the preparation of later project-level environmental documentation. In such situations, the program-level EIR may properly focus on "broad policy alternatives and programmatic mitigation measures," as well as "regional influences, secondary effects, cumulative impacts. . . and other factors that apply to the program as a whole." (CEQA Guidelines Section 15168(b)(4) and (d)(2)).

Project-level environmental analysis examines the environmental impacts of an individual project, including construction and operational phases. Project level analysis may be conducted once a sufficient level of detail is known regarding a proposed project. With a detailed project description and an understanding of the existing environmental conditions, the potential environmental effects of the proposed project may be understood and analyzed. Here, although not required under CEQA, some "project-level" impacts of reasonably foreseeable level of

buildout in the Central Estuary Plan Area are discussed to the extent that such impacts are known. This supplemental EIR evaluated the following impacts at a project level:

- Air quality: exposure to odors and toxic air contaminants
- Greenhouse gas emissions
- Transportation/Traffic: transportation facilities
- Noise

This supplemental EIR concludes, with the exception of noise impacts, that these project-level impacts are significant and unavoidable.

Pursuant to CEQA Guidelines Sections 15162-15164, 15168, 15183 and 15183.5, future program- and project-level environmental analyses may be tiered from this EIR.

The more detailed impacts of future individual, site-specific, infrastructure, residential, commercial, and mixed use development actions that may be facilitated by the project, but are not yet specifically described, are not described in this SEIR. Rather, the CEQA-required environmental review of such subsequent individual actions will be undertaken at a later time, if and when such actions come before the city in the form of a specific public improvement project or development application. At that time, when the details of the individual action are sufficiently defined, the action will be subject to its own, project-specific, environmental determination by the city that either: 1) the action's environmental effects were fully disclosed, analyzed, and as needed, mitigated to a less-than-significant level within this SEIR; 2) the action is exempt from CEQA (under Sections 21080 et al. of the Public Resources Code); 3) the action warrants preparation of a Mitigated Negative Declaration (under Sections 21064.5 et al. of the Public Resources Code); or 4) the action warrants preparation of a focused EIR limited to certain site-specific issues.

1.4 SCOPE OF THIS DRAFT SEIR

The scope of the draft SEIR was informed by comments submitted in response to a Notice of Preparation (NOP) that was published and circulated on November 21, 2011. A copy of the NOP is included in **Appendix A**. During the 30-day comment period (ending December 21, 2011), a scoping session was held before the City Planning Commission on December 14, 2011 and oral and written comments

regarding the scope and content of the draft SEIR were received and were taken into consideration in the preparation of the draft SEIR. A summary of comments received during the scoping period is provided in **Chapter 2.0, Summary**. A copy of each letter submitted in response to the NOP is appended as **Appendix A** to this draft SEIR.

1.5 REPORT ORGANIZATION

This draft EIR is organized into the following chapters:

- **Chapter 1.0, Introduction,** provides an introduction and overview of the purpose of this draft SEIR and describes the environmental review process.
- **Chapter 2.0, Summary,** provides a summary of the potential environmental impacts related to implementation of the project, and also describes the project alternatives. This chapter provides a summary table that identifies the significant impacts, SCAs, mitigation measures, and the level of significance of an impact before and after the mitigation measure is incorporated.
- **Chapter 3.0, Project Description**, describes the project, including the project setting, project characteristics.
- **Chapter 4.0, Environmental Analysis,** describes the environmental setting; applicable plans and policies; an analysis of the environmental impacts of the project; Standard Conditions of Approval (SCAs), and mitigation measures that would reduce their significance.
- **Chapter 5.0, Alternatives,** considers alternatives to the project and compares the impacts of these alternatives to the project.
- **Chapter 6.0, CEQA Required Assessment Conclusions,** provides a summary discussion of project-related effects, including the effects found not to be significant, unavoidable significant effects, and a discussion of the project's potential to induce growth in the area.
- **Chapter 7.0, Report Preparation,** identifies the lead agency and consultants involved in the preparation of this draft SEIR.
- The **Appendices** include the NOP, copies of the comments received on the NOP, and technical reports prepared by environmental and technical specialists for the evaluation of the project.

1.6 ENVIRONMENTAL REVIEW PROCESS

This draft SEIR is being distributed for a 45-day public review and comment period. Readers are invited to submit written comments on the adequacy and completeness of the document (e.g., does this draft SEIR identify and analyze the possible environmental impacts and recommend appropriate mitigation measures? Does it consider and evaluate a reasonable range of alternatives to the CEIG?). Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. CEQA Guidelines Section 15096(d) calls for responsible agencies to provide comments on those project activities within the agency's area of expertise and to support those comments with either oral or written documentation.

Written comments should be submitted to:

Alicia Parker
Planning Division
City of Oakland
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, CA 94612

Email: aparker@oaklandnet.com
ATTN: Case Number ER110016

Following the close of the public comment period, responses to public input will be prepared and published as a separate document. The draft SEIR text and appendices, together with the responses to comments document, will constitute the final SEIR.

A public hearing to take comments on the adequacy of the draft SEIR will be held before the Planning Commission (see Notice of Availability/Release of draft SEIR in the front of this document). Hearing notices will be mailed to responsible agencies. Additionally, all hearings will be noticed and advertised in the following ways, including but not limited to:

- Notice in local newspapers;
- Written notice to all persons on the CEIG Project "interested persons" list, which includes those who have attended public meetings and who have specifically requested to be added to the "interested persons" list, and other known parties;

- Written notice to all neighboring jurisdictions, including but not limited to Alameda County, the cities of Piedmont, Emeryville, Alameda, San Leandro, and Berkeley; and
- Notice on the city's website "Current Environmental Review Documents," accessible at: http://www2.oaklandnet.com/Government/o/PBN/OurServices/Application/DOWD009157

1.7 PROJECT REVIEW AND APPROVAL

The City of Oakland Planning Commission must ultimately certify that it has reviewed and considered the information in the SEIR and that the environmental document has been completed in conformity with CEQA requirements. The Planning Commission must make this certification before any decision can be made regarding the approval of the CEIG.

Pursuant to CEQA Guidelines Section 15097, should the city approve the project, the city must also adopt a mitigation monitoring and reporting program (MMRP) for the CEIG. A MMRP is tracking mechanism that facilitates compliance with identified mitigation measures of the EIR during project implementation. The city can implement the MMRP, or delegate the responsibilities to another private agency or a private entity that accepts delegation. Mitigation measures are enforced through permit conditions, agreements, or other measures.

Pursuant to CEQA Guidelines Section 15091, no public agency shall approve or carry out a project for which an EIR has been certified and which identifies one of more significant unavoidable effects of the project, unless the public agency makes one or more of the following findings:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such agency.
- Specified economic, legal, social, technological, or other considerations, including provisions of employment opportunities for highly trained workers,

make infeasible the mitigation measures or project alternatives identified in the final EIR.

If the city decides to approve the CEIG, and if the project would result in significant impacts that cannot be mitigated to a less-than-significant level, then the city must indicate that any such significant and unavoidable impacts are acceptable due to overriding considerations described in the CEQA Guidelines Section 15093. This is known as the "Statement of Overriding Considerations." In preparing such a statement, the city must balance the unavoidable environmental impacts against certain economic, social, or other benefits of the project. CEQA requires that the city as lead agency make specific findings that the identified benefits outweigh the significant and unavoidable environmental impacts.

2.0 SUMMARY

This draft supplemental environmental impact report (SEIR) been prepared in accordance with the provisions of the California Environmental Quality Act (CEQA) to evaluate the potential impacts of the proposed Central Estuary Implementation Guide (also referred to in this document as the CEIG or the project). This chapter presents an overview of the environmental analysis of the project. Section 15123 of the CEQA Guidelines requires that an EIR summary identify the following: 1) each significant impact with proposed mitigation measures and alternatives that would reduce or avoid that impact; 2) areas of controversy known to the lead agency, including issues raised by agencies and the public; and 3) issues to be resolved, including choice among alternatives and whether or how to mitigate the significant impacts.

2.1 PROJECT UNDER REVIEW

The City of Oakland proposes to adopt the CEIG. The CEIG is a 20-year planning document that modifies/clarifies land use policy and associated densities and intensities to all properties within the city Central Estuary Plan Area (Plan Area). In summary, the project would expand areas designated for park uses, and would also designate new residential mixed-uses for a portion of the Plan Area. With respect to the City of Oakland Planning Code, the project proposes new zoning districts for the entire Plan Area, allowing denser commercial and industrial land uses and more flexibility for mixed-use development.

2.2 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

A Notice of Preparation (NOP) was published and circulated on November 21, 2011 to solicit comments regarding the final scope and content of the EIR. Scoping comments received on the project's NOP (included as **Appendix A**) included a letters from various local agencies. The following topics were raised in the scoping comments received. Each of these topic areas is addressed in this draft SEIR.

Air Quality

- Analyze the project's potential air quality impacts using the latest (2011) Bay Area Air Quality Management District (BAAQMD) guidance.

Transportation

- Identify traffic impact fees for facilities necessitated by new development.
- Identify any proposed improvements to the California Department of Transportation (Caltrans) right-of-way.
- Analyze access to transportation options that limit emissions of greenhouse gases while promoting improved public health (such as biking/walking)

Hazardous Materials and Hazardous Waste

- Identify any significant hazards to the public through the routine transport, use, or disposal of hazardous materials.

Utilities

- If needed, require future individual projects to request a water supply assessment (WSA) pursuant to CEQA Guidelines Section 15155.
- Incorporate measures that would: (1) Replace/rehabilitate any existing sanitary sewer lateral lines to reduce infiltration/inflow, and (2) ensure that any new wastewater collection systems, including sewer laterals are constructed to prevent infiltration/inflow.
- Address possible future connections to recycled water.
- Require compliance with Landscape Water Conservation Section, Article 10, Chapter 7 of Oakland Municipal Code.

Parks and Recreation

- Include policies to ensure that future sections of the San Francisco Bay Trail are designed to be compatible with the existing trail alignment.
- Require compliance with policies for ensuring that San Francisco Bay Trail is adequately maintained for safety of users.

Cultural Resources

- Conduct archaeological records search and conduct a field survey if the records search indicates one is warranted.
- Contact Native American Heritage Commission for sacred lands file search.
- Include provisions for protection of archaeological resources.

Additional comments were raised related to issues beyond the scope of the analysis in this draft SEIR prepared pursuant to CEQA, but which will be considered by decision makers, including the following topics:

- Identify long term funding for trail maintenance.
- Analyze jobs displaced (as applicable) if new land uses would take away from job opportunities to support lower-wage, lower-educated workers.
- Analyze access to "health promoting and affordable retail and services"
- Ensure adequate amount of affordable housing is available.

2.3 SUMMARY OF ENVIRONMENTAL IMPACTS

Table 2-1 provides a summary of environmental impacts of the project, SCA and measures identified in this draft EIR to mitigate any significant impact, and the level of significance after implementation of the mitigation measures. The table is arranged in four columns: 1) environmental impacts; 2) level of significance before mitigation; 3) SCA and/or mitigation measures; and 4) level of significance after SCA mitigation. **Chapter 4.0, Environmental Analysis,** provides a comprehensive analysis of significant and less-than-significant impacts of the project. In addition, there are 140 intersections in the city which have been identified in previous EIRs to have significant and unavoidable (SU) impacts. The complete list of these intersections is located in **Table 4.4-2** in **Section 4.4, Transportation/Traffic**.

According to the *State CEQA Guidelines*, a "significant effect on the environment" means a substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance (*State CEQA Guidelines* Section 15382). Implementation of the project would have the potential to generate significant environmental impacts to air quality, greenhouse gas emissions/global climate change, noise, and traffic/transportation.

Table 2-1 Summary of Environmental Impacts

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Air Quality			
Impact AQ-1: Development facilitated by the proposed project would not conflict with the Bay Area 2010 CAP because the projected rate of increase in vehicle miles travelled and vehicle trips would be less than the projected rate of increase in population		None required.	LTS
Impact AQ-2: Development facilitated by the proposed project would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement transportation control measures contained in the CAP.	SCA 25, Parking and Transportation Demand Management	None required	LTS
Impact AQ-3: Development facilitated by the proposed project could include residential developments that expose occupants to substantial health risks from toxic air contaminants (TACs) from sources including both diesel particulate matter (DPM) and gaseous emissions. While compliance with the City's Standard Conditions of Approval would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less-than-significant level, there is no certainty that SCA adherence could reduce risk from gaseous TACs to a less-than-significant level.	SCA B, Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter) SCA C, Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions)	None feasible[1]	Gaseous TACS: SU at Plan and Project Levels DPM: LTS

[1] See the specific impact and mitigation measure discussion in **Section 4.1, Air Quality** (page 4.1-33), for details of why mitigation is infeasible.

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Impact AQ-4: Development facilitated by the proposed project could expose a substantial number of people to objectionable odors.		None feasible	SU at Plan and Project Levels
Greenhouse Gas Emissions/Global Climate Change			
Impact GHG-1: Development facilitated by the proposed project would allow for the construction and operation of land uses that would produce greenhouse gas emissions from multiple sources, including stationary sources. The expected level of emissions is expected to exceed three of the four relevant thresholds (1,100 annual tons of MTCO2e; 4.6 MTCO2e annually per service population from non-stationary sources; more than 10,000 annual MTCO2e from new stationary sources) but will be below the plan level threshold of 6.6 MTCOC2e annually per service population for non-stationary sources. Development facilitated by the proposed project would thus be expected to generate greenhouse gas emissions at levels that would result in a cumulatively considerable contribution to a significant adverse cumulative impact on the environment.	SCA 25, Parking and Transportation Demand Management; SCA 36, Waste Reduction and Recycling; SCA 12, Required Landscape Plan for New construction; SCA 13, Landscape Requirements for Street Frontages; SCA 15, Landscape Maintenance; SCA 17, Landscape Requirements for Street Frontages; SCA 18, Landscape Maintenance; SCA 45, Tree Replacement Plantings; SCA 55, Erosion and Sedimentation Control Plan; SCA 75, Stormwater Pollution and Prevention Plan; SCA 83, Creek Protection Plan; SCA F, Greenhouse Gas Reduction Plan	None feasible	SU at Project Level; LTS at Plan Level
Impact GHG-2: The proposed project would not fundamentally conflict with a plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions.	SCA F, Greenhouse Gas (GHG) Reduction Plan	Non required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Noise			
Impact NO-1: Development facilitated by the CEIG would potentially increase construction noise at sensitive receptors located near construction sites. Compliance with the city's Standard Conditions of Approval would reduce these impacts to a less-than-significant level.	SCA 28, Days/Hours of Construction Operation; SCA 29, Noise Control; SCA 30, Noise Complaint Procedures; SCA 39, Pile Driving and Other Extreme Noise Generators	None required	LTS
Impact NO-2: Construction of development facilitated by the CEIG could generate noise at levels in excess of City of Oakland nuisance standards for persistent construction-related noise.	SCA 28, Days/Hours of Construction Operation; SCA 29, Noise Control; SCA 30, Noise Complaint Procedures; SCA 39, Pile Driving and Other Extreme Noise Generators; SCA 57, Vibrations Adjacent to Historic Structure SCA A(f), Construction-Related Air Pollution Controls (Dust and Equipment Emissions);	None required	LTS
Impact NO-3: Development facilitated by the CEIG could generate noise levels in excess of standards established in the city's Noise Ordinance for operational noise.	SCA 32, Operational Noise-General	None required	LTS
Impact NO-4: Development facilitated by the CEIG could potentially increase ambient noise levels, but by less than a 5 dBA permanent increase.		None required	LTS
Impact NO-5: Development facilitated by the CEIG could expose persons to interior noise levels that exceed State building code requirements (45 dBA L_{dn}).	SCA 31, Interior Noise	Non required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Noise Cont'd			
Impact NO-6: Development facilitated by the CEIG be exposed to noise levels in conflict with the land use compatibility guidelines of the Oakland General Plan.	SCA 31, Interior Noise	None required	LTS
Impact NO-7: Development facilitated by the CEIG may expose persons to or generate noise levels in excess of applicable occupational noise standards established by Cal-OSHA and the City's Planning Code.		None required	LTS
Impact NO-8: Construction of the development facilitated by the CEIG may expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA).	SCA 38, Vibration; SCA 39, Pile Driving and Other Extreme Noise Generators	None required	LTS
Impact NO-9: Development facilitated by the CEIG would not be located within an airport land use plan and would not expose people residing or working in the Plan Area to excessive noise levels associated with airports.	SCA 38, Vibration	None required	LTS
Impact NO-10: The Plan Area is not located within the vicinity of a private airstrip. Therefore, no noise impacts from private airstrip activity would occur.		None required	NI
Impact CUM NO-1: Construction activity from development under the CEIG in combination with other foreseen development projects would not have cumulative noise effects.		None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Noise Cont'd			
Impact CUM NO-2: The cumulative noise effect of a new development facilitated by the CEIG combined with the expected regional development and traffic growth would increase noise within the Plan Area, but not by a cumulatively considerable amount.		None required	LTS
Transportation/Traffic			
Impact TRAN-1: Under Existing plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #10 (E 9th St / E 8th St / NB 880 off-ramp, unsignalized all-way stop control) from LOS F with 80 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a significant impact under CEQA threshold #6.		**Mitigation TRAN-1:** The 29th/23rd Overcrossing Project will be constructing a roundabout at this intersection and reconfiguring the street system. The NB I-880 off-ramp traffic will no longer be routed through this location, but instead will use a new off-ramp that will intersect 29th Avenue directly on the new overcrossing structure. The proposed roundabout and the change in traffic flows associated with the 29th/23rd Project will successfully mitigate this impact to LOS B, which will reduce the impact to a less-than-significant (LTS) level.	LTS
Impact TRAN-2: Under Existing plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #26 (High St / Coliseum Way, signalized) from LOS C with 30 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). This is considered a significant impact under CEQA threshold #1.		**Mitigation TRAN-2:** The 42nd Avenue/High Street Access Improvements Project will widen High Street to accommodate additional travel and left-turn lanes. These improvements will improve operations to LOS B, which will reduce the impact to a less-than-significant level.	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-3: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #29 (Coliseum Wy / NB 880 off-ramp, unsignalized side-street stop control) from LOS D with 25 seconds of delay (AM) and 28 seconds of delay (PM) to LOS F with 122 seconds of delay (PM) and 69 seconds of delay (PM). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a significant impact under CEQA threshold #6.		None Feasible	SU
Impact TRAN-4: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #1 (Embarcadero / 16th Avenue, unsignalized side-street stop control) from LOS E with 49 seconds of delay (No Project) to LOS F with 51 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a significant impact under CEQA threshold #6.		**Mitigation TRAN-4:** Install a traffic signal and reconfigure the lanes at this location, optimize the signal timing (i.e., adjust the allocation of green time for each intersection approach for peak periods of the day), and coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group (if applicable). Construct other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection. To implement this measure, the project sponsor shall submit to the City for review and approval Plans,	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Impact TRAN-4 Cont'd		Specifications, and Estimates (PS&E). This will successfully mitigate this impact to LOS B, which will reduce the impact to a less-than-significant (LTS) level.[2]	
Impact TRAN-5: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #3 (E 12th / 22nd Ave / 23rd Ave, signalized) from LOS E with 69 seconds of delay (No Project) to LOS E with 70 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left and westbound left) to degrade by more than six seconds over the No Project condition. This is considered a significant impact under CEQA threshold #4.		None feasible	SU
Impact TRAN-6: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #18 (Fruitvale Ave / E 9th St, signalized) from LOS D with 43 seconds of delay (No Project) to LOS E with 58 seconds of delay (plus Project). This is considered a significant impact under CEQA threshold #1.		**Mitigation TRAN-6:** At the SB approach on E 9th, provide a dedicated SB left-turn lane to EB Fruitvale, modify the signal operation and phasing to provide protected left-turn movements, and optimize the signal timings. To implement this measure, the project sponsor shall submit to the City for	LTS

[2] Refer to **Section 4.4, Transportation/Traffic** (page 4.4-76), for a detailed list of what is required as part of the PS&E submittal.

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Impact TRAN-6 Cont'd		review and approval Plans, Specifications, and Estimates (PS&E) as detailed in Mitigation TRAN-4.[3]The SB left-turn lane could be accommodated by either: a) converting one of the NB travel lanes on E 9th to the SB left-turn lane, or b) widening E 9th on the west side of the roadway, which would require removing trees, reconfiguring the at-grade rail crossing, and rebuilding the traffic signal. No on-street parking would need to be removed. The existing single travel lane would be converted to a shared through/right-turn lane. This improvement would improve operations to LOS D, which would reduce the impact to a less-than-significant level.	
Impact TRAN-7: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #22 (42nd Ave / International Blvd, signalized) from LOS E with 73 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The increase in delay of 12 seconds is considered a significant impact under CEQA threshold #3.		None feasible	SU

[3] Refer to **Section 4.4, Transportation/Traffic** (page 4.4-76), for a detailed list of what is required as part of the PS&E submittal.

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-8: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS C with 22 seconds of delay (No Project) to LOS E with 56 seconds of delay (plus Project). This is considered a significant impact under CEQA threshold #1.		None feasible	SU
Impact TRAN-9: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS D with 52 seconds of delay (No Project) to LOS E with 68 seconds of delay (plus Project). This is considered a significant impact under the City of Alameda's CEQA traffic thresholds.		None feasible	SU
Impact TRAN-10: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #8 (29th Ave / E 12th St, signalized) from LOS E with 58 seconds of delay (No Project) to LOS E with 59 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left from E 12th to 29th and westbound left from 29th to E 12th) to degrade by more than six seconds over the No Project condition. This is considered a significant impact under CEQA threshold #4.		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-11: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #12 (29th Ave / Ford St, signalized with the 29th/23rd Overcrossing Project) from LOS D with 44 seconds of delay (No Project) to LOS E with 61 seconds of delay (plus Project). This is considered a significant impact under CEQA threshold #1.		The project sponsor shall develop a detailed design plan for intersection improvements to the Park Street Triangle (including 29th Ave/Ford St), subject to review and approval of the City of Oakland Transportation Services Division. Refer to **Section 4.4.4** for a complete list of the items that shall be included in the plans and improvements submittal. The study of improvements to the Park Street Triangle shall be prepared no later than 2020, as the implementation of these improvements would be required by 2022. This impact is conservatively deemed to be significant and unavoidable (SU) because of the complex issues associated with the intersection, and because the specific improvements to be implemented, according to City standards, must be finalized after a detailed intersection/signalization engineering design study is performed and a preferred, detailed design selected by the City.	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-12: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #13 (29th Ave / 23rd Ave / Park St, unsignalized side-street stop control). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a significant impact under CEQA threshold #6.		Implement Mitigation Measure TRAN-11. This impact is conservatively deemed significant and unavoidable (SU) for the reasons stated above under TRAN-11.	SU
Impact TRAN-13: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #14 (Park St / Lincoln Ave / Tilden Wy, signalized) from LOS F with 104 seconds of delay (No Project) to LOS F with 109 seconds of delay (plus Project). These conditions are considered a significant impact under the City of Alameda's CEQA traffic thresholds.		None feasible	SU
Impact TRAN-14: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #16 (Fruitvale Ave / E 12th St, signalized) from LOS E with 60 seconds of delay (AM, No Project) and 68 seconds (PM, No Project) to LOS E with 68 seconds of delay (AM, plus Project) and 73 seconds of delay (PM, plus Project). In both the AM and PM, the project traffic would cause		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Impact TRAN-14 Cont'd: the average delay at the intersection to degrade by more than four seconds over the No Project condition. This is considered a significant impact under CEQA threshold #3.			
Impact TRAN-15: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #17 (Fruitvale Ave / San Leandro St / E 10th St, signalized). The principle cause for the delay is the left-turn movement from westbound Fruitvale to southbound San Leandro. The intersection's v/c ratio would increase by 0.04, which is considered a significant impact under CEQA threshold #5.		None feasible	SU
Impact TRAN-16: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #21 (Tilden Wy / Fernside Blvd / Blanding Ave, signalized) from LOS E with 71 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). These conditions are considered a significant impact under the City of Alameda's CEQA traffic thresholds.		None feasible	SU
Impact TRAN-17: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM and PM peak hour LOS F condition at intersection #22 (42nd Ave / International Blvd, signalized). The intersection's v/c ratio increases by over 0.05 in the PM, which is considered a significant impact under CEQA threshold #5.		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-18: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #23 (High St / International Blvd, signalized) from LOS D with 44 seconds of delay (No Project) to LOS E with 69 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS E to F. Both of these conditions are considered a significant impact under CEQA thresholds #1 (AM) and #3 (PM).		None feasible	SU
Impact TRAN-19: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS E to F. In the PM peak hour, project traffic would exacerbate a LOS F condition by causing the v/c ratio to increase by 0.20. These conditions are considered a significant impact under CEQA thresholds #1 and #3.		None feasible	SU
Impact TRAN-20: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #27 (High St / SB 880 off-ramp / Oakport St, signalized plus additional improvements constructed with the 42nd Avenue / High Street Access Project) from LOS C with 44 seconds of delay (No Project) to LOS E with 80 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS B to E. These conditions are considered a significant impact under CEQA threshold #1		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-21: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS E with 80 seconds of delay (No Project) to LOS F with 94 seconds of delay (plus Project). In the PM peak hour, project traffic would cause LOS to degrade from LOS D to E. These conditions are considered a significant impact under the City of Alameda's CEQA traffic thresholds.		None feasible	SU
Impact TRAN-22: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the PM peak hour LOS F condition at intersection #33 (23rd Ave / NB 880 on-ramp, new signalized intersection with the 29th/23rd Overcrossing Project). The v/c ratio increases by 0.01, which is considered a significant impact under CEQA threshold #5.		None feasible	SU
Impact TRAN-23: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 50th Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU
Impact TRAN-24: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-25: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU
Impact TRAN-26: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on southbound I-880 at 16th Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU
Impact TRAN-27: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU
Impact TRAN-28: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a significant impact under CEQA threshold #7.		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-29: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS D or better to F on MTS segment #21 (High Street: I-880 to Tidewater). This is considered a significant impact under CEQA threshold #8.		**Mitigation TRAN-29:** The 42nd Avenue / High Street Access Improvements Project will widen High Street to accommodate additional travel and left-turn lanes. These improvements will improve operations to LOS B, which will reduce the impact to a less-than-significant level.	LTS
Impact TRAN-30: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS D or better to F on MTS segment #22 (High St: Tilden to Central). This is considered a significant impact under CEQA threshold #8.		None feasible	SU
Impact TRAN-31: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E or better to F on MTS segment #3 (International Blvd: 29th Ave to Fruitvale Ave). This is considered a significant impact under CEQA threshold #8.		None feasible	SU
Impact TRAN-32: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #4 (International Blvd: Fruitvale Ave to 42nd Ave). This is considered a significant impact under CEQA threshold #8.		None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-33: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM peak hour on MTS segment #5 (International Blvd: 42nd Ave to High St). This is considered a significant impact under CEQA threshold #8.		None feasible	SU
Impact TRAN-34: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #6 (International Blvd: High St to 50th Ave). This is considered a significant impact under CEQA threshold #8.		None feasible	SU
Impact TRAN-35: The traffic analysis indicates that the project would result in a degradation of LOS at several intersections and roadway segments. The degradation of intersection operations at these locations, particularly along International Boulevard at High Street and 42nd Avenue, would result in an increase in AC Transit travel times for routes traveling along International Boulevard.		None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Transportation/Traffic Cont'd			
Impact TRAN-36: The project will have no significant safety-related impact to traffic, pedestrian movement, or transit. The projected number of vehicle trips generated by project land uses is not significant enough, particularly at the locations listed above, to cause a measurable impact on the rate or severity of collisions. The majority of the project-related trips are concentrated on High Street and 42nd Avenue. Both of these roadway facilities are slated for future improvements, which will enhance the design of the street. These future improvements are anticipated to enhance vehicular and pedestrian safety. No transit service currently operates along High Street. Therefore, bus rider safety would be unaffected by the proposed High Street/42nd Avenue improvements.		None required	NI
Impact TRAN-37: The project has the potential to introduce additional vehicle, bicycle and pedestrian traffic to existing at-grade railroad crossings thereby potentially contributing to safety issues along railroad corridors. For example vehicle traffic generated by new development may potentially cause vehicle queuing at intersections resulting in traffic backing up onto at-grade railroad crossings, possibly resulting in train/automobile/pedestrian collisions and potentially causing injuries and/or fatalities. A substantial increase in traffic generated by development could substantially increase	SCA-G, Railroad Crossings	None feasible	SU

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Impact TRAN-37 Cont'd: hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains) and would constitute a significant impact.			
Impact TRAN-38: Activities related to the construction of various elements of the Project, particularly the retail and commercial uses in the Central-East and East sub-areas, could lead to temporary congestion. Construction requires the delivery of building materials, sometimes the import or export of earth fill materials, as well as travel by construction workers on a daily basis to and from the sites, potentially disrupting local traffic flow depending on the specific construction site.		None required	LTS
Aesthetics			
Would the project have a substantial adverse effect on a public scenic vista?		None required	LTS
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway?		None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Aesthetics Cont'd			
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	SCA 5, Conformance to Approved Plans; Modifications of Conditions or Revocation; SCA 12, Required Landscape Plan for New Construction and Certain Additions to Residential Facilities; SCA 13, Landscape Requirements for Street Frontages; SCA 14, Assurance of Landscaping Completion; SCA 15, Landscape Maintenance; SCA 16, Landscape Requirements for Downslope Lots; SCA 17, Landscape Requirements for Street Frontages; SCA 18, Landscape Maintenance; SCA 19, Underground Utilities; SCA 43, Tree Removal Permit on Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45,Tree Removal Permit; SCA 46, Tree Replacement Plantings; SCA 47, Tree Protection During Construction	None required	LTS
Would the project create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area?	SCA 40, Lighting Plan	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Aesthetics Cont'd			
Would the project 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)?		None required	LTS
Would the project 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?		None required	LTS
Would the project cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space?		None required	LTS
Would the project 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?		None required	LTS
Would the project 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?		None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Aesthetics Cont'd			
Would the project create winds that exceed 36 mph for more than one hour during daylight hours during the year?		None required	NI
Agriculture and Forest Resources			
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?		None required	NI
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?		None required	NI
Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?		None required	NI
Would the project result in the loss of forest land or conversion of forest land to non-forest use?		None required	NI
Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?		None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Biological Resources			
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	SCA D, Bird Collision Reduction	None required	LTS
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		None required	LTS
Would the project have a substantial adverse effect on federally protected wetlands (as defined by section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means?	SCA 84, Regulatory Permits and Authorizations	None required	LTS
Would the project substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	SCA 43, Tree Removal Permit on Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Replacement Plantings; SCA 47, Tree Protection During Construction	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Biological Resources Cont'd			
Would the project fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?		None required	NI
Would the project fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?	SCA 43, Tree Removal Permit on Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Replacement Plantings; SCA 47, Tree Protection During Construction	None required	LTS
Would the project fundamentally conflict with the City of Oakland Creek Protection Ordinance (Chapter 13.16) intended to protect biological resources?		None required	NI
Cultural and Historic Resources			
Would the project cause a substantial adverse change in the significance of an historical resource as defined CEQA Guidelines section 15064.5? Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be "materially impaired?" The significance of a historical resource is	SCA 56, Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition); SCA 57, Vibrations Adjacent Historic Structures;	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Cont'd: "materially impaired" when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5).			
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5?	SCA 52, Archaeological Resources; SCA 53, Human Remains; SCA E, Archaeological Resources – Sensitive Areas	None required	LTS
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	SCA 54, Paleontological Resources	None required	LTS
Would the project disturb any human remains, including those interred outside of formal cemeteries?	SCA 53, Human Remains	None required	LTS
Geology and Soils			
Would the project 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 issues by the State Geologist for the area based on other substantial evidence of a known fault; Strong seismic ground shaking; Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, or collapse; and Landslides?	SCA 58, Soils Report; SCA 60, Geotechnical Report	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Geology and Soils Cont'd			
Would the project result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways?	SCA 24, Construction Management Plan; SCA 34, Erosion and Sedimentation Control; SCA 55, Erosion and Sedimentation Control Plan; SCA 75, Stormwater Pollution Prevention Plan (SWPPP); SCA 77, Erosion, Sedimentation, and Debris Control Measures; SCA 82, Erosion, Sedimentation, and Debris Control Measures; SCA 85, Creek Monitoring	None required	LTS
Would the project be located on expansive soil, as defined in section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property?	SCA 58, Soils Report; SCA 60, Geotechnical Report	None required	LTS
Would the project be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property?	SCA 58, Soils Report; SCA 60, Geotechnical Report	None required	LTS
Would the project 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?	SCA 58, Soils Report; SCA 60, Geotechnical Report	None required	LTS
Would the project 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?	SCA 58, Soils Report; SCA 60, Geotechnical Report	None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Hazards and Hazardous Materials			
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	SCA 74, Hazardous Materials Business Plan	None required	LTS
Would the project 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?	SCA 35, Hazards Best Management Practices; SCA 41, Asbestos Removal in Structures; SCA 42, Asbestos Removal in Soil; SCA 61, Site Review by the Fire Services Division SCA 62, Phase I and/or Phase II Reports SCA 63, Lead-Based Plaint/Coatings, Asbestos, or PCB Occurrence Assessment;	None required	LTS
Hazards and Hazardous Materials Cont'd			
Cont'd from previous page	SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-Based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 67, Health and Safety Plan per Assessment; SCA 68, Best Management Practices for Soil and Groundwater Hazards; SCA 69, Radon or Vapor Intrusion from Soil or Groundwater Sources		

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Hazards and Hazardous Materials Cont'd			
Would the project create a significant hazard to the public through the storage or use of acutely hazardous materials near sensitive receptors?	SCA 74, Hazardous Materials Business Plan	None required	LTS
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	SCA 74, Hazardous Materials Business Plan	None required	LTS
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (i.e., the "Cortese List") and, as a result, would create a significant hazard to the public or the environment?	SCA 61, Site Review by the Fire Services Division SCA 62, Phase I and/or Phase II Reports SCA 63, Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment; SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-Based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 67, Health and Safety Plan per Assessment; SCA 68, Best Management Practices for Soil and Groundwater Hazards; SCA 69, Radon or Vapor Intrusion from Soil or Groundwater Sources	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Would the project result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions?	SCA 4, Conformance with other Requirements	None required	LTS
Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a significant safety hazard for people residing or working in the project area?		None required	NI
Would the project be located within the vicinity of a private airstrip, and would result in a significant safety hazard for people residing or working in the project area?		None required	NI
Would the project fundamentally impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	SCA 4, Conformance with other Requirements	None required	LTS
Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.		None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Hydrology and Water Quality			
Would the project violate any water quality standards or waste discharge requirements?		None required	LTS
Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted)?		Non required	LTS
Would the project result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?	SCA 24, Construction Management Plan; SCA 34, Erosion and Sedimentation Control (When no grading permit is required); SCA 35, Hazards and Best Management Practices; SCA 55, Erosion and Sedimentation Control Plan; SCA 75, Stormwater Pollution Prevention Plan (SWPPP); SCA 76, Drainage Plan for Projects on Slopes Greater than 20%; SCA 77, Erosion, Sedimentation, and Debris Control Measures; SCA 78, Site Design Measures for Post-Construction Stormwater	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Cont'd from previous page	Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction Stormwater Management Plan; SCA 81, Maintenance Agreement for Stormwater Treatment Measures; SCA 82, Erosion, Sedimentation, and Debris Control Measures; SCA 85, Creek Monitoring		
Would the project result in substantial flooding on- or off-site?	SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction Stormwater Management Plan; SCA 83, Creek Protection Plan; SCA 86, Creek Landscaping Plan; SCA 91, Stormwater and Sewer	None required	LTS
Would the project create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems?	SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Hydrology and Water Quality Cont'd			
Cont'd from previous page	Stormwater Management Plan; SCA 83, Creek Protection Plan; SCA 86, Creek Landscaping Plan; SCA 91, Stormwater and Sewer		
Would the project create or contribute substantial runoff which would be an additional source of polluted runoff?		None required	LTS
Would the project otherwise substantially degrade water quality?	SCA 24, Construction Management Plan; SCA 34, Erosion and Sedimentation Control (When no grading permit is required); SCA 35, Hazards and Best Management Practices; SCA 55, Erosion and Sedimentation Control Plan; SCA 75, Stormwater Pollution Prevention Plan (SWPPP); SCA 76, Drainage Plan for Projects on Slopes Greater than 20%; SCA 77, Erosion, Sedimentation, and Debris Control Measures; SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution;	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Cont'd from previous page	SCA 80, Post-Construction Stormwater Management Plan; SCA 81, Maintenance Agreement for Stormwater Treatment Measures; SCA 82, Erosion, Sedimentation, and Debris Control Measures; SCA 85, Creek Monitoring		
Would the project 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?	SCA 89, Regulatory Permits and Authorizations; SCA 90, Structures within a Floodplain	None required	LTS
Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	SCA 89, Regulatory Permits and Authorizations; SCA 90, Structures within a Floodplain	None required	LTS
Would the project expose people or structures to a substantial risk of loss, injury, or death involving flooding?		None required	LTS
Would the project expose people or structures to a substantial risk of loss, injury, or death as a result of inundation by seiche, tsunami, or mudflow?		None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or 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-site?	SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction Stormwater Management Plan; SCA 83, Creek Protection Plan; SCA 86, Creek Landscaping Plan; SCA 91, Stormwater and Sewer	None required	LTS
Would the project fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources?	SCA 82, Erosion, Sedimentation, and Debris Control Measures; SCA 83, Creek Protection Plan; SCA 84, Regulatory Permits and Authorizations; SCA 85, Creek Monitoring	None required	LTS
Land Use Planning			
Would the project physically divide an established community?		None required	NI
Would the project result in a fundamental conflict between adjacent or nearby land uses?		None required	LTS
Would the project fundamentally conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment?		None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Land Use Planning Cont'd			
Would the project fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?		None required	NI
Mineral Resources			
Would the project result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state?		None required	NI
Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan; specific plan, or other land use plan?		None required	NI
Population and Housing			
Would the project 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 extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?		None required	LTS
Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?		None required	LTS
Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?		None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Public Services			
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following publics service: Fire protection, Police protection, School, or; Other public facilities?	SCA 4, Conformance with other Requirements; SCA 61, Site Review by the Fire Service Division; SCA 71, Fire Safety Phasing Plan; SCA 73, Fire Safety		LTS
Recreation			
Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?		None required	LTS
Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment?		None required	LTS
Utilities and Service Systems			
Would the project exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board?	SCA 91, Stormwater and Sewer	None required	LTS
Would the project require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects?	SCA 91, Stormwater and Sewer	None required	LTS

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Utilities and Service Systems Cont'd			
Would the project 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?		None required	LTS
Would the project 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?	SCA 91, Stormwater and Sewer	None required	LTS
Would the project 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?	SCA 36, Waste Reduction and Recycling	None required	LTS
Would the project violate applicable federal, state, and local statutes and regulations related to solid waste?	SCA 36, Waste Reduction and Recycling	None required	LTS
Would the project violate applicable federal, state and local statutes and regulations relating to energy standards?		None required	NI

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Utilities and Service Systems Cont'd			
Would the project result in a determination by the energy 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 energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects?	SCA H, Compliance with the Green Building Ordinance, OMC Chapter 18.02; SCA I, Compliance with the Green Building Ordinance, OMC Chapter 18.02, for Building and Landscape Projects Using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist	None required	LTS
Recommended Measures			
Cultural			
The following measure recommends an advisory protocol to follow regarding the assessment of potential impacts to cultural resources in the plan area.			
Should specific development projects be submitted, as part of the environmental review process, an OCHS intensive survey shall be conducted/confirmed (even if one already exists or if an OCHS reconnaissance survey exists). This provision would generally apply to buildings, structures, objects, district, sites, and natural features related to human presence 50 years old and older. ▪ If an OCHS intensive survey exists on the property it should be updated and confirmed; or ▪ If an OCHS reconnaissance survey exists for the property, an OCHS intensive survey shall be conducted; or If there is not an OCHS intensive survey, the OCHS shall be consulted to determine if it appears that a parcel may include property types that may have historical significance, and if so, an OCHS intensive survey shall be conducted.			
Transportation/Traffic			
The following measures recommend a series of future transportation projects included in the CEIG's Appendix A and other approved plans. The feasibility of individual street improvements will be tied to funding and approval by the City. These recommended measures are intended for informational purposes only.			
Measure A: Implement the "Recommended Future Transportation Improvements" illustrated in Figure A-1 of Appendix A would help alleviate some of the impacts identified under Cumulative Year 2035 conditions. Additional street connectivity with appropriate bicycle and pedestrian accommodations (per City design guidelines) should be explored to help mitigate impacts along High Street and 42nd Avenue. The High Street Access Improvements Project assumes intersection widening along High Street. However, additional physical improvements would still be required to mitigate project-related traffic impacts at several locations under Cumulative 2035 conditions. Additional improvements along High Street and 42nd Avenue could prove infeasible because of various			

Environmental Impact	Standard Conditions of Approval (SCA)	Mitigation	Level of Significance After Application of SCAs and/or Mitigation
Measure A Cont'd: right-of-way constraints. Instead of additional physical improvements at High Street, enhanced roadway connectivity in the Central-West and East sub-areas adopted as part of the CEIG would help to distribute traffic from High Street to 42nd Avenue. The High Street Access Project includes a direct connection from Alameda Avenue to 42nd Avenue and the intersections on 42nd Avenue have additional capacity to support higher traffic loads. Improved connectivity and the diversion of traffic to 42nd Avenue would better distribute traffic and reduce demands on High Street.			
Measure B: Investigate ways to implement the feasible "Recommended Corridor-Wide Improvements" and "Recommended Localized Improvements" identified in Fruitvale Alive! Master Transportation Plan (CHS Consulting Group, June 2005). This plan provides recommended pedestrian, bicycle, traffic, transit, and parking improvements along Fruitvale Avenue at San Leandro, East 12th Street, and International Boulevard.			

Source: Circlepoint, 2012.

3.0 PROJECT DESCRIPTION

The project under review is the Central Estuary Implementation Guide (also referred to in this document as the CEIG or the project). Following is a discussion of the affected environment, the pertinent regulatory background, and the proposed program of land use changes comprising the project.

3.1 AFFECTED ENVIRONMENT

The Oakland Estuary waterfront is a significant citywide and regional resource that connects the City of Oakland and the surrounding region to the San Francisco Bay. The Central Estuary (the Plan Area) is generally encompassed by 19th Avenue, 54th Avenue, Interstate 880 (I-880), and the Oakland Estuary. **Figure 1-1** shows the regional location of the Plan Area. The Central Estuary area includes roughly 416 acres of land, of which approximately 319 acres are made up of individual parcels; while the remaining acreage serves as public rights-of-way (roads, sidewalks, etc.).

Although the entire Oakland Estuary waterfront has experienced significant development interest in recent years, a number of conflicting land use priorities and essential infrastructure deficiencies have highlighted the need for a formal and district-wide planning process.

A significant citywide challenge of the last decade has been the importance of preserving a healthy diversity of employment and industry in Oakland. Historically, many industries have depended on waterfront access for raw materials or distribution, and some of the industrial uses in the Estuary Area continue to do so to this day. As a result, the area was predominantly zoned for industrial use, and a number of well-established industrial uses remain. In recent years, residential development interests have focused on industrial areas throughout the city because of the relative affordability of large parcels, and the Estuary waterfront as a whole has been particularly appealing because of its attractive views and central location. At the same time, the desire to increase public access to and recreational use of the city's waterfront adds a potentially conflicting demand with nearby industrial uses.

As illustrated in **Figure 3-1**, the CEIG divides the Central Estuary into four Planning Areas: West, Central-West, Central-East, and East. Each Planning Area is subdivided into several districts or neighborhoods, as shown in **Table 3-1.**

Table 3-1 Central Estuary Planning Areas and Districts

Planning Area	District
West	Embarcadero Cove
	Mixed-Use Triangle
	Food Industry Cluster
	Union Point Park
	ConAgra
Central-West	Jingletown/Elmwood
	Owens Brockway
Central-East	High Street Retail
	Warehouse Wedge
East	Tidewater North
	Tidewater South
	MLK Jr Regional Shoreline

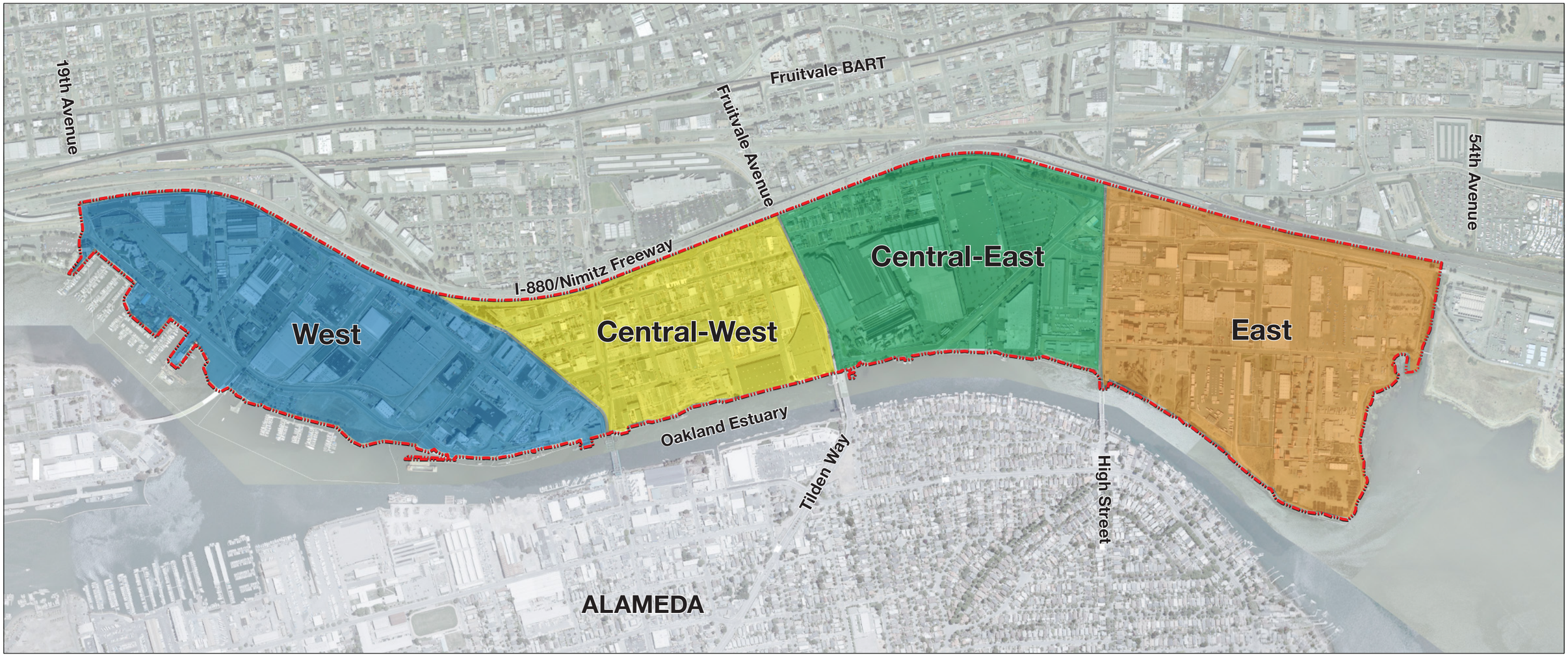
Source: Central Estuary Implementation Guide, April 2011.

3.2 REGULATORY BACKGROUND

Regulatory plans associated with the project include the City of Oakland General Plan (General Plan), redevelopment plans, and zoning designations. As discussed below, these plans and policies generally encourage the enhancement of public access to the waterfront and transit, while recognizing the importance of the existing industrial uses and the need to balance new development with these core industries.

3.2.1 THE CITY OF OAKLAND GENERAL PLAN

Oakland's General Plan outlines the long-range vision for the city. The General Plan includes five separate elements with relevance to the CEIG: the Land Use and Transportation Element (LUTE) with the Bicycle Master Plan and the Pedestrian Master Plan, the Estuary Policy Plan (EPP), the Housing Element, the Open Space, Conservation and Recreation Element (OSCAR), and the Historic Preservation Element (HPE).



Legend

Plan Area

0 250 500 1000
FEET

Central Estuary Planning Areas **Figure 3-1**

Source: Community Design + Architecture, 2009.

Figure 3-1 Central Estuary Area Subdistricts (back)

- **The Land Use and Transportation Element (LUTE).** The LUTE recommends that future residential growth in Oakland be targeted to the waterfront and to areas with high transit connectivity ("Transit Oriented Districts"), and further suggests that land uses, densities, and transportation systems be planned to support increased development in these areas. The LUTE also identifies the importance of regional commercial uses in Oakland's future, and suggests the waterfront as one of several opportune locations for these uses.

  The LUTE established a single broad land use designation, "Waterfront," which is applied to the entire Estuary waterfront, including the Central Estuary. The LUTE also established key goals and policies to encourage better public access to the waterfront and better connectivity of the waterfront to the rest of the city. The waterfront land use designation promotes integration of mixed-use development with adjacent land uses, and defines the type, density, and quality of development that should be encouraged along the waterfront.

  - **Pedestrian Master Plan (PMP)**. The City of Oakland adopted a PMP in November 2002 as part of the LUTE. The PMP promotes pedestrian safety and access to help ensure that Oakland is a safe, convenient, and attractive place to walk. It establishes a Pedestrian Route Network emphasizing safe routes to school and connections to transit. The routes include streets, walkways, and trails that connect schools, libraries, parks, neighborhoods, and commercial districts throughout the city. It identifies priority street segments along these routes for targeted improvements over the next twenty years. The plan also identifies new pedestrian design elements to promote pedestrian safety and access throughout the city. Elements from the PMP that fall within the Plan Area are discussed in detail in **Section 4.4, Transportation/Traffic**.
  - **Bicycle Master Plan.** The Bicycle Master Plan is the citywide, long-range policy document for promoting bicycling in Oakland over the next twenty years. Policy T4.5 of the LUTE recommended the creation of a Bicycle Master Plan to promote alternatives to the private automobile. Elements from the Bicycle Master Plan that fall within the Plan Area are discussed in detail in **Section 4.4, Transportation/Traffic**.

  The Estuary Policy Plan (EPP). The EPP was adopted in June 1999 and it refines and supersedes policy guidance in the General Plan LUTE for the Estuary Area. The EPP divides the Estuary Area into three districts: Jack London, Oak to Ninth, and San Antonio/Fruitvale. The Central Estuary is contained within the EPP's San Antonio/Fruitvale subdistrict.

The EPP established nineteen unique land use designations for the Estuary waterfront, nine of which are found in the Central Estuary. The EPP also included a policy encouraging the city to prepare an "implementation guide" to provide specific strategies and standards to guide the initiation and evaluation of waterfront-related projects. The CEIG fulfills the intent of this policy for the Central Estuary.

- **The Housing Element**. Under State law, new housing construction need is determined, at a minimum, through a Regional Housing Need Allocation (RHNA) process. Additionally, each city's share of regional housing demand is based on a plan prepared by the Association of Bay Area Governments (ABAG), the Regional Housing Needs Determination, which was adopted in May 2008. Under the ABAG plan, the City of Oakland must accommodate 14,629 new housing units between January 2007 and June 2014 to meet its "fair share" of the State's housing need. The 2007-2014 Housing Element includes plans and implementation strategies to meet the City's RHNA of 14,629 units of varying affordability, including the identification of opportunity sites where additional housing units can be constructed. Two approved housing sites are located within the Plan Area.
- **The Open Space and Conservation and Recreation Element (OSCAR)**. The Shoreline and Creeks section of the OSCAR includes policies and actions that emphasize the Jack London to High Street waterfront as an opportunity area for improved public access, recreational amenities, and land uses which capitalize on the waterfront's presence. This section of the OSCAR includes policies that promote coordinated waterfront planning to balance the increased dedication of accessible shoreline with supporting other beneficial waterfront uses such as maritime industry.
- **The Historic Preservation Element (HPE).** Because of the Central Estuary's long history as a vibrant industrial and residential district of the city, a number of policies of the HPE of the General Plan also apply to the area. The HPE envisions that preservation and enhancement of significant historic properties could contribute to Oakland's economy, affordable housing stock, overall image, and quality of life.

3.2.2 REDEVELOPMENT PLANS

The entire Plan Area falls within two redevelopment areas. A majority of the Plan Area falls within the Coliseum Redevelopment Area Plan. A small portion of the West Planning Area lies within the Central City East Redevelopment Area Plan. Both redevelopment plans include strategies to eliminate documented blight through

business attraction and retention efforts, acquisition and redevelopment of selected properties, and other related efforts to stimulate employment and home ownership opportunities.

3.2.3 ZONING

Most of the Plan Area currently retains the heavy industrial zoning (M-40) that was assigned in the 1960s. Two smaller areas (near 23rd Street and Elmwood Avenue) have "General Industrial" zoning (M-30). The existing industrial zoning allows manufacturing and other related activities that are potentially incompatible with residential uses due to noise, odors, or other factors. Existing uses in the Plan Area reflect this intent, including the Owens-Brockway glass recycling facility, the Con Agra Foods plant, Hanson Aggregates (crushed rock products) along Tidewater Avenue, and trucking/logistics uses.

The only area where zoning has been updated is the Jingletown/Kennedy Tract neighborhood (Central-West Planning Area). In late 2006, the Jingletown/Kennedy Tract neighborhood was designated with a Housing and Business Mix 3 zone (HBX 3), allowing a mix of light manufacturing, artisan activities, live/work units, warehousing, multi-family housing, and some existing single-family homes. The HBX zones in general allow for compatible co-existence of these uses through appropriate transitions, respect for historic development patterns, and preservation of environmental quality. **Figure 3-2** shows existing zoning for the Plan Area.

In April 2011, the city comprehensively updated its residential and commercial zoning regulations and zoning maps. However, pending the anticipated completion of the CEIG, the zoning update did not result in any zoning changes for the Plan Area.

3.3 PROJECT COMPONENTS

With respect to the General Plan, the project would expand areas designated for *Park* uses, and would also designate new Residential Mixed-Use for a portion of the West Planning Area. With respect to the Planning Code, the project proposes new zoning districts for the entire Plan Area, allowing more flexibility for mixed-use development.

To implement these changes, the project includes updates to the zoning and General Plan land use designations, minor modifications to the EPP land use designations, and the creation of recommended design guidelines to guide the quality and character of new development and to protect the relationship of the Central Estuary shoreline with surrounding districts and neighborhoods.

Figure 3-2 and **Figure 3-3** depict proposed land use designation and zoning changes for the Plan Area.

3.3.1 GENERAL PLAN/EPP MAP AMENDMENTS

Two map changes are proposed for the West Planning Area:

- A portion of the area designated as *Light Industrial 2* would change to *Residential Mixed Use* (RMU).
- Portions of Union Point Park are currently designated as *Waterfront Commercial 2* (WC2). To better reflect the current and future park use for this area, the EPP map would be amended to extend the *Parks* designation over the entirety of Union Point Park.

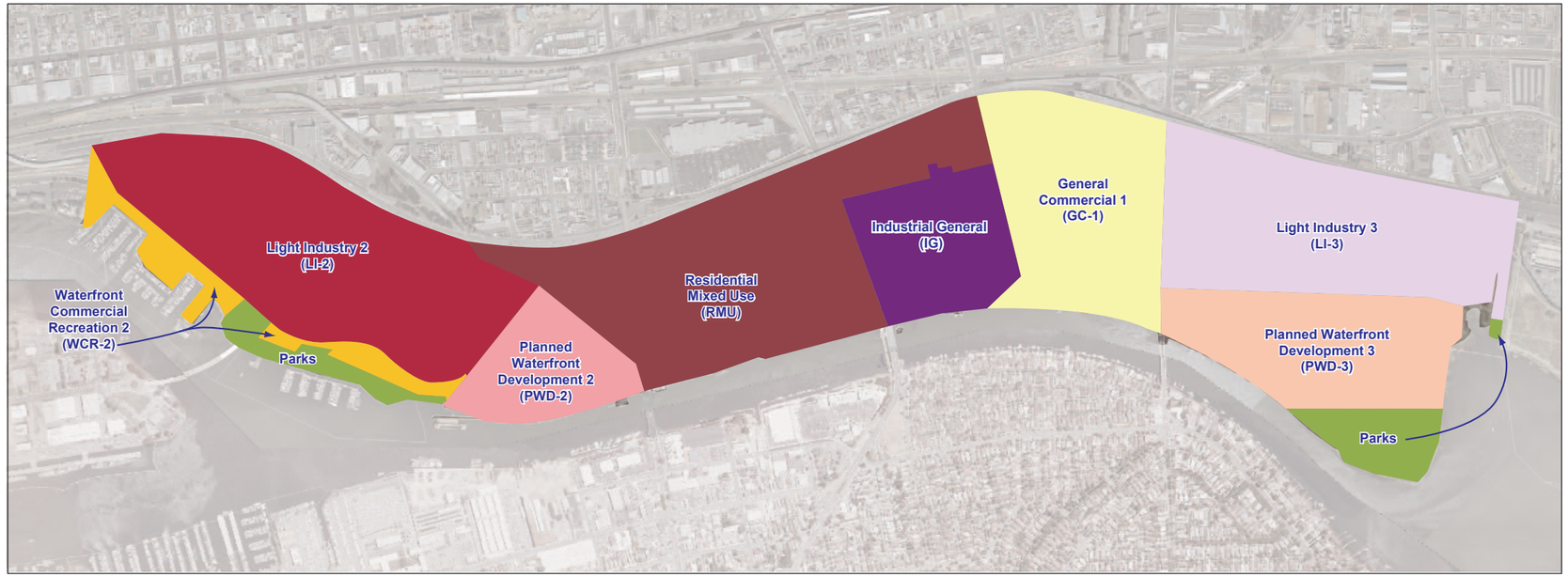
One map change is proposed for the East Planning Area:

- Most of the Martin Luther King Jr. Regional Shoreline (MLKRS) has an existing land use designation of *Parks*. However, the MLKRS includes a new boathouse and portions of the Bay Trail that are outside the area with a current *Parks* designation. Therefore, the *Parks* designation would be expanded to encompass these new facilities, taking lands out of the *Planned Waterfront Development 3* designation (PWD-3, shown in **Figure 3-3**) for the Tidewater South area.

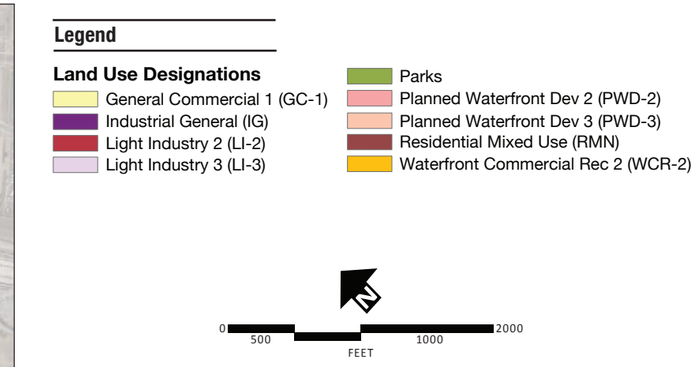
3.3.2 ZONING AMENDMENTS

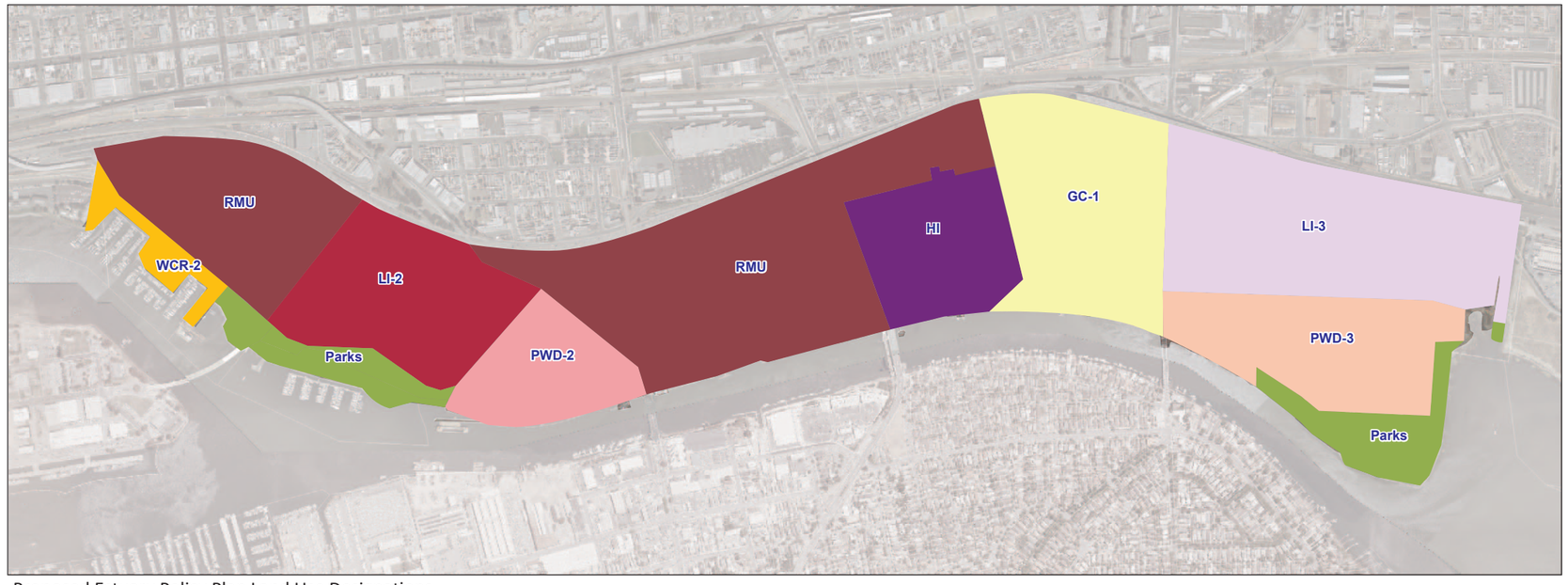
As previously noted, many uses have evolved in the Plan Area for which an industrial zone (particularly M-40, Heavy Industrial) is no longer appropriate or viable. Such uses include parks (Union Point Park and the Martin Luther King Jr. Regional Shoreline), mixed office/commercial and small-scale manufacturing uses in the West Planning Area, large-scale regional commercial uses on High Street, and finer-grained, mixed use areas in the Jingletown/Kennedy Tract (located in the Central-West Planning Area).

With the exception of the open space areas, the project proposes district-specific zoning classifications that would replace the existing zoning. These district-specific zones follow a nomenclature established by the city in other districts, such as the Wood Street District, Oak to Ninth, and the Kaiser Permanente Medical Center areas. The Central Estuary zone districts are identified by the descriptive prefix of "CE" which signifies "Central Estuary." **Table 3-2** summarizes the district-specific zoning classifications.



Existing Estuary Policy Plan Land Use Designations



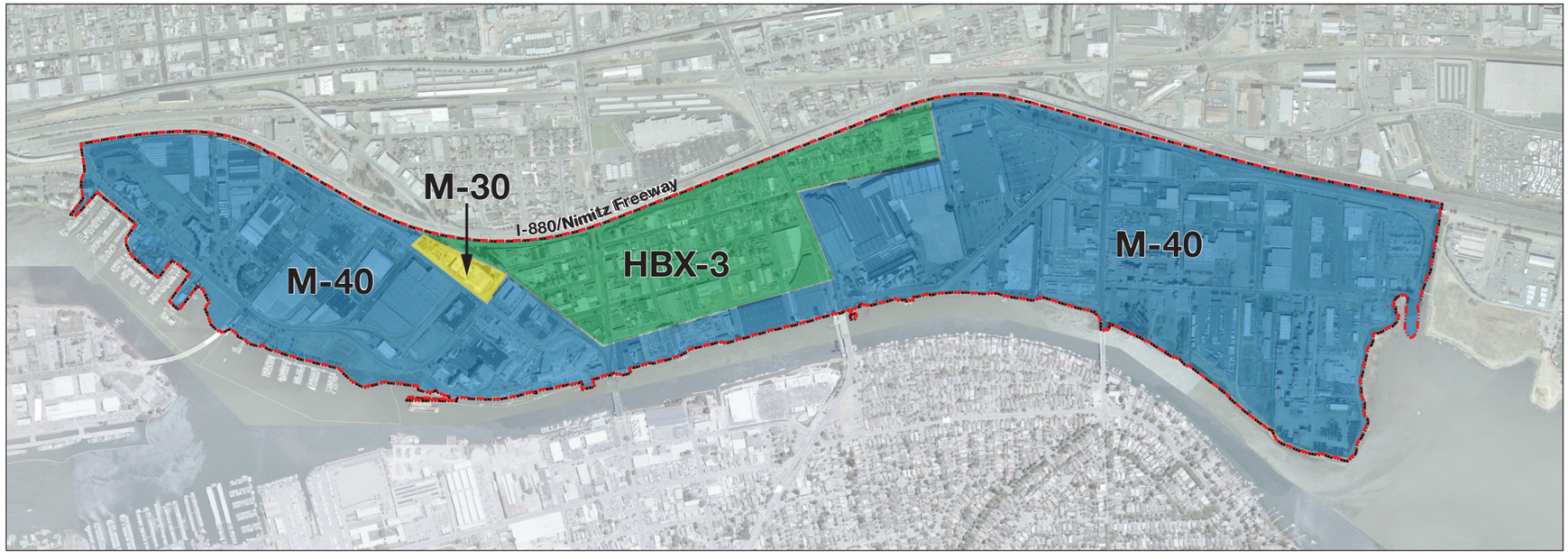


Proposed Estuary Policy Plan Land Use Designations

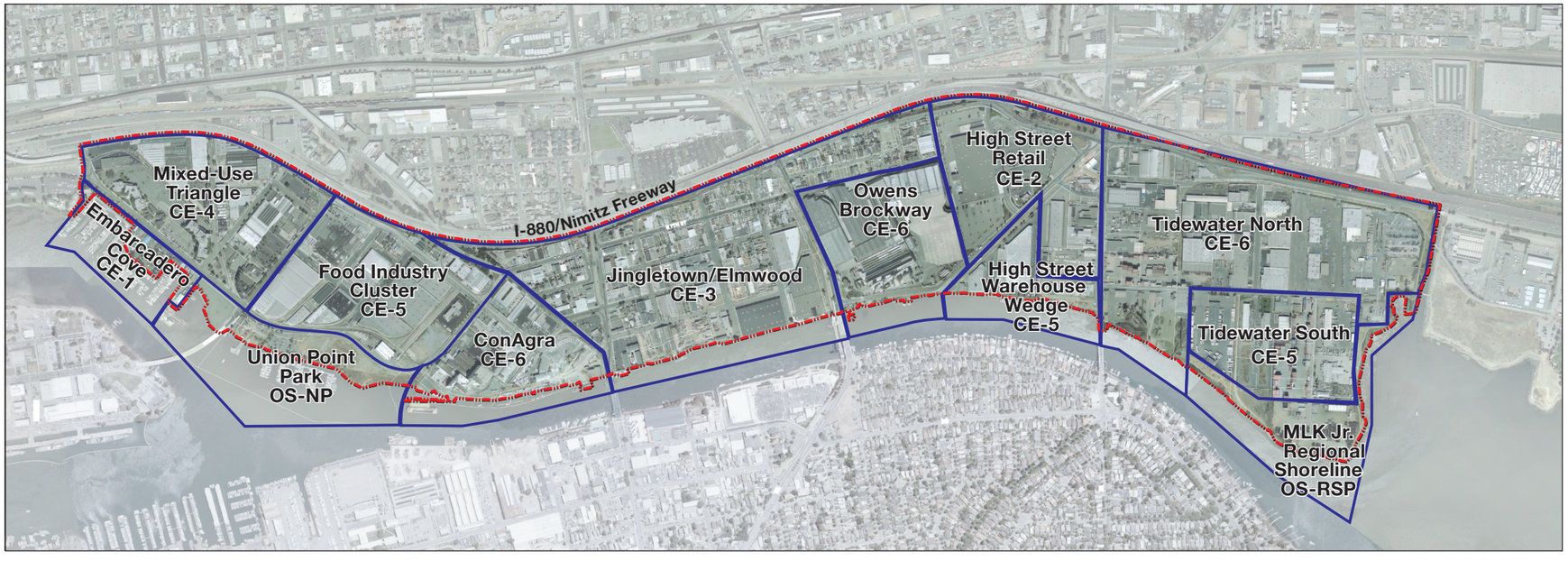
Existing and Proposed Land Use Designations Figure **3-2**

Source: Community Design + Architecture, 2012.

Figure 3-2 Existing and Proposed Land Use Designations (back)



Existing Zoning



Proposed Zoning

Legend

- Plan Area
- House and Business Mix 3 (HBX-3)
- General Industrial (M-30)
- Heavy Industrial (M-40)

0 375 750 1500
FEET

Existing and Proposed Zoning **Figure 3-3**

Source: Community Design + Architecture, 2012.

Figure 3-3 Existing and Proposed Zoning (back)

Table 3-2 Descriptions of Proposed Zoning

Planning Area	District	Existing Zoning	Proposed Zoning	Proposed Zone Intent
West	Embarcadero Cove	M-40	CE-1	Zone is intended to create, maintain, and enhance the marine, office and other commercial uses in the Central Estuary area.
	Mixed-Use Triangle	M-40	CE-4	Zone is intended to create, maintain and enhance areas of the Central Estuary that have a mix of industrial and heavy commercial activities. Higher density residential development is also appropriate in this zone.
	Food Industry Cluster	M-30, M-40	CE-5	Zone is intended to create, preserve, and enhance areas of the Central Estuary that are appropriate for a wide variety of heavy commercial and industrial establishments. Uses with greater off-site impacts may be permitted provided they meet specific performance standards.
	Union Point Park	M-40	OS-NP	Zone is intended to create, preserve, and enhance land for permanent open space to meet the active and passive recreational needs of Oakland residents and to promote park uses which are compatible with surrounding land uses and the city's natural environment.
	ConAgra	M-40	CE-6	Zone is intended to create, preserve and enhance areas of the Central Estuary that are appropriate for a wide variety of businesses and related commercial and industrial establishments that may have the potential to generate off-site impacts such as noise, light/glare, odor, and traffic. This zone allows heavy industrial and manufacturing uses, transportation facilities, warehousing and distribution, and similar related supporting uses. Uses that may inhibit such uses, or the expansion thereof, are prohibited. This district is applied to areas with good freeway, rail, seaport, and/or airport access.

Planning Area	District	Existing Zoning	Proposed Zoning	Proposed Zone Intent
Central-West	Jingletown/Elmwood	HBX-3, M-30	CE-3	Zone is intended to provide development standards for areas of the Central Estuary that have a mix of industrial, heavy, commercial and residential development. This zone is intended to promote housing with a strong presence of commercial and industrial activities.
	Owens Brockway	M-40	CE-6	Same as ConAgra above.
Central-East	High Street Retail	M-40	CE-2	Zone is intended to create, maintain, and enhance areas of the Central Estuary with a wide range of commercial and residential uses with direct street frontage and access to the freeway.
	Warehouse Wedge	M-40	CE-5	Same as Food-Industry Cluster above.
East	Tidewater North	M-40	CE-6	Same as Con-Agra above.
	Tidewater South	M-40	CE-5	Same as Food Industry Cluster above.
	MLK Jr Regional Shoreline	M-40	OS-RSP	Zone is intended to create, preserve, and enhance land for permanent open space to meet the active and passive recreational need of Oakland residents and to promote park uses which are compatible with surrounding land uses and the city's natural environment.

Source: Central Estuary Implementation Guide, February 2012.

3.3.3 EPP TEXT AMENDMENTS

The project would increase the density of development allowed in the Residential Mixed-Use (RMU), Planned Waterfront Development 3 (PWD-3), Waterfront Commercial Recreation 2 (WCR-2), Light Industrial 2 and 3 (LI-2 and LI-3), Heavy Industrial (HI) and General Commercial-1 (GC-1) districts, but would not change any of the underlying land use designations. The EPP text amendments are summarized in **Table 3-3** below.

3.3.4 DESIGN GUIDELINES

Design Guidelines (Guidelines) help ensure that the eclectic mix of residential, commercial, and industrial uses can be retained. The Guidelines provide detailed

direction, covering a variety of site planning and design considerations that will enhance the area's livability and quality of place for existing and future users.

For each major site planning consideration, a *statement of intent* is followed by a series of more detailed design guidelines. New development and major alterations will be required to demonstrate conformance with the intent of the Guidelines, in addition to the city's design review criteria (Sections 17.136.035 and 17.136.050 of the Planning Code).

A complete list of the recommended General Standards and Guidelines is provided in **Appendix B**.

3.3.5 DEVELOPMENT PROGRAM

The Central Estuary Implementation Guide is a 20-year planning document that modifies/clarifies land use policy and associated densities and intensities to all properties within the Plan Area. Most of the Plan Area is built out at lower than permitted densities, but given the low historical parcel "turnover" rates, the complete redevelopment of every parcel in the Plan Area needed to achieve the maximum buildout of the Plan Area would be highly unlikely, particularly if assumed to occur in the next two decades alone. Assuming full build-out to the maximum allowable use would grossly overstate project impacts and thus would lead to inappropriate and possibly excessive mitigation. The city has therefore identified a *reasonably foreseeable* range of development as a basis for the analysis of potential impacts.

While the project itself would not directly result in development, taken as a whole, the program of land use changes allow for an increment of growth in excess both of what exists and what current regulations permit. **Table 3-4** summarizes the proposed changes by land use type and by Planning Area. This CEQA analysis is focused on assessing impacts associated with the reasonably foreseeable Development Program.

Under the reasonably foreseeable scenario, when compared to existing uses, the project would allow for a 73 percent increase in dwelling units, 21 percent increase in industrial and commercial/office space (non-dwelling units), and 62 percent increase in park space. **Figure 3-4** illustrates the anticipated changes in development patterns within the Plan Area under the implementation of the proposed CEIG.

Table 3-3 EPP Text Amendments to Land Use Designations

Estuary Policy Plan Designation	Proposed Zoning	Residential Density		Non-Residential Density	
		Existing	Proposed	Existing	Proposed
Residential Mixed Use (RMU): This designation covers a broad swath of the Planning Area, including the majority of the Jingletown neighborhood in the Central-West Planning Area. With this proposed change, new residential development in this area would be allowed at higher densities and potentially taller heights than buildings currently existing in the area designated for RMU development.	CE-3 (Jingletown)	60* dwelling units/acre *The Estuary Policy Plan provides a density of 40 units/ac however, the General Plan Conformity Guidelines reference the HBX zoning regulations which contains a density of 60 units/ac of HBX-3	60 dwelling units/acre	1.0 FAR	3.0 FAR
Residential Mixed Use (RMU): General Plan Amendment from Light Industry 2: This designation encompasses the food industry cluster. The change will allow larger infill development appropriate for the intended uses such as food processing and wholesale distribution.	CE-4 (Mixed-Use Triangle)	30 units per gross acre	60 dwelling units where zoned CE-4 Mixed-Use Triangle	2.0 FAR	3.0 FAR
Light Industry 2: This designation encompasses the food industry cluster. The change will allow larger infill development appropriate for the intended uses such as food processing and wholesale distribution.	CE-5 (Food Industry Cluster)	No changes proposed as part of the project *(no residential permitted)*		2.0 FAR	3.0 FAR
Waterfront Commercial Recreation 2: This designation covers the waterfront portion of the west subarea. This change will allow larger buildings than originally contemplated in the EPP, consistent with the type of development envisioned such as hotels.	CE-1 (Embarcadero Cove)	No changes proposed as part of the project *(no residential permitted)*		1.0 FAR	2.0 FAR
Planned Waterfront Development 2: This designation applies to Con-Agra. No changes are proposed for this site.	CE-6 (Con-Agra)	No changes proposed as part of the project *(no residential permitted)*		2.0 FAR	2.0 FAR

Estuary Policy Plan Designation	Proposed Zoning	Residential Density		Non-Residential Density	
		Existing	Proposed	Existing	Proposed
Heavy Industrial: This designation encompasses the Owens Brockway site. The change will allow larger buildings than currently exist.	CE-6 (Owens Brockway)	No changes proposed as part of the project *(no residential permitted)*		0.75 FAR	2.0 FAR
General Commercial 1: This designation applies to the site of the existing Home Depot shopping center and extends to the waterfront. The change will facilitate larger buildings relative to existing buildings.	CE-2 (High Street Retail) CE-5 (Warehouse Wedge)	No changes proposed as part of the project *(no residential permitted)*		1.0 FAR	3.0 FAR
Light Industry 3: This designation applies to the land north of Tidewater Avenue in the East Planning Area. Future uses envisioned include industrial, manufacturing, commercial and a variety of other uses. The change in FAR could eventually result in larger buildings.	CE-6 (Tidewater North)	No changes proposed as part of the project *(no residential permitted)*		0.5 FAR	2.0
Planned Waterfront Development 3: This designation (PWD-3) was developed in the EPP specifically for the lands south of Tidewater Avenue in the East Planning Area. Only industrial, commercial, and similar land uses are allowed in this area. On the ground, this change could eventually result in taller buildings relative to those existing.	a.CE-6 (Tidewater North) b.CE-5 (Tidewater South)	No changes proposed as part of the project *(no residential permitted)*		0.5 FAR	a. 2.0 FAR b. 3.0 FAR

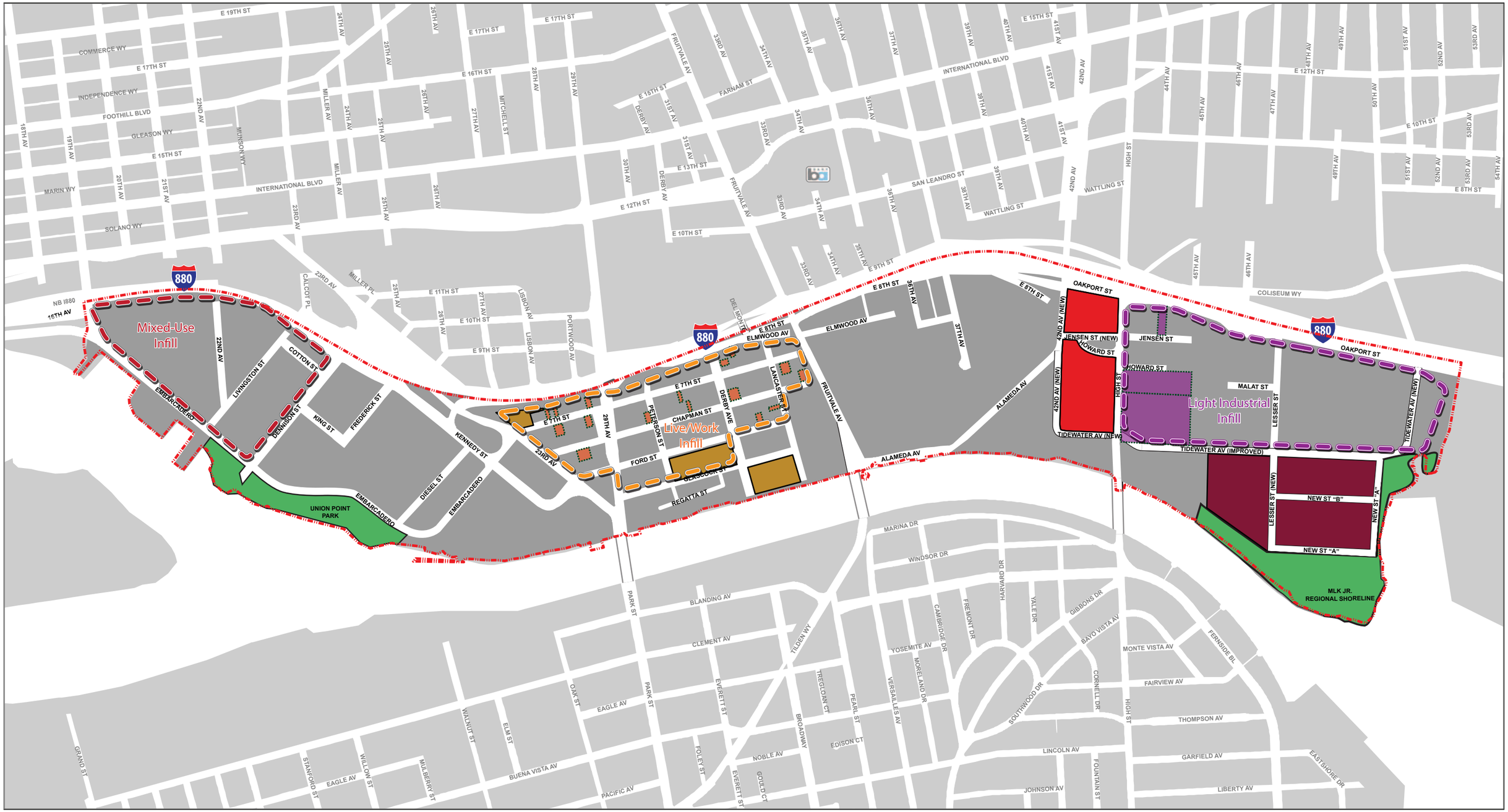
Source: Central Estuary Implementation Guide, April 2011.

Table 3-4 Central Estuary Area: Existing Development and Reasonably Foreseeable Growth under the Implementation Guide

Planning Area	Residential (dwelling units)		Live/Work (dwelling units)		Industrial (square feet)		Commercial and Office (square feet)		Parks (acres)	
	Existing	Reasonably Foreseeable	Existing	Reasonably Foreseeable	Existing	Reasonably Foreseeable	Existing	Reasonably Foreseeable	Existing	Reasonably Foreseeable
West	**29**	**0**	39	11	2,322,764	0	174,207	83,713	8.9	2.1
Central-West	**355**	**391**	95	20	593,894	-177,240	25,336	0	0.4	0.4
Central-East	**59**	**0**	0	0	1,219,699	-139,461	200,100	268,071	0	0
East	**0**	0	0	0	680,544	691,558	5,366	360,238	7.3	8.2
Total, Existing	**443**	--	**134**	--	**4,816,899**	--	**405,009**	--	**17.2**	--
Total, Reasonably Foreseeable	--	**391**	--	**31**	--	**374,857**	--	**712,022**	--	**10.7**

Notes: The number of "Reasonably Foreseeable" units does not include the "Existing" units. The sum of the "Existing" and "Reasonably Foreseeable" units is the total amount of units that would be allowable per land-use category under the Implementation Guide.

Source: Central Estuary Implementation Guide, April 2011.



Legend

- Retail/Commercial
- Commercial-Industrial Mix
- Plan Area
- Medium Density Res
- Infill: Live/Work
- Parks
- Infill: Light Industrial/R&D

0 250 1000 1000 2000 FEET

Potential Future Land Use Under Central Estuary Implementation Guide

Figure 3-4

Source: Community Design + Architecture, 2012.

Figure 3-4 (Back)

3.4 STAKEHOLDER INVOLVEMENT

In 2009, the city began a public planning process for the Central Estuary area to address the various demands on the Plan Area while clarifying stakeholder interest and city policy. Initially, the city anticipated that a relatively high level of change would be proposed for the Plan Area and therefore a specific plan would be warranted, going above and beyond the EPP's call for a less intensive "implementation guide."

Over the course of about twelve months, the city conducted an extensive public input process, including several community meetings, interviews with key stakeholders, informational mailings, and other media.

Taking all of the community input into account, the City Council decided in August 2010 to move forward with a preferred land use alternative for the Central Estuary. City Council determined that the scale of the land use plan no longer warranted a specific plan. The preferred land use alternative forms the core of the CEIG.

3.5 PROJECT GOALS AND OBJECTIVES

CEQA Guidelines Section 15124(b) requires that the project description within an EIR include a statement of the project objectives.

The City has identified the following objectives for the CEIG

- Continue to carry out the goals and policies of the EPP, and provide more detailed guidance for specific areas within the Central Estuary area where some land use change from existing conditions is anticipated.
- Improve the role of the estuary as a major citywide amenity.
- Provide for the revitalization of existing land uses to enhance the amenity of the waterfront and the livability of the area.
- Maintain and enhance the economic role of the planning area.
- Recommend design standards and guidelines that will allow a diverse range of land uses in the Central Estuary area to continue to co-exist and thrive, including existing and new higher density residential and live-work developments.
- Provide a framework for realizing needed transportation and infrastructure improvements in the Central Estuary area, including stronger connections to the Central Estuary's recreational assets and transit stations.

3.6 REQUIRED PUBLIC AGENCY APPROVALS

The City of Oakland is the Lead Agency responsible for preparation and certification of this EIR, pursuant to CEQA Guidelines Section 15051. The City will make decisions on the required discretionary actions in accordance with City plans, policies, and ordinances.

This SEIR is intended to be used to provide CEQA analysis for all required discretionary actions for the development program and design guidelines comprising the CEIG. Proponents of new development in the Central Estuary area would be required to obtain all necessary project-specific City approvals and may be required to conduct project-specific environmental reviews. At the time this EIR was prepared, the discretionary actions and other considerations and approvals anticipated to be required in association with implementation of the CEIG include but are not limited to the following:

Conditional Use Permits: (Planning Code Chapter 17.134): Development under the CEIG could require a Conditional Use Permit for demolition of any buildings that contain rooming units or the conversion of dwelling units to a non-residential use.

Tree Removal Permit (Oakland Municipal Code Chapter 12.36) – Pursuant to the City's Protected Trees Ordinance, development under the CEIG could require an approved Tree Removal Permit prior to removing (or having construction activity near a) "Protected Tree," as defined in Oakland Municipal Code Section 12.36.020. Tree permits would require approval by the Oakland Office of Parks and Recreation's Commission (PRAC).

Encroachment and Obstruction Permits (Oakland Municipal Code Chapter 12.08) – Development under the CEIG could require approval of encroachment and obstruction permits to work within and close to various public rights-of-way.

Demolition Permits (Oakland Municipal Code Chapter 15.36) – Development under the CEIG could require approval of demolition permits to demolish existing buildings or structures.

Excavation Permits (Oakland Municipal Code Chapter 12.12) – Development under the CEIG could require excavation, which would require City approval of excavation permits.

Other Permits: Development under the CEIG could require Building Permits, Design Review approval, approval of Tentative Parcel Maps, Tentative Tract Maps, Parcel Map Waivers, Variances, in addition to various other required permits and approvals pursuant to the Oakland Municipal Code, the Oakland Planning Code, and applicable Building Code.

3.6.1 OTHER AGENCIES

Some development under the CEIG may require review and approval by other public and quasi-public agencies and jurisdictions that have purview over specific actions. These other agencies may also consider this EIR in their reviews and decision-making processes. These other agencies and their jurisdictional permits and approvals may include but are not limited to the following:

San Francisco Bay Regional Water Quality Control Board (RWQCB) – acceptance of a Notice of Intent (NOI) to obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit), and Notice of Termination after construction is complete. Granting of required clearances to confirm that all applicable standards, regulations, and conditions for all previous contamination at the site have been met.

Bay Area Air Quality Management District (BAAQMD) – compliance with BAAQMD Regulation 2, Rule 1 (General Requirements) for all portable construction equipment subject to that rule. Compliance with BAAQMD Regulation 11, Rule 2, which regulates the demolition and renovation of buildings and structures which may contain asbestos, or milling and manufacturing of specific materials which are known to contain asbestos.

East Bay Municipal Utility District (EBMUD) – approval of new service requests and new water meter installations.

Alameda County Flood Control and Water Conservation District (ACFCWD) – enforcement of the Stormwater Quality Management Plan and Best Management Practices (BMPs) included in Alameda Countywide Clean Water Program's Stormwater Pollution Prevention Permit (SWPPP). This would be done in conjunction with the City of Oakland, one of 18 co-permittees.

Alameda County Department of Environmental Health (ACDEH) – review and acceptance of an updated Hazardous Materials Management Plan and Inventory (HMMP) and the Hazardous Materials Business Plan (HMBP).

California Department of Toxic Substances Control (DTSC) – ensure compliance with State regulations for the generation, transportation, treatment, storage, and disposal of hazardous waste

California Department of Transportation (Caltrans) – review and approval of plans, specifications, and estimates (including any equipment or facility upgrades) for modifications to intersections under the jurisdiction of Caltrans.

Bay Conservation and Development Commission (BCDC) – review and approval of plans/issuance of permits for projects within 100 feet of the shoreline of San Francisco Bay, including shoreline development, filling, or dredging.

US Army Corps of Engineers (Corps) – review and approval of plans shall be obtained for the placement of dredge or fill material in any jurisdictional waters of the United States (see **Section 4.5.3**).

4.0 ENVIRONMENTAL ANALYSIS

This chapter evaluates the potential project-related environmental impacts that would occur with the adoption of the Central Estuary Design Guide (also referred to in this document as the CEIG or the project). The CEIG is a 20-year planning document that modifies/clarifies land use policy and associated densities and intensities to all properties within the City of Oakland (city) Central Estuary Plan Area (Plan Area).

Implementation of the land use designations and zoning amendments proposed as part of the project would generally match the development that currently exists within the Plan Area. On the ground, the changes proposed could eventually result in taller buildings relative to those existing, but the overall land use patterns of the Plan Area would remain the same.

It is anticipated that many of the environmental impacts would not change from those considered in previous environmental documents; however, because of the time that has transpired since these documents were certified, there is new information regarding existing conditions, as well as new policies and regulatory updates that require new analyses within a supplemental environmental impact report (SEIR). As a result, this draft SEIR focuses on potential impacts for four key environmental topics: air quality, greenhouse gas emissions, noise, and transportation/traffic. However, all other environmental topics are also evaluated.

Section 4.1, Air Quality, through **Section 4.4, Transportation/Traffic,** of this chapter are devoted to the four key environmental topics, respectively. Each of these sections include a full discussion of the existing environmental conditions in the plan area, the project's consistency with regulations, the anticipated environmental effects resulting from implementation of the project, and mitigation measures to reduce significant impacts, to the extent feasible. **Section 4.5, Other Environmental Topics,** of this chapter addresses the remaining environmental issue areas (i.e., biology, cultural resources, etc.) at a lesser level of detail.

ORGANIZATION OF THIS SECTION

The environmental analysis has been prepared in conformance with the California Environmental Quality Act (CEQA) Guidelines Sections 15125 and 15126, which provide directions on describing the environmental setting, and considering and explaining the environmental impacts of a project, respectively. For each key environmental topic (**Section 4.1, Air Quality,** through **Section 4.4, Transportation/Traffic**), the following information is presented:

- **Findings of the Oakland Estuary Policy Plan (EPP) EIR**: provides a summary of the environmental issues evaluated in the previously adopted Oakland Estuary Policy Plan EIR, the findings of the environmental analysis, and the applicability of the information in the environmental document, given the time that has transpired since the document was adopted.
- **Relevant Findings of the General Plan Elements (as applicable):** In addition to the EPP, the General Plan includes four separate documents elements with relevance to the CEIG: the Land Use and Transportation Element (LUTE); the Housing Element; the Open Space, Conservation and Recreation Element (OSCAR); and the Historic Preservation Element (HPE). This discussion provides a summary of the applicable environmental issues evaluated in the previously adopted environmental clearance documents for each General Plan element, as appropriate.
- **Existing Conditions**: describes the current physical setting of the plan area. The SEIR provides information on existing resources and, when appropriate, discusses the methodology that was used to determine these existing conditions.
- **Regulatory Setting**: provides a description of the relevant regulations and guidelines that pertain to the environmental topic. This section may contain information from a variety of sources, such as from the City of Oakland General Plan or other local, regional, state, or federal agency guidelines or regulations. The regulatory setting also lists the City of Oakland Standard Conditions of Approval (SCAs) that pertain to the environmental topic area.
- **Analysis of Potential Impacts**: identifies the City of Oakland CEQA Criteria/Thresholds of Significance that pertain to the environmental topic and evaluates how the proposed project would affect the existing environmental resources in the plan area.

As previously discussed, **Section 4.5, Other Environmental Topics**, addresses the remaining environmental topics at a lesser level of detail. As such, the aforementioned discussions are streamlined and consolidated, with a focus on the analysis of potential impacts, and pertinent changes in the existing conditions and regulatory setting since the adoption of the EPP EIR.

CLASSIFICATION OF IMPACTS

Standard Conditions of Approval

The City's Standard Conditions of Approval and Uniformly Applied Development Standards [referred to in this SEIR as "Standard Conditions of Approval" (SCAs)] are incorporated into projects as conditions of approval regardless of a project's environmental determination. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects.

In reviewing project applications, the City determines which SCAs are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approval(s) required for the project. For example, SCAs related to creek protection permits will only be applied to projects on creekside properties.

Because SCAs are mandatory City requirements, the impact analysis assumes that these will be imposed and implemented by each individual development. If a SCA would reduce a potentially significant impact to less than significant, the impact is determined to be less than significant and no mitigation is recommended. SCAs are not listed as mitigation measures.

The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California Building Code, and Uniform Fire Code, et al.), which have been found to substantially mitigate environmental effects. Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the SCAs, the City will determine whether there are feasible mitigation measures to reduce the impact to less than significant.

All relevant SCAs have been incorporated as part of the analysis for development facilitated by the CEIG. The following SCAs would not apply to future development within the Plan Area and/or do not provide specific measures that would reduce potential impacts from new development, and are therefore not included as part of the impact analysis:

- **Administrative Language –** SCA 1, Approved Use; SCA 2, Effective Date, Expiration, Extensions, and Extinguishment; SCA 3 Scope of this Approval; Major and Minor Changes; SCA 6, Signed Copy of the Conditions/Mitigation Measures; SCA 7, Indemnification; SCA 9, Severability; SCA 10, Job Site Plans; and SCA 11, Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management, provide administrative guidance that is required as part of the approval package from the planning department for all future projects within the City. These SCAs are incorporated into the formal approval permit for the new development.

  In accordance with SCA 8, Compliance with Conditions of Approval; and SCA 23, Compliance Matrix, project applicant(s) for new development under the CEIG shall submit to the Planning and Zoning Division and the Building Services Division a Conditions/ Mitigation Measures compliance matrix that lists each condition of approval and/or mitigation measures relevant to the project, the City agency or division responsible for review, and how/when the project applicant(s) has met or intends to meet the conditions and/or mitigations. The applicant(s) will sign the Conditions of Approval attached to the approval letter and submit that with the compliance matrix for review and approval. The compliance matrix shall be organized per step in the plancheck/construction process unless another format is acceptable to the Planning and Zoning Division and the Building Services Division. The project applicant(s) shall update the compliance matrix and provide it with each item submittal, and shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the SCAs and all applicable adopted mitigation measures set forth in the City's approval permit at its sole cost and expense (subject to review and approval of the City).

- **Alameda Whipsnake –** SCA 48, Whipsnake Habitat; SCA 49, Whipsnake Habitat, Placement of Debris; SCA 50, Whipsnake Habitat, Barrier Fence; and SCA 51, Whipsnake Habitat, Downsloping Lots, apply to projects that would affect designated Alameda whipsnake habitat. There is no Alameda whipsnake habitat within the Plan Area.

- **Alquist-Priolo (A-P) Zone –** SCA 59, Geotechnical Report, applies to projects that are located partially or wholly within the A-P Special Studies Zone. The Plan Area does not cover any A-P zones.
- **Wildfire –** SCA 70, Vegetation Management Plan; and SCA 72, Vegetation Management Plan on Creekside Properties, apply to projects that are located within the 2004 Wildfire Assessment District. The Plan Area is not designated as part of this district.
- **Dewatering and Creek Diversion –** SCA 87, Creek Dewatering and Aquatic Life; and SCA 88, Creek Dewatering and Diversion, apply to projects that involve dewatering or diversion of water. There are no areas within the Plan Area that would require these types of activities.
- **Southeast Oakland Hills Development** – SCA 92, Traffic Fairshare for Projects Located in Southeast Oakland, applies to all projects that are located within the Southeast Oakland Hills TIP/TIF area per the map located on the L Drive. The Plan Area is not within the Southeast Oakland Hills.
- **Geological Hazards –** SCA 93, Oakland Area Geologic Abatement District (GHAD), applies to all projects that include a geologic hazard, as defined in California Public Resource Section 26507, as an actual or threatened landslide, land subsidence, soil erosion, earthquake, fault movement, or any other natural or unnatural movement of land or earth; AND technical, environmental peer review, or other applicable report pertaining to the actual or threatened geologic hazard specify the need to require a GHAD OR a greater than normal degree of construction attention, monitoring of the site, or maintenance of project improvements. The Plan Area does not meet these qualifications.

Significance Classifications

The following list of significance classifications are used throughout the impact analysis in this EIR.

- **Less than Significant (LTS)** – The impacts of the proposed project, either before or after implementation of SCAs and/or feasible mitigation measures, do not reach or exceed the defined Threshold/Criteria of Significance. Generally, no mitigation measure is required for an LTS impact.

- **Potentially Significant (PS)** – The impact of the proposed project may reach or exceed the defined Threshold/Criteria of Significance, however it is not evident that, even in the theoretical worst-case standard conditions, a significant impact would occur. Where feasible, standard conditions of approval and/or mitigation measures are identified to reduce PS impact to LTS.
- **Significant (S)** – The impact of the proposed project is expected to reach or exceed the defined Threshold/Criteria of Significance. Feasible mitigation measures and/or SCAs may or may not be identified to reduce the significant impact to a less than significant level.
- **Significant Unavoidable (SU)** –The impact of the proposed project reaches or exceeds the defined Threshold/Criteria of Significance. No feasible mitigation measure is available to reduce the S impact to LTS. In these cases, feasible mitigation measures are identified to reduce the S impact to the maximum feasible extent, and the significant impact considered SU. Impacts are also classified as SU if a feasible mitigation measure is identified that would reduce the impact to LTS, but the approval and/or implementation of the mitigation measure is not within the City of Oakland's or the project applicant's sole control, in which case the analysis cannot presume implementation of the mitigation measure and the resulting LTS impact. It is important to clarify that SU is an impact classification that only applies after consideration of possible mitigation measures.
- **No Impact (NI)** – No noticeable adverse effect on the environmental would occur.

CUMULATIVE IMPACTS

Approach to the Cumulative Analysis

CEQA defines cumulative as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impact." Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past, present, existing, approved, pending and reasonably foreseeable future projects. These impacts can result from a

combination of the proposed project together with other projects causing related impacts. "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects." The City of Oakland's analysis approach specifies "past, present, existing, approved, pending and reasonably foreseeable future projects."

Cumulative Context

The context used for assessing cumulative impacts typically varies depending on the specific topic being analyzed to reflect the different geographic scope of different impact areas. For example, considerations for the cumulative air quality analysis are different from those used for the cumulative analysis of aesthetics. In assessing aesthetic impacts, only development within the vicinity of the project would contribute to a cumulative visual effect. In assessing air quality impacts, on the other hand, all development within the air basin contributes to regional emissions of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect. Accordingly, the geographic setting and other parameters of each cumulative analysis discussion can vary. The cumulative discussions in each topical section throughout this chapter describe the cumulative geographic context considered for each topic at a level appropriate to the project analysis presented in this EIR.

For each key environmental topic (**Section 4.1, Air Quality,** through **Section 4.4, Transportation/Traffic**), the cumulative analysis is based on traffic projections derived from regional planning documents and development trends documented by the Association of Bay Area Governments (ABAG). In addition, city staff developed a list of pending and proposed transportation projects that were incorporated into the traffic model for this project (see **Appendix D** for the complete list). **Section 4.4, Transportation/Traffic**, provides a detailed description of the traffic model assumptions and forecasting methodology relevant to the cumulative analysis. Increased noise, vehicle emissions, and traffic impacts calculated from the traffic model are inherently cumulative because the traffic model assumptions are based on the cumulative growth and development of the region.

The cumulative analysis for the remaining environmental topics (i.e., biology, cultural resources, etc.) is discussed in **Section 4.5, Other Environmental Topics**, and is based on the full buildout of the General Plan, including the recently adopted elements.

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4.1 AIR QUALITY

This section provides a description of the current air quality conditions within the project area and its vicinity, potential impacts related to implementation of the project with the city's Standard Conditions of Approval (SCAs) relevant to air quality, and mitigation measures to reduce potentially significant impacts. A discussion of policies and regulations related to air quality is also provided.

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts from the implementation of the Estuary Policy Plan (EPP) upon air quality were evaluated in the previously approved EPP EIR. The analysis found that the future development consistent with the EPP would not be consistent with the population and transportation demand projections that were used in regional air quality planning at the time. While the population growth associated with projected buildout of the EPP was not found to be consistent with regional growth projections, the EPP was found to implement transportation control measures (TCMs) in a manner consistent with the applicable Clean Air Plan (CAP). Along with these conclusions, the EPP EIR also found less-than-significant impacts related to localized air quality conditions in the Oakland Estuary. The EPP was found to cause no significant change in carbon monoxide emissions from traffic. The policies of the General Plan, Land Use and Transportation Element were shown to substantially avoid odor nuisance problems from the EPP map changes.

Due to the time that has transpired since the previous environmental documents were certified, the fact that the CEIG proposes a modification of allowable land use relative to the EPP, and that there is new information regarding existing conditions and the effects of air pollution exposure, this section analyzes the potential for the CEIG to result in significant impacts related to air quality.

This draft SEIR presents an updated analysis based on air pollutant sources identified in the 2009 Existing Conditions Report prepared for the project (see **Appendix E**) and other regional resources substantially updated by the Bay Area Air Quality Management District in 2010 and 2011. The updated analysis reviews the effects of air pollution exposure as relevant to the changes in land use and emission sources in and near the Plan Area.

Findings of the Housing Element EIR

The Housing Element EIR analyzed the impact of exposing new sensitive receptors to substantial pollutant concentrations by placing sensitive land uses (residential) near sources of toxic air contaminants (as embodied in Impacts AQ-2a, AQ-2b, AQ-4a, and AQ-4b of the Housing Element DEIR). For the project level of analysis, the Housing Element DEIR concluded that implementation of the recommendations of a project-specific health risk assessment may not reduce local toxic air contaminant exposures to acceptable levels, and that the residual air pollution risk and hazard could have significant unavoidable impacts.

The analysis in the Housing Element EIR found that all locations within the Plan Area are less than one mile from a potential odor source, such as food processing facilities, painting/coating operations, or green waste/recycling facilities (see Figure 3.3-8 of the Housing Element DEIR). The Housing Element EIR presents a reasonable estimation of all the odor sources within the City of Oakland, based upon business tax records, and it shows buffer zones around the identified sources based on BAAQMD recommendations. Nearly the entire City of Oakland, and all of the Plan Area, could be exposed to nuisance odor impacts due to potentially incompatible land uses. The Housing Element DEIR analyzed this impact (as Impact AQ-3 and AQ-5 of the Housing Element DEIR) and concluded that odor sources present in all high-density areas of the City of Oakland could potentially expose residences to substantial/frequent odor. The Housing Element DEIR concluded that this effect was significant and unavoidable.

4.1.1 EXISTING CONDITIONS

Physical Setting

The City of Oakland is within the San Francisco Bay Area Air Basin, so named because the surrounding mountains tend to confine the movement of air and the pollutants it contains. This area includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, the western half of Solano and the southern half of Sonoma counties. The regional climate within the Bay Area is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. A wide range of emissions sources—attributable to dense population centers, heavy vehicular traffic and other transportation, and industry—and meteorology within various microclimates primarily influence the air quality within the Bay Area.

The potential for high pollutant concentrations developing at a given location depends on the quantity of pollutants emitted into the atmosphere in the surrounding area or upwind, and the ability of the atmosphere to disperse the contaminated air. The atmospheric pollution potential, as the term is used here, is independent of the location of emission sources and is instead a function of factors such as topography and meteorology.

The air pollution potential is low in the northern Alameda County sub-region of the air basin, especially for the parts that are closest to the bay, due largely to good ventilation and less influx of pollutants from upwind sources. The occurrence of light winds in the evenings and early mornings occasionally causes elevated pollutant levels. The air pollution potential for southern and eastern Oakland is marginally higher than communities directly east of the Golden Gate, because of the lower frequency of strong winds.[1] This portion of the air basin contains a variety of industrial air pollution sources, major freeways that are frequently congested; in the Plan Area these sources are close to residential areas.

Criteria Air Pollutants

The air pollutants for which federal and state air quality standards have been promulgated, termed "criteria" pollutants, and which are most relevant to air quality planning and regulation in the Bay Area include ozone, carbon monoxide (CO), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Each of these is briefly described below (BAAQMD, 2011).

- **Ozone** is a gas that is formed when reactive organic gases (ROG) and nitrogen oxides (NO_x)—both byproducts of fossil fuel combustion—undergo slow photochemical reactions in the atmosphere in sunlight. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. Ozone can also damage plants and trees, and materials such as rubber and fabrics. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are conducive to its formation.

[1] BAAQMD (Bay Area Air Quality Management District). 2011. CEQA Air Quality Guidelines, Updated May 2011. [Online]: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. Accessed April 2012.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest in winter mornings when surface-based inversions trap the pollutant at the ground level. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. Because CO is emitted directly from engines—unlike ozone— the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Respirable Particulate Matter (PM_{10})** and **Fine Particulate Matter ($PM_{2.5}$)** consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} and $PM_{2.5}$ can lodge deep in the lungs and contain substances that are particularly harmful to human health. Most particulate matter in urban areas is produced by fuel combustion, motor vehicle travel on paved and unpaved roads (tire wear and brake wear), wood burning, and construction activities. Particulate matter can also be formed in the atmosphere (secondary) from the reaction of gaseous precursors such as nitrogen- and sulfur-oxides, ROG, and ammonia.

- **Nitrogen dioxide (NO_2)** is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is an essential ingredient in the formation of ozone. Motor vehicles and industrial operations are the main sources of NO_2, due to fossil fuel combustion.

- **Sulfur dioxide (SO_2)** is a colorless, extremely irritating acid gas with a pungent odor. SO_2 can irritate lung tissue and increase the risk of acute and chronic respiratory disease. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel (oil and coal), and from chemical processes at chemical plants and refineries.

Regional Air Quality and Attainment Status

The United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have both established allowable maximum ambient concentrations of criteria air pollutants. These ambient air quality standards are set

to avoid potential public health impacts. These are based upon public health impacts and are called ambient air quality standards. The California Ambient Air Quality Standards (CAAQS), established by CARB, are typically lower or more stringent than the federally established National Ambient Air Quality Standards (NAAQS).

These ambient air quality standards are intended to protect the public health and welfare, including people susceptible to respiratory distress, those affected by asthma, the very young, and the elderly.

The current attainment status for the San Francisco Bay Area Air Basin is summarized in **Table 4.1-1**. In general, the Bay Area Air Basin experiences low concentrations of most pollutants when compared to air quality standards, except for ozone and particulate matter (PM_{10} and $PM_{2.5}$), for which standards are exceeded periodically. The Bay Area Air Basin is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards, but in attainment for other criteria pollutants.

Table 4.1-1 Federal and state Ambient Air Quality Standards and Bay Area Attainment Status

Pollutant	Averaging Time	(state) CAAQS[a]		(Federal) NAAQS[b]	
		Standard	Attainment Status	Standard	Attainment Status
Ozone (O_3)	1 hour	0.09 ppm	**N**	---	---
	8 hour	0.070 ppm	**N**	0.075 ppm	**N**/Marginal
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	---	0.053 ppm	A
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	A	0.075 ppm	A
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	---	---	0.030 ppm	A

Pollutant	Averaging Time	(state) CAAQS[a]		(Federal) NAAQS[b]	
		Standard	Attainment Status	Standard	Attainment Status
Particulate Matter (PM_{10})	24 hour	50 µg/m^3	**N**	150 µg/m3	U
	Annual f	20 µg/m^3	**N**	---	---
Particulate Matter - Fine ($PM_{2.5}$)	24 hour	---	---	35 µg/m3	**N**
	Annual	12 µg/m^3	**N**	15 µg/m3	A
Sulfates	24 hour	25 µg/m^3	A	---	---
Lead	30 day	1.5 µg/m^3	A	---	---
Hydrogen Sulfide	1 hour	0.03 ppm	U	---	---

Notes: A = Attainment; N = Nonattainment; U = Unclassified; --- = Not Applicable, no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter.
Bold text indicates nonattainment.
[a] CAAQS = California ambient air quality standards.
[b] NAAQS = national ambient air quality standards.
Source: Bay Area Air Quality Management District (BAAQMD), Standards and Attainment Status.

Detailed data on air quality conditions for the Plan Area are provided from measurements conducted by the BAAQMD at its monitoring stations. **Table 4.1-2** is a summary of monitoring data from Oakland-9925 International Blvd monitoring station and Berkeley-6th Street monitoring station. Data from Berkeley-6th Street monitoring station are included because the Oakland-9925 International Blvd monitoring station does not monitor PM_{10} and SO_2 concentrations. Data in **Table 4.1-2** shown in bold indicates a measurement exceeding the most-stringent standard.

Table 4.1-2 Ambient Air Quality Conditions

Pollutant	Averaging Time	Measured Pollutant Concentration				
		2007	2008	2009	2010	2011
Ozone (O_3)	1 hour (ppm)	0.040	0.086	0.092	**0.097**	0.091
	8 hour (ppm)	0.036	0.064	0.062	0.058	0.051
Carbon Monoxide (CO)	1 hour (ppm)	2.9	3.0	4.6	---	---
	8 hour (ppm)	1.40	1.63	1.99	1.63	1.50
Nitrogen Dioxide (NO_2)	1 hour (ppm)	0.059	0.070	0.062	0.064	0.057
	Annual (ppm)	---	0.015	0.014	0.013	0.013

Pollutant	Averaging Time	Measured Pollutant Concentration				
		2007	2008	2009	2010	2011
Cont'd						
Sulfur Dioxide (SO_2)	1 hour (ppm)	0.014	0.014	0.016	---	---
	24 hour (ppm)	0.005	0.005	0.004	0.003	---
Particulate Matter (PM_{10})	24 hour (µg/m^3)	33.0	42.3	31.4	41.2	---
	Annual (µg/m^3)	4.6	22.4	18.3	22	---
Particulate Matter - Fine ($PM_{2.5}$)	24 hour (µg/m^3)	22.8	30.1	**36.3**	25.2	**49.3**
	Annual (µg/m^3)	---	9.5	9.2	7.7	10.1

Notes: Data in **bold** indicates a measurement exceeding the most-stringent standard.
ppm = parts per million; µg/m3 = micrograms per cubic meter; --- = Not Available.
Source: California Air Resource Board, Top 4 Summary.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present. The health effects of TACs can result from either acute or chronic exposure; many types of cancer are associated with chronic TAC exposures.

Significant environmental sources of TACs include industrial processes (e.g., petroleum refining, electronic component and chemical manufacture, and chrome plating), commercial operations (e.g., auto body shops, gasoline stations and dry cleaners) and transportation activities (particularly from diesel-powered vehicles, including trains, buses, and trucks).

Existing Air Pollutant/TAC Sources in the Plan Area

Stationary Sources

The Summary of Key Environmental Issues Report, included as **Appendix C** of this draft SEIR, identifies numerous stationary air pollutant sources under the jurisdiction of the BAAQMD in and near the Plan Area. Based on a review of the 2007 BAAQMD database, 29 stationary sources with TAC emissions within the Plan Area exceeded BAAQMD regulated emissions levels. Additionally, 33 stationary

sources have criteria pollutant (i.e. carbon monoxide, nitrogen oxides, sulfur dioxide, and particulate matter) emissions subject to BAAQMD permitting.

The Summary of Key Environmental Issues Report (**Appendix C**) includes Figures 2 through Figure 6, which illustrate the location of these stationary sources. These stationary sources pose potential environmental concerns to people living and working in and around the Plan Area. Virtually all households within the Plan Area are within 1,000 feet of at least one stationary source. Future land uses in the Plan Area need to consider the future disposition of these stationary sources.

Mobile Sources in the Plan Area

The freeways, high volume roadways, and active rail lines in and near the Plan Area are all locations of substantial emissions from mobile sources. All locations in the planning area are within 1,000 feet of at least one of these categories of mobile source emissions. Additionally, operations at the Port of Oakland affect the air quality of the Plan Area (see **Figure 4.1-1**).

Toxic Air Contaminants and Health Risks in the Plan Area

Health risks from mobile sources, on I-880, railroad and marine vessel operations, and stationary sources at various industrial land uses within and near the Central Estuary have been previously analyzed by the BAAQMD, the CARB, and by the City of Oakland, as summarized in the Housing Element DEIR.

The BAAQMD identifies screening risk levels for traffic on freeways and high volume roadways (over 10,000 vehicles or 1,000 trucks per day) and permitted stationary sources.[2] Traffic along I-880 in the Plan Area may result in incremental cancer risks over 200 cases per million for a lifetime (i.e., 70 year) exposure near the freeway and over 10 cases per million within 1,000 feet of the freeway. The presence of stationary sources, subject to BAAQMD permitting requirements, also contributes to elevated levels of toxic air contaminants, although BAAQMD review requires each source to minimize and avoid substantial health risks, typically resulting in fewer than 10 cases per million for off-site receptors. Locations of stationary sources are identified by BAAQMD and in the Summary of Key Environmental Issues Report (**Appendix C**).

[2] BAAQMD, CEQA Tools and Methodology. [Stationary Source Screening Analysis Tool and Highway Screening Analysis Tool] May 2011. Available at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx. Accessed April 2012.

The northern portion of the Plan Area is within the area of a 2008 study of community health risk for the West Oakland community. Previous cancer risk studies by CARB and BAAQMD identified the potential public health risk from exposures to DPM from sources related to Port of Oakland operations, the Union Pacific rail yard and other significant sources of DPM in and near West Oakland, and found that potential cancer risks for residents of the Plan Area from a lifetime (i.e., 70 year) exposure to DPM is between 200 to 500 cases per million at year 2005 emission levels.[3]

Odor Emissions in the Plan Area

Odors affect the human sense of smell. Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to odors can range from psychological (irritation, anger or anxiety) to physiological (circulatory, respiratory, nausea, vomiting or headaches). The ability to detect odors varies widely among the population and is subjective.

All locations within the Plan Area are less than one mile from potential odor sources, including food processing facilities, painting/coating operations, or green waste/recycling facilities (see Figure 3.3-8 of the Housing Element DEIR).

Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Population subgroups especially sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and populations with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases.

Sensitive receptors are those facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals and residential areas.

[3] CARB, Diesel Particulate Matter Health Risk Assessment for the West Oakland Community. December 2008.

4.1.2 REGULATORY SETTING

Federal

U.S. Environmental Protection Agency

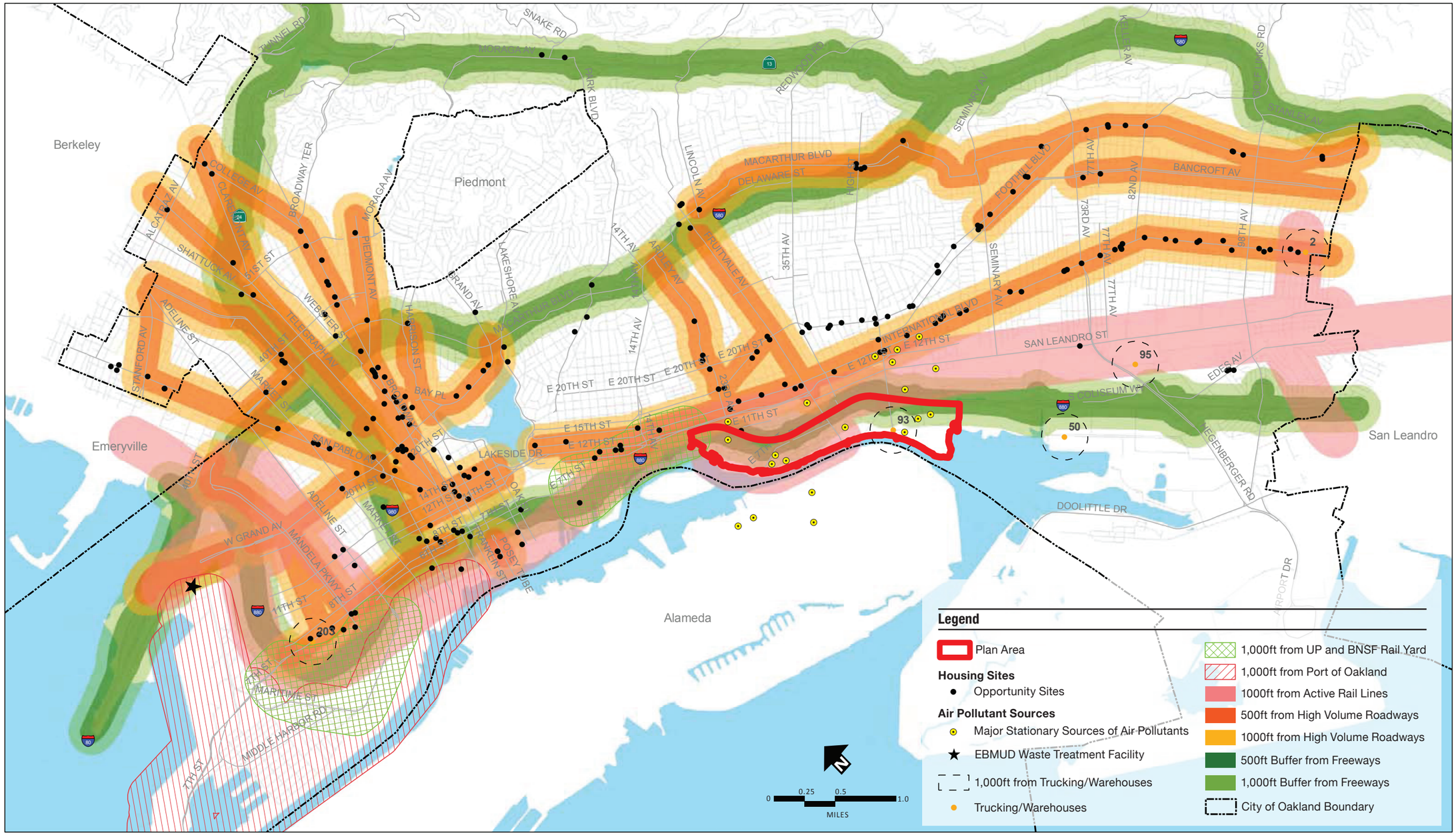
The Clean Air Act requires regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all ambient air quality standards by the deadlines specified in the Clean Air Act. The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards for criteria air pollutants, and as part of its enforcement responsibilities, EPA requires each nonattainment area to prepare and submit a state Implementation Plan (SIP) that demonstrates the means to attain the standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

The current attainment status for the San Francisco Bay Area Air Basin, with respect to the NAAQS, is summarized in **Table 4.1-1**, above. The Bay Area Air Basin is a marginal nonattainment area for ozone. In December 2009, the Bay Area became designated as a nonattainment area for the national 24-hour $PM_{2.5}$ standard, and this triggered the beginning of a multi-year planning process to develop strategies and regulations to ensure region-wide $PM_{2.5}$ reductions.

State

California Air Resources Board

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its Federal counterpart, called for the designation of areas as attainment or nonattainment, but based on state ambient air quality standards rather than the Federal standards. The CARB is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets California Ambient Air Quality Standards, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP.



Sources of Particulate Emissions Figure **4.1-1**

Source: City of Oakland General Plan — Housing Element Update 2007 - 2014

Figure 4.1-1Source of Particulate Emissions (back)

The state and NAAQS are shown in **Table 4.1-1**. As indicated in **Table 4.1-1,** the Bay Area Air Basin is designated as "nonattainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards. The Bay Area Air Basin is designated as "attainment" at the state level for other pollutants.

CARB also establishes emissions standards for motor vehicles and motor vehicle fuels sold in California, off-road and portable equipment, consumer products (e.g., architectural coatings).

The CARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, and mobile sources that are the primary sources of diesel emissions are within the jurisdiction of CARB. In 2000, the CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The Plan aims to develop and implement specific statewide regulations designed to reduce DPM emissions and the associated health risk by 85 percent by 2020. Programs that have been implemented by CARB in response to these goals include fuel standards, engine exhaust emission control standards, and limitations on idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (2005) provides recommendations for the siting of new sensitive land uses (i.e., residences, schools, daycare centers, playgrounds, and medical facilities) near certain recognized major sources of TACs, including freeways, large warehouses or distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners and large gasoline dispensing facilities. For additional information on these recommendations, see Table 3.3-4 of the Housing Element DEIR.

Regional

The Plan Area and the City of Oakland are entirely within the jurisdiction of the BAAQMD, which oversees the region's efforts to achieve and maintain the ambient air quality standards. The BAAQMD maintains the regional emission inventory of sources, including stationary, mobile, and area-wide sources. The BAAQMD is also responsible for issuing permits to construct and operate stationary sources, and for implementing the programs to review the air quality impacts of new stationary sources.

BAAQMD CEQA Air Quality Guidelines

In 2010, the BAAQMD's Board of Directors adopted the CEQA Air Quality Guidelines and Thresholds of Significance (BAAQMD, Revised 2011) as an effort to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. In response to a legal challenge, the BAAQMD no longer recommends the thresholds be used as a generally applicable measure of significant impacts.[4]

However, the BAAQMD CEQA Air Quality Guidelines include recommendations for analysis procedures and an Appendix D (Threshold of Significance Justification); the BAAQMD also prepared detailed documentation for CEQA thresholds prior to its 2010 adoption of the guidelines (BAAQMD, 2010). The City of Oakland (Planning, Building, and Neighborhood Preservation Department), as the lead agency used this documentation as evidence in developing thresholds of significance for criteria air pollutants and community risk and hazards that are identified in **Section 4.1.3, Analysis of Potential Impacts**, below. The preparers of this EIR have reviewed the evidence used to formulate the BAAQMD CEQA Guidelines including BAAQMD's May 2010 staff report recommending the adoption of the thresholds and its attachments, and conclude that substantial evidence supports the continued use of BAAQMD's 2010 thresholds of significance as thresholds of significance for air quality and greenhouse gas impacts in this EIR.

Bay Area 2010 Clean Air Plan

BAAQMD adopted the Bay Area 2010 Clean Air Plan (CAP) in cooperation with the Bay Area Metropolitan Transportation Commission (MTC), the Bay Conservation and Development Commission (BCDC), and the Association of Bay Area Governments (ABAG). The CAP outlines a multi-pollutant approach for addressing ozone, particulate matter, air toxics, and greenhouse gas emission reductions in a single, integrated strategy.

The primary objectives of the CAP are to attain the ambient air quality standards, protect public health, and minimize climate change impacts. The CAP is a voluntary initiative by the BAAQMD, and it does not respond to federal requirements for attainment planning. However, it lays the groundwork for future $PM_{2.5}$ attainment planning and the continuing effort to attain the ozone standards. The CAP is a

[4] The BAAQMD describes the status of its CEQA Guidelines at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. The May 2010 staff report can also be found here.

roadmap showing how the San Francisco Bay Area will achieve compliance with ozone standards as expeditiously as practicable, and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. The CAP represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state ozone standards. The CAP includes transportation control measures (TCMs) to improve transit services, encourage sustainable travel behavior, support focused growth, and implement pricing strategies.

The TCMs in the CAP that are relevant to the proposed project include:

TCM A-1: Improve Local and Area-wide Bus Service

TCM B-2: Improve Transit Efficiency and Use

TCM B-4: Goods Movement Improvements and Emission Reduction Strategies

TCM C-1: Support Voluntary Employer-Based Trip Reduction Programs

TCM C-2: Implement Safe Routes to Schools and Safe Routes to Transit

TCM C-3: Promote Rideshare Services and Incentives

TCM D-1: Improve Bicycle Access and Facilities

TCM D-2: Improve Pedestrian Access and Facilities

TCM D-3: Support Local Land Use Strategies

TCM E-2: Parking Pricing and Management Strategies

The CAP also includes land use and local impact measures (LUMs) to promote mixed-use, compact development and to ensure that focused growth protects people from exposure to air pollution. The LUMs in the CAP that are relevant to the proposed project include:

LUM 1: Goods Movement

LUM 3: Enhanced CEQA Program

LUM 4: Land Use Guidelines

LUM 5: Reduce Risk in Impacted Communities

New Source Review Permitting

Any notable or non-exempt[5] stationary source of emissions would be subject to additional environmental review including BAAQMD New Source Review requirements, which requires sources to install the best available control technology and be subject to health risk screening for toxic air contaminants.

City of Oakland Local Plans, Policies and Regulations

Oakland General Plan

The city's General Plan (including the Land Use & Transportation Element and Open Space Conservation and Recreation Element) apply in the Plan Area to reduce regional and local air pollutant emissions by encouraging use of transit, alternative transportation modes, and sustainable land development patterns (including mixed-use development).

Please also see Section 4.4, Transportation/Traffic, for a discussion of policies related to circulation and mobility in the Land Use and Transportation Element, which incorporates air quality-related policies of the Open Space Conservation and Recreation Element.

Estuary Policy Plan. EPP policies relevant to air quality consideration include the following:

Objective C-2: Establish a continuous waterfront parkway; a safe promenade for pedestrians, bicycles, and slow-moving automobiles.

Objective C-4: Strengthen local circulation connections between Oakland neighborhoods and the waterfront.

Objective C-5: Promote transit service to and along the waterfront.

Objective C-6: Improve pedestrian and bicycle circulation.

Objective C-7: Provide adequate parking without diminishing the quality of the urban environment.

[5] An Authority to Construct (ATC) is required by BAAQMD Regulation 2, Rule 1 for any non-exempt source. Natural gas-fired heaters with a heat input rate of less than 10 million British thermal units (Btu) per hour are exempt, and stationary internal combustion engines and gas-fired combustion turbines with an output rating of less than 50 horsepower (hp) are exempt.

Policy SAF-3: Encourage heavy industry in the vicinity of the Con-Agra Plant to continue while providing for the transition to a mix of new uses.

Policy SAF-4: Encourage preservation and expansion of the affordable residential neighborhood in the Kennedy Tract.

Policy SAF-5: Retain the existing industrial use of the Owens-Brockway site.

Policy SAF-6: Encourage the reuse of existing warehouse properties south of Alameda Avenue and west of High Street for high-quality retail uses that complement adjacent commercial uses.

Policy SAF-7: East of High Street, maintain existing viable industrial and service-oriented uses, and encourage the identification of underutilized and vacant properties.

Policy SAF-8: Develop a continuously accessible shoreline, extending from Ninth Avenue to Damon Slough.

Policy SAF-9: Provide a continuous Embarcadero Parkway from Ninth Avenue to Damon Slough.

Policy SAF-10: Work with Caltrans, BART, and other transportation agencies to upgrade connecting routes between inland neighborhoods, I-880, and local streets, to enhance East Oakland access to the waterfront.

Land Use and Transportation Element. Policies relevant to air quality from the Land Use & Transportation Element (LUTE) of the General Plan include the following:

Objective T2: Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.

Policy T2.2: Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

Policy T2.5: Take advantage of existing transportation infrastructure and capacity that is underutilized. For example, where possible and desirable, convert unused travel lanes to bicycle or pedestrian paths or amenities.

Policy T2.6: Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).

Policy T3.2: The city should promote and participate in both local and regional strategies to manage traffic supply and demand where unacceptable levels of service exist or are forecast to exist.

Policy T3.8: The city, in constructing and maintaining its transportation infrastructure, shall resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environment, public safety, economic development, health, and social equity impacts.

Policy T4.1: The city will require new development to incorporate design features in their projects that make use of alternative modes of transportation more convenient.

Policy T4.2: Through cooperation with other agencies, work to create incentives to encourage travelers to use alternative transportation options.

Policy T4.3: Encourage transit operators to reduce waiting times for users by coordinating schedules and maintaining intervals of fifteen (15) minutes or less between buses during daytime periods.

Policy T4.4: Support light rail or trolley bus along appropriate arterial streets in high travel demand corridors.

Policy T4.6: Alternative modes of transportation should be accessible for all of Oakland's population.

Policy T4.7: Where rail lines (including sidings and spurs) are to be abandoned, first consideration should be given to acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.

Policy T6.1: Collector streets shall be posted at a maximum speed of 25 miles per hour, except where a lower speed is dictated by safety and allowable by law.

Policy T6.2: Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented.

Policy T6.3: The waterfront should be made accessible to the pedestrians and bicyclists in Oakland's neighborhoods.

Policy D3.2: New parking facilities should not be incorporated into the design of any project in a manner that discourages pedestrian activity.

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

Policy W2.7: 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.

Policy W12.4: Higher residential densities should be permitted in appropriate areas along the estuary where design and development intensity allows for the preservation of public views, vistas, open space, and waterfront access. Access to transportation corridors and transit should be promoted.

The LUTE also accounts for the air quality considerations of land use compatibility decisions with an objective to minimize land use compatibility conflicts (Objective I/C4) including the following policies:

Policy I/C4.1: *Protecting Existing Activities.* 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.

Policy I/C4.2: *Minimizing Nuisances.* The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through appropriate siting and efficient implementation and enforcement of environmental and development controls.

Where residential development would be located above commercial uses, parking garages, or any other uses with a potential to generate odors, the odor-generating use should be properly vented (e.g., located on rooftops) and designed (e.g., equipped with afterburners) so as to minimize the potential for nuisance odor problems. (Cited in EPP Draft EIR, p. III.E-18)

Open Space Conservation and Recreation Element*.* The Open Space Conservation and Recreation (OSCAR) Element of the General Plan includes the following policies related to air quality:

Policy CO-12.1: Promote land use patterns and densities which help improve regional air quality conditions. The city supports efforts of the responsible public agencies to reduce air pollution.

Policy CO-12.3: Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos.

Policy CO-12.4: Require that development projects be designed in a manner which reduces potential adverse air quality impacts.

Policy CO-12.5: Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.

Policy CO-12.6: *Control of Dust Emissions.* Require construction, demolition, and grading practices which minimize dust emissions. These practices are currently required by the City and include the following:)

- Avoiding earth moving and other major dust generating activities on windy days.
- Sprinkling unpaved construction areas with water during excavation, using reclaimed water where feasible. (Watering can reduce construction-related dust by 50 percent.)
- Covering stockpiled sand, soil, and other particulates with a tarp to avoid blowing dust.
- Covering trucks hauling dirt and debris to reduce spills. If spills do occur, they should be swept up promptly before materials become airborne.
- Preparing a comprehensive dust control program for major construction in populated areas or adjacent to sensitive uses like hospitals and schools.
- Operating construction and earth-moving equipment, including trucks, to minimize exhaust emissions.

Policy CO-12.7: Coordinate local air quality planning efforts with other agencies, including adjoining cities and counties and the public agencies responsible for monitoring and improving air quality. Cooperate with regional agencies such as

the BAAQMD, the MTC, the ABAG, and the Alameda County Congestion Management Agency in developing and implementing regional air quality strategies. Continue to work with BAAQMD and the California Air Resources Board in enforcing the provisions of the California and Federal Clean Air Acts, including the monitoring of air pollutants on a regular and on-going basis. ()

City of Oakland Standard Conditions of Approval

The city's Standard Conditions of Approval (SCAs) relevant to air quality are listed below. The SCAs are required to help reduce or avoid air quality impacts associated with development. Because the city applies these to all relevant projects (which will include any new development facilitated by the CEIG, assuming the CEIG is adopted), the SCAs are not listed as mitigation measures.

Listed below are the SCAs related to air quality that would be relevant to development facilitated by the CEIG.

SCA A: Construction-Related Air Pollution Controls (Dust and Equipment Emissions).[6]
Timing: Ongoing throughout demolition, grading, and/or construction.

During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the BAAQMD:

BASIC (Applies to ALL construction sites)

a) Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be

[6] In a document published July 28, 2011, the City identified several supplemental standard conditions of approval that replaced several previously published SCAs related to air quality.

SCA A (Construction-Related Air Pollution Controls) is noted as replacing previously published SCAs 26 (Dust Control) and 27 (Construction Emissions)

SCA B (Exposure to Air Pollution [Toxic Air Contaminants: Particulate Matter]) is noted as replacing previously published SCAs 94 (Indoor Air Quality) and 95 (Air Pollution Buffering for Private Open Space).

SCA C (Exposure to Air Pollution [Toxic Air Contaminants: Gaseous Emissions) was also noted as replacing previously published SCAs 94 (Indoor Air Quality) and 95 (Air Pollution Buffering for Private Open Space).

necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.

b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).

c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

e) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).

f) Limit vehicle speeds on unpaved roads to 15 miles per hour.

g) Idling times shall be minimized either by shutting equipment off when not is use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points.

h) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

i) Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the city and the BAAQMD shall also be visible. This information may be posted on other required on-site signage.

ENHANCED: All "Basic" controls listed above plus the following controls if the project involves:

i. 114 or more single-family dwelling units;
ii. 240 or more multi-family units;

iii. Nonresidential uses that exceed the applicable screening size listed in the BAAQMD CEQA Guidelines;
iv. Demolition permit;
v. Simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously);
vi. Extensive site preparation (i.e., the construction site is four acres or more in size); or (7) Extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).

j) All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

k) All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.

l) Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

m) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).

n) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

o) Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.

p) Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

q) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.

r) All trucks and equipment, including tires, shall be washed off prior to leaving the site.

s) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

t) Minimize the idling time of diesel-powered construction equipment to two minutes.

u) The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.

v) Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).

w) All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.

x) Off-road heavy diesel engines shall meet the CARB's most recent certification standard.

SCA B: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter).
Timing: Prior to issuance of a demolition, grading, or building permit.

A. Indoor Air Quality: In accordance with the recommendations of the CARB and the BAAQMD, appropriate measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The appropriate measures shall include one of the following methods:

1. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air polluters prior to issuance of a demolition, grading, or building permit. The

HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.

2. The applicant shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project.

a) Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other sources of air pollution (e.g., loading docks, parking lots).

b) Do not locate sensitive receptors near distribution center's entry and exit points.

c) Incorporate tiered plantings of trees (redwood, deodar cedar, live oak, and/or oleander) to the maximum extent feasible between the sources of pollution and the sensitive receptors.

d) Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.

e) Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the pollutant sources.

f) Install indoor air quality monitoring units in buildings.

g) Project applicant shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance

manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and distributed to the building maintenance staff. In addition,

h) The applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.

B. Outdoor Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA C: Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions).
Timing: Prior to issuance of a demolition, grading, or building permit

A. Indoor Air Quality: In accordance with the recommendations of the CARB and the BAAQMD, appropriate measures shall be incorporated into the project design in order to reduce the potential risk due to exposure to toxic air contaminants to achieve an acceptable interior air quality level for sensitive receptors. The project applicant shall retain a qualified air quality consultant to prepare a HRA in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air polluters prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.

B. Exterior Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA 41: Asbestos Removal in Structures.
Timing: Prior to issuance of a demolition permit.

If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal,

encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.

In addition, the following SCA located in another section of this EIR would also serve to reduce VMT, thus reducing pollutant emissions:

SCA 25: Parking and Transportation Demand Management *(See Chapter 4.4, Transportation and Traffic).*

Central Estuary Design Guidelines

The proposed project includes the following design guideline that is intended to reduce potential odor impacts from land use incompatibilities in the Plan Area:

Setbacks

- Where tall industrial buildings abut residential uses, setbacks should be of a depth that ensures that industrial buildings do not overwhelm the residential use and that noise, odors, noxious fumes and other such impacts are of a sufficient distance to minimize their effect.

4.1.3 ANALYSIS OF POTENTIAL IMPACTS

City of Oakland CEQA Thresholds of Significance Criteria

A significant impact would occur if the project would:[7]

Plan-Level Impacts:

[7] The CEIG is a long-term planning document that would modify land uses and change allowable densities/intensities within the Plan Area. The city considers the EPP to serve as part of the General Plan for pertinent areas. As such, this analysis evaluates air quality impacts based on "plan-level" thresholds. However, this SEIR also evaluates exposure to toxic air contaminants (TACs) and odors at a project-level of analysis.

1. Fundamentally conflict with the CAP because the projected rate of increase in vehicle miles traveled (VMT) or vehicle trips is greater than the projected rate of increase in population;

2. Fundamentally conflict with the CAP because the plan does not demonstrate reasonable efforts to implement control measures contained in the CAP;

3. Not include special overlay zones containing goals, policies, and objectives to minimize potential Toxic Air Contaminant (TAC) impacts in areas located (a) near existing and planned sources of TACs and (b) within 500 feet of freeways and high-volume roadways containing 100,000 or more average daily vehicle trips; or

4. Not identify existing and planned sources of odors with policies to reduce potential odor impacts.

Project-Level Impacts (TACs and odors only)

5. During either project construction or project operation expose persons by siting a new source or a new sensitive receptor to substantial levels of Toxic Air Contaminants (TACs) resulting in (a) a cancer risk level greater than 10 in one million, (b) a non-cancer risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average PM2.5 of greater than 0.3 micrograms per cubic meter.

6. Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people.

Methodology for Analysis

This air quality analysis updates the EPP EIR by identifying the current air pollutant sources affecting the Plan Area and the current air quality conditions. Regional air quality conditions have generally improved, and regulatory programs have evolved to provide more guidance on how to protect mixed and high-density land uses from air pollution exposure.

Characterizing operational impacts of a plan depends on consistency with the most recently adopted CAP. To determine consistency with the CAP, the proposed project must incorporate current air quality plan control measures as appropriate to

the plan area, and the rate of increase in vehicle miles travelled (VMTs) or vehicle trips within the plan area (either measure may be used) must be less than the rate of increase in population within the plan area (BAAQMD, 2011).

To determine whether growth in the Plan Area would conflict with regional growth expectations set forth in the CAP, this air quality analysis summarizes the potential changes in transportation demand and population in the Plan Area. Existing VMT, vehicle trips, and population in the Plan Area were compared to forecasts for the same under the CEIG.

Emission estimates shown in this air quality impact analysis provide readers with projected changes in emissions caused by changes in motor vehicle trips, area sources, and other activities related to the foreseeable growth. The emissions estimates are provided for programmatic analysis; the CEIG project does not directly include any actual land development. Emissions calculations quantify the criteria pollutants from operating the foreseeable residential, industrial, commercial, and other land uses based on the most recent CARB-approved version of the Mobile Source Emission Inventory model (vehicle fleets for years 2020 and 2035) as incorporated in CalEEMod.[8]

The BAAQMD guidelines recommend that a proposed General Plan or other area plans include recommendations for special overlay zones to be established around existing and proposed TAC sources to protect sensitive populations. The most conservative project-level threshold for siting a new receptor, such as a residential units, is to create a 'Zone of Influence' which is 1,000 feet from a source of air quality risk or hazards (BAAQMD, 2011). All locations in the Plan Area are within 1,000 feet of the I-880 freeway, high volume roadways, or active rail lines that are sources of TAC and potential air quality risk or hazards.

Impact AQ-1: Development facilitated by the proposed project would not fundamentally conflict with the Bay Area 2010 CAP because the projected rate of increase in vehicle miles travelled and vehicle trips would be less than the projected rate of increase in population. (LTS)

While the project itself would not result in any direct physical changes to the Plan Area, future development facilitated by the CEIG would include residential, industrial, commercial, and other land uses. Future foreseeable development would add 391 residential housing units plus 31 live/work units as well as increased

[8] CalEEMod, Version 2011.1, February 2011, which incorporates EMFAC2007 and OFFROAD2007.

development of other land uses that would increase Plan Area employment. Demolition, construction, and operation or occupancy of future development would cause mobile and area source emissions with individual projects. Future development within the Plan Area would be subject to the city's SCAs, which would minimize the emissions and air quality impacts related to development of individual projects, as discussed below. Characterizing the air quality impacts of the CEIG therefore depends on a comparison with growth expectations under the CAP. The project's allowable increase in Plan Area Growth would not conflict with regional growth expectations set forth in the CAP because the potential changes in transportation demand (as expressed through VMT) would not outpace population growth in the Plan Area. Growth in Plan Area emissions would be within the projections of the CAP because growth within the Plan Area would occur under policies encouraging use of transit, alternative transportation modes, and sustainable development patterns, which reduce the transportation demand. The BAAQMD recommends that proposed plans be evaluated to determine if growth foreseeable under the plan would result in projected increases in VMT or vehicle trips (either measure may be used) is less than or equal to its projected population increase. If so, then the plan would be considered to have a less-than-significant impact on criteria air pollutants and precursor emissions. **Table 4.1-3** summarizes the existing VMT and vehicle trips caused by land uses in the Plan Area and those potentially added by future development.

Table 4.1-3 Transportation Demand and Population Added with Foreseeable Growth

	Existing Land Uses in Plan Area	Added by Foreseeable Growth	Rate of Increase
Vehicle Miles Traveled	416,049 daily VMT	141,369 daily VMT	34%
Vehicle Trips *(net, reduced for pass-by and internal trip capture)*	38,876 daily trips	15,728 daily trips	41%
Population *(residents plus employees)*	1,445 residents 4,796 jobs 6,241 total pop	1,168 residents 1,960 jobs 3,128 total	50%

Notes: Net daily VMT and vehicle trips reflects reduction in Industrial land use. VMT based on trip length assumptions provided by Arup, 3/2/2012. Employment assumptions were calculated using the Mixed-Use Development (MXD) Trip Generation Model of Gross Floor Area (GFA) per employee, as provided in the Existing Conditions Report – 2009. Population extrapolated from census block group information per U.S. Census 2010.
Source: Arup, 2012.

As shown in **Table 4.1-3,** the projected population increase (combined people and employees) of 50% exceeds the projected increase in VMT (34%). This suggests consistency with the CAP: VMT and vehicle trips would grow at a lesser rate than the Plan Area service population. This means that the rate of projected growth in the Plan Area would be consistent with the CAP, and this impact would be less than significant.

Table 4.1-4 estimates the emissions attributable to existing land uses and future development. As reflected in the Table, emissions are expected to decrease in the future owing to anticipated changes in federal and state regulations, including fuel standards, as well as increasing turnover of the regional vehicle fleet to more efficient, less-polluting equipment.

Table 4.1-4 Estimated Criteria Air Pollutant Emissions, Operation of Existing Land Uses and Future Development

	ROG (tpy)	NO_x (tpy)	CO (tpy)	SO_2 (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Existing Land Uses in Plan Area (2012)	**80.97**	**141.89**	**477.57**	**0.61**	**57.03**	**7.09**
Existing Land Uses in Plan Area (2035)	47.92	52.53	143.62	0.60	55.28	3.68
Future Development (2035)	17.04	18.61	56.39	0.21	19.39	1.68
Total (Existing + Future 2035)	**64.96**	**71.14**	**200.01**	**0.81**	**74.67**	**5.36**

Notes: Emissions in tons/year (tpy). No applicable threshold of significance for "plan-level" analysis. Applicable project-level thresholds include: 1) During project operation, result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10; or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM2.5 or 15 tons per year of PM10; or 2) Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour.

Emissions from land use development and the associated traffic at congested intersections can, under certain circumstances, cause a localized build-up of carbon monoxide concentrations.[9] The EPP EIR found no significant increase in CO

[9] Preliminary screening indicates less-than-significant localized CO concentrations for intersections affected by fewer than 24,000 vehicles per hour (BAAQMD, 2011). Data provided by Arup (3/8/2012) indicates that the CEIG study intersections with the highest volumes would experience approximately 10,000 vehicles per peak hour under 2035 scenarios with project.

emissions with implementation of that project at the time (1999). Regional ambient air quality monitoring data demonstrate that CO concentrations are well below the applicable standards, despite long-term upward trends in regional VMT. The potential for localized increases in air pollutant concentrations from increased traffic has been greatly reduced in recent years due to improvements in motor vehicle exhaust controls since the early 1990s and the use of oxygenated fuels. Consistent with the finding in the EPP EIR, emissions of criteria air pollutants due to future development under the EPP and CEIG could be found not to violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation. The impact would therefore be less-than-significant; no mitigation is required.

Impact AQ-2: Development facilitated by the proposed project would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement transportation control measures contained in the CAP. (LTS)

The project would carry out the objectives that continue from the EPP, including allowing a diverse range of land uses and transportation and infrastructure improvements that provide stronger connections to transit. These objectives of the CEIG demonstrate a reasonable effort to implement control measures in a manner consistent with the CAP. The objectives and policies ensure that future development within the Plan Area would minimize regional and local air pollutant emissions by encouraging use of transit, alternative transportation modes, and sustainable development patterns.

The CAP includes stationary source and mobile source control measures that would be implemented by the BAAQMD, for example to provide more stringent risk reduction requirements for stationary sources and to expand emissions control efforts for vehicles. The CAP identifies transportation control measures (TCMs) and land use and local impact measures (LUMs) to guide local agency land use policies Please see **Section 4.1.2, Regulatory Setting,** above for a listing of TCMs and LUMs in the CAP relevant to the project.

The Design Guidelines help ensure that the eclectic mix of residential, commercial, and industrial uses can be retained. Moreover, the Design Guidelines reflect the project objective to allow transportation and infrastructure improvements that provide stronger connections to transit. The Plan Area is well-served with major transit hubs and corridors for pedestrian and bicycle access, and the project would promote higher density residential urban infill. Designated truck routes would be confined to 23rd Avenue, 29th Avenue, Alameda Avenue, and High Street.

Residential and live/work land uses would be directed by the CEIG to areas with high transit connectivity, and CEIG features would ensure implementation of bicycle and pedestrian access improvements, consistent with LUTE and the General Plan. The City's SCAs for exposure to air pollution[10] implement the CAP recommendations for land use compatibility.

Promoting rideshares and implementing parking management strategies would occur through TDM requirements applicable to future development. SCA 25 (Parking and Transportation Demand Management**)** would apply for any project with 50 or new residential units or 50,000 square feet or more of new non-residential space, and this would ensure implementation of parking and transportation demand management strategies consistent with regional air quality management goals.

With these features, the project would not fundamentally conflict with the CAP, and this impact would be less than significant. No mitigation is required.

Impact AQ-3: Development facilitated by the proposed project could include residential developments that expose occupants to substantial health risks from toxic air contaminants (TACs) from sources including both diesel particulate matter (DPM) and gaseous emissions. While compliance with the City's Standard Conditions of Approval would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less-than-significant level, there is no certainty that SCA adherence could reduce risk from gaseous TACs to a less-than-significant level. (S)

The following analysis considers both plan-level and project-level impacts of exposure to TACs.

All locations in the Plan Area are within 1,000 feet of the I-880 freeway, high volume roadways, or active rail lines. As shown in **Figure 4.1-1**, several locations within the Plan Area include stationary sources of air pollutants, such as backup generators or

[10] The relevant SCAs are:

SCA A: Construction-Related Air Pollution Controls (Dust and Equipment Emissions);

SCA B: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)

SCA C: Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions)

industrial uses. [11]Collectively, these mobile and stationary sources emit DPM and/or gaseous TACs. Future development would include sensitive receptors (residential and live/work units) that would be within the potential 'Zone of Influence' of 1,000 feet for air quality risk or hazards (BAAQMD, 2011).

As discussed in **Section 4.1.1, Existing Conditions**, exposure to air pollutant emissions resulting from traffic along I-880 in the Plan Area may lead to incremental cancer risks – specifically, over 200 cases per million for a lifetime (70 year) exposure near the freeway (within 500 feet) and over 10 cases per million within 1,000 feet of the freeway. The presence of existing stationary sources also contributes elevated levels of TACs.

The city's SCAs reflect the potential that if future development is located in proximity to mobile and/or stationary sources of pollutants, there is the potential to expose sensitive receptors to increased health risk. The City's SCAs for exposure to air pollution implement the CAP and recommendations for land use compatibility by requiring identification of circumstances when a residential project would be exposed to a TAC source. As an initial screening criterion, proposed new uses containing sensitive receptors within 1,000 feet of a known source of DPM or gaseous TAC would be subject to the requirements of SCA B and/or C, as detailed below.

SCA B (Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)) implements recommendations of both the California Air Resources Board (CARB) and the BAAQMD by requiring qualifying projects to incorporate project design features that reduce potential health risk due to exposure to DPM. Such design features (ranging from site layout considerations, landscaping, and interior air filtration systems) can improve interior air quality for sensitive receptors such that attendant health risks of DPM exposure can be reduced to an acceptable level.

SCA C (Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions) also implements CARB and BAAQMD-recommended measures to reduce health risk due to exposure to TACs, but is focused on gaseous TACs, such as those that might be emitted from certain industrial uses (electroplating or chrome plating, auto body shops, and others), dry cleaners using "Perc," and other sources subject to BAAQMD permitting requirements.

[11] See also Figures 3.3-2 through 3.3-6 of the Housing Element DEIR, which show citywide sources of both particulate-based and gaseous TAC emissions.

Distance is an important but not necessarily conclusive factor examined in the HRA to determine whether building residents would be exposed to excessive levels of TACs. Other factors that must be taken into account include building orientation, intervening development, wind patterns, and ownership patterns of proposed new development. The potential health risk would be determined by taking all of these factors into account and would quantify the project-specific health risk. The project would be required to implement feasible measures that would reduce the potential health risk to an acceptable level. These measures may include, but are not limited to site planning considerations, installation and use of air filtration systems, and inoperable windows in certain locations.

The Housing Element DEIR analyzed the impacts of both DPM-borne and gaseous TACs at both the plan and project levels (as embodied in Impacts AQ-2a, AQ-2b, AQ-4a, and AQ-4b of the Housing Element DEIR).[12]

With regard to DPM, the Housing Element DEIR noted the presence of many sources of DPM throughout the entire city (inclusive of the Plan Area under consideration here). The Housing Element DEIR concluded that implementation of SCA 94, Indoor Air Quality, (now replaced by SCA B, Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)) would reduce both plan and project level impacts of DPM sourced TAC exposure to an acceptable, less-than-significant level.

With regard to gaseous TACs, the Housing Element DEIR noted that a variety of common commercial, industrial, and public uses have the potential to be sources of gaseous-borne TACs. Many of these identified uses are found within and in proximity to the Plan Area. The Housing Element DEIR stated that exposure to gaseous TACs cannot be reduced through the use of filters (unlike DPM or particulate TACs) and that no feasible measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors. Therefore, the Housing Element DEIR concluded that despite adherence to SCA 95, Air Pollution Buffering for private Open Space, (now replaced by SCA C, Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions)), plan and project level impacts of gaseous TACs would remain significant and unavoidable. This SEIR comes to similar conclusions.

For DPM-borne TACs, implementation of SCA B can reduce risk of exposure to an acceptable level through the combination of HRA followed by implementation of appropriate design measures to improve interior air quality. Therefore, at both the

[12] The Housing Element EIR was published prior to the city's 2011 revisions of the SCAs, wherein SCAs B and C replaced SCAs 94 and 95, previously published in 2008.

plan and project levels of evaluation, impacts related to DPM-borne TACs would be less-than-significant.

However, for TACs originating from gaseous sources, implementation of SCA C (as well as SCA B) cannot with certainty reduce risks to an acceptable level. While the site planning and filtration methods noted within SCA B can capture/screen out airborne particulate matter, these methods do not reduce risks from gaseous TACs. There are no known feasible technologies or site planning considerations that have been shown to reduce risks of gaseous TACs. Therefore, at both the plan and project levels of evaluation, impacts related to gaseous TACs would be significant and unavoidable.

Mitigation: None feasible -- for gaseous TACs.

Significance after Mitigation:

Gaseous TACS: Significant Unavoidable at plan and project level

DPM: Less than significant

Impact AQ-4: Development facilitated by the proposed project could expose a substantial number of people to objectionable odors. (SU)

This analysis considers both plan-level and project-level impacts related to exposure to objectionable odors.

The Design Guidelines would help ensure that the high-density mix of land uses can be retained, and the City's General Plan (Land Use and Transportation Element) includes policies to reduce potential odor impacts by anticipating nuisances caused by potentially incompatible land uses. The EPP EIR found that existing policies in the Land Use and Transportation Element would substantially avoid odor nuisance problems for then-proposed EPP map changes. For this analysis, the BAAQMD provided a review of odor complaints spanning 2007 to early 2012, and all existing sources of odors in or near the Plan Area were found to cause fewer than one confirmed odor complaint per year. In addition, the CEIG includes specific guidelines to ensure development accounts for odor impacts with use of setbacks.

All locations within the Plan Area are less than one mile from a potential odor source, such as food processing facilities, painting/coating operations, or green waste/recycling facilities (see Figure 3.3-8 of the Housing Element DEIR). The Housing Element DEIR map presents a reasonable estimation of all the odor sources

within the City of Oakland, based upon business tax records, and it shows buffer zones around the identified sources based on the BAAQMD recommendations. Nearly the entire City of Oakland, and all of the Plan Area could be exposed to nuisance odor impacts due to potentially incompatible land uses.

The Housing Element DEIR (through Impacts AQ-3 and AQ-5) concluded that odor sources currently present in all high-density areas of the City of Oakland could potentially expose residences to substantial/frequent odor, and that this may result in a significant and unavoidable impact at both plan and project levels of evaluation. Implementation of General Plan policies, especially those related to LUTE Objective I/C4 to avoid nuisances that occur with potentially incompatible land uses would reduce odor impacts. However, the same analysis from the Housing Element DEIR and conclusions apply here, and as such, this impact would be significant and unavoidable at both plan and project levels of analysis.

Mitigation: No feasible mitigation identified.

Significance Conclusion: Significant and unavoidable at both plan and project levels.

4.1.4 CUMULATIVE IMPACTS

The area for cumulative analysis is the San Francisco Bay Area Air Basin, which is considered a nonattainment area for ozone and particulate matter. Cumulative air quality impacts are evaluated based on both a quantification of the project-related air quality impacts and the consistency of the project with local and regional air quality plans (i.e., the city's General Plan and the CAP). Per BAAQMD guidelines, a project-level significant impact is also considered to be cumulatively significant:

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible.

As shown above, development facilitated by the CEIG would result in less-than-significant impacts with regard to consistency with the CAP (in terms of VMT and vehicle trips, and in terms of adequate transportation control measures). Because

there is no significant impact for the CEIG project, there is no significant cumulative impact related to criteria air pollutant emissions.

As discussed above, the project would result in significant and unavoidable plan and project-level impacts in terms of exposure to gaseous TACs and exposure to objectionable odors. Owing to BAAQMD's recommended methodological approach in determining cumulative impacts, one must conclude that the project's contribution is cumulatively considerable.

Although the CEIG promotes and supports transportation control measures consistent with the CAP and is fundamentally intended to encourage mixed use developments with pedestrian, bicycle, and transit access, the CEIG could increase people's exposure to gaseous TACs and exposure to objectionable odors. The CEIG therefore is deemed to have a considerable contribution to the overall significant cumulative impact. There are no feasible mitigation measures that would reduce this impact. The cumulative impact would thus remain significant and unavoidable.

4.1.5 REFERENCES

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4.2 GREENHOUSE GAS EMISSIONS/ GLOBAL CLIMATE CHANGE

This section provides a description of the existing physical and regulatory conditions with regard to greenhouse gas emissions, potential greenhouse gas emissions impacts taking into account implementation of numerous relevant policies and regulations, including the city's Standard Conditions of Approval (SCAs) to reduce potentially significant impacts.

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Greenhouse gas (GHG) emissions and global climate change were not discussed in the Oakland Estuary Policy Plan (EPP) EIR, because at the time of the EPP EIR (1999), no policies or regulations were in place at the state or local level regarding GHG emissions. However, the EPP EIR noted several policies that indirectly addressed the issue by discouraging wasteful energy use, highlighting the energy-saving effects of improving access to transit and TOD, and encouraging mixed-use land development patterns. While not specific to the reduction of GHG emissions, policies that reduce consumption of fossil fuels can directly reduce GHG emissions. The EPP EIR discussed fossil fuel consumption and the infrastructure to deliver natural gas and electricity, finding that adoption of the EPP would not result in wasteful energy use and that the transit-oriented development and mixed land use pattern would reduce transportation demand and the associated energy use.

Findings of the Housing Element EIR

The Housing Element EIR analyzed the impact of GHG emissions increases due to residential development (Impact CC-4). The Housing Element EIR concluded that residential developments of 172 units or fewer would be considered to have less-than-significant impacts to greenhouse gas emissions/climate change and would thus not require further environmental review. This finding assumed that qualifying developments adhered to 2008 Title 24 standards and conformed with the development patterns identified in the Housing Element Project Design Features. The EIR further concluded that the 2007-2014 Housing Element would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and the Housing Element would not result in a cumulatively considerable contribution to a cumulative impact from GHG emissions.

4.2.1 EXISTING CONDITIONS

Scope of Analysis

The study area for climate change and the analysis of greenhouse gas emissions is potentially broad because climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact which may be caused by the project.

Globally, temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity are all affected by the presence of GHGs. The global climate depends on the presence of GHGs to naturally provide the "greenhouse effect." The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and other GHGs that trap heat radiated from the Earth's surface. The global surface temperature would be about 34 degrees Celsius (61 degrees Fahrenheit) colder than it is now if it were not for the natural heat trapping effect of natural climate change agents (CAT, 2006).

Human activity contributes to emissions of six primary GHGs: CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Baseline GHG Emissions

The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004 (IPCC, 2007).

Anthropogenic emissions of the primary GHG, carbon dioxide, occur largely from combustion of fossil fuels. The major categories of fossil fuel combustion CO_2 sources can be broken into sectors for residential, commercial, industrial, agricultural, transportation, and electricity generation. GHG emissions not tied to fossil fuel use occur in much smaller quantities. However, the global warming potential of CH_4 is about 21 times that of CO_2. The use of sulfur hexafluoride or SF6 in electric utility system transformers and circuit breakers and along transmission and distribution lines also poses a concern, because this pollutant can slowly escape from the equipment, and it has an extremely high global warming potential (one pound of SF6 is the equivalent warming potential of approximately 23,900 pounds of CO_2). When quantifying GHG emissions, the different global warming potentials

of GHG pollutants are usually taken into account by normalizing their rates to an equivalent CO_2 emission rate (CO_2e).[1]

California emitted 475 million metric tons of CO_2 equivalent (475 $MMTCO_2e$) in 2008, (CARB, 2010c) [2] or between one and two percent of about 49,000 $MMTCO_2e$ emitted globally (IPCC, 2007). Statewide GHG emissions in 1990 were 427 $MMTCO_2e$ (CARB, 2007).

City of Oakland Baseline. The City of Oakland, in partnership with ICLEI – Local Governments for Sustainability (ICLEI), developed a greenhouse gas emissions inventory estimating citywide GHG emissions for the year 2005 at approximately 3.4 million metric tons of CO_2e ($MMTCO_2e$)[3] This citywide emissions inventory accounts for all the energy used and waste produced within the Oakland city limits. Approximately 58 percent of Oakland's annual GHG emissions are associated with the transportation sector. Natural gas consumption represents approximately 18 percent of Oakland's GHG emissions, while electricity use and waste decomposition represent 13 percent and four percent of Oakland's total GHG emissions, respectively.

4.2.2 REGULATORY SETTING

Federal

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007 that the EPA has the authority to regulate CO_2 and other GHGs as air pollutants, as defined under the CAA. On December 15, 2009, the EPA Administrator found that the current and projected concentrations of greenhouse gases endanger the public health and welfare of current and future generations. Federal GHG programs focusing on large stationary sources and fuel efficiency standards for mobile sources are in place and evolving.

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[1] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in terms of "carbon dioxide-equivalent" (CO2E) to account for each gas's heat absorption or global warming potential (GWP).

[2] One metric ton (MT) is 1,000 kilograms or 2,204.6 pounds or 1.1 short tons. One short ton or U.S. ton is 2,000 pounds. The abbreviation for "million metric tons" is MMT; thus, million metric tons of CO2-equivalent (MMTCO2E).

[3] Quantification methods described in Oakland Energy and Climate Action Plan Appendix, March 1, 2011 edition.

At this time, there are no federal regulations or policies regarding GHG emissions directly applicable to the proposed project.

State

The passage of Assembly Bill 32 (further described below) gave the CARB broad responsibility for promulgating regulations designed to achieve the general goals of reducing GHG from sources and activities under its jurisdiction.

Executive Order S-3-05

In 2005, Executive Order S-3-05 set forth a series of target dates by which statewide GHGs emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 and the California Climate Change Scoping Plan

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels. The Scoping Plan estimates a reduction of 174 $MMTCO_2e$ (about 191 million short tons) from the transportation, energy, agriculture, forestry, and other high global warming potential sectors (see **Table 4.2-1**).

The AB 32 Scoping Plan anticipates that local government actions will result in reduced GHG emissions. CARB has identified a GHG reduction target of 15 percent from 2008 levels for local governments themselves and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions. This is because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The Scoping Plan also relies on Senate Bill (SB) 375 of 2008 (discussed below) to better align local land use and transportation planning for achieving GHG reductions.

Table 4.2-1 GHG Reductions for AB 32 Scoping Plan Sectors

AB 32 Scoping Plan Sector	GHG Reductions (MMTCO2e)
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total Reductions Counted Towards 2020 Target	174
Other Recommended Measures	
Government Operations	1-2
Agriculture- Methane Capture at Large Dairies	1
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures	
Water	4.8
Green Buildings	26
High Recycling/ Zero Waste Commercial Recycling Composting Anaerobic Digestion Extended Producer Responsibility Environmentally Preferable Purchasing	9
Total Reductions from Other Measures	42.8-43.8

Source: California Air Resources Board. <http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf>.

Senate Bill 97

SB 97, enacted August 2007, acknowledged that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural Resources Agency guidelines for evaluating the effects of GHG emissions and identifying feasible mitigation for GHG emissions, as required by

CEQA. The California Natural Resources Agency subsequently adopted the State CEQA Guidelines amendments on December 30, 2009. These State CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions, and the amendments to the State CEQA Guidelines became effective March 18, 2010.

Senate Bill 375

In addition to policy directly guided by AB 32, the California legislature passed SB 375 in 2008 to require regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires regional transportation plans developed by each of the state's 18 Metropolitan Planning Organizations (MPOs) to incorporate a "sustainable communities strategy" in each regional transportation plan (RTP) that will achieve GHG emission reduction targets set by CARB. In the Bay Area, the Metropolitan Transportation Commission (MTC) is the MPO. One goal is to coordinate the Regional Housing Needs Allocation process with the regional transportation process implemented by the MPO. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. MTC's 2013 RTP will be its first plan subject to SB 375.

CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years, but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's "sustainable communities strategy (SCS)" or "alternative planning strategy (APS)" for consistency with its assigned targets. If MPOs do not meet the GHG emissions reduction targets, transportation projects would not be eligible for funding programmed after January 1, 2012.

California Energy Code and State Building Standards

California has achieved substantial energy savings and emissions reductions through implementation of aggressive building and appliance standards and utility energy efficiency programs. CARB's AB 32 Scoping Plan notes that "[c]ollectively, energy use and related activities by buildings are the second largest contributor to California's greenhouse gas emissions."

Title 24, Part 6, of the California Code of Regulations (CCR), Energy Efficient Standards for Residential and Nonresidential Buildings (also referred to as the California Energy Code), was initially adopted in 1978 by the CEC in response to a legislative mandate to reduce California's energy consumption. Title 24, Part 6 requires the incorporation of energy conserving features in new construction, and alterations and additions to existing buildings. Although it was not originally intended as a climate change policy, Title 24, Part 6, reduces energy usage and thus reduces California's GHG emissions.

The California Building Standards Commission (BSC) administers the adoption of local building codes, including green building standards for residential, commercial and public building construction. The California Green Building Standards Code (CALGreen Code), the nation's first mandatory Green Building Standards Code, became effective for low-rise residential uses on January 1, 2011. Non-residential requirements became effective July 1, 2012. The CALGreen code requires all new buildings to incorporate features for conservation of materials, energy, and water.

Regional

The Plan Area and the City of Oakland are entirely within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which is responsible for air quality planning in the region.

BAAQMD CEQA Air Quality Guidelines

In 2010, the BAAQMD's Board of Directors adopted the CEQA Air Quality Guidelines and Thresholds of Significance (BAAQMD, Revised 2011) as an effort to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. In response to a legal challenge, the BAAQMD no longer recommends the thresholds be used as a generally applicable measure of significant impacts.[4]

However, the BAAQMD CEQA Air Quality Guidelines include recommendations for analysis procedures and an Appendix D (Threshold of Significance Justification); the BAAQMD also prepared detailed documentation for CEQA thresholds prior to its 2010 adoption of the guidelines (BAAQMD, 2010). The City of Oakland Planning,

[4] The BAAQMD describes the status of its CEQA Guidelines at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx. The May 2010 staff report can also be found here.

Building, and Neighborhood Preservation Department as lead agency used this documentation as evidence in developing thresholds of significance for criteria air pollutants and community risk and hazards that are identified in **Section 4.2.3, Analysis of Potential Impacts,** below. The preparers of this EIR have reviewed the evidence used to formulate the BAAQMD CEQA Guidelines including BAAQMD's May 2010 staff report recommending the adoption of the thresholds and its attachments, and conclude that substantial evidence supports the continued use of BAAQMD's 2010 thresholds of significance as thresholds of significance for air quality and greenhouse gas impacts in this EIR.

BAAQMD Climate Protection Program. BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHGs and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts.

Bay Area 2010 Clean Air Plan. The Bay Area 2010 Clean Air Plan (CAP) provides policy recommendations for achieving greenhouse gas emission reductions through transportation control measures (TCMs) and land use measures (LUMs). Major stationary sources of GHG are within the jurisdiction of the BAAQMD, and as of 2012, BAAQMD is developing rules for permitting new and modified stationary sources of GHG. See **Section 4.1, Air Quality,** for a discussion of how the CAP relates to the project.

City of Oakland Local Plans, Policies and Regulations

City of Oakland Energy and Climate Action Plan (ECAP)

In July 2009, the Oakland City Council approved a preliminary year 2020 GHG reduction target: the target seeks to reduce year 2020 GHG emissions to a level equal to 36% below year 2005 emission levels. This target was developed based on recent publications of the world's leading climate scientists.

The Draft March 2011 ECAP[5] outlines a ten-year plan including more than 150 actions that will enable Oakland to achieve the desired 36% reduction in GHG emissions. The ECAP includes a Three Year Priority Implementation Plan, a prioritized subset of actions recommended for immediate implementation. These priority actions will capitalize on near term opportunities and lay the groundwork for long-term progress. Some of the recommended priority actions can be implemented with existing and anticipated resources. Others will require the identification of new, in some cases significant, resources to move forward.

City of Oakland General Plan

The city's General Plan includes policies that indirectly help reduce GHG emissions by encouraging use of transit and alternative transportation modes while fostering sustainable development patterns.

Estuary Policy Plan. The EPP facilitates mixed use and transit-oriented development through the following policies:

Objective C-2: Establish a continuous waterfront parkway; a safe promenade for pedestrians, bicycles, and slow-moving automobiles.

Objective C-4: Strengthen local circulation connections between Oakland neighborhoods and the waterfront.

Objective C-5: Promote transit service to and along the waterfront.

Objective C-6: Improve pedestrian and bicycle circulation.

Objective C-7: Provide adequate parking without diminishing the quality of the urban environment.

Policy SAF-3: Encourage heavy industry in the vicinity of the Con-Agra Plant to continue while providing for the transition to a mix of new uses.

Policy SAF-4: Encourage preservation and expansion of the affordable residential neighborhood in the Kennedy Tract.

[5] The Draft ECAP has not yet been formally adopted and is currently undergoing CEQA review.

Policy SAF-6: Encourage the reuse of existing warehouse properties south of Alameda Avenue and west of High Street for high-quality retail uses that complement adjacent commercial uses.

Policy SAF-7: East of High Street, maintain existing viable industrial and service-oriented uses, and encourage the identification of underutilized and vacant properties.

Policy SAF-8: Develop a continuously accessible shoreline, extending from Ninth Avenue to Damon Slough.

Policy SAF-9: Provide a continuous Embarcadero Parkway from Ninth Avenue to Damon Slough.

Policy SAF-10: Work with Caltrans, BART, and other transportation agencies to upgrade connecting routes between inland neighborhoods, I-880, and local streets, to enhance East Oakland access to the waterfront.

Land Use and Transportation Element. The Land Use & Transportation Element (LUTE) of the General Plan (which includes the Pedestrian Master Plan and Bicycle Master Plan) contains the following policies that address issues related to GHG emissions and climate change (although the LUTE did not include any policies expressly related to GHG):

Policy T.2.1: Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail.

Policy T.2.2: Transit-oriented developments should be pedestrian-oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

Policy T3.5: The city should include bikeways and pedestrian ways in the planning of new, reconstructed, or realigned streets, wherever possible.

Policy T3.6: The city should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated “transit streets” as shown on the Transportation Plan.

Policy T4.2: Through cooperation with other agencies, the city should create incentives to encourage travelers to use alternative transportation options.

Policy N3.2: 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.

Policy T4.5: The city should prepare, adopt, and implement a Bicycle and Pedestrian Master Plan as a part of the Transportation Element of [the] General Plan.

Open Space, Conservation and Recreation Element. The Open Space, Conservation and Recreation Element (OSCAR) includes several types of policies that indirectly foster GHG reduction:

Policies that encourage the provision of open space, which increases vegetation area (trees, grass, landscaping, etc.) to effect cooler climate reduce excessive solar gain, and absorb CO_2.

Policies that encourage stormwater management, which relates to the maintenance of floodplains and infrastructure to accommodate potential increased storms and flooding.

Policies that encourage energy efficiency and use of alternative energy sources, which directly address reducing GHG emissions.

Policy CO-12.1: Promote land use patterns and densities which help improve regional air quality conditions. The city supports efforts of the responsible public agencies to reduce air pollution.

Policy CO-12.3: Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos.

Policy CO-12.5: Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.

Policy CO-12.7: Coordinate local air quality planning efforts with other agencies, including adjoining cities and counties and the public agencies responsible for monitoring and improving air quality. Cooperate with regional agencies such as

the BAAQMD, the MTC, the Association of Bay Area Governments (ABAG), and the Alameda County Congestion Management Agency in developing and implementing regional air quality strategies. Continue to work with BAAQMD and the California Air Resources Board in enforcing the provisions of the State and Federal Clean Air Acts, including the monitoring of air pollutants on a regular and on-going basis.

Policy CO-13.2: Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and city operations become more energy efficient.

Policy CO-13.3: Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.

Policy CO-13.4: Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.

Historic Preservation Element. Policies that encourage the reuse of existing buildings and building materials resources are relevant to climate change because preservation can have the effect of conserving energy and resources. Reuse and preservation of structures can reduce landfill material (a source of methane), avoid the incineration of materials (which produces CO_2 as a byproduct), avoid the need to transport materials to disposal sites (which produces GHG emissions), and eliminate the need to replace existing materials with new products that involve fossil fuel use in processing raw materials and manufacture.

Safety Element. The Safety Element of the General Plan addresses storm-induced flooding hazards related to the potential to accommodate potential increase in storms and flooding as a result of climate change. Pertinent Safety Element policies including the following:

Policy FL-1: Enforce and update local ordinances and comply with regional orders that would reduce the risk of storm-induced flooding.

Policy FL-2: Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.

Housing Element. The following goals from the 2007-2014 Housing Element (adopted December 21, 2010) help to reduce GHG emissions from residential development, by fostering density, rehabilitation of existing housing stock, and sustainable building practices:

Goal 1: Provide Adequate Sites Suitable for Housing for All Income Groups

Goal 4: Conserve and Improve Older Housing and Neighborhoods

Goal 7: Promote Sustainable Development and Sustainable Communities

City of Oakland Municipal Code

Green Building Ordinance

Oakland's Green Building Ordinance applies to new construction, additions or alterations of residential building and large landscape projects, as well as the demolition of historic resources. The Green Building Ordinance is designed to reduce energy use, conserve water and other natural resources, limit solid waste during construction and operation and promote healthy indoor air quality.

The ordinance specifically requires newly constructed residential buildings to achieve a minimum of 50 points per the Green Point Rated rating system. Non-residential buildings over 25,000 square feet are required to achieve Silver level (50-59 points) of the LEED® Green Building Rating System™ certifications. The Green Point Rated system provides for a higher point requirement if the new construction in question requires the demolition of any historic resource. Specifically, the point requirement for new residential construction would increase from 50 to 75 points and the requirement for new commercial construction would increase from LEED Silver to LEED Gold. This system is intended to provide incentives for the reuse of historic buildings.

Construction and Demolition Debris Waste Reduction and Recycling

Oakland Municipal Code Chapter 15.34 (Construction and Demolition Debris Waste Reduction and Recycling Requirements) states that new development would be required to comply with the city's Construction and Waste Reduction Ordinance and submit a Construction and Demolition Waste Reduction Plan for review and approval. As a result, construction-related truck traffic would be reduced, since demolition debris hauled off site would be reused on site. In addition, reuse of concrete, asphalt, and other debris would reduce the amount of material introduced to area landfills.

Other City of Oakland Programs and Policies

The City of Oakland has a number of programs and policies designed to reduce GHG emissions and continue Oakland's progress toward becoming a model sustainable city. Other programs and policies relevant to development in the planning area discussed below.

Sustainable Oakland Program: Oakland's sustainability efforts are coordinated through the Sustainable Oakland program, a product of the Oakland Sustainability Community Development Initiative (SDI) created in 1998 (Ordinance 74678 C.M.S.).

Other Green Building Programs: The City of Oakland implemented green building principles in city buildings through the following programs:

- Civic Green Building Ordinance (Ordinance No. 12658 C.M.S., 2005), requiring, for certain large civic projects, techniques that minimize the environmental and health impacts of the built environment through energy, water and material efficiencies and improved indoor air quality, while also reducing the waste associated with construction, maintenance and remodeling over the life of the building;

- Green Building Guidelines (Resolution No. 79871, 2006) are considered official city reference documents for residents and developers regarding construction and remodeling;

- Green Building Education Incentives for private developers.

Waste Reduction and Recycling: The City of Oakland has implemented a residential recycling program increasing collection of yard trimmings and food waste. This program has increased total yard trimming collections by 46 percent compared to 2004, and recycling tonnage by 37 percent. The city also adopted Construction and Demolition Recycling, for which the city passed a resolution in July 2000 (Ordinance 12253, OMC Chapter 15.34), requiring certain nonresidential or apartment house projects to recycle 100 percent of all asphalt and concrete materials and 65 percent of all other materials.

Polystyrene Foam Ban Ordinance: In June 2006, the Oakland City Council passed the Green Food Service Ware Ordinance (Ordinance 14727, effective as of January 1, 2007), which prohibits the use of polystyrene foam disposable food service ware and requires, when cost neutral, the use of biodegradable or compostable disposable food service ware by food vendors and city facilities.

Zero Waste Resolution: In March 2006, the Oakland City Council adopted a Zero Waste Goal by 2020 Resolution (Resolution 79774 C.M.S.), and commissioned the creation of a Zero Waste Strategic Plan to achieve the goal.

City of Oakland Standard Conditions of Approval

The city's Standard Conditions of Approval (SCA) that are related to reducing GHG are listed below for reference. Compliance with SCA F, Greenhouse Gas (GHG) Reduction Plan, would ensure that no significant impacts would occur with development and so are not listed as mitigation measures in this document.

SCA F below applies under any of the following scenarios:

- Scenario A: Projects which (a) involve a land use development (i.e., a project that does not require a permit from the BAAQMD to operate), (b) exceed the greenhouse gas (GHG) emissions screening criteria contained in the BAAQMD CEQA Guidelines,[6] AND (c) after a GHG analysis is prepared would produce total GHG emissions of more than 1,100 metric tons of CO_2e annually AND more than 4.6 metric tons of CO_2e per service population annually (with "service population" defined as the total number of employees and residents of the project).

- Scenario B: Projects which (a) involve a land use development, (b) exceed the GHG emissions screening criteria contained in the BAAQMD CEQA

[6] For residential development projects, refer to the City's 2007-2014 Housing Element EIR screening criteria. The Housing Element EIR's analysis showed that residential development projects of less than 172 units would not result in a significant climate change impact and, therefore, no project-specific GHG analysis is required for such projects. Under an alternative approach in the Housing Element EIR, the analysis found that ANY residential development project (including those containing 172 or more units) would not result in a significant climate change impact and that no project-specific GHG analysis would be required. For residential projects containing 172 or more units, please consult with City Planning staff and the City Attorney's office on the appropriate GHG review. For nonresidential development projects and mixed-use development projects, the nonresidential component of the project must be compared to the BAAQMD screening criteria and the applicable threshold if the screening criteria are exceeded, independently from any residential component the project.

Guidelines, (c) after a GHG analysis is prepared would exceed at least one of the BAAQMD Thresholds of Significance (more than 1,100 metric tons of CO_2e annually OR more than 4.6 metric tons of CO_2e per service population annually), AND (d) are considered to be "Very Large Projects."[7]

- Scenario C: Projects which (a) involve a stationary source of GHG (i.e., a project that requires a permit from BAAQMD to operate) AND (b) after a GHG analysis is prepared would produce total GHG emissions of more than 10,000 metric tons of CO_2e annually.

SCA F: Greenhouse Gas (GHG) Reduction Plan.
Timing: Prior to issuance of a construction-related permit and ongoing as specified.

The project applicant shall retain a qualified air quality consultant to develop a GHG Reduction Plan for city review and approval. The applicant shall implement the approved GHG Reduction Plan.

The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions to below [INCLUDE IF SCENARIO A OR B] at least one of the Bay Area Quality Management District's (BAAQMD's) CEQA Thresholds of Significance (1,100 metric tons of CO_2e per year or 4.6 metric tons of CO_2e per year per service population) [INCLUDE IF SCENARIO C] the Bay Area Quality Management District's (BAAQMD's) CEQA Thresholds of Significance (10,000 metric tons of CO_2e per year) [INCLUDE IF SCENARIO B] AND to reduce GHG emissions by 36 percent below the project's "adjusted" baseline GHG emissions (as explained below) to help achieve the city's goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of project design features, or other energy efficiencies, (b) an "adjusted" baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the city's SCA, proposed mitigation measures, project design features, and other city

[7] A "Very Large Project" is defined as any of the following:(A) Residential development of more than 500 dwelling units;(B) Shopping center or business establishment employing more than 1,000 persons or encompassing more than 500,000 square feet of floor space; (C) Commercial office building employing more than 1,000 persons or encompassing more than 250,000 square feet of floor space;(D) Hotel/motel development of more than 500 rooms;(E) Industrial, manufacturing, processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or encompassing more than 650,000 square feet of floor area; or(F) Any combination of smaller versions of the above that when combined result in equivalent annual GHG emissions as the above.

requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

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

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

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

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

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

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

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

c) *Plan Implementation and Documentation.* For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. For operational GHG reduction measures to be incorporated into the project, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of project completion (or at the completion of the project phase for phased projects).

   For physical GHG reduction measures to be incorporated into off-site projects, the measures shall be included on drawings and submitted to the city Planning Director or his/her designee for review and approval and then installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into off-site projects, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of completion of the subject project (or at the completion of the project phase for phased projects).

d) *Compliance, Monitoring and Reporting*. Upon city review and approval of the GHG Reduction Plan program by phase, the applicant/sponsor shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the Project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Implementation of the GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with Conditions of Approval adopted for the project. Generally, starting two years after the city issues the first Certificate of Occupancy for the project, the project applicant/sponsor shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (Annual Report), subject to the City Planning Director or his/her designee for review and approval. The Annual Report shall be submitted to an independent reviewer of the City Planning Director's or his/her designee's choosing, to be paid for by the project applicant/sponsor (see Funding, below), within two months of the anniversary of the Certificate of Occupancy.

The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan.

The GHG Reduction Plan shall be considered fully attained when project emissions are less than either applicable numeric BAAQMD CEQA Thresholds [INCLUDE IF SCENARIO B] AND GHG emissions are 36 percent below the project's "adjusted" baseline GHG emissions, as confirmed by the City Planning Director or his/her designee through an established monitoring program. Monitoring and reporting activities will continue at the city's discretion, as discussed below.

e) *Funding*. Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account or endowment fund to be used exclusively for preparation of Annual Reports and review and evaluation by the City Planning Director or his/her designee, or its selected peer reviewers. The escrow-type account shall be initially funded by the project applicant/sponsor in an amount determined by the City Planning Director or his/her designee and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City Planning Director or his/her designee. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City Planning Director or his/her designee,

including the ability of the City to access the funds if the project applicant/sponsor is not complying with the GHG Reduction Plan requirements, and/or to reimburse the City for its monitoring and enforcement costs.

f) *Corrective Procedure*. If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant/sponsor shall prepare a report for city review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures (Corrective GHG Action Plan). The project applicant/sponsor shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant/owner fails to submit a report at the times described above, or if the reports do not meet city requirements outlined above, the City Planning Director or his/her designee may, in addition to its other remedies, (a) assess the project applicant/sponsor a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the "adjusted" baseline.

In determining whether a financial penalty or other remedy is appropriate, the city shall not impose a penalty if the project applicant/sponsor has made a good faith effort to comply with the GHG Reduction Plan.

The city would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the city solely toward the implementation of the GHG Reduction Plan.

g) *Timeline Discretion and Summary*. The City Planning Director or his/her designee shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.

- Fund Escrow-type Account for city Review: Certificate of Occupancy plus 2 months
- Submit Baseline Inventory of "Actual Adjusted Emissions": Certificate of Occupancy plus 1 year
- Submit Annual Report #1: Certificate of Occupancy plus 2 years
- Submit Corrective GHG Action Plan (if needed): Certificate of Occupancy plus 4 years (based on findings of Annual Report #3)
- Post Attainment Annual Reports: Minimum every 3 years and at the City Planning Director's or his/her designee's reasonable discretion

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to promote a more sustainable environment by reducing potential greenhouse gas emissions associated with future development in the Plan Area. The following guidelines would address these issues:

Off-Street Parking

Guideline 3.5.13: (excerpt): Parking lots greater than 24 stalls (approximately one quarter acre) should provide a tree canopy that will cover 50% of the lot at the time of the trees' maturity (approximately 10 years).

Windows and Transparency

Guideline 4.5.6: Mirrored or smoked glass is strongly discouraged. Other products, such as special "Low-E" films can be used to maintain transparency while awnings and overhangs can provide solar protection and heat reduction for building interiors.

Green Building Design

(This section restates the City's 2010 Green Building Ordinance, the California Green Building Standards (CALGreen), and the City's Construction and Demolition Ordinance).

4.2.3 ANALYSIS OF POTENTIAL IMPACTS

City of Oakland CEQA Thresholds of Significance Criteria

A significant impact would occur if the project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, specifically:

Project Level Impacts

a. For a project involving a stationary source, produce total emissions of more than 10,000 metric tons of CO_2e annually (GHG-1);

b. For a project involving a land use development, produce total emissions of more than 1,100 metric tons of CO2e annually AND more than 4.6 metric tons of CO2e per service population annually (GHG-1);[8]

[8] Land use developments are projects that do not require a BAAQMD permit to operate. The service population includes both the residents and the employees of the project. The project's impact would be considered significant if the emissions exceed BOTH the 1,100 metric tons threshold and the 4.6 metric tons threshold. Accordingly, the impact would be considered less than significant if the project's emissions are below EITHER of these thresholds.

Plan Level Impacts

a. Produce emissions of more than 6.6 metric tons of CO_2e per service population annually.

2. Fundamentally conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions. (GHG-2)

Methodology for Analysis

The BAAQMD CEQA Guidelines state that the plan-level threshold should only be used in the evaluation of general plans. For other types of plans, such as redevelopment plans and specific plans, the Guidelines state that the project-level thresholds should be used. The Guidelines do not state whether the plan-level threshold or the project-level thresholds should be used for individual general plan elements (as compared to revisions to the entire general plan). Therefore, the environmental analysis for individual general plan elements should use both the plan-level threshold/methodology and the project-level thresholds/methodology

This Supplemental EIR analyzes the quantity of GHG emissions attributable to future development within the Plan Area and whether the project could conflict with any applicable plan, policy, or regulation related to GHG management. To determine whether future development would be implemented in the most GHG-efficient manner possible, the quantity of GHG emissions can be divided by the population housed and employed by the development. The service population is an efficiency-based measure that is used to determine the GHG emissions intensity of land use development for a general or area plan. The service population is determined by adding the number of residents to the number of jobs estimated for a given point in time (2020).

Although there is no construction-related GHG threshold, this analysis quantifies and discloses such emissions, to the extent that they can be estimated. Construction emissions are included in the computation of GHG emissions intensity per service population, for informational purposes.

Plans, policies, and regulations for the purposes of reducing GHG emissions are described in **Section 4.2.3, Regulatory Setting**. This analysis describes how the project would guide local land use planning and urban growth decisions, and whether the foreseeable growth and use of the Plan Area would be aligned with land use and transportation planning efforts to achieve GHG reductions.

Impacts

Impact GHG-1: Development facilitated by the proposed project would allow for the construction and operation of land uses that would produce greenhouse gas emissions from multiple sources, including stationary sources. The expected level of emissions is expected to exceed three of the four relevant thresholds (1,100 annual tons of MTCO2e; 4.6 MTCO2e annually per service population from non-stationary sources; more than 10,000 annual MTCO2e from new stationary sources) but will be below the plan level threshold of 6.6 MTCOC2e annually per service population for non-stationary sources. Development facilitated by the proposed project would thus be expected to generate greenhouse gas emissions at levels that would result in a cumulatively considerable contribution to a significant adverse cumulative impact on the environment. (S)

While the project itself would not result in any direct, immediate physical change to the Plan Area, the project would permit an increase in the level of allowable future development. Individual projects to develop these land uses would result in GHG emissions during demolition, construction, and operational phases. Project-related GHG emissions would contribute to the cumulative effects of climate change because the accumulation of GHGs is implicated as a driving force for global climate change, and GHGs emitted by anthropogenic activities (i.e., activities relating to, or resulting from, the influence of human beings) alter the composition of the global atmosphere.

Construction/Demolition. Individual development projects (both within and outside of the Plan Area) contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during demolition and construction. Using heavy equipment, mobilizing a construction workforce, and transporting construction material and debris are activities that typically entail fossil fuel combustion, which in turn causes emissions of GHGs, especially carbon dioxide, methane, and nitrous oxide. Moreover, demolition of old structures to make way for new construction leads to a release of the carbon stored in building materials; these emissions can enter into the atmosphere during decomposition.

Table 4.2-2 shows a programmatic estimate of one-time construction-related emissions. Because adoption of the CEIG would not include any specific land approvals, construction emissions are based on typical activities that could occur

while building the anticipated increment of foreseeable development in the Plan Area. The estimates assume default construction phasing and equipment activity forecasts produced by the CalEEMod emissions-estimating software, and thus do not reflect implementation of the city's SCAs, which would act to reduce construction emissions.

Table 4.2-2 Estimated GHG Emissions from Construction of Future Development - Unmitigated

Source of Emissions	CO_2 (MT)	CH_4 (MT)	N_2O (MT)	CO_2e (MT)
Future Development Construction Activity				
West	470	0.1	0	471
Central West	2,183	0.2	0	2,188
Central East	838	0.1	0	839
East	112	0	0	112
Total (MT)	3,603	0.4	0	3,610
Annualized over 40 years (MT/year)	90	0.02	0	90

Notes: Emissions of one-time construction in metric tons (MT) and annualized in MT/year. All numbers rounded.
Source: Aspen Environmental Group, 2012.

Construction emissions can be annualized over a 40-year period, as 40 years is the typical life expectancy of a building prior to it being demolished or substantially remodeled in a way that changes its energy efficiency. With the total one-time construction-related GHG emissions (3,610 $MTCO_2e$) annualized over 40 years, anticipated construction activity would contribute approximately 90 $MTCO_2e$ emissions each year.

Operation. Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during their operational phases. Direct operational emissions include: GHG emissions from new vehicle trips; area sources (woodstoves, landscaping equipment); and natural gas combusted for space heating or cooking. Indirect emissions include: emissions caused by power plants producing electricity; energy required to pump, treat, and convey the water supply and wastewater; and emissions associated with waste removal, disposal, and landfill operations.

Table 4.2-3 shows estimated GHG emissions for the current land uses in the planning area during two future scenario years (2020 and 2035) without the future development allowable under the project. These projected GHG emissions are based on a continuation of the existing land uses, vehicle trips, and VMT. As shown in the table, GHG emissions in 2020 for the existing land uses are estimated to be 66,632 metric tons/year. Given an existing service population for the Plan Area of 4,796 jobs and 1,445 residents (see **Table 4.1-4**), the 2020 annual emissions per service population for the existing land uses would be about 10.7 MTCO2e per service population; 2035 annual emissions for the existing land uses would be about 9.9 $MTCO_2e$ per service population.

Table 4.2-3 Estimated Existing GHG Emissions for Plan Area

Source of Emissions	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	CO_2e (MT/year)
Existing Land Uses in Plan Area, projected to 2020				
Area	7	0.01	0.00	7
Energy	21,277	0.77	0.37	21,409
Mobile	44,624	1.63	0.00	44,659
Waste	137	8.11	0.00	307
Water	178	2.46	0.06	250
Total	*66,224*	*12.98*	*0.43*	*66,632*
Service Population				*6,241 residents/jobs*
GHG Emissions per Service Population				*10.7* $MTCO_2e$
Existing Land Uses in Plan Area, projected to 2035				
Area	7	0.01	0.00	7
Energy	21,277	0.77	0.37	21,409
Mobile	39,994	1.12	0.00	40,017
Waste	137	8.11	0.00	307
Water	178	2.46	0.06	250
Total	*61,594*	*12.47*	*0.43*	*61,991*
Service Population				*6,241 residents/jobs*
GHG Emissions per Service Population				*9.9* $MTCO_2e$

Notes: All numbers rounded. Emissions in annualized metric tons (MT/year). Industrial stationary sources are subject to separate permitting and thresholds for permitted stationary sources and are not included in this inventory which focuses on operational emissions of land use development. Area Sources: hearths, woodstoves, consumer products, and landscaping equipment. Energy Sources: natural gas used for cooking and heating, electricity production. Mobile Sources: on-highway vehicle trips and vehicle miles traveled (VMT). Waste Sources: from solid waste disposed at landfills. Water Sources: energy for water supply, water use, wastewater treatment, and emissions from treatment systems.

Source: Aspen Environmental Group, 2012.

Table 4.2-4 shows estimated operational emissions for the land uses associated with future development foreseeable in the Plan Area during two scenario years (2020 and 2035). These are the incremental increases associated with the CEIG project and do not include stationary sources, which are considered separately below. These emissions estimates rely on mobile source activity forecasts developed for the traffic analysis with the resulting emissions produced by the CalEEMod emissions-estimating software, for vehicle fleets in years 2020 and 2035. The estimates assume that future development facilitated by the CEIG would adhere to the city's Green Building Ordinance, which, in conjunction with the California Green Building Standards Code (CALGreen Code) would have the effect of reducing emissions associated with energy use and water use beyond the default energy consumption levels under Title 24 compliance. In addition, the modeling assumes implementation of state regulations regarding the chemical content of vehicle fuels (Pavley Standards, Low Carbon Fuel Standard). These regulations are intended to reduce the GHG emissions potential of fuels.

As discussed in Chapter 3 (Project Description), the CEIG would allow for the future construction of up to 391 residential dwelling units and 31 live/work units, which together would be expected to house about 1,168 new residents. The CEIG would also facilitate an amount of new industrial and commercial that would provide space for about 1,960 new employees. Thus, the CEIG would generate a "service population" of 3,128, comprising the sum of projected additional population and employees..

Table 4.2-4 details projected emissions of both operation and construction of development facilitated by the CEIG *excluding* any new stationary sources for years 2020 and 2035. Analysis indicates that about half of the increased vehicle trips and resultant mobile-source GHG emissions would be due to the retail land uses anticipated for the Plan Area.

Table 4.2-4 Estimated GHG Emissions, Project Operation and Construction

Source of Emissions	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	CO_2e (MT/year)
Future Development, 2020				
Area	88	0.08	0.00	91
Energy	4,589	0.18	0.08	4,618
Mobile	15,485	0.59	0.00	15,498
Waste	18	1.07	0.00	40

Source of Emissions	CO_2 (MT/year)	CH_4 (MT/year)	N_2O (MT/year)	CO_2e (MT/year)
Water	279	3.87	0.10	392
Total	*20,461*	*5.79*	*0.18*	*20,639*
Estimated Annualized Construction Emissions				90 $MTCO_2e$
Total Annual Emissions (Operation + Construction)				20,729 $MTCO_2e$
2020 Service Population				3,128 residents/jobs
2020 GHG Emissions per Service Population				6.63 $MTCO_2e$
Plan-Level conclusion	6.63 $MTCO_2e$ > 6.6 $MTCO_2e$ (Plan level threshold) **Significant**			
Project-Level conclusion:	6.63 $MTCO_2e$ > 4.6 $MTCO_2e$ (Project level threshold) **Significant**			
Future Development, 2035				
Area	88	0.08	0.00	91
Energy	4,589	0.18	0.08	4,618
Mobile	13,883	0.40	0.00	13,891
Waste	18	1.07	0.00	40
Water	279	3.87	0.10	392
Total	*18,858*	*5.60*	*0.18*	*19,032*
Estimated Annualized Construction Emissions				90 $MTCO_2e$
Total Annual Emissions (Operation + Construction)				19,122 $MTCO_2e$
2035 Service Population				3,128 residents/jobs
2035 GHG Emissions per Service Population				6.1 $MTCO_2e$
Plan-Level conclusion:	6.1 $MTCO_2e$ < 6.6 $MTCO_2e$ (Plan level threshold). **Less than significant**			
Project-Level conclusion:	6.1 $MTCO_2e$ > 4.6 $MTCO_2e$ (Project level threshold). **Significant**			

Notes: Emissions in annualized metric tons (MT/year). Industrial stationary sources are subject to separate permitting and thresholds for permitted stationary sources and are not included in this quantification, which focuses on operational emissions of land use development. Area Sources: hearths, woodstoves, consumer products, and landscaping equipment. Energy Sources: natural gas used for cooking and heating, electricity production. Mobile Sources: on-highway vehicle trips and vehicle miles traveled (VMT). Waste Sources: from solid waste disposed at landfills. Water Sources: energy for water supply, water use, wastewater treatment, and emissions from treatment systems.

Source: Aspen Environmental Group, 2012.

Stationary Sources of GHG Emissions: Allowable new industrial and commercial growth could introduce new stationary sources of greenhouse gases, but the nature of industrial activities would vary widely in terms of potential stationary source

emissions. Potential new stationary sources that could foreseeably occur in the Plan Area include standby power generators, boilers, heaters, or other industrial process sources. It is assumed that development facilitated by the CEIG could replace some existing industrial uses in the Central-West and Central-East Planning Areas, which over time could lead to a decrease in area-wide stationary source emissions, but the precise extent of such replacement cannot be determined with certainty.

Future uses that introduce new stationary sources would be subject to BAAQMD review and permitting for new air pollutant and GHG emissions. Any proposed new stationary sources would be subject to a separate GHG threshold of significance (10,000 $MTCO_2e$ annually), not the service-population threshold applicable to land development. The BAAQMD found that permit applications with emissions above the 10,000 $MTCO_2e$ annual threshold account for less than 10 percent of stationary source permit applications reviewed by BAAQMD but represent 95 percent of GHG emissions from new permits.[9]

Because future industrial growth would be likely to include some new stationary sources, the subsequent growth in stationary source emissions may produce individual-source emissions that singly or collectively exceed 10,000 metric tons of CO_2e annually. As a result, industrial land use development in the Plan Area could result in significant levels of stationary source GHG emissions.

Impact Conclusions: As shown in **Table 4.2-4**, estimated GHG emissions from development facilitated by the CEIG would exceed the following thresholds at buildout year 2035:

- P*roject-level* annual threshold of 4.6 MTCO2e per service population
- *Total* annual threshold of 1,100 MTCO2e.

However, estimated emissions would fall below the *plan-level* annual threshold of 6.6 MTCO2e per service population.

New stationary source emissions are also projected to exceed the annual threshold of 10,000 MTCO2e.

[9] BAAQMD Threshold of Significance Justification, CEQA Air Quality Guidelines Appendix D, p.D-27, May 2011.

While these estimates assume future development adheres to the City's Green Building Ordinance and take into account the GHG-reducing effects of state fuel regulations (Pavley Standards, Low Carbon Fuel Standard), other City policies and standard conditions would be relevant and would likely reduce greenhouse gas emissions at the individual project level.

Every new proposed development in the CEIG Plan Area will be subject to the City's SCAs. SCA F, detailed above in Section 4.2.2, requires consideration of whether a project could result in significant levels of GHG emissions. Proposed projects exceeding pertinent screening criteria are required to undergo project-specific GHG emissions forecasts and, as appropriate, implement project-specific GHG reduction plans intended to reduce project emissions levels below relevant thresholds. SCA F states that GHG offsets, whether implemented on or off-site, are potentially viable components of an acceptable GHG reduction plan. Accordingly, all development facilitated by the CEIG would either a) fall below screening criteria or b) implement a GHG reduction plan as stipulated in SCA F, such that project-specific GHG emissions levels would be below applicable thresholds, through a combination of project features and/or other emissions offsets.

The City has set forth several other SCAs and policies that would act to reduce project-specific GHG emissions. While the specific emissions-reducing capabilities of such measures could be quantified within the emissions calculation required under SCA F, these measures bear summary discussion here.

SCA 25: Parking and Transportation Demand Management: SCA 25 requires that projects of a certain type and size submit for review and approval by the City of Oakland Planning and Zoning Division a Transportation Demand Management (TDM) Plan containing strategies to reduce on-site parking demand and single occupancy vehicle (SOV) travel. Generally the TDM Plan could reduce SOV trips for projects located near transit by about 10 to 20 percent, depending on the specific land use. Certain projects facilitated by CEIG would be required to prepare a TDM Plan and incorporate the resulting reduced emissions (from reduced vehicle trips) into the project's GHG emissions calculations.

SCA 36: Waste Reduction and Recycling: SCA 36 requires a project applicant to submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Oakland Public Works Agency. Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction and all demolition. This SCA essentially addresses reduction in construction–related emissions, which the City combines with a project's operational emissions to assess against the significance thresholds for operational emissions, even though construction

emissions are not a component of BAAQMD's Guidelines. Therefore, this SCA will contribute to reducing total emissions of development facilitated by the CEIG.

Several SCAs Regarding Landscape Requirements and Tree Replacement: Several SCAs (listed below) address landscape requirements for frontages of commercial buildings and replacement of trees removed as part of a project. Projects are required to install one tree for every 25 feet of street frontage in cases where sidewalks have adequate width. Additionally SCAs generally require the replacement of native trees removed as part of a project. Together, these SCAs that maintain and increase landscaping and trees create a cooler climate, reduce excessive solar gain, and absorb CO_2e emissions for a contribution to emission reductions, but have no impact on the emissions inventory of development facilitated by the CEIG. SCA 12 (Required Landscape Plan for New Construction), SCA 13 (Landscape Requirements for Street Frontages), SCA 15 (Landscape Maintenance), SCA 17 (Landscape Requirements for Street Frontages), SCA 18 (Landscape Maintenance) and SCA 46 (Tree Replacement Plantings) are initially presented in Section 4.5.1 of this Draft EIR.

Several SCAs Regarding Stormwater Management: Consistent with regional stormwater management programs and requirements that projects much comply with, the City has several SCAs that aim to reduce post-construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems. These SCAs are relevant as climate change can result in increased flooding due to warmer climate (e.g., earlier and greater melting of snowpack) and inadequate infrastructure. See SCA 55 (Erosion and Sedimentation Control Plan), SCA 75 (Stormwater Pollution and Prevention Plan), and SCA 83 (Creek Protection Plan), in Section 4.5.7 of this Draft EIR.

In addition to these SCAs, all new development facilitated by the CEIG will be reviewed for consistency with numerous relevant General Plan policies that directly or indirectly result in reduced levels of GHG emissions. Section 4.2.2 above summarizes relevant policies of the EPP, LUTE, and OSCAR that promote compact, transit-oriented development, alternatives to single-occupancy vehicle transportation, energy efficiency in building design and site planning, landscaping, and other measures that would individually and collectively reduce the energy usage of new developments, in turn resulting in reduced GHG emissions relative to development not subject to such policies. All new CEIG-facilitated development is also expected to be required to comply with the applicable requirements of the

Energy and Climate Action Plan (ECAP; pending formal adoption), which implements the City of Oakland's approved preliminary GHG reduction target for the year 2020 of 36% below year 2005 levels. When adopted, the ECAP will set forth a multi-faceted approach to GHG reductions, including policies related to land use, transportation, site planning, and related considerations.

New development in the Plan Area would also be subject to other City programs aimed at promoting sustainability and use of renewable energy (see Section 4.2.2 above). It should also be noted that the Plan Area contains numerous buildings older than 50 years in age and thus potential subject to City preservation requirements. As set forth in the Historic Preservation Element, adaptive reuse of existing buildings can be considered a viable GHG reduction strategy insofar as building demolition and new construction can be significant contributors of GHG emissions.

GHG emissions reductions associated with each relevant policy would be quantified within the project-specific GHG reduction plan requirement of SCA F.

It should also be noted that the Housing Element DEIR analyzed the impact of GHG emissions increases (as Impact CC-4) and found that developments of 172 residential units or fewer would be considered to have less-than-significant impacts and would not require further environmental review with regard to climate change, assuming that 2008 Title 24 standards are met and that the project is generally in conformance with the development patterns identified in the Housing Element Project Design Features. Such qualifying residential development projects would not be required to undergo project-specific GHG analysis under CEQA review, as the impacts have already been identified as less-than-significant. Individual developments of residential uses would not typically exceed 172 units, and therefore would cause less than significant levels of GHG emissions.

With regard to potential new stationary sources, all would be subject to the BAAQMD's requirement for New Source Review (see Section 4.1.2 above). Through the New Source Review process, the BAAQMD may impose conditions that would lead to emissions reductions from any new stationary sources that may be proposed.

Significance Conclusion: Development facilitated by the CEIG would not exceed the GHG emissions plan-level threshold of 6.6 MTCO2e per service population per year. However, such development could likely exceed the project-level thresholds of 4.6 $MTCO_2e$ per service population and 1,100 total annual $MTCO_2e$; new

industrial/commercial uses could also result in stationary source emissions exceeding 10,000 $MTCO_2e$ per year. Adherence to the City's SCAs and other policies cited above would reduce the GHG-producing potential of each new development within the Plan Area, but until such projects are proposed and evaluated, the efficacy of these measures in reducing GHG emissions below relevant thresholds cannot be determined with certainly. The SCAs and body of City policies cited above represent a comprehensive approach to reducing energy usage, fostering more sustainable land use development patterns, and reducing GHG emissions. No other mitigation is considered feasible. Therefore, impacts at the project level are conservatively considered significant and unavoidable.

Impact GHG-2: The proposed project would not fundamentally conflict with a plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. (LTS)

The project would carry out the objectives that continue from the EPP, including allowing a diverse mix of land uses and transportation and infrastructure improvements that provide stronger connections to transit. The objectives reflect the strategies that are within the authority of local government to implement for GHG reductions while accommodating population growth and the changing needs of the City of Oakland.

Section 4.2.2, Regulatory Setting, above, describes the plans, policies, and regulations relevant to the CEIG and the aim of reducing GHG emissions. The CEIG would provide a framework for stronger connections to transit and for continuing a diverse range of land uses, with increasing density. Future development would be required to comply with the applicable requirements of the Energy and Climate Action Plan (ECAP; pending formal adoption), which implements the City of Oakland's approved preliminary GHG reduction target for the year 2020 of 36% below year 2005 levels. Provisions of the ECAP will encourage more compact development patterns as one of many means to reduce GHG emissions.

The discussion for Impact GHG-1 shows that GHG emissions associated with the development facilitated by the CEIG would exceed certain project-level emissions thresholds developed by BAAQMD for determining consistency of land use development projects with the goals and projections of AB 32. The analysis also led to the conclusion that the same development would not exceed the related plan-level threshold. Although development may cause certain emission-level thresholds to be exceeded, the CEIG would guide development to occur in a manner consistent with all plans, policies, and regulations for reducing GHG, as follows.

City ordinances are in place to achieve GHG reductions through building standards and waste reduction and recycling requirements. Residential and non-residential development within the Plan Area would be required to comply with the city's Green Building Ordinance, which in conjunction with the California Green Building Standards Code (CALGreen Code), requires incorporating features to maximize conservation of materials, energy, and water. Development would also be required to comply with the Construction and Waste Reduction Ordinance by submitting a Construction and Demolition Waste Reduction Plan for review, per Chapter 15.34 of the Municipal Code: Construction and Demolition (C&D) Debris Waste Reduction and Recycling Requirements.

Additionally, all new development in the Plan Area would be subject to the City's Standard Conditions of Approval (SCAs). These include SCA F; Greenhouse Gas (GHG) Reduction Plan, which would require certain projects to develop a GHG Reduction Plan and to minimize exhaust emissions by managing use of construction equipment, vehicles, and portable equipment. Other relevant SCAs and policies are cited in the discussion of Impact GHG-1. With implementation of SCAs and compliance with applicable policies, the project would be consistent with all plans, policies, and regulations for reducing GHG, and this impact would be less than significant. No mitigation is required.

4.2.4 CUMULATIVE IMPACTS

The above analysis is a cumulative impact assessment because GHG emissions contribute, by their nature on a cumulative basis, to the adverse environmental impacts of global climate change. The discussion of the climate change impact focuses on whether the project's contribution to a cumulatively significant global climate change impact through its emission of GHGs. Given the analysis is in a cumulative context, this section does not include an individual, project-specific impact statement.

The geographic context considered for GHG emissions is the regional air basin. Past, present, and reasonably foreseeable future development projects built under the Housing Element and in the CEIG Plan Area would contribute to the region's GHG emissions on a cumulative basis. Accordingly, as analyzed above (GHG-1), there would be a -significant and unavoidable impact for GHG emissions in the CEIG'S buildout scenarios.

Although GHG emissions related to development facilitated by the CEIG would fall below the plan-level threshold of 6.1 $MTCO_2e$ per service population per year, the

same amount of development would exceed the project-level threshold of 4.6 $MTCO_2e$ per service population per year, the absolute annual amount of 1,100 MTCO2e, and could also include new stationary sources producing more than 10,000 metric tons of CO_2e annually. Despite the considerable number of applicable city SCAs and policies that would act to reduce individual project level emissions, the exceedance of the above thresholds is considered significant and unavoidable at both the project level of analysis and as a cumulative impact.

4.2.5 REFERENCES

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4.3 NOISE

This section describes existing sources of noise and vibration within the Plan Area, identifies potential impacts related to the implementation of the CEIG with the city's SCAs relevant to noise and vibration, and mitigation measures to reduce potentially significant impacts. A discussion of policies and regulations related to noise and vibration is also provided in this section.

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts to noise-sensitive land uses (i.e., residences, parks, schools, and hospitals) within the Plan Area were evaluated under the "Noise" subsection in the previously adopted EPP EIR. Due to the existing General Plan policies, proposed policies in the Estuary Policy Plan and CEQA requirements for subsequent environmental review, the EPP EIR found less-than-significant noise impacts to the noise-sensitive land uses evaluated. Vibration was not covered in detail.

The preparation of the EPP EIR included noise measurement data from the Jack London District and outdoor recreational areas that were part of study areas for the Coliseum and nearby shoreline development. The EPP EIR did not include noise measurements in the Central Estuary Plan Area. Because the noise environment of the Plan Area was not well established for the EPP EIR, and because of the time that has transpired since the previous environmental document was certified, there is new information regarding existing conditions. This Supplemental EIR presents an updated analysis based on a noise and vibration survey that was conducted in October and November 2011.

Findings of the Housing Element EIR

The Housing Element EIR analyzed the potential impacts of exposing new sensitive receptors to excessive noise levels related to construction activities, traffic, and/or stationary sources (as embodied in Impact NO-1 through NO-6 of the Housing Element EIR). No significant impacts were identified, and no mitigation was required. Compliance with General Plan policies in the Noise Element and LUTE, along with Chapter 17 of the Municipal Code, and the City's SCAs would ensure that development under the Housing Element would comply with federal, State, and local laws regarding noise. The city's Municipal Code would also require that noise generated from stationary sources is properly regulated.

Background

Noise

Noise can be defined as unwanted sound and is commonly measured with an instrument called a sound level meter. The sound level meter "captures" sound with a microphone and converts it into a number value expressed in units called decibels (dB).

To correlate the captured sound to a level that corresponds to the way humans perceive noise, the *A-weighting* filter is used. *A-weighting* de-emphasizes low-frequency and very high-frequency sound in a manner similar to human hearing. The use of A-weighting is required by most local agencies as well as other federal and state noise regulations (e.g., the California Department of Transportation, U.S. Environmental Protection Agency, U.S. Department of Labor, Occupational Safety & Health Administration and U.S. Department of Housing and Urban Development). The abbreviation dBA is often used when the A-weighted sound level is reported. **Figure 4.3-1** summarizes common everyday noise levels in the environment, expressed in dBA.

There are many descriptors that are used to quantify the sound levels based on different time-sensitive parameters. Taken together, these descriptors can accurately represent the overall noise environment. The four descriptors that are commonly used in environmental studies: the maximum noise level (L_{max}), equivalent noise level (L_{eq}), sound level exceeded 90 percent of the time (L_{90}), and either the Day/Night noise level (L_{dn}) or the community noise equivalent level (CNEL).[1]

The maximum noise level (L_{max}) is often used to identify the loudness of a single event such as a car pass-by or airplane flyover. To characterize the noise level over a period of time, the L_{eq} is used. The L_{eq} can be measured over any length of time but is typically reported for periods of 15 minutes to 1 hour. The background noise level (or residual noise level) is the sound level during the quietest moments. It is usually generated by steady sources such as distant freeway traffic or a nearby air conditioning unit. It can be quantified with a descriptor called the L_{90}.

[1] For transportation-dominated noise environments, the CNEL and the Ldn are almost identical.

To quantify the noise level over a 24-hour period, the L_{dn} or CNEL is used. The L_{dn} is calculated like the L_{eq}, except it includes a 10-dBA penalty for noises that occur during nighttime hours to account for a person's increased sensitivity during this time period. Similarly, the CNEL adds a 5-dBA penalty during evening hours. In most transportation-dominated environments the L_{dn} and CNEL are within a few tenths of a decibel, and can be used interchangeably. For the purpose of this analysis, the L_{dn} will be the descriptor used in this section. Speaking in general terms of the way humans perceive noise, a change in the noise level of 3 dBA can be hard to detect if the character of the noise stays the same. A 5-dBA change is clearly noticeable, but not substantial. A 10-dBA change is perceived as a doubling in loudness.

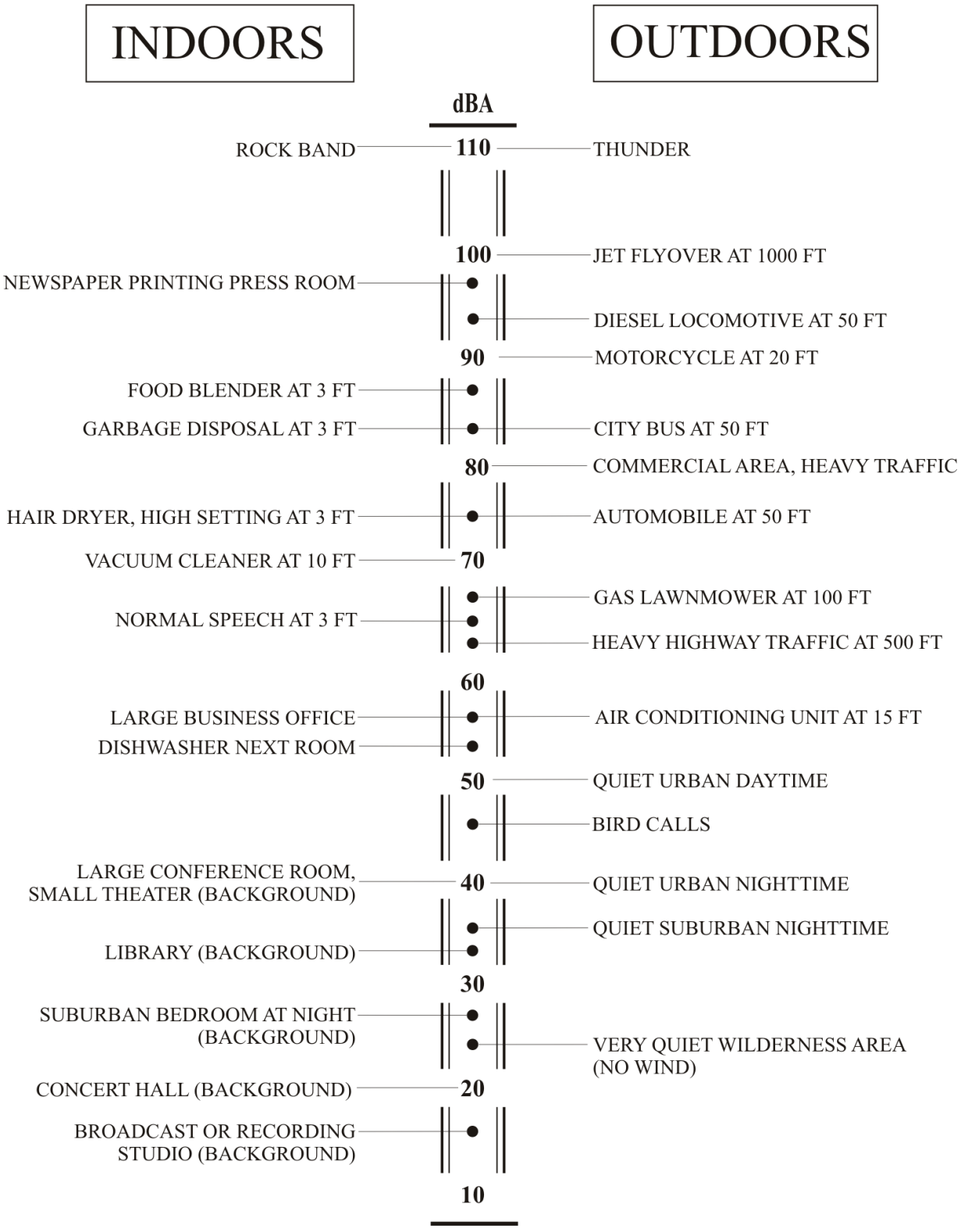
Traffic Noise

The level of traffic noise depends on four primary factors: traffic volume, vehicle speed, the number of trucks in the flow of traffic, and the condition of the road surface. Generally, traffic noise levels increase with higher traffic volumes, faster speeds, a greater number of trucks, and rougher pavement. Noise generally increases 3 dB with each doubling of traffic volume (all else being equal) and 6 dB with each doubling of speed (all else being equal). Higher ratios of trucks and rougher pavement do not generally affect the noise levels quite as substantially as volume and speed.

Noise Attenuation

Most noise sources can be classified as either point sources (e.g., stationary equipment), or line sources, such as a roadway. Sound generated by a point source nominally diminishes (attenuates) at a rate of 6 dBA for each doubling of distance away from the source. For example, a 60 dBA noise level measured at 50 feet from a point source would be 54 dBA at 100 feet from the source and 48 dBA at 200 feet from the source. Noise from a line source normally attenuates at 3 dBA per doubling of distance.

Sound can also be attenuated by man-made or natural barriers. Solid walls, berms, or elevation differences typically reduce noise levels by 5 to 10 dBA. Buildings with closed windows can reduce interior levels anywhere from 20 to 40 dBA (or higher for very specialized windows and walls), while buildings with partially open windows can reduce interior noise levels around 15 dBA.



Typical Sounds Levels in the Environment

Figure 4.3-1

Source: Wilson Ihrig & Associates, 2012.

Vibration

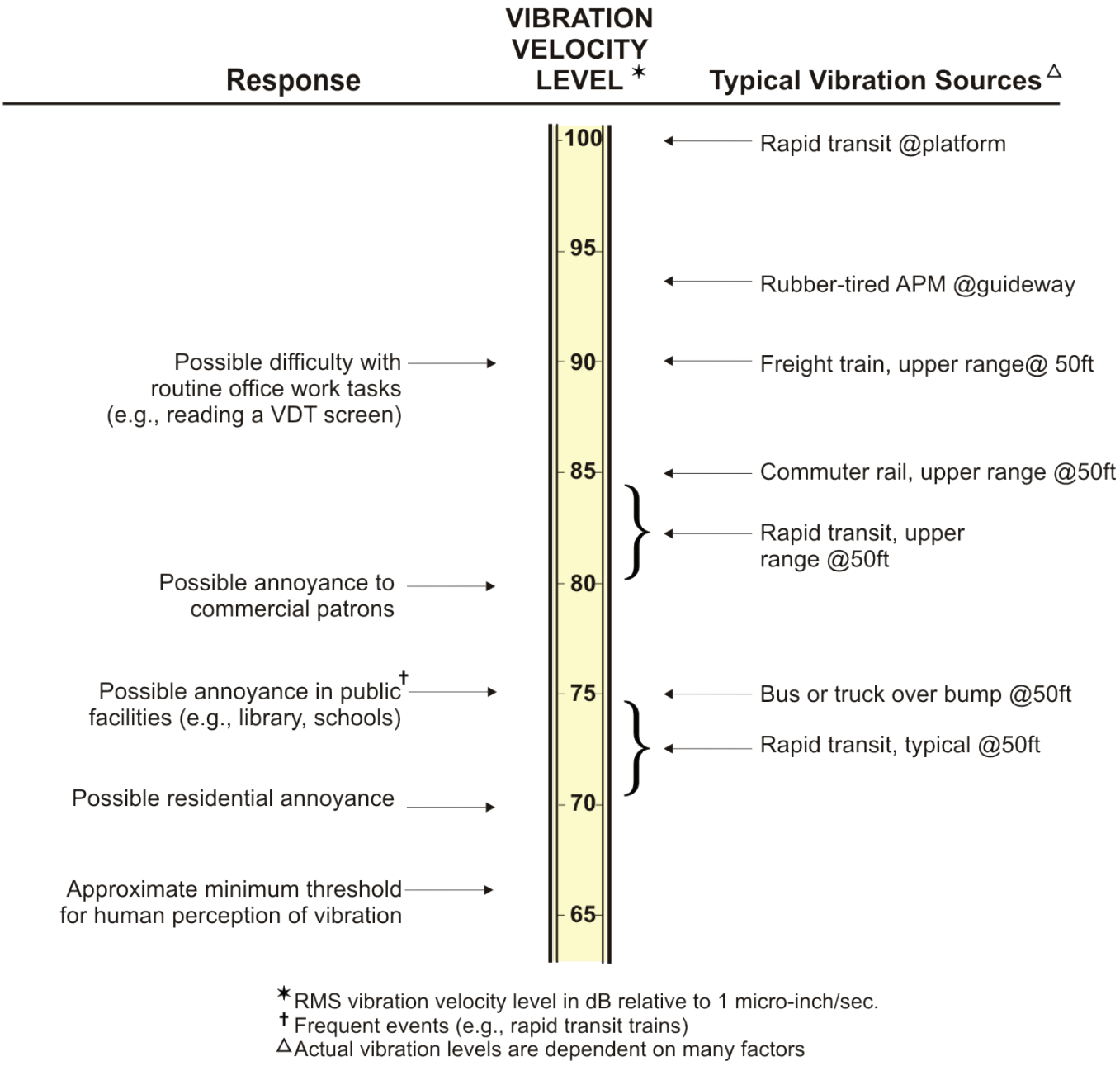
Ground vibrations are small oscillatory disturbances to the soil, which are transmitted outwards from their source and reduce in magnitude with increasing distance. The vibration source stimulates the adjacent ground, creating vibration waves that travel through the various soil and rock strata to the foundations of nearby buildings. The vibration then travels from the building foundation throughout the remainder of the building structure. Vibration amplitudes are expressed in different kinds units depending on the nature of the effect. For buildings, vibration is often quantified by the peak particle velocity (ppv), which is defined as the maximum instantaneous peak of the vibration amplitude. For human response, the vibration is often quantified in VdB[2] (or vibration decibels). **Figure 4.3-2** summarizes typical vibration levels in the environment.

Two more descriptors that are useful for the vibration analysis are the L1 level, which indicates the infrequent maximum level, or the level exceeded 1 percent of the time; and the L_{10} vibration level, which indicates the level exceeded 10 percent of the time, or the frequently occurring vibration level.

The vibration of floors and walls may cause perceptible vibration, rattling of items such as windows or dishes on shelves, or a rumble noise. The rumble is the noise radiated from the motion of the room surfaces. In essence, the room surfaces act like a giant loudspeaker. This is called ground-borne noise, or, in some cases, structure-borne noise.

Ground-borne vibration is harder to perceive by people who are outdoors. Although the motion of the ground may be felt, the motion does not provoke the same adverse human reaction without the effects associated with the shaking of a building. The "rumble" noise that usually accompanies building vibration can only occur inside buildings (FTA 2006).

[2] The vibration in units of inches per second are divided by a standard 1 micro-inch/second. The logarithm of this ratio is then multiplied by 20 to obtain the VdB. The VdB is typically the maximum equivalent vibration level over a single event.



Typical Vibration Levels in the Environment

Figure 4.3-2

Source: Wilson Ihrig & Associates, 2012.

4.3.1 EXISTING CONDITIONS

A series of land uses have been deemed "sensitive" by the State of California. Many of these land uses depend on low levels of sound to promote the well-being of the occupants. These uses include, but are not necessarily limited to, schools, hospitals, rest homes, long term care facilities, mental care facilities, residential uses, places of worship, libraries, and passive recreation areas.

Within the Plan Area, existing residential land uses are primarily clustered within the Jingletown neighborhood, with some residences extending along I-880, Fruitvale Avenue, and 29th Avenue. There are also residential lofts near the Beacon Day School (Dennison and Livingston areas). **Figure 4.3-3** illustrates the general location of the sensitive land uses within the Plan Area.

Noise levels in the Plan Area are generally characterized as an urban or industrial environment. Primary sources of noise include traffic from Interstate 880 (I-880), aircraft flyovers associated with the Oakland International Airport (OAK), the commuter rail (BART), and trains (Union Pacific Railroad and Amtrak). Noise is also generated by existing industrial and artisan land uses within the Plan Area.

The dominant vibration sources within the Plan Area include truck activity on local roadways as well as trains, both of which typically generate higher noise and vibration levels than other automobiles. As such, noise and vibration along the designated truck routes in the Plan Area are generally higher than other roadways with comparable volumes of traffic. The designated truck routes in the Plan Area include High Street, 23rd Avenue and 29th Avenue. Of the three designated routes, there are several noise sensitive land uses along 23rd Avenue and High Street, and none directly adjacent to 29th Avenue.

Noise Measurements

Methodology

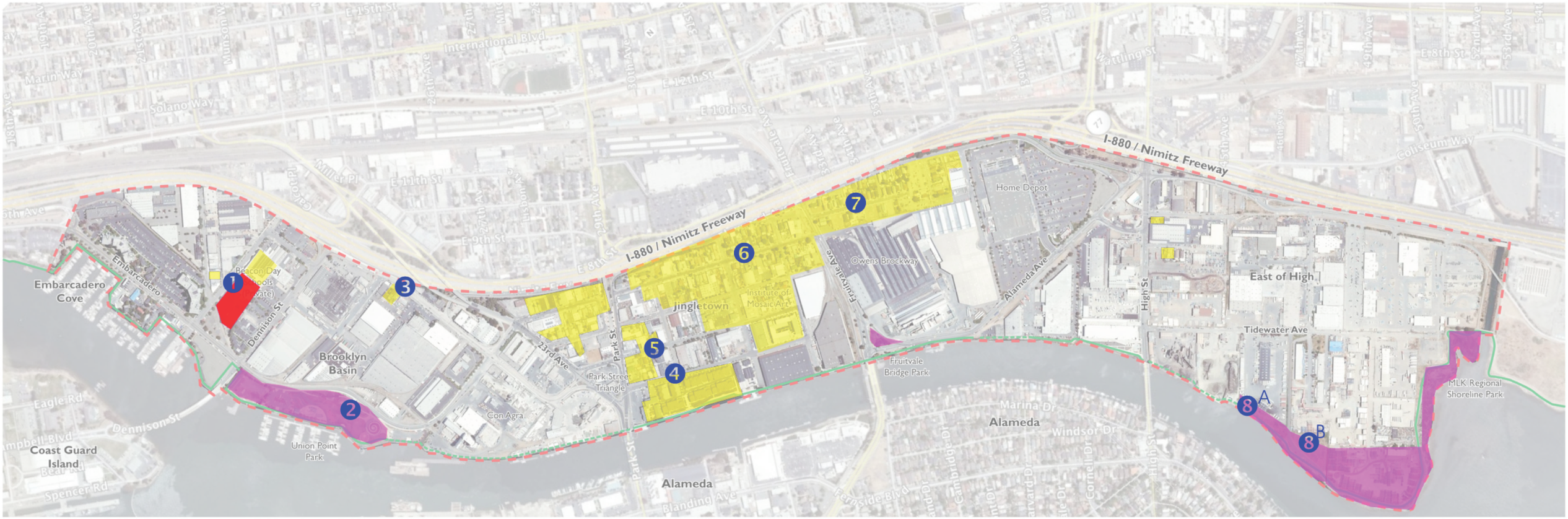
Analysis of the existing and future noise environments is based on noise monitoring and noise prediction modeling. To determine the existing noise environment, monitoring devices were deployed at nine locations within the Plan Area. The following monitoring locations were selected in consultation with the City of Oakland to best represent the existing conditions within the Plan Area at noise-sensitive land uses:

- Mixed-Use Triangle: This area is exposed to noise and vibration from traffic on I-880 and railway operations. A railroad spur runs through Livingston Street and 22nd Avenue, but was not operational during the noise measurements for this analysis. Noise-sensitive land uses in this area include:
  - Live-work lofts located on 22nd Avenue
  - Beacon Day School located on Livingston Street between Embarcadero and Cotton Street
- Union Point Park
- Food Industry Cluster: Residences are located on Kennedy Street, south of Frederick Street. These residences are exposed to noise and vibration from traffic on I-880.
- Jingletown/Elmwood: This area consists of mixed-use residential and commercial land uses. The railway spur running parallel to Fruitvale Avenue and down the center of Glascock Street is active, and operates regularly on weekdays, in the late night, and in the early morning hours.
- Martin Luther King Jr. Regional Shoreline (MLKRS)

Short-term (15-minute period) noise measurements were conducted on Friday, November 4, 2011 at the nine monitoring locations at the selected noise-sensitive areas in the Plan Area. All short-term noise measurements were taken between 12 PM and 3:30 PM to correspond with the highest perceived period of industrial activity. Long-term noise measurements were conducted at six of these nine measurement locations, and consisted of continuous monitoring (24-hour) over a period of ten days (October 26 to November 4, 2011). Figure 4.3-3 illustrates the noise-sensitive land uses in the Plan Area and the selected noise measurement locations. Table 4.3-1 summarizes the results of the noise measurements.

The measured noise levels were evaluated to create noise contours similar to what is presented in the General Plan Noise Element.[3] These contours are based on the roadway-based noise contours provided in the Noise Element, updated with the local effects of building shielding, and calibrated to the results of the noise measurements. **Figure 4.3-4** illustrates the existing noise environment of the Plan

[3] The Noise Element presents simplified noise contours in the Plan Area based on distances from dominant noise sources such as traffic I-880 and railroad activity, and as such, does not take into account the effects of shielding provided by intervening buildings or the effects of elevated roadways.



Legend

- Plan Area Boundary
- Bay Trail (Existing)
- Bay Trail (Proposed Long-term Alignment)
- Existing Residential Areas
- Existing Park Areas
- Existing School Areas
- # Noise Measurement Locations

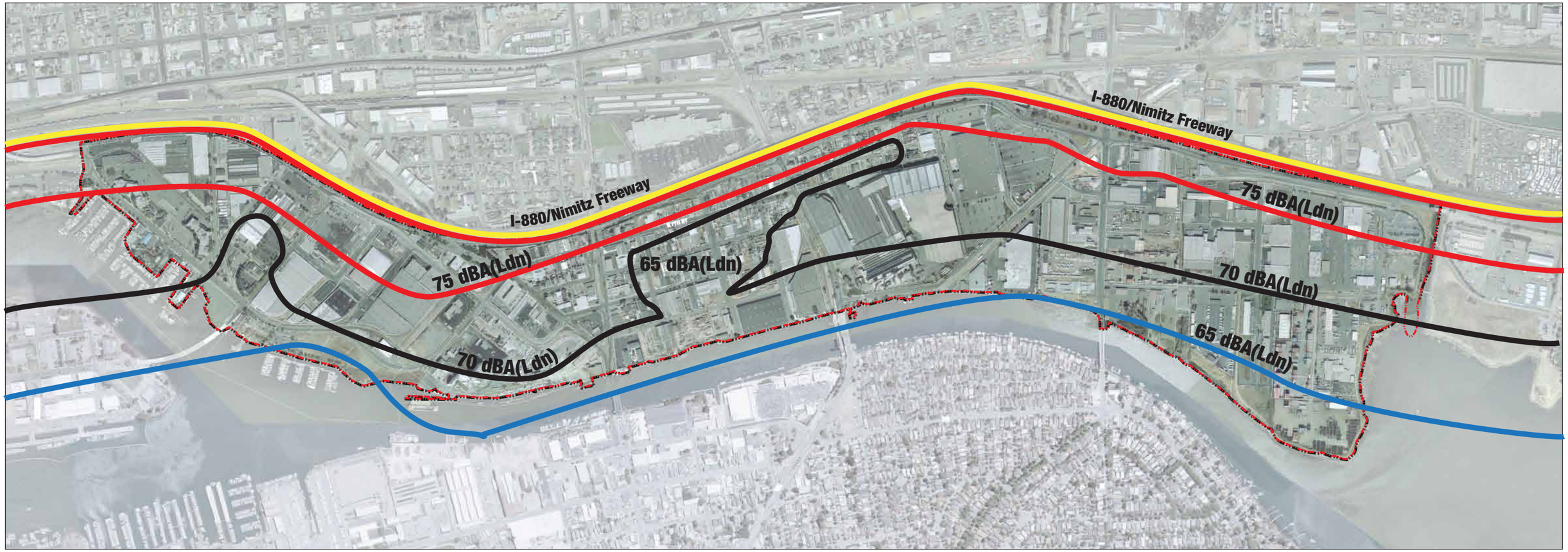
0 375 750 1500
FEET

Existing Noise - Sensitive Land Uses and Noise Measurement Locations

Figure 4.3-3

Source: Wilson, Ihrig & Associates, 2012.

Figure 4.3-3 Existing Noise – Sensitive Land Uses and Noise Measurement Locations (back)



Legend

Plan Area

Existing Noise Levels

75 dBA(Ldn)

70 dBA(Ldn)

65 dBA(Ldn)

I-880/Nimitz Freeway

*Note: Noise level contours are generated by the traffic noise from I-880 and attenuate relative to the distance from the freeway.

0 375 750 1500
FEET

Existing Noise Contours Within the Plan Area

Figure 4.3-4

Source: Wilson Ihrig & Associates, 2012.

Figure 4.3-4 Existing Noise Contours within the Plan Area (back)

Table 4.3-1 Plan Area Noise Measurements, October 27, 2011 – November 4, 2011

Location Number	Approximate Location	Short-term Measured Level [a] L_{eq}	Long-term Measured Level[b] L_{eq}	Long-term Weekday[b] L_{dn}	Long-term Weekend[b] L_{dn}	Assumed Existing Noise Level[f] L_{dn}	Nearby Sensitive Uses	Compatibility with Existing Land Use[c]
L-1[a]	2100 Livingston St	67	60 – 66/ 56 – 64	67 - 68	66 - 67	68	Live/Work Lofts; School	Conditionally Acceptable
L-2	Union Point Park	59	Not available	~66[d]	~66[d]	66[d]	Park	Conditionally Unacceptable
L-3[b]	837 Kennedy St.	76	75 – 78/ 70 – 77	81 - 82	81 - 82	82	Residences	Clearly Unacceptable
L-4	2900 block Glascock St.	59	55 – 62/ 50 – 60	61 - 70	62 - 68	63-70[e]	Residences	Conditionally Acceptable
L-5	2900 block Ford St.	60	58 – 65/ 50 – 62	63 - 67	63 - 64	65	Residences	Conditionally Acceptable
L-6	3000 block E. 7th St.	65	62 – 67/ 57 – 66	68 - 70	68 - 69	70	Residences	Conditionally Acceptable
L-7	3300 block Elmwood Ave.	61	60 – 65/ 55 – 65	66 - 68	66 - 67	67	Residences	Conditionally Acceptable
L-8[a,b]	MLKRS	56 54	Not available	~61[d] ~59[d]	~61[d] ~59[d]	61[d]	Park	Normally Acceptable

Notes:
[a] Short-term noise measurements conducted November 4, 2011
[b] Long-term noise measurements conducted between the afternoon of October 26, 2011, to the afternoon of November 4, 2011. L_{dn} values listed here only for full days.
[c] See **Figure 4.3-5**.
[d] These L_{dn} values are extrapolated from the short-term L_{eq} measurement.
[e] Low end of range probably without trains, high end of the range with train effect.
[f] Typical or average value for a weekday.

Source: Wilson, Ihrig & Associates, Inc., 2012.

Area. In reviewing the Noise Element and the noise measurements conducted for this evaluation, it was determined that at the noise measurement locations, operational noise from existing developments is generally well below the Planning Code noise limits.

The typical daytime equivalent noise levels (Leq) in the area of the Beacon Day School (L-1) and the residences along East 7th Street and Elmwood Avenue (L-6 and L-7, respectively) ranged from 60 to 67 dBA. The isolated pocket of residences near 837 Kennedy Street (L-3) are virtually unshielded from noise from I-880, and experience noise levels of 73 to 78 dBA. Residences near the Park Street Triangle (L-4 and L-5) are somewhat shielded from I-880 due to their relative distance to the freeway and greater number of intervening buildings. Measured noise levels in these areas ranged from 54 to 63 dBA.

Nighttime noise levels in the area of the Beacon Day School (L-1) and the residences along East 7th Street and Elmwood Avenue (L-6 and L-7, respectively) ranged from 55 to 66 dBA. Nighttime noise levels at residences near 837 Kennedy Street (L-3) rarely dropped below 70 dBA. Residences near the Park Street Triangle (L-4 and L-5) experience nighttime noise levels ranging from 50 to 62 dBA.

Long-term noise measurements were not collected from Union Point Park or Martin Luther King Jr. Regional Shoreline (MLKRS) (L-2 and L-8A, B, respectively) as these areas are primarily daytime use parks and do not experience high noise levels in the evening hours. Short-term daytime noise measurements at these parks indicate that noise levels range from 59dBA at Union Point Park, and 54 to 56 dBA at MLKRS.

As discussed above, the noise environment in the Plan Area is primarily dominated by vehicle traffic on I-880. As such, there was a slight difference in noise levels when comparing weekday and weekends, attributable to the change in commute-period traffic. However, the change in the noise level was on the order of 1 to 2 dBA at most noise measurement locations, and is therefore not generally perceptible to the human ear.

The General Plan Noise Element includes land use compatibility guidelines with regards to acceptable noise environments for different land use types (see subsection 4.4.2 below). As shown in **Table 4.3-1**, the measured noise levels within the Plan Area are generally considered acceptable for the types of existing land use in the area. For example, the measured noise levels surrounding existing residential land uses (L-1, L-4, L-5, L-6 and L-7.) were consistent with the “Conditionally Acceptable” category for residential areas (60 to 70 dBA). The measured noise

levels at the MLKRS (L8A, B) were consistent with the "Normally Acceptable" (up to 65 dBA) category for park areas.

The exception is the noise environment for residential land uses along Kennedy Street (L-3), which is considered "Clearly Unacceptable" for residential development (75 to 80 dBA). In the residential area along Kennedy Street, I-880 is at-grade, which contributes to the higher noise levels close to the freeway. In addition, the pavement on the freeway and on Kennedy Street is in poor condition, which exacerbates noise levels. Further south, near the 3000 block of East 7th Street and 3300 block Elmwood Avenue, I-880 is on an elevated freeway structure that somewhat shields nearby residential areas from freeway noise. The noise contours shown in **Figure 4.3-4** reflect the differences between the noise levels near Kennedy Street and those near the existing residences along East 7th Street and Elmwood Avenue. Further away from the freeway, building shielding is not as effective to reduce noise from the elevated structure, and the noise environment equalizes, as shown in the noise contours.

The second exception is the existing noise environment at the Union Point Park (L-2) which is considered "Normally Unacceptable" (65 to 75 dBA) for park areas. In addition to the background noise from I-880, the other noise sources in this area are traffic along Embarcadero and aircraft noise.

Vibration Measurements

Vibration measurements were conducted at all nine noise measurement locations within the Plan Area. Short-term measurements were conducted for 15 minutes at each location on Monday, November 14, 2011 between 1:30 PM and 4:00 PM. As with the short-term noise measurements, the short-term vibration survey was conducted to measure vibration levels during a weekday afternoon activity period. Two long-term measurements in the area of the Beacon Day School (L-1) and the residences near the Park Street Triangle (L-4) were conducted to document vibration levels from trains passing by, and consisted of continuous monitoring over a 36 or 48-hour period from November 9 to 11, 2011. **Table 4.3-2** summarizes the results of the vibration measurements.

The infrequent and frequently occurring maximum vibration levels (trains excluded) ranged from 50 to 70 VdB at the nine measurement locations and were generally attributable to vehicles passing by. No consistent sources of industrial vibration were observed at any of the measurement locations. Trucks generated higher

vibration levels at for the residences near 837 Kennedy Street (L-3). Several train pass-bys were recorded at residences near the Park Street Triangle (L-4), reaching vibration levels of 73 to 81 VdB.

The vibration levels within the Plan Area are typical for urban and industrial environments with frequent truck activity. Based on the vibration survey data, perceptible vibration is currently experienced near Beacon Day School (L-1) and the residences near 837 Kennedy Street (L-3) and the Park Street Triangle (L-4).

Table 4.3-2 Vibration Survey Data, November 2011

Measurement Location	Location[c]	Measured Vibration Velocity Level (VdB re 1 µin / sec)		
		L_{max}	Infrequent Max (L_1)	Frequently Occurring Max (L_{10})
L-1	2100 Livingston St.	71[a]	67	58
L-2	Union Point Park	70	61	53
L-3	837 Kennedy St.	84	73	68
L-4	2945 Glascock St.	62 (73-81 train[b])	57	47
L-5	2910 Ford St.	73	62	53
L-6	3014 E. 7th St.	67	64	60
L-7	3329 Elmwood St.	68	65	61
L-8	MLKRS North	63	59	52
L-9	MLKRS South	65	58	52

Notes:
[a] At L-1, either no trains traversed the rails during the survey, or they were not distinguishable from the ambient. The nearest rail tracks are 750 ft away.
[b] At L-4, the railroad tracks are 20 ft away, and it was apparent that there were two trains.
[c] These vibration measurements were generally made on the sidewalk or parking lots near the indicated address.
Source: Wilson, Ihrig & Associates, Inc., 2012.

The regulatory discussion in subsection 4.3.2 below presents information regarding the Federal Transit Administration (FTA) vibration evaluation criteria, which is used by the City of Oakland to determine when vibration levels are high enough to create a significant adverse effect to the land uses in the area. The train vibration near the Park Street Triangle (L-4) exceeds the 80 VdB FTA criterion for infrequent events (less than 30 per day), which means that existing vibration levels in this area exceeds the city's threshold for acceptable conditions.

4.3.2 REGULATORY SETTING

Federal

The Noise Control Act (1972) addresses the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA 1974). In this "levels" document, recommendations were provided for maximum noise exposure levels below which there would be little to no risk from any of the identified health or welfare effects of noise (i.e., the yearly average L_{dn} not exceeding 55 dBA outdoors, and 45 dBA indoors to prevent activity interference and annoyance). Subsequent to this EPA "levels" document, further studies updated the outdoor noise threshold to 65 L_{dn}.

The recommended environmental noise levels in these documents are not mandated by law, but rather as advisory exposure levels for which the State and city requirements are based on, as discussed below.

The FTA and the Federal Railroad Administration (FRA) have developed methodologies and impact criteria to evaluate the effect of vibration from rail activity. The FTA and FRA impact criteria are very similar, and the FTA criteria form the basis of the City of Oakland's CEQA Thresholds for vibration, as summarized in **Table 4.3-3.**

Table 4.3-3 FTA Groundborne Vibration Impact Criteria

Land Use Category	Groundborne Vibration Criteria		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category I: Buildings where vibration would interfere with interior operations	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category II: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category III: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

Notes:
[a] More than 70 vibration events of the same source per day.
[b] Between 30 and 70 vibration events of the same source per day.
[c] Less than 30 vibration events of the same source per day.
[d] This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.
Source: Wilson, Ihrig & Associates, Inc., 2012.

State

Department of Services

The State of California Department of Health Services, Environmental Health Division has published recommended guidelines for mobile source noise and land use compatibility. Each jurisdiction is required to consider these guidelines when developing its General Plan noise element and determine the acceptable noise levels within its community. The City of Oakland considered these guidelines when preparing the Noise Element of the General Plan.

California Occupational Safety and Health Administration (OSHA)

The California OSHA (regulation 2) requires employers to provide employees with proper protection against the effects of noise exposure when sound levels exceed an 8-hour time weighted average of 90 dBA. The protective measures may be provided either through engineering or administrative controls. If these control measures fail to reduce the noise within the acceptable limits, personal protective equipment shall be provided and used. Additionally, whenever employee noise exposures equal or exceed an 8-hour sound level of 85 dBA, the employer shall develop and administer a Hearing Conservation Program.

California Building Standards Code

The California Code of Regulations (CCR), Title 24, also known as the California Buildings Standards Code, contains the regulations that govern the construction of buildings in California. Title 24 of the CCR requires that interior noise levels in multi-family residential development attribute to exterior noise sources shall not exceed a CNEL of 45 dBA in any habitable room. Multi-family residential uses must comply with pertinent Title 24 requirements in addition to and separate from CEQA. However, this standard does not apply to single-family detached houses, as the State of California does not have exterior or interior noise requirements with regard to single-family detached homes.

City of Oakland Local Plans, Policies and Regulations

General Plan

The General Plan guides the physical development and character of the city by setting forth goals, policies, and objectives regarding the type, intensity, and locations for future land uses and activities. The General Plan Noise Element (2005) is the city's primary tool guiding policy related to noise-related impacts; however, the Land Use and Transportation Element (LUTE) also includes noise regulating policies.

The Noise Element recognizes that some land use categories 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. Accordingly the Noise Element includes guidelines for determining the compatibility of various land uses with different outdoor noise environment, embodied within the land use compatibility matrix, shown in **Figure 4.3.5.**

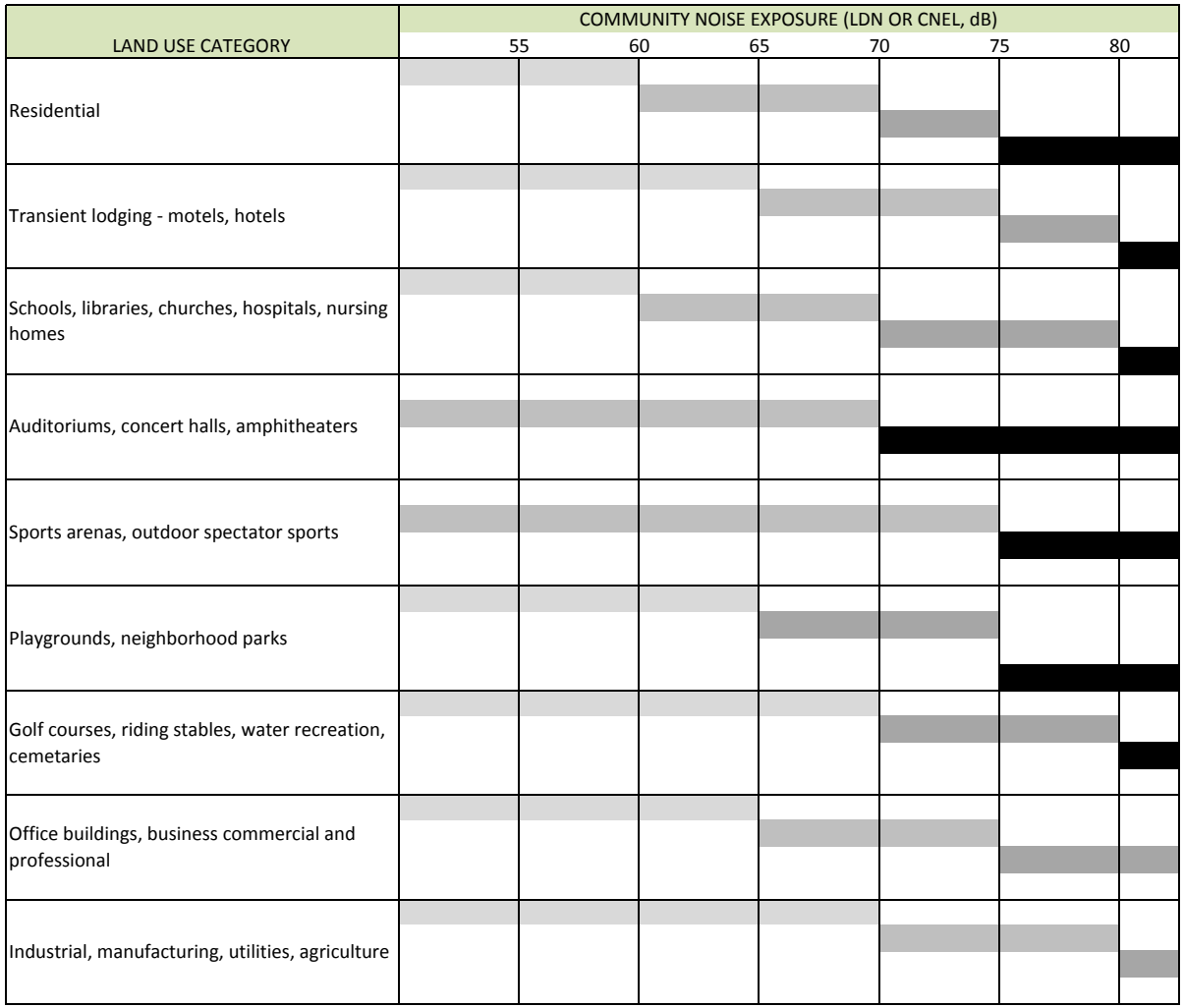
The Noise Element contains the following applicable goals and policies:

- Goal 1: To protect Oakland's quality of life and the physical and mental well-being of residents and others in the city by reducing the community's exposure to noise; and among commercial, industrial and residential land uses.
- Goal 2: To safeguard Oakland's economic welfare by mitigating noise incompatibilities among commercial, industrial and residential land uses.
  - Policy 1: Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment.
  - Policy 2: Protect the noise environment by controlling the generation of noise by both stationary and mobile noise sources.
  - Policy 3: Reduce the community's exposure to noise by minimizing the noise levels that are received by Oakland residents and others in the city. (This policy addresses the *reception* of noise whereas Policy 2 addresses the *generation* of noise.)

Land Use and Transportation Element. All new Plan Area development facilitated by the CEIG would be subject to the following LUTE objectives and policies focused on compatibility of land uses.

Policy I/C4.1: Protecting Existing Activities. 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

Policy W1.3: *Reducing Land Use Conflicts.* Land uses and impacts generated from Port or neighborhood activities should be buffered, protecting adjacent residential areas from the impacts of industrial uses. Appropriate siting of industrial activities, buffering, truck traffic management efforts, and other mitigations should be used to minimize the impact of incompatible uses.



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 if a detailed analysis of 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.

Oakland Noise - Land Use Compatibility Matrix

Figure 4.3-5

Source: Oakland General Plan Noise Element, 2005.

Policy W9.2: *Encouraging Mixed Land Uses 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 W9.7: *Supporting Existing Residential Communities along the Estuary.* The existing residential communities within and adjacent to the waterfront should be supported and enhanced.

Policy W12.5: *Mitigating Land Use Conflicts.* Since this area is and may continue to be an area that has a variety of uses, incompatibilities should be mitigated.

Policy N1.6: *Reviewing potential nuisance activities*. The city should closely review any proposed new commercial activities that have the potential to create public nuisance or crime problems, and should monitor those that are existing. These may include isolated commercial or industrial establishments located within residential areas, alcoholic beverage sales activities (excluding restaurants), adult entertainment, or other entertainment activities.

Policy N3.4: *Constructing Housing on Orphan Lots.* Construction of housing units on "orphan lots" in residential areas should be allowed where the proposed unit meets other applicable standards.

Policy N3.9. *Orienting Residential Development.* Residential developments should be encouraged to face the street and to 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.

Policy N5.2: *Buffering Residential Areas.* 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.

Policy N5.3: *Supporting Live-Work Development.* The City should support and encourage residents desiring to live and work at the same location where neither the residential use nor the work occupation adversely affects nearby properties or the character of the surrounding area.

Policy N7.2: *Defining Compatibility.* Compatibility factors should be balanced with the citywide need for additional housing.

Policy N7.5: *Respecting the Existing Development Pattern.*

Objective N8: 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.

Policy N8.1: *Developing Transit Villages.* "Transit Village" areas should consist of attached multi-story development on properties near or adjacent to BART stations or other well-used or high volume transit facilities, such as light rail, train, ferry stations, or multiple-bus transfer locations. While residential units should be encouraged as part of any transit village, other uses may be included where they will not negatively affect the residential living environment.

Policy N9.7: *Creating Compatible but Diverse Development.* Diversity in Oakland's built environment should be as valued as the diversity in population. Regulations and permit processes should be geared towards creating compatible and attractive development, rather than "cookie cutter" development.

Policy N11.4: *Alleviating Public Nuisances*. The City should strive to alleviate public nuisances and unsafe and illegal activities. Code Enforcement efforts should be given as high a priority as facilitating the development process. Public nuisance regulations should be designed to allow community members to use City codes to facilitate nuisance abatement in their neighborhood.

Policy N11.6: *Suggested Proactive Developer and Community Relations.* Prior to submitting required permit application(s), project sponsors of medium and large scale housing developments should be encouraged to meet with neighborhood groups and community members, hear their concerns regarding the proposed project, and take those concerns into consideration.

Oakland Noise Ordinance

The City of Oakland regulates noise through enforcement of its noise ordinance, which is found in Sections 8.18 of the Municipal Code and 17.120 of the Oakland Planning Code. [4] Section 17.120 sets forth limits on both construction and operational noise. Section 8.18 describes noises considered to rise to the level of a public nuisance.

[4] It should be noted that cities and counties do not have regulatory authority over noise from mobile sources – cars, trains, trucks, airplanes, etc. These sources are regulated at the state and federal levels.

Operational Noise. The Oakland Planning Code regulates operational noise from stationary sources such as heating and ventilation equipment, pool pumps, etc. Section 17.120.050 establishes a maximum allowable receiving noise level standard for residential and civic land uses, shown below in **Table 4.3-4**.

Construction Noise: **Table 4.3-5** presents noise level standards from the noise ordinance that would 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 greater than 10 days. Most construction projects for improvements and developments under the CEIG would be expected to last longer than 10 days.

Oakland Municipal Code Chapter 8.18 defines nuisance noises. Section 8.18.020 further stipulates that failure to comply with the following provisions constitutes a nuisance.

A. All construction equipment powered by internal combustion engines shall be properly muffled and maintained.

B. Unnecessary idling of internal combustion engines is prohibited.

C. All stationary noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.

D. Quiet construction equipment, particularly air compressors, are to be selected whenever possible.

E. Use of pile drivers and jack hammers shall be prohibited on Sundays and holidays, except for emergencies and as approved in advance by the Building Official.

In addition, whenever the existence of any such nuisance shall come to the attention of the Health Officer, it shall be his or her duty to notify in writing the occupant of the premises upon which such nuisance exists, specifying the measures necessary to abate such nuisance, and unless the same is abated within forty-eight (48) hours thereafter, the occupant so notified shall be guilty of an infraction, and the Health Officer shall summarily abate such nuisance.

Table 4.3-4 City of Oakland Operational Noise Standards at Receiving Property Line, dBA

Receiving Land Uses	Cumulative Minutes in a 1-Hr Period	Maximum Allowable Noise Level (dBA[a])		
		Weekdays 7 AM - 10 PM	Anytime	Nighttime 10 PM - 7 AM
Residential and Civic	20 (L_{33})	60	Na	45
	10 ($L_{16.7}$)	65	Na	50
	5 ($L_{8.3}$)	70	Na	55
	1 ($L_{1.7}$)	75	Na	60
	0 (L_{max})	80	Na	65
Commercial, Industrial	20 (L_{33})		65	
	10 ($L_{16.7}$)		70	
	5 ($L_{8.3}$)		75	
	1 ($L_{1.7}$)		80	
	0 (L_{max})		85	
Manufacturing, Mining, and Quarrying	20 (L_{33})		70	
	10 ($L_{16.7}$)		75	
	5 ($L_{8.3}$)		80	
	1 ($L_{1.7}$)		85	
	0 (L_{max})		90	

Source: City of Oakland Municipal Code

Notes:

a. These standards are reduced 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impact noise. If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

b. Lx represents the noise level that is exceeded X percent of a given period. Lmax is the maximum instantaneous noise level.

c. Legal residences, schools and childcare facilities, health care or nursing home, public open space, or similarly sensitive land uses.

Table 4.3-5 City of Oakland Construction Noise Standards at Receiving Property Line

Receiving Land Uses	Maximum Allowable Noise Level (dBA[a])	
	Weekdays 7 AM - 7 PM	Weekends 9 AM - 8 PM
	Less than 10 Days	
Residential	80	65
Commercial, Industrial	85	70
	More than 10 Days	
Residential	65	55
Commercial, Industrial	70	60

Notes:
[a] If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.
Source: City of Oakland, 2012.

Vibration. Chapter 17.120.060 of the Oakland Planning Code includes a qualitative vibration limit for vibration-sensitive land uses. Under this code, no activity shall generate a vibration which is perceptible by the average person (without monitoring instruments) at the receiving property. Exemptions include ground vibration caused by motor vehicles, trains, and temporary construction or demolition work, sources located within the M-40 zone, and sources in the M-30 zone more than four hundred (400) feet from any legal residentially occupied property (Ord. 11895 § 8, 1996: prior planning code § 7711). Since the Project includes re-zoning most of the Project area from M-40 or M-30 to district-specific zoning, all of the existing land uses within the Plan Area that generate vibration would need to comply with the code (e.g., manufacturing or industrial machinery such as sheet metal presses, compactors, generators, rotating machinery, etc.). Further, new projects (industrial or otherwise) with operational or demolition/construction vibration sources would be subject to the city's CEQA thresholds, which reference the FTA standards discussed above.

City of Oakland Standard Conditions of Approval (SCA) and Uniformly Applied Development Standards

The city's SCAs intended to reduce adverse effects from noise and vibration are listed below.

SCA 28: *Days/Hours of Construction Operation.*
Timing: Ongoing throughout demolition, grading, and/or construction.

The project applicant shall require construction contractors to limit standard construction activities as follows:

a. Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

b. Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

c. Construction activity shall not occur on Saturdays, with the following possible exceptions:

    i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.

    ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

d. No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e. No construction activity shall take place on Sundays or Federal holidays.

f. Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc.) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

g. Applicant shall use temporary power poles instead of generators where feasible.

SCA 29: Noise Control.
Timing: Ongoing throughout demolition, grading, and/or construction.

To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

a. Equipment and trucks used for project construction shall utilize 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).

b. 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.

However, 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, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever feasible.

c. 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.

d. If feasible, the noisiest phases of construction shall be limited to less than 10 days at a time.

SCA 30: Noise Complaint Procedures.
Timing: Ongoing throughout demolition, grading, and/or construction.

Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

a. A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);

b. A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the city and construction contractor's telephone numbers (during regular construction hours and off-hours);

c. The designation of an on-site construction complaint and enforcement manager for the project;

d. Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and

e. A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

SCA 31: Interior Noise.
Timing: Prior to issuance of a building permit.

If necessary to comply with the interior noise requirements of the City of Oakland's General Plan Noise Element and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls) shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval. 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 phases. Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:

a. Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and

b. Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.

c. Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity and the single event noise occurrences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:

   i. Installation of an alternative form of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.

   ii. Prohibition of Z-duct construction.

SCA 32: Operational Noise-General.
Timing: ongoing.

Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

SCA 38: Vibration.
Timing: Prior to issuance of a building permit.

A qualified acoustical consultant shall be retained by the project applicant during the design phase of the project to comment on structural design as it relates to reducing groundborne vibration at the project site. If required in order to reduce groundborne vibration to acceptable levels (See **Table 4.3-3**), the project applicant shall incorporate special building methods to reduce groundborne vibration being transmitted into project structures. The City shall review and approve the recommendations of the acoustical consultant and the plans implementing such recommendations. Applicant shall implement the approved plans. Potential methods include the following:

a. Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a "spring isolation" system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of ground-borne vibration to the residences above.

b. Trenching, which involves excavating soil between the railway/freeway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project's structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets (i.e., Styrofoam) or low-density polyethylene).

SCA 39: Pile Driving and Other Extreme Noise Generators.
Timing: Ongoing throughout demolition, grading, and/or construction.

To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90dBA, 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 Planning and Zoning Division and the Building Services Division to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the city in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of the following measures. These attenuation measures shall include as many of the following control strategies as feasible:

a. Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;

b. Implement “quiet” pile driving technology (such as pre-drilling of piles, 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;

c. Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;

d. Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example; and

e. Monitor the effectiveness of noise attenuation measures by taking noise measurements.

SCA 57: Vibrations Adjacent to Historic Structures.
Timing: Prior to issuance of a demolition, grading or building permit.

The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage nearby historic structures and design means and methods of construction that shall be utilized to not exceed the thresholds.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to reduce land use noise incompatibilities between future developments in the Plan Area. Adherence to the following guidelines would ensure that future development within the Plan Area would orient public spaces and buildings to lessen noise levels.

Building Orientation

Orient residential buildings to lessen noise intrusion, with living space and outdoor spaces buffered from noise sources by the building mass.Design units exposed to high noise levels with interior courtyards and patios that open into acoustically protected and shielded areas.

Setbacks

Where tall industrial buildings abut residential uses, setbacks should be of a depth that ensures that industrial buildings do not overwhelm the residential use and that noise, odors, noxious fumes and other such impacts are of a sufficient distance to minimize their effect.

4.3.3 ANALYSIS OF POTENTIAL IMPACTS

City of Oakland CEQA Thresholds of Significance Criteria

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

1. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding construction noise, except if an acoustical analysis is performed that identifies recommend measures to reduce potential impacts [5] During the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard

2. Generate noise in violation of the City of Oakland nuisance standards (Oakland Municipal Code section 8.18.020) regarding persistent construction-related noise;

3. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding operational noise;

4. Generate noise resulting in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or, if under a cumulative scenario where the cumulative increase results in a 5 dBA permanent increase in ambient noise levels in the project vicinity without the project (i.e., the cumulative condition including the project compared to the existing conditions) and a 3 dBA permanent increase is attributable to the project (i.e., the cumulative condition including the project compared to the cumulative baseline condition without the project) [NOTE: Outside of a laboratory, a 3 dBA change is considered a just-perceivable difference. Therefore, 3 dBA is used to determine if the project-related noise increases are cumulative considerable.];

[5] The acoustical analysis must identify, at a minimum, (a) the types of construction equipment expected to be used and the noise levels typically associated with the construction equipment and (b) the surrounding land uses including any sensitive land uses (e.g., schools and childcare facilities, health care and nursing homes, public open space). If sensitive land uses are present, the acoustical analysis must recommend measures to reduce potential impacts.

5. Expose persons to interior Ldn 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 (CCR Part 2, Title 24);

6. Expose the project to community noise in conflict with the land use compatibility guidelines of the Oakland General Plan after incorporation of all applicable Standard Conditions of Approval; [6]

7. Expose persons to or generate noise levels in excess of applicable standards established by a regulatory agency (e.g., occupational noise standards of the Occupational Safety and Health Administration [OSHA]);

8. During either project construction or project operation expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA); [7]

9. Be located within an airport land use plan and would expose people residing or working in the project area to excessive noise levels; or

10. Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels.

Methodology

The analysis of future noise and vibration environments is based on the existing noise and vibration survey results (observations and measurements) and computer modeling. Traffic data was used to determine future noise levels from roadways in the Plan Area under both year 2020 and 2035 conditions. Year 2035 data is considered both the ultimate project buildout and cumulative case condition that incorporates the anticipated growth from development in the Plan Area with the anticipated growth of the entire region.

[6] The evaluation of land use compatibility should consider the following factors: type of noise source; the sensitivity of the noise receptor; the noise reduction likely to be provided by structures; the degree to which the noise source may interfere with speech, sleep or other activities characteristic of the land use; seasonal variations in noise source levels; existing outdoor ambient levels; general societal attitudes towards the noise source; prior history of the noise source; and tonal characteristics of the noise source. To the extent that any of these factors can be evaluated, the measured or computed noise exposure values may be adjusted in order to more accurately assess local sentiments towards acceptable noise exposure. (Oakland General Plan, Noise Element, 2005)

Traffic noise levels depend on the volume and speed of traffic, the mix of cars, trucks, and busses, and road surface conditions. Because the character of future development within the Plan Area is anticipated to be generally similar to existing development, no substantial change in vehicle mix is expected nor is there any expectation that road surface conditions would change from existing (paved) conditions. Changes in traffic noise were calculated assuming that a 3 dB increase would result per doubling of traffic volumes. Since there are no anticipated changes to the speed limits within the roadway network of the Plan Area, no adjustments in the future noise modeling were made for speed.

The main source of traffic noise in the Plan Area relates to the I-880 freeway. **Table 4.3-6** lists the projected traffic volumes on I-880 that were used to evaluate future noise conditions in the Plan Area. Without the project, year 2020 daily traffic volumes on I-880 would increase by approximately 14,000 to 17,000 vehicles (or about 4 percent) and about 40,000 vehicles by the year 2035 (10 percent above existing conditions). Estimated no-project changes in traffic volume would have essentially undetectable increases in Plan Area noise levels: less than 0.2 dBA L_{dn} at the year 2020 and about 0.4 dBA $L_{dn}$for the year 2035.

Project-related traffic would only add about 1,000 daily vehicle to I-880. Projected year 2020 with-project conditions would thus add a total of an additional 15,000 to 18,000 vehicles trips per day by the year 2020. By 2035, with-project daily traffic levels on I-880 would be expected to increase by 41,000 vehicles (versus a 40,000 vehicle increase without the project). The project-associated increase in I-880 vehicle activity would not measurably increase future noise levels relative to projected no-project conditions. With-project noise increases would thus be less than 0.2 dBA for the year 2020 and about 0.4 dBA for the year 2035 (on an L_{dn} basis).

In sum, year 2020 and year 2035 conditions, either with or without the implementation of the CEIG, there would be no perceivable difference in the noise environment with respect to traffic noise from I-880.

At the local street level, changes in traffic are slightly higher on a percentage basis, and the localized noise at intersections could increase by 1 to 4 dBA. However based on the relative location to these localized intersections, the change in noise levels at the noise measurement locations would be less than 0.5 dBA on an L_{dn} basis.

[7] The FTA criteria were developed to apply to transit-related groundborne vibration. However, these criteria should be applied to transit-related and non-transit-related sources of vibration.

Table 4.3-6 Future Traffic Volumes on I-880

Roadway Crossing	No Project			With Project		
	2009	2020	2035	2009	2020	2035
High Street	344,050	358,720	378,720	344,630	359,300	379,300
29th Avenue	403,230	420,010	442,880	405,390	422,170	445,040
23rd Avenue	332,470	347,690	368,430	336,110	351,330	372,070

Source: Arup, 2012.

Future development projects under the CEIG could generate noise comparable to current land uses; the precise level of noise generated from new development would depend design considerations and operational information unique to individual future projects. However, the analysis assumes that all new development will be subject to the city's SCAs and the noise section of the Oakland Planning Code. Planning Code Section 17.120.050 in particular sets forth maximum allowable noise levels at receiving properties. Application of this section means that new development must control its noise level so as not to exceed pertinent standards at adjacent receiving land uses.

Discussion of Impacts

Impact NO-1: Development facilitated by the CEIG would potentially increase construction noise at sensitive receptors located near construction sites. Compliance with the city's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)

Construction associated with development facilitated by the proposed CEIG would likely include improvements such as demolition, site preparation (earth moving, grading, paving), and building construction. The maximum noise levels from construction activities would depend on the types of construction equipment used, but typically ranges from 83 to 92 dBA at a distance of 25 feet from the construction site (see **Table 4.3-7**). These noise levels would diminish rapidly with distance from the construction site, generally at a rate of 6dBA per doubling of distance. For example, a noise level of 86 dBA measured at 50 feet from the noise source would decrease to 80 dBA at 100 feet, and 74 dBA at 200 feet. Depending on the relative distance to noise-sensitive land uses, construction activities associated with these improvements could generate noise levels above the city's Noise Ordinance standard of 65 dBA for residential land uses.

Table 4.3-7 Typical Construction Equipment Noise Levels

Equipment	Typical Noise level (dBA)			Typical Phase of Construction
	25 ft	50 ft	100 ft	
Air Compressor	87	81	75	All
Backhoe	84	78	72	Site preparation
Hand compactor	89	83	77	Site preparation
Compactor	89	83	77	Site preparation
Concrete Mixer	91	85	79	Foundation and Erection
Concrete Pump Truck	87	81	76	Foundation and Erection
Crane	87	81	75	All
Dozer	88	82	76	Site preparation
Dump Truck	83	77	72	Site preparation
Excavator	87	81	75	Site preparation
Front End Loader	85	79	73	All
Generator, Compressor	86	81	75	All
Grader	91	85	79	Site preparation
Pickup Truck*	81	75	69	All
Roller	86	80	74	Site preparation
Scraper	90	84	78	Site preparation
Soil Mix Drill Rig	86	80	74	Foundation
Pile driver (impact)	107	101	95	Foundation
Pile driver (vib)	107	101	95	Foundation
Concrete Saw	82	76	70	Site preparation
Ground Clearing Phase	88	82	66	Site preparation
Excavation/Grading Phase	92	86	80	Site preparation
Foundations Phase	83	77	71	Foundation
Structural Phase	89	83	77	Erection
External Finishing	92	86	80	Finishing

Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, 2005; Roadway Construction Noise Model, Federal Highway Administration, 2006.

Compliance with the city's SCA 28, Days/Hours of Construction Operation; SCA 29, Noise Control; SCA 30, Noise Complaint Procedures; SCA 39, Pile Driving and Other Extreme Noise Generators and SCA 57 (Vibrations Adjacent to Historic Structures) (all of which are stated in full in Section 4.3.2 above), would restrict noise-generating activities to the daytime hours, reduce noise levels from construction activities through the implementation of noise reduction programs, and provide nearby residents notification of construction activities and complaint procedures. Compliance with these measures would reduce construction noise impacts from development under the proposed CEIG to a less-than-significant level. No mitigation is required.

Impact NO-2: Construction of development facilitated by the CEIG could generate noise at levels in excess of City of Oakland nuisance standards for persistent construction-related noise. (LTS)

Construction of development anticipated under the CEIG would likely include activities such as demolition, site preparation (earth moving, grading, paving), and building construction. Depending on the relative distance to noise-sensitive land uses, construction activities associated with these improvements could generate noise levels in excess of the city's nuisance standards set forth in the Oakland Municipal Code. Implementation of the city's SCA 28, Days/Hours of Construction Operation; SCA 29, Noise Control; SCA 30, Noise Complaint Procedures; SCA 39, Pile Driving and Other Extreme Noise Generators and SCA 57 (Vibrations Adjacent to Historic Structures) (all of which are stated in full in Section 4.3.2 above), and A(f) Construction-Related Air Pollution Controls (Dust and Equipment Emissions) (stated in full within Section 4.1, Air Quality), would ensure adherence to the five Municipal Code provisions listed below, which were established to avoid a nuisance determination. Compliance with all five provisions would reduce the potential for construction noise to result in a nuisance to a less-than-significant level. No mitigation is required.

A. Maintain internal combustion engines
B. No unnecessary idling
C. Locate stationary sources far from residences
D. Use quiet construction equipment where possible
E. No pile drivers or jack hammers on Sundays and holidays

Impact NO-3: Development facilitated by the CEIG could generate noise levels in excess of standards established in the city's Noise Ordinance for operational noise. (LTS)

Future development within the Plan Area would include new land uses that would be likely to generate noise from rooftop mechanical ventilation systems as well as from everyday operations and activities. Noise from such new stationary sources could exceed operational noise thresholds established by the Oakland Planning Code Municipal Code and nuisance standards set forth in the Oakland Planning Code.

As set forth in SCA 32, Operational Noise-General, noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. The maximum allowable receiving noises recognize varying degrees of sensitivity associated with different land uses. In other words, the SCA and Section 17.120 set forth different (more stringent) maximum allowable noise levels for residential and civic uses (including parks/open space areas) than commercial or other uses deemed to have lower noise sensitivity. If noise levels exceed these standards, the SCA stipulates that the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

Compliance with these standards would reduce operational noise impacts to a less-than-significant level. No mitigation is required.

Impact NO-4: Development facilitated by the CEIG could potentially increase ambient noise levels, but by less than a 5 dBA permanent increase. (LTS)

Future development under the CEIG would generate additional noise associated with increased traffic volumes and everyday operational activities.

Future development in the Plan Area is assumed to generate the maximum allowable noise per the planning code at the existing noise-sensitive land use, up to 66 dBA (L_{dn}) depending on location. These assumed operational noise levels were then added to the traffic noise forecasts in order to calculate the overall increase in noise with the project. **Table 4.3-8** presents the predicted noise level increases from the implementation of the CEIG, given all of the aforementioned assumptions. **Figure 4.3-6** illustrates the future noise environment of the Plan Area.

As shown in **Table 4.3-8**, future development under the CEIG would generate additional noise associated with increased traffic volumes and everyday operational

activities that could potentially increase the noise environment at several locations, but none by more than 5 dBA at the near-term or in the cumulative case condition. Impacts would therefore be less than significant; no mitigation is required.

Impact NO-5: Development facilitated by the CEIG could expose persons to interior noise levels that exceed State building code requirements (45 dBA L_{dn}). (LTS)

Depending on the placement of new residential land uses, development under the CEIG could result in interior noise levels that exceed State building code requirements (45 dBA L_{dn}). However, compliance with the city's SCA 31, Interior Noise, would require an acoustical study and the inclusion of design measures to reduce interior noise to acceptable levels within the buildings, thereby reducing this impact to a less-than-significant level. No mitigation is required.

Impact NO-6: Development facilitated by the CEIG could be exposed to noise levels in conflict with the land use compatibility guidelines of the Oakland General Plan. (S)

The measured noise levels within the Plan Area are generally considered acceptable for the types of existing land use in the area. For example, the measured noise levels surrounding existing residential land uses (L-1, L-4, L-5, L-6 and L-7.) were consistent with the "Conditionally Acceptable" category for residential areas (60 to 70 dBA). The measured noise levels at the MLKRS (L8A, B) were consistent with the "Normally Acceptable" (up to 65 dBA) category for park areas. The exception is the noise environment for residential land uses along Kennedy Street (L-3), which is considered "Clearly Unacceptable" for residential development (75 to 80 dBA), and the noise environment at Union Point Park (L-2) which is considered "Normally Unacceptable" (65 to 75 dBA) for park areas.

It should be noted that much of the existing development within the Plan Area was not established under the current policies of the General Plan nor with consideration of the maximum level of permissible noise limits outlined in the city's Planning Code. Due to the influence of I-880, the existing condition provides elevated noise environments which exceed these Planning Code limits in some areas. In order to maintain land use compatibility, new development under the CEIG would be subject to more stringent noise restrictions than those with which the existing development was required to comply with.

Table 4.3-8 Potential Noise Effect of the Project, Near Term and Cumulative Case Scenarios

Measurement Location	Existing 2011 (L_{dn})	Near Term (2020) (L_{dn})		Difference Between Near Term Plus Project and Existing (dBA)[a]	Cumulative Noise Level 2035 (L_{dn})		Difference Between Cumulative Plus Project and Existing[a]	Difference between Cumulative Plus Project & Cumulative Without Project (dBA)[b]
		Without Project	Near Term Plus Project		Cumulative Without Project	Cumulative Plus Project		
2100 Livingston St.	68	68.1	69.8	1.8	68.2	69.9	1.9	1.7
Union Point Park	66	66.2	69.1	3.1	66.3	69.2	3.2	2.9
837 Kennedy St.	82	82.3	82.4	0.4	82.4	82.5	0.5	0.1
2955 Glascock St.	70	70.0	70.0	0.0	70.0	70.1	0.1	0.1
2910 Ford St.	65	65.1	68.6	3.6	65.2	68.6	3.6	3.4
3010 E 7th St	70	70.2	70.2	0.2	70.3	70.4	0.4	0.1
3304 Elmwood Ave.	67	67.2	69.7	2.7	67.4	69.8	2.8	2.4
MLKRS	61	61.0	64.0	3.0	61.1	64.1	3.1	3.0

Notes:
[a] Considered significant if the increase is greater than 5 dBA.
[b] If the difference between cumulative plus project and existing is significant (greater than 5 dBA), the project's contribution would be cumulatively considerable and thus if it resulted in a greater than 3 DBA permanent increase attributable to the project.

Source: Wilson, Ihrig & Associates, Inc., 2012.

Implementation of the policies, codes, and conditions already included as part of the General Plan and Element updates would reduce some of the potential land use conflicts through the establishment of noise buffers and compliance with the city's noise standards for commercial and industrial operations. In addition, new multi-family residential development would be required to comply with the city's SCA 31, Interior Noise, which would require the inclusion of design measures to reduce interior noise to acceptable levels within the buildings. The CEIG also includes specific guidelines to ensure that buildings are designed with regard to land use compatibility in order to lessen noise intrusion.

The General Plan, and in particular the LUTE, was designed to limit the impacts of proposed projects on surrounding land uses. Development under the CEIG would be subject to the LUTE objectives and policies from the General Plan specifically focused on compatibility of land uses (Policy I/C4.1, D1.5, D10.2, D10.7, D11.1, D11.2, W1.3, W9.7, W12.5, N3.4, N5.2, N5.3, N7.2, and N7.5; Objective N8; and Policy N8.1, N9.7, N11.6). Implementation of the city's General Plan policies related to land use compatibility, codes that specify noise standards for commercial and industrial operations would ensure that the noise environment within the Plan Area, both indoors and outdoors, does not increase in a manner that worsens existing land use compatibility and expose noise-sensitive land uses to "unacceptable" noise levels; thus, reducing any potential noise impacts to a less-than-significant level. No mitigation is required.

Impact NO-7: Development facilitated by the CEIG may expose persons to or generate noise levels in excess of applicable occupational noise standards established by Cal-OSHA and the city's Planning Code. (LTS).

Construction activities, heavy machinery, and industrial processes can generate high noise levels in their immediate vicinity. When not properly protected, employees that work in loud environments can suffer hearing loss from excessive noise exposure. Applicable businesses (including construction contractors) within the State of California are required to comply with the California OSHA noise exposure standards to avoid health risks associated with loud work environments. In addition, Oakland has established even its own noise exposure standards as part of the Planning Code, Section 17.120, which are more restrictive than California OSHA requirements. Policy 1 of the General Plan Noise Element requires the

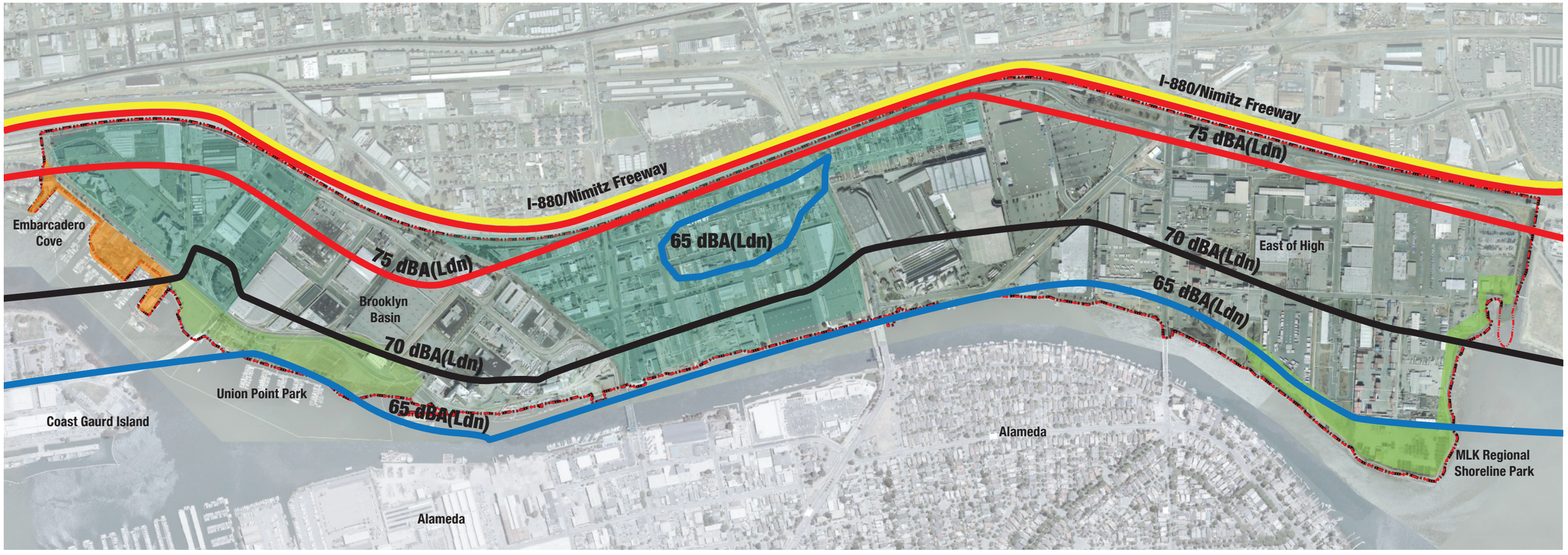
implementation of these more restrictive noise exposure standards. All businesses within the Plan Area, both existing and future, are required to comply with the city's standards; thus, any health risks associated with exposure to noise levels in excess of applicable standards would be reduced to a less-than-significant level. No mitigation is required.

Impact NO-8: Construction of the development facilitated by the CEIG may expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA). (LTS).

Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibrations from construction activities (other than pile driving) rarely reach the levels that can damage structures, but they can be perceptible in buildings very close to a construction site. **Table 4.3-8** lists the typical vibration levels generated by various equipment.

The vibration from impact or vibratory pile drivers can generate vibration on the order of 105 to 112 VdB at a distance of 25 feet from the piles. Vibratory compaction equipment can be expected to generate 94 VdB at a distance of 25 feet. Even at 100 feet, these activities could still reach 87 to 94 VdB for pile driving and 76 VdB for vibratory compaction, depending on the local soil conditions. Since future construction activities could be on-going during a typical construction day, these events would be categorized as "frequent events" and therefore exceed the 75 VdB FTA criterion, should the construction work occur near existing development (see **Table 4.3-8**).

Compliance with SCA 38, Vibration; and SCA 39, Pile Driving and Other Extreme Noise Generators, would require future development to retain a qualified acoustical consultant during the design phase to review and address the adverse effects related to groundborne vibration from construction activities. Should a future development project require pier drilling, pile driving, and/or other extreme construction activities that generate vibration levels above the FTA criterion, the project applicant would be required to incorporate special building methods to reduce groundborne vibration. Compliance with these standards would reduce construction vibration impacts from development under the proposed CEIG to a less-than-significant level. No mitigation is required.



Legend

Plan Area

Future Noise Levels with Project (2020 & 2035)

- 75 dBA(Ldn)
- 70 dBA(Ldn)
- 65 dBA(Ldn)
- I-880/Nimitz Freeway

Future Noise-Sensitive Land Uses

- Proposed Hotel Use
- Proposed Mixed Use
- Parks

0 500 1000 2000
FEET

Future Noise Contours Within the Plan Area (2020 and 2035)

Figure 4.3-6

Source: Wilson Ihrig & Associates, 2012.

Figure 4.3-6 Future Noise Contours Within the Plan Area (2020 and 2035) (back)

Table 4.3-9 Typical Vibration Source Levels for Construction Equipment

Equipment	Typical Vibration level (VdB)	
	25 feet	100 feet
Large Bulldozer	87	69
Truck	86	68
Jackhammer	79	61
Small Bulldozer	58	40
Caisson Drilling	87	69
Pile Driving (impact, upper range)	112	94
Pile Driver (sonic, upper range)	105	87

Source: Housing Element EIR, 2010.

Impact NO-9: Development facilitated by the CEIG would not be located within an airport land use plan and would not expose people residing or working in the Plan Area to excessive noise levels associated with airports. (NI)

No impact would occur because none of the CEIG Plan Area is within any airport land use plan.

Impact NO-10: Development facilitated by the CEIG would not expose people residing or working in the Plan Area to excessive noise levels associated with private air strips. (NI)

The Plan Area is not located within the vicinity of a private airstrip.

4.3.4 CUMULATIVE IMPACTS

Impact CUM NO-1: Construction activity from development under the CEIG in combination with other foreseen development projects would not have cumulative noise effects.

Noise impacts from construction sources are localized in nature because noise intensity decreases substantially with distance (i.e., by 6 dBA with each doubling of source-receptor distance); construction vibration levels decrease even faster. Construction activities at other development sites adjacent to the Plan Area may occur simultaneously with construction of the development allowed for under the CEIG. However, substantial construction-related noise and vibration would affect

only areas in close proximity to each of the individual construction sites. It is unlikely that construction noise or vibration from these other construction sites would jointly affect the same sensitive receptors. Further, all development within the city is required to comply with the city's SCAs. Thus, the contribution of the proposed project to potential cumulative construction noise impacts at sensitive uses near the project construction site and near other construction sites would be reduced to a less-than-significant level. No mitigation is required.

Impact CUM NO-2: The cumulative noise effect of a new development facilitated by the CEIG combined with the expected regional development and traffic growth would increase noise within the Plan Area, but not by a cumulatively considerable amount. (LTS)

Year 2035 noise modeling results in **Table 4.3-8** indicate that the majority of the existing and future noise-sensitive development within the Plan Area would continue to experience unacceptable noise levels with the cumulative addition of traffic noise beyond the project-related development within the Plan Area.

Reasonably foreseeable changes to the traffic volume on I-880 and local streets would cause a small increase in the Year 2035 noise environment. Since traffic on I-880 largely dominates the noise environment of the Plan Area, the change in I-880 traffic volume would control the future cumulative noise increase for development under the CEIG. Based on the same modeling assumptions used to determine the year 2020 impacts, the traffic increase on I-880 would generate a noise increase up to 4 dBA near truck routes by the year 2035 (23rd and 29th Avenues, Alameda Avenue and High Street). However, the overall noise environment near the existing and future noise sensitive land uses are not expected to be any different than when compared to the 2020 conditions (see **Figure 4.3-6**).

As discussed above under **Impact NO-4**, over time, it is possible for individual projects implemented under the CEIG to increase noise levels within the Plan Area. The majority of the noise increases would be reduced through the implementation of the city's SCAs, General Plan policies, or mitigation measures established in the LUTE EIR. This would limit any potential noise increases within the Plan Area to 3 dBA or less, reducing any potential cumulative noise impacts to a less-than-significant level. No mitigation is required.

4.3.5 REFERENCES

California Building Standards Code Section 1208/California Code of Regulations, Title 24, Part 2.

Federal Aviation Administration, Title 14, Part 150 "Airport Noise Compatibility Planning, " accessed via the internet at http://www.faa.gov/airports/environmental/airport_noise/

Federal Railroad Administration, "High Speed Ground Transportation Noise and Vibration Impact Assessment," October 2005.

Federal Transit Administration (FTA), "Transit Noise and Vibration Impact Assessment" (DTA-VA-90-1003-06), May 2006.

Port of Oakland, Oakland International Airport Master Plan, March 2006. Noise contour accessed via web 3/23/12: http://www.flyoakland.com/masterplan_oak/aircraft_noise.shtml

United States Environmental Protection Agency, "Community Noise", NTID 300.3, Prepared by Wyle Laboratories, December 1971.

United States Environmental Protection Agency, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an adequate Margin of Safety", March 1974.

United States Environmental Protection Agency , "Noise Effects Handbook – A Desk Reference to Health and Welfare Effects of Noise , EPA 500-9-82-106, October 1979, Revised July 1981.

United States Environmental Protection Agency, "The Urban Noise Survey," (UNS- EPA 550/9-77-100), March 1977.

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4.4 TRANSPORTATION/TRAFFIC

This section describes the existing transportation conditions within the Plan Area and its vicinity, identifies the potential impacts related to implementation of the CEIG with the city's SCAs relevant to transportation/traffic, and mitigation measures to reduce potentially significant impacts. A discussion of policies and regulations related to transportation and traffic is also provided.

Findings of the EPP EIR

The existing conditions analysis presented in the EPP EIR evaluated 1998 conditions. To support the CEIG planning process, the transportation analysis was updated in 2009 with new traffic counts and other supporting data. The 2009 counts serve as the basis for the existing conditions scenario in this EIR impact assessment. Traffic counts for the recently constructed at-grade intersections at 42nd Avenue were collected in September 2011 and are used for the existing conditions traffic analysis at those locations.

Findings of the Housing Element EIR

The Housing Element EIR identified several approved housing sites within and surrounding the Plan Area. Given the assumed increases in traffic volumes due to the housing development, the EIR documented a series of traffic impacts to roadway segments under existing, 2015, and 2035. Some of the impacted roadway segments along Fruitvale Avenue and International Boulevard are located within the CEIG traffic study area. Future development allowed for under the CEIG would be slightly more than what was assumed in the Housing Element EIR. The CEIG traffic analysis takes this into account, as the results presented in this section identify additional impacted locations when compared to the Housing Element EIR.

4.4.1 TRANSPORTATION STUDY AREA

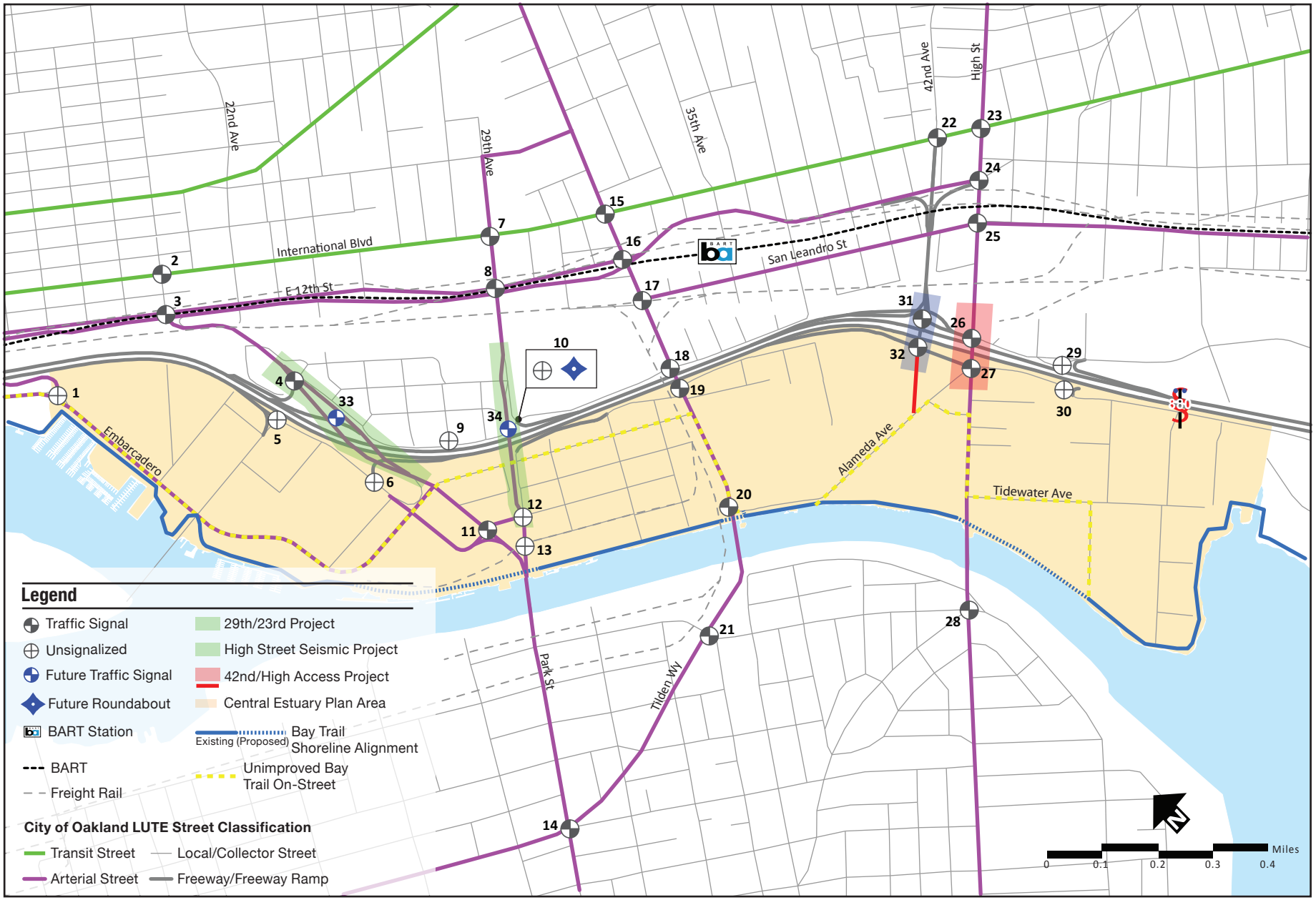
The Plan Area is centrally located within a robust network of regional and local transportation infrastructure. In order to capture the potential effects of the project on the surrounding transportation network, the study area for the transportation analysis extends beyond the physical boundaries of the Plan Area. **Figure 4.4.1** presents the location of the transportation study area and its relationship to the local and regional transportation network. The full list of the MTS

segments (and the MTS analysis) are provided in **Appendix D**. **Table 4.4-1** lists the study area intersections, freeway segments, Alameda County Congestion Management Program (CMP) routes and Metropolitan Transportation System (MTS) segments that included in the analysis.

Most of the study intersections and roadway segments are located within the City of Oakland, with three intersections located within the City of Alameda (these are indicated in Table 4.4-1). Several intersections and roadway segments within the study area share jurisdiction with Caltrans. International Boulevard (SR-185) and 42nd Avenue (SR-77) are both Caltrans facilities. Other intersection locations occur at ramp terminals where one intersection leg consists of an on or off-ramp serving I-880.

The major roadways within the transportation study area are summarized below:

- **Interstate 880 (I-880)** is a critical component of the Bay Area freeway network that links the communities of the East Bay from Oakland to San Jose. Within the transportation study area, I-880 is an eight-lane access controlled freeway with several closely spaced sub-standard interchanges and ramp junctions. I-880 provides access to downtown Oakland, the Port of Oakland, Oakland International Airport, and major industrial and distribution centers throughout the East Bay. In the vicinity of the Plan Area, the I-880 corridor traverses many densely populated residential areas and serves several large office and retail centers. The interchange spacing through the study area does not meet Caltrans one-mile standard for urban interchanges.
- **International Boulevard** (SR-185) is a four-lane arterial roadway that parallels I-880 and East 12th Street and stretches from East 14th Street in downtown Oakland to the City of Hayward. It is an important north-south connection that also serves many heavily used AC Transit bus routes, including the 1 Rapid bus line. International Boulevard is also an important commercial corridor for many neighborhoods in East Oakland.
- **East 12th Street** is a four- to six-lane arterial roadway that travels parallel to I-880 and International Boulevard from downtown Oakland to just west of the Coliseum. East 12th Street predominately serves industrial and warehouse land uses and has much less transit service and commercial activity than International Boulevard. For these reasons, East 12th Street is characterized by higher speeds and less pedestrian activity. East 12th Street's greater capacity, fewer pedestrians, and higher speeds results in traffic volumes (west of Fruitvale Avenue) that are approximately 5 to 10 percent higher than International Boulevard.



Traffic Study Area

Figure 4.4-1

Source: Arup, 2012.

Table 4.4-1 Transportation Study Locations

Transportation Study Locations[1]	
Study Intersections	
1. Embarcadero / 16th Ave	18. Fruitvale Ave / E 9th St
2. International Blvd (E 14th St, SR-185) / 22nd Ave	19. Fruitvale Ave / E 8th St
3. E 12th St / 22nd Ave / 23rd Ave	20. Fruitvale Ave / Alameda Ave
4. 23rd Ave / E 11th St (Caltrans on-ramp)	21. Tilden Way / Fernside Blvd / Blanding Ave (Alameda)
5. Dennison St / Kennedy St / SB 880 off-ramp (Caltrans off-ramp)	22. 42nd Ave / International Blvd (SR-185)
6. Kennedy St / SB 880 on-ramp (Caltrans on-ramp)	23. High St / International Blvd (SR-185)
7. 29th Ave / International Blvd (SR-185)	24. High St / E 12th St
8. 29th Ave / E 12th St	25. High St / San Leandro St
9. E 8th St / Lisbon Ave / NB 880 on-ramp (Caltrans on-ramp)	26. High St / Coliseum Wy (Caltrans ramps)
10. E 9th St / E 8th St / NB 880 off-ramp	27. High St / SB 880 off-ramp/Oakport St (Caltrans ramps)
11. 23rd Ave / Ford St	28. High St / Fernside Blvd (Alameda)
12. 29th Ave / Ford St	29. Coliseum Wy / NB 880 off-ramp (Caltrans off-ramp)
13. 29th Ave / 23rd Ave / Park St	30. Oakport St / SB 880 on-ramp (Caltrans off-ramp)
14. Park St / Lincoln Ave / Tilden Way (Alameda)	31. 42nd Avenue / NB I-880 on-ramp (Caltrans ramps)
15. Fruitvale Ave / International Blvd (SR-185)	32. 42n Avenue / SB I-880 off-ramp (Caltrans-ramps)
16. Fruitvale Ave / E 12th St	33. 23rd Avenue / NB I-880 on-ramp (planned)[2] (Caltrans ramps)
17. Fruitvale Ave / San Leandro St / E 10th St	34. 29th Avenue / NB I-880 off-ramp (planned)[2] (Caltrans ramps)
Study Roadway Segments (Freeway/CMP)	
1. I-880: 16th Ave	5. 23rd Ave: Alameda city limit to I-880 (CMP)
2. I-880: 23th Ave	6. 29th Ave: Alameda city Limit to I-880 (CMP)
3. I-880: Fruitvale Ave	7. 42nd Ave (SR-77): I-880 to International Blvd (CMP)
4. I-880: 50th Ave (south of High St)	

Notes:
[1] Intersections located on Caltrans facilities (e.g., SR-77, SR-185) are noted. Intersections located within the City of Alameda are also noted.
[2] These two intersections are included as part of the Interstate 880 (I-880) Operational and Safety Improvements at 29th Avenue and 23rd Avenue Overcrossings project
Source: Arup, 2012.

- **Fruitvale Avenue** is a major east-west arterial that stretches from I-580 and MacArthur Boulevard in East Oakland to the Fruitvale Avenue Bridge and Tilden Way in Alameda. Throughout most of the Plan Area, Fruitvale Avenue has two westbound lanes and one eastbound lane. Outside of the Plan Area, Fruitvale Avenue is a four-lane roadway. Fruitvale Avenue provides one of the three bridge crossings of the Oakland Estuary. Fruitvale Avenue has no direct freeway access to I-880 and very little transit service. Only two AC Transit bus routes serve Fruitvale Avenue within the Plan Area limits.

- **High Street** is a major four-lane east-west arterial roadway that runs from I-580 to Alameda and parallels Fruitvale Avenue. High Street traverses major industrial sections of the study area and therefore handles a large amount of trucks and other heavy vehicles. High Street provides access to I-880 via the 42nd Avenue ramps. High Street also provides another bridge connection across the Estuary.

- **16th, 23rd, and 29th Avenues** provide critical east-west connections from Oakland to Alameda through the Plan Area. All three of these facilities have bridges that span I-880 and the freight rail tracks just east of the freeway. Ramps to/from I-880 are provided at 23rd Avenue. At 29th Avenue, an indirect set of on and off-ramps provide access to I-880 through the residential neighborhoods east of the freeway. Near the Park Street Bridge, 23rd and 29th Avenues also converge as a complex one-way system of three intersections, also known as the "Park Street Triangle".

- **42nd Avenue (SR-77)** is a very short four-lane access controlled highway that serves as a direct ramp connection from I-880 to International Boulevard and E 12th Street. The new at-grade intersections serving the I-880 ramps create a frontage road system that improves local access and circulation within the Plan Area.

Previous environmental documents have identified a number of intersections that either currently operate at an unacceptable LOS or are projected to operate at an unacceptable LOS in the future. This EIR identifies these intersections as "impacted intersections" because the components of the project also could affect those locations. **Table 4.4-2** presents intersections that previous environmental documents have identified as having significant and unavoidable impacts.

Table 4.4-2 Summary of Intersections Previously Identified as Having Significant and Unavoidable Impacts

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
7th Street/8th Street/ 5th Avenue	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	**F**
7th Street/12th Street (SB)/14th Avenue	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	**F**
Adeline Street/ 5th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	**F**	**F**
Atlantic Avenue/ Webster Street (City of Alameda)	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	E	**F**
Broadway/3rd Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	**F**
Broadway/5th Street	Oak to Ninth Avenue DEIR	C	2004	C	**F**	2025	**E**	**F**
Broadway/5th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	C	**E**	2025	**F**	**F**
Broadway/7th Street	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	**E**
Broadway/12th Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	**E**
Broadway/23rd Street	Broadway and West Grand Avenue DEIR	C	2004	C	D	2025	C	**E**
Broadway/ West Grand Avenue	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	**E**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Broadway/ MacArthur Boulevard	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004	C	C	2025	C	**E**
	MacArthur BART Transit Village DEIR	C	2006	D	D	2030	**F**	**F**
	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	**E**	D
Brush Street/ 11th Street/I-980 Westbound On-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	**E**	B
Brush Street/West Grand Avenue (side-street stop controlled)	Alta Bates Summit Hospital DEIR	C	2009	**E(F)**	**F(F)**	2035	**F(F)**	**F(F)**
Castro Street/ 17th Street/I-980 Eastbound Off-Ramp	Uptown Mixed Use Project DEIR	C	2003	C	C	2025	C	**E**
	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	**E**	D
East 9th Street/1-880 Northbound Off-Ramp	Gateway Community Development Project	D	2004	**F**	**F**	2025	**F**	**F**
Embarcadero/ 5th Avenue	Oak to Ninth Avenue DEIR	C	2004	**F**	**F**	2025	**D**	**F**
Embarcadero/ Broadway	Oak to Ninth Avenue DEIR	C	2004	A	A	2025	B	**F**
Embarcadero/ I-880 Northbound Off-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	**F**
Embarcadero/ I-880 Southbound Off-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	**E**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Embarcadero/ Webster Street	Jack London Square Redevelopment DEIR	C	2003	A	B	2025	**E**	**F**
Foothill Boulevard/ 14th Avenue (Eastbound)	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	**F**
Foothill Boulevard/ 14th Avenue (Westbound)	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	**E**	C
Franklin Street/ 2nd Street	Jack London Square Redevelopment DEIR	C	2003	**F**	B	2025	**F**	B
Franklin Street/ 3rd Street	Jack London Square Redevelopment DEIR	C	2003	**F**	B	2025	**F**	D
Franklin Street/ 17th Street	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	**E**	D
Frontage Road/ West Grand Avenue	Uptown Mixed Use Project DEIR	C	2003	C	**E**	2025	**F**	**F**
Grand Avenue/ El Embarcadero	Kaiser Center Redevelopment Project DEIR	D	2008	C	**F**	2030	C	**F**
Grand Avenue/ MacArthur Boulevard/ I-580 EB Off-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	D	**E**	2030	**E**	**F**
Harrison Street/ 7th Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	C	**E**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Harrison Street/ 20th Street/Kaiser Center Access Road	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	**E**	**F**
Harrison Street/ 21st Street	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	**F**
Harrison Street/ 27th Street/ 24th Street	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	**F**	**F**
Harrison Street/ 29th Street (side-street stop controlled)	Alta Bates Summit Hospital DEIR	C	2009	A(E)	A(E)	2035	**F(F)**	**C(F)**
Harrison Street/ Grand Avenue	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	**F**	D
	Uptown Mixed Use Project DEIR	C	2003	C	D	2030	**F**	**F**
Harrison Street/ Lakeside Drive	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	C	**E**
Harrison Street/ MacArthur Boulevard/ Santa Clara Avenue	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	**F**	C
Harrison Street/ Stanley Place/I-580 Eastbound Off-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	**F**	C
I-880 Northbound Off-Ramp/7th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	C	**E**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Jackson Street/ 6th Street/ I-880 Northbound Off-Ramp	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	**F**	**F**
	Kaiser Center Redevelopment Project DEIR	D	2008	**F**	**F**	2030	**F**	**F**
	325 7th Street Project DEIR	D	2006	E	E	2030	**F**	**F**
Kaiser Center Access Road/21st Street	Kaiser Center Redevelopment Project DEIR	D	2008	B	B	2030	B	**E**
Lakeshore Avenue/ Foothill Boulevard	Oak to Ninth Avenue DEIR	C	2004	C	B	2025	**E**	B
Lakeshore Avenue/ Lake Park Avenue	Oak to Ninth Avenue DEIR	C	2004	D	D	2025	D	**E**
Lakeshore Avenue/ MacArthur Boulevard/ I-580 Eastbound On-Ramp	Oak to Ninth Avenue DEIR	C	2004	C	**E**	2025	C	**F**
	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	**F**	**F**
Mandela Parkway/ 7th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	**F**
Market Street/ 3rd Street	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	**E**	**F**
Market Street/ 5th Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	**E**	**F**
Market Street/ 7th Street	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	**F**	**F**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Market Street/ West Grand Avenue	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	**E**
Martin Luther King Jr. Way/5th Street	Jack London Square Redevelopment DEIR	C	2003			2025	**E**	**F**
Northgate Avenue/ 27th Street/I-980 On-Ramp	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	**E**	**F**
Northgate Avenue/ West Grand Avenue	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	C	C
Oak Street/5th Street/ I-880 Southbound On-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	**F**
	Kaiser Center Redevelopment Project DEIR	D	2008	**E**	**F**	2030	**F**	**F**
	325 7th Street Project DEIR	D	2006	D	**F**	2030	**F**	**F**
Oak Street/ 7th Street	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	**F**
Oak Street/ 14th Street	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	D	**F**
Oakland Ave/ MacArthur Blvd/ Santa Clara Ave/ I-580 WB Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	**F**	C
Oakland Avenue/ Perry Place/I-580 Eastbound Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	B	**F**	2030	**F**	**F**
	Alta Bates Summit Hospital DEIR	C	2009	B	D	2035	**F**	**F**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
San Pablo Avenue/ Thomas L. Berkley Way	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	C	**F**
San Pablo Avenue/ West Grand Avenue	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	C	**F**
	Alta Bates Summit Hospital DEIR	C	2009	B	B	2035	C	**F**
Telegraph Avenue/ 19th Street	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	**F**	**E**
Telegraph Avenue/ 23rd Street	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	D	**F**
Telegraph Avenue/ 24th Street	Broadway & West Grand Avenue DEIR	C	2004	B	C	2025	B	**F**
Telegraph Avenue/ 27th Street	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	C	**F**
	Alta Bates Summit Hospital DEIR	C	2009	B	D	2035	**F**	**F**
Telegraph Avenue/ Grand Avenue	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	**E**	**F**
Telegraph Avenue/ MacArthur Boulevard	MacArthur BART Transit Village DEIR	C	2006	B	B	2030	**E**	**F**
	Alta Bates Summit Hospital DEIR	C	2009	C	B	2035	**E**	**F**
Telegraph Avenue/ Thomas L. Berkley Way	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	**F**	**F**

Intersection	EIR/Project Document	Document Status[a]	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Telegraph Avenue/ West Grand Avenue	Uptown Mixed Use Project DEIR	C	2003	C	C	2025	**E**	**E**
	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	D	**E**
Telegraph Avenue/ William Street	Uptown Mixed Use Project DEIR	C	2003	A	A	2025	**E**	**E**
Webster Street/ 8th Street	Oak to Ninth Avenue DEIR	C	2004	C	**E**	2025	D	**E**

Notes: **Bold** typeface signifies unacceptable LOS.
[a] C = certified, D = draft environmental document published, F = final environmental document published

Source: City of Oakland, 2007-2014 Housing Element Draft EIR, 2010.

Public Transit

Transit services located within the transportation study area include Alameda-Contra Costa Transit District (AC Transit) bus, Bay Area Rapid Transit (BART) commuter train, as well as Water Emergency Transportation Authority (WETA) ferry services. Paratransit services are also provided by East Bay Paratransit.

AC Transit

AC Transit bus lines serve 13 cities and adjacent unincorporated areas of Alameda and Contra Costa County. Many of the AC Transit lines are heavily concentrated outside of the Plan Area along the International Boulevard corridor, where the majority of the demand and residential/commercial uses exist. The Fruitvale BART station and transit village serves as a major terminus and transfer station for several AC Transit bus lines.

AC Transit service is limited within the Plan Area, as demand is relatively sparse (approximately 60 combined daily boardings). As shown in **Figure 4.4-2**, only two local routes and two Transbay routes directly serve the Plan Area, which stop at a total of five locations. These routes include the Local 20 and 21, as well as the Transbay O and OX. **Table 4.4-3** summarizes the AC Transit routes within the Plan Area.



AC Transit Routes Serving the Transportation Study Area

Figure 4.4-2

Source: AC Transit, 2012.

Table 4.4-3 AC Transit Routes Serving the Central Estuary Plan Area Table

Route #	Route Name	Service Type	Time Period[1]	Service Span		Service Frequency			
				Start	End	AM Peak	Mid-Day	PM Peak	Night
20	Dimond District – Downtown Oakland	Local	M-F	5:00 AM	12:30 PM	30	30	30	30
			Sat Sun	5:00 AM	12:20 PM	30	30	30	30
21	Dimond District – Oakland Airport	Local	M-F	6:20 AM	10:10 PM	30	30	30	30
			Sat-Sun	7:15 AM	10:00 PM	30	30	30	30
O	SF Transbay Terminal – Fruitvale BART	Transbay	M-F	5:00 AM	10:45 PM	12-15	60	10	60
			Sat-Sun	5:30 AM	12:30 AM	60	60	60	60
OX	SF Transbay Terminal – Island Dr. Park & Ride	Transbay	M-F(EB)	4:15 PM	8:40 PM	-	-	10	30
			M-F(WB)	5:35 AM	8:50 AM	15	-	-	-
			Sat-Sun	No Weekend Service					

Notes:
[1] Schedules effective as of September 2012 (www.actransit.org).
Source: AC Transit, 2012.

International Boulevard is one of the primary transit corridors in Oakland. The International Boulevard transit corridor and the Fruitvale BART station combine to provide areas directly west of the study area with a very high level of transit service and capacity. These routes operate outside of the limits of the Plan Area. The walk distance from the Plan Area boundary to International Boulevard is approximately one-third to one-half of a mile. This distance, the lack of direct pedestrian/bicycle routes, and the poor pedestrian environment limits the effectiveness of these routes to serve the Plan Area's existing population.

In total, seven daytime routes and a single night-time owl route operate along the International Boulevard corridor and/or within proximity of the Fruitvale BART station. Among these routes is the Rapid 1R, a Bus Rapid Transit (BRT)-type service operating with bus signal priority, longer stop spacing, and vehicle branding. The bus signal priority at intersections and greater stop spacing provide improved speed and schedule reliability.

Table 4.4-4 provides a summary of the routes with stops outside of the Plan Area boundaries. The peak weekday service headways range from 12-20 minutes on these routes. Weekend headways are still fairly frequent, ranging from 15-30 minutes.

Table 4.4-4 AC Transit Routes Outside of the Plan Area

Route #	Route Name	Service Type	Time Period1	Service Span		Service Frequency			
				Start	End	AM Peak	Mid-day	PM Peak	Night
1	Bay Fair BART – Berkeley BART	Local	M-F	5:00 AM	1:00 AM	15	15-20	15	20
			Sat-Sun	5:00 AM	1:15 AM	20	20	20	20
1R	Bay Fair BART – Berkeley BART	Rapid	M-F	5:45 AM	8:00 PM	12	12	12	-
			Sat-Sun	7:30 AM	7:00 PM	15	15	15	-
14	MacArthur BART – Fruitvale BART	Local	M-F	5:00 AM	8:45 PM	15	30	15	-
			Sat-Sun	7:15 AM	8:45 PM	30	30	30	-
47	Fruitvale BART – 55th Ave. & MacArthur Blvd.	Local	M-F	6:00 AM	7:30 AM	30	30	30	-
			Sat-Sun	No Weekend Service					
54	Fruitvale BART – Merrit College	Local	M-F	6:00 AM	10:30 AM	10	15	15	60
			Sat-Sun	7:30 AM	7:30 PM	30	30	30	-
62	Fruitvale BART – West Oakland BART	Local	M-F	5:30 AM	1:00 AM	20	20	20	30
			Sat-Sun	5:30 AM	1:00 AM	30	30	30	30
801	Fremont BART – 14th St. & Broadway	Owl	M-F	11:30 PM	5:30 AM	-	-	-	60
			Sat	11:30 PM	6:30 AM	-	-	-	60
			Sun	11:30 PM	8:15 AM	-	-	-	60

Notes:
[1] Schedules effective as of March 22, 2009 (www.actransit.org).
Source: AC Transit, 2012.

BART

The BART provides regional commuter rail transit service in the Bay Area. BART operates along a corridor that runs parallel to I-880 and E 12th Street, just to the east of the Plan Area. The Fruitvale BART station is the closest to the study area. **Figure 4.4-3** shows the location of the Fruitvale BART station in relation to the entire BART system.

The Fruitvale BART station currently serves three BART lines: the Green Line between San Francisco and Fremont; the Orange line between Richmond and Fremont; and the Blue line between San Francisco and Dublin / Pleasanton. Service on BART is directional with more frequent service in the peak direction of travel (towards Downtown Oakland and San Francisco in the morning and south towards Fremont in the afternoon). Headways on each line vary from 15-20 minutes depending on the time of day and day of the week. During the weekday, the combined service headway is five minutes in the peak commute direction (towards San Francisco). BART operates seven days a week with weekday peak service being the heaviest and Sunday/Holiday service being the lightest.

The 2008 *BART Station Profile Study* (BART, 2009) indicates that on average, 7,535 riders enter Fruitvale station. Of these riders, 5,486 riders (73%) are coming from home. The travel modes and share of trips to the station are: Drive Alone (38%), Bus/Transit (19%), Walk only (17%), Dropped Off (11%), Bicycle (10%), and Carpool (4%). The 10 percent bicycle mode share for passengers arriving at the station is the second highest in the BART system (Downtown Berkeley is number one). There are approximately 766 parking spaces the Fruitvale station.

Bicycle/Pedestrian

Bicycle Facilities

There are three primary classes of bicycle infrastructure within the Plan Area, as defined in the City of Oakland Bike Master Plan (City of Oakland, December 2007).

- **Bicycle Paths (Class 1)** are off-street paths that are available for use by cyclists. They are typically shared with pedestrians and often called mixed-use paths. They are often located in parks, along waterways, former railways and freeways. Off-street sections of the Bay Trail are considered Class 1 facilities.



BART Route System

Figure 4.4-3

Source: BART, 2012.

- **Bicycle Lanes (Class 2)** are on-street lanes, designated for exclusive use by cyclists. Bicycle lanes are often installed (with dedicated lane striping) on arterial and collector roads that have relatively high vehicle volumes and speeds.

- **Bicycle Routes (Class 3)** are streets that provide signage, but no dedicated travel lanes for cyclists. Instead, cyclists share a mixed use lane with other vehicles. Streets with Class 3 bicycle routes usually have relatively low levels of auto traffic and may be provided with traffic calming or other physical measures to support bicycle travel.

Two types of Class 3 bike lanes used in Oakland that incorporate enhanced bicycle amenities include:

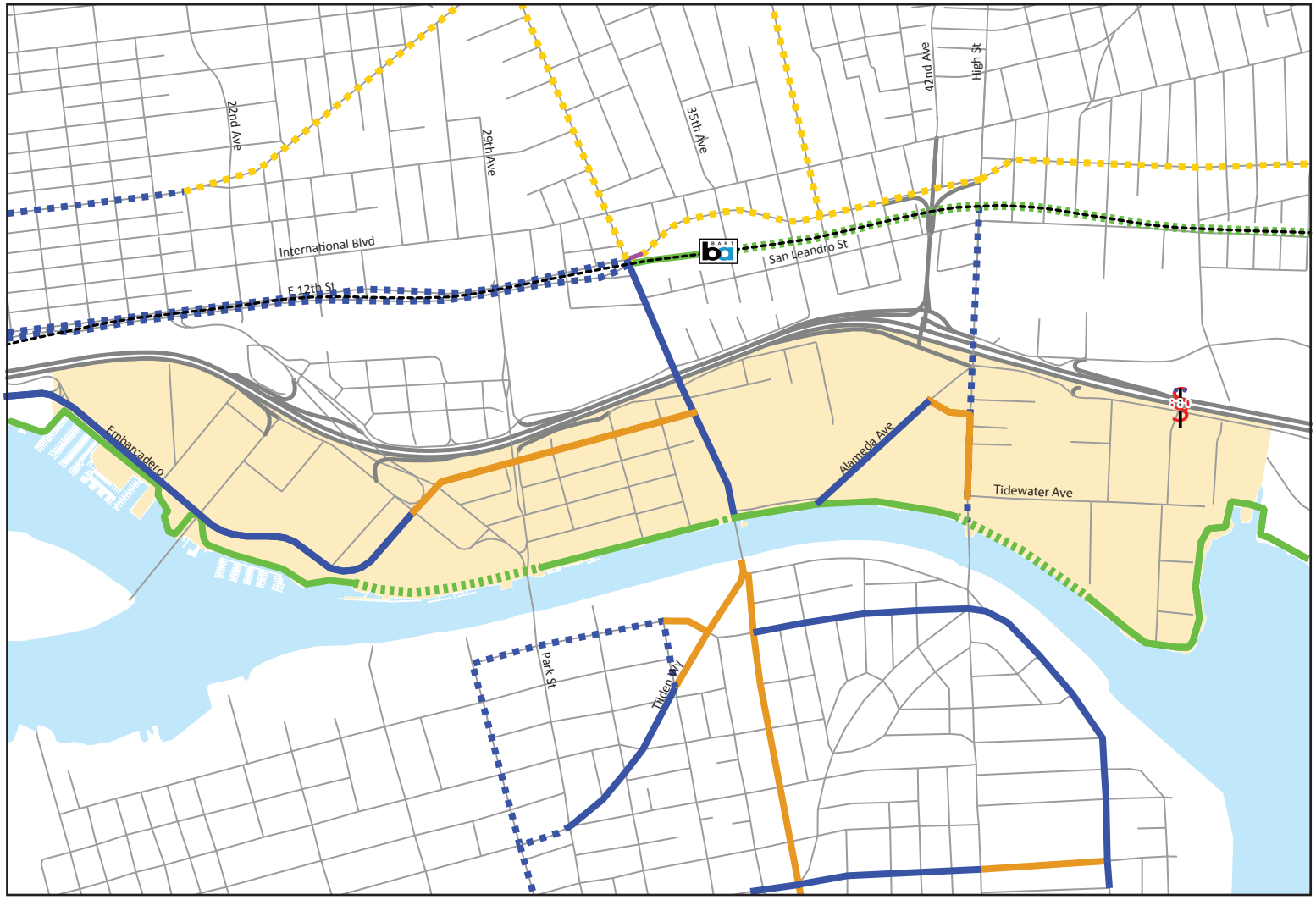
- **Arterial Bicycle Routes (Class 3A):** Bicycle routes may be used on some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. These streets should promote shared use with lower posted speed limits (preferably 25mph), shared lane bicycle stencils, wide curb lanes, and signage.

- **Bicycle Boulevards (Class 3B):** Bicycle boulevards are bicycle routes on residential streets that prioritize through trips for bicyclists. The route should appeal to cyclists of varied skill levels by providing direct connections on streets with low traffic volumes. The route should reduce delay to bicyclists by assigning right-of-way to travel on the route. Traffic calming should be introduced as needed to discourage drivers from using the boulevard as a through route. Intersections with major streets should be controlled by traffic signals with bicycle actuation.

Figure 4.4-4 presents the location and type of the existing and proposed bikeways within the study area.

San Francisco Bay Trail

The San Francisco Bay Trail (the Bay Trail) is an important element of the Bay Area's overall pedestrian and bicycle network. The ultimate goal of the Bay Trail is to provide a continuous 500-mile corridor around the entire Bay Area that connects communities and provides recreation and transportation opportunities. Various alignment options and strategies for the entire Bay Trail are identified in the report Oakland Waterfront Trail, Bay Trail Feasibility & Design Guidelines (City of Oakland and EDAW, 2006).



Legend

- Bike Path (Class 1) Including Bay Trail
- Bike Lane (Class 2)
- Bike Route (Class 3)
- BART
- Central Estuary Paln Area
- BART Station

0 0.2 0.4
MILES

Existing and Proposed Bikeways

Figure 4.4-4

Source: Arup, 2012.

Within the Plan Area, the Bay Trail follows an indirect on-street alignment along Embarcadero, E 7th Street, Fruitvale Avenue, Alameda Avenue, and High Street. In addition, the Bay Trail has several discontinuous segments located along roughly half of the Plan Area's waterfront shoreline. At the northern end of the Plan Area, the Bay Trail is an on-street designated route (Class 2 facility) that follows an alignment along Embarcadero. At the southern end of the Plan Area, the Bay Trail is an off-street pathway (Class 1 facility) that traverses the Martin Luther King Jr. Regional Park.

Many of the gaps in the Bay Trail alignment exist where individual parcels have water access. Easements and pier-supported structures will be required to span many of these segments. Other gaps exist at the three bridges that span the Estuary waterway. The City of Oakland is currently working to close these gaps through various programs, most notably its Measure DD bond measure.

Pedestrian Facilities

Pedestrian facilities include the network of sidewalks and crosswalks that parallel the local street system. Pedestrian facilities also include any off-street pathways accessible to pedestrians, such as the Bay Trail.

The City of Oakland's Pedestrian Master Plan (City of Oakland, 2002) designated certain pedestrian routes of significance at the citywide level. The plan identifies International Boulevard as the primary pedestrian corridor in the study area, along with a section of Fruitvale Avenue and Foothill Boulevard. Other designated routes include High Street, San Leandro Street, and adjacent sections of Foothill Boulevard and Fruitvale Avenue. District level routes of relevance include Park Street-29th Avenue and E 12th Street. The Bay Trail is also identified as a regional pedestrian facility.

Freight

This section briefly assesses existing freight and truck corridors within the transportation study area. Industrial land uses exist throughout the Plan Area, particularly in the East Planning Area south of High Street and the West Planning Area north of the Park Street Bridge and 23rd Avenue. Freight, goods, and materials are hauled to and from these industrial sites by trucks and rail.

A recent study completed by the Metropolitan Transportation Commission (MTC), Goods Movement/Land Use Project for the San Francisco Bay Area, Final Summary Report (Hausrath Economics Group, December 2008), provides a synopsis of goods movement and related land use issues in the Bay Area. The report identifies the cumulative implications of local land use decisions on the efficiency and cost of

regional goods movement, and addresses trends in land use patterns among goods movement businesses. The report estimates the impacts that logistics activities have on traffic congestion and Greenhouse Gas Emissions (GHGs).

The Plan Area's strategic location between the port and the airport, coupled with its access to I-880 and the freight rail tracks, provides an opportunity for the area to serve as a major freight and logistics hub. Assessing the Plan Area's freight and logistics infrastructure is important in identifying the suitability of the area for these types of activities.

Trucks

The primary truck corridor around the site is north-south I-880, which connects Oakland, San Francisco, San Jose, and other areas around the Bay Area. On a more local level, the Port of Oakland lies to the northwest of the site, connected by both I-880 and Embarcadero, while Oakland Airport lies to the south, connected to the site by I-880 and Oakport Street. Freight traffic to/from Alameda accesses I-880 via 23rd Avenue and High Street.

Based on a review of two recent studies, Fruitvale Alive! Master Transportation Plan (CHS Consulting Group, June 2005) and the City of Oakland's Industrial District Strategy Support, Public Infrastructure Assessment and Recommendations (BKF Consulting, October 2008), key freight corridors were identified. The primary truck routes are summarized below:

- 23rd Avenue: Links to northbound I-880 (with a direct on-ramp) and to Park Street Bridge to Alameda
- 29th Avenue: Links to southbound I-880 (with a direct on-ramp) and to Park Street Bridge to Alameda
- Embarcadero: Provides access to site from southbound I-880 and to Port of Oakland
- Alameda Avenue: Provides access to site for both directions of I-880, links to I-880, and to Alameda (via Fruitvale Avenue Bridge)
- High Street: Provides access to site for both directions of I-880, links to I-880, and to Alameda (via Fruitvale Ave. Bridge)
- Oakport Street: Links to southbound I-880 (with a direct on-ramp) for High Street and Alameda Avenue traffic and to Oakland Airport (frontage road alongside southbound I-880)

More localized freight routes include Tidewater Avenue and Lesser Street. The City's Industrial District Strategy report recommended the following improvements for truck traffic:

- **Tidewater Upgrade** – At present, Tidewater Avenue is a 50 foot private street in poor condition. Recommendations call for upgrading this street for improved truck operations and also to make it more amenable to multiple users including pedestrians and bicyclists. Various scenarios call for widening of the street with provisions for wider through lanes in each direction as well as curbside parking.

- **Reconfiguration of Tidewater and High Street Intersection** – At the corner of Tidewater and High Street, the eastbound High Street movement is problematic due to the short curb radius – this forces trucks to wait until the westbound High Street direction is clear before making the turn. This in turn congests traffic behind the waiting truck on Tidewater as well as mainline traffic on High Street in both directions. Proposals call for improving this intersection and the curb such that trucks could make this turn without entering the westbound High Street lanes. This could also reduce truck volumes on Lesser and Oakport streets.

Rail

Several Union Pacific Railroad (UPRR) freight tracks provide access to industrial users within the Plan Area and Alameda. Currently, most service is provided via the 5th Avenue spur that parallels Embarcadero and enters the Plan Area from the north. Most of the shipments are bound for the ConAgra flour mill located on E 7th Street and the Veronica Foods plant on Dennison Street. ConAgra receives shipments three times a week. Two of the shipments occur between 1:00 and 4:00 AM, while the third occurs between noon and 4:00 PM. Veronica Foods receives shipments twice a week, between 5:00 and 6:00 AM.

Until recently, the Glasscock spur, which accesses the Plan Area via a connection from Fruitvale Avenue, was used periodically by ConAgra for deliveries. Use of the Glasscock spur has waned over the last few years as residential units have been constructed in that area of Jingletown.

However, the Glasscock Street spur has recently been identified as the primary route to serve industrial users within the Plan Area as Caltrans closes the 5th Avenue spur in order to complete a seismic retrofit to the elevated section of I-880. The new bridge columns that will be constructed at 5th Avenue will make this spur

unusable. In April 2009, the City of Oakland came to a settlement agreement with UPRR and Caltrans on continued but extremely limited use of the Glasscock spur within the residential section of the Plan Area.

4.4.2 EXISTING CONDITIONS

Existing Transportation Issues

The following list summarizes the existing issues within the transportation study area. Detailed analyses follow.

- On many segments of I-880, traffic volumes exceed the design capacity during peak hours of travel. This results in significant congestion and travel time delays along the entire corridor. In the AM peak hour, the major bottlenecks exist at the western approaches to the Bay Bridge. Bottlenecks also occur on northbound I-880 near the 23rd Avenue interchange and on southbound I-880 near the San Mateo Bridge. I-880 through many sections of Oakland is not built to current geometric standards, which results in lower capacity.

- I-880 within the study area has several closely spaced interchanges. Closely spaced ramps result in many potentially unsafe merging/diverging and weaving maneuvers as vehicles enter and exit the mainline traffic stream on I-880. In addition to safety, the closely spaced ramps also degrade freeway capacity. The on and off-ramps serving I-880 at 23rd Avenue, 29th Avenue, and 42nd Avenue/High Street also have very short acceleration/deceleration lanes. Short acceleration and deceleration lanes pose a safety issue for vehicles entering and exiting I-880.

- There are only five east-west connections through the Plan Area: 16th, 23rd, 29th, Fruitvale, and High Street. These five connections funnel traffic through the Plan Area and onto the three bridges that cross the Estuary. Closely spaced intersections with non-standard geometries and many driveway curb cuts reduce capacity and degrade traffic flow along these roadways. The substandard interchange configurations throughout the study area put additional pressure on the roadway network at locations where local streets provide access to the I-880 ramps.

- The local street grid is confusing and difficult to navigate. The Park Street Triangle is an excellent example of this. The Park Street Triangle consists of

three closely spaced intersections that force traffic into a counter-clockwise one-way traffic flow. A traffic signal at the 23rd Avenue / Ford Street / Kennedy Street intersection helps to regulate traffic flow through the triangle. However, a number of uncontrolled "free" movements and the need to weave across one or two lanes of traffic to exit the Triangle, creates a confusing situation that can be difficult to navigate.

- The Plan Area lacks a continuous north-south roadway connection. All users trying to navigate the study area in a north-south direction must utilize an indirect route along several different streets.

- There is a lack of vehicular access to the Estuary waterfront. The lack of a continuous pedestrian, bicycle, and vehicle travel way abutting the Estuary shoreline is a major deficiency within the study area.

- The Bay Trail is an enormous asset for bicyclists and pedestrians throughout the Bay Area. However, the Bay Trail is discontinuous and difficult to access within the Plan Area. This forces Bay Trail users to follow an indirect route through the Plan Area on local streets.

- The overall pedestrian and bicycle environment throughout the study area is poor. Local streets and the bridges crossing the Estuary lack dedicated bike lanes and many street segments lack sidewalks. Several signalized intersections have prohibited pedestrian crossings, and many lack amenities such as striped pedestrian crosswalks with pedestrian signal heads and push buttons. The long distances required to cross I-880 and the freight rail tracks, combined with the poor physical condition of the sidewalks and streets that traverse these barriers, contribute to the poor pedestrian and bicycle environment.

Intersection Operations

Table 4.4-5 presents the results of the peak hour intersection analysis. The majority of transportation study area intersections operate at LOS D or better during the AM and PM peak hours. Field visits indicate that most intersections experience some minimal queuing, but that traffic flows relatively well at most locations. While most of the intersections operate within the City of Oakland's LOS D standard, congestion and vehicle queuing at High Street results in significant delays for vehicles traveling under I-880. This critical east-west corridor is a chokepoint in the system.

Table 4.4-5 Peak Hour Intersection Traffic Operations – Existing Conditions

Intersection[a]	Traffic Control[1]	Peak Hour	LOS / Delay (sec)[2]
1. Embarcadero/16th Ave	SSSC	AM PM	C / 16 D / 26
2. International Blvd (E 14th St)/22nd Ave	Signal	AM PM	A / 8 A / 8
3. E 12th St/22nd Ave/23rd Ave	Signal	AM PM	C / 28 C / 30
4. 23rd Ave/E 11th St	Signal	AM PM	B / 16 C / 30
5. Dennison St/Kennedy St/ SB 880 off-ramp	SSSC	AM PM	A / 8 (NBL) A / 8 (NBL)
6. Kennedy St/SB 880 on-ramp	Uncontrolled[3]	AM PM	A / 4 (SBL) A / 6 (SBL)
7. 29th Ave/International Blvd	Signal	AM PM	B / 16 B / 15
8. 29th Ave/E 12th St	Signal	AM PM	B / 14 B / 18
9. E 8th St/Lisbon Ave/NB 880 on-ramp	SSSC	AM PM	C / 16 B / 12
10. E 9th St/E 8th St/NB 880 off-ramp	AWSC	AM PM	F / 80 C / 19
11. 23rd Ave/Ford St	Signal[3,4]	AM PM	A / 8 B / 12
12. 29th Ave/Ford St	SSSC[3,4]	AM PM	A / 7 (WBR) B / 10 (WBR)
13. 29th Ave/23rd Ave/Park St	SSSC[3,4]	AM PM	A / 8 (EBL) A / 8 (EBL)
14. Park St/Lincoln Ave/Tilden Way (Alameda)	Signal	AM PM	B / 12 B / 15
15. Fruitvale Ave/International Blvd	Signal	AM PM	B / 16 B / 19
16. Fruitvale Ave/E 12th St	Signal	AM PM	C / 24 C / 27
17. Fruitvale Ave/San Leandro St/E 10th St	Signal	AM PM	B / 19 C / 20
18. Fruitvale Ave/E 9th St	Signal[3]	AM PM	C / 26 C / 24
19. Fruitvale Ave/E 8th St	Signal[3]	AM PM	B / 18 B / 12

Intersection[a]	Traffic Control[1]	Peak Hour	LOS / Delay (sec)[2]
20. Fruitvale Ave/Alameda Ave	Signal	AM PM	B / 15 B / 15
21. Tilden Way/Fernside Blvd/Blanding Ave (Alameda)	Signal	AM PM	C / 21 C / 20
22. 42nd Ave/International Blvd	Signal	AM PM	C / 34 C / 34
23. High St/International Blvd	Signal	AM PM	B / 11 B / 11
24. High St/E 12th St	Signal	AM PM	A / 7 B / 11
25. High St/San Leandro St	Signal	AM PM	C / 23 C / 24
26. High St/Coliseum Wy	Signal[3]	AM PM	C / 22 C / 30
27. High St/SB 880 off-ramp/Oakport St	Signal[3]	AM PM	B / 18 B / 15
28. High St/Fernside Blvd (Alameda)	Signal	AM PM	C / 34 C / 28
29. Coliseum Wy/NB 880 off-ramp	SSSC[3]	AM PM	D / 25 (EBT) D / 28 (EBT)
30. Oakport St/SB 880 on-ramp	SSSC[3]	AM PM	D / 33 (NBT) E / 36 (NBT)
31. 42nd Ave/I-880 NB ramp	Signal	AM PM	A / 7 A / 7
32. 42nd Ave/I-880 SB Ramp	Signal	AM PM	A / 7 A / 7

Notes: Intersection approach abbreviations: WBR = westbound right-turn; EBL = eastbound left-turn; EBT = eastbound through; NBT = northbound through.

[1] Traffic Control: SSSC = side-street stop control, AWSC = all-way stop control, Uncontrolled (no approach is controlled), Signal = traffic signal. The critical stop controlled movement with the worst delay is used to identify LOS (per HCM 2000 methodologies).

[2] LOS / Delay (seconds per vehicle) based on HCM 2000 methodologies. BOLD results indicate that the LOS exceeds the city's LOS D operating standard.

Source: Arup, 2012.

Despite the Park Street Triangle's unusual design, it does operate reasonably well from a traffic operations standpoint. Most of the high volume turning movements have the right-of-way through the area. These heavy movements are uncontrolled and do not have to stop, therefore, they incur very little delay. However, the

considerable number of weaving maneuvers that occur within the Triangle's network of one-way streets has resulted in a number of vehicle, pedestrian, and bicycle collisions. The Triangle is primary route for traffic heading from Alameda to the I-880 / 23rd Avenue interchange.

Freeway Traffic Operations

The most comprehensive source of existing traffic operations information on I-880 can be found in ACTC's 2010 LOS Monitoring Study (ACTC, 2010). According to this study, major bottlenecks occurred at the following locations along I-880:

AM Peak Hour

- The northbound section of I-880 from Hegenberger Road to High Street/42nd Avenue experiences LOS F conditions with an average speed of 26.1 mph. This section previously reported LOS D / 47.1 mph in the 2008 CMP.
- The northbound section of I-880 from 42nd Avenue to 23rd Avenue also experiences LOS F conditions with an average speed of 24.9 mph.
- Other segments of I-880 within the study area operate at LOS D (41 to 48 mph).

PM Peak Hour

- Southbound I-880 experiences LOS E conditions (30 to 40 mph) between 42nd Avenue and Hegenberger Road.
- LOS A conditions were observed on northbound I-880 through the study area and on sections of southbound I-880 through Downtown Oakland.
- In the PM peak hour, significant congestion and LOS E conditions occur on northbound I-880 from 35th Avenue to the MacArthur Maze and the Bay Bridge toll plaza.
- The high reported travel speeds in the southbound direction near the study area are likely due to the metering of traffic at the MacArthur Maze. The Maze restricts southbound traffic flow north of downtown Oakland, which results in relatively free-flow conditions on I-880 through the study area.

Public Transit Assessment

Transit facilities are limited within and around the transportation study area. Most stops consist of flagpoles and possess limited covered protection from the elements and/or lack benches. Bus stops also lack real-time arrival information and schedules. Opportunities exist to improve these bus stops and make them more amenable to transit users.

Key passenger facility findings for bus transit are summarized below:

- Five bus stops are located within the Plan Area – these are equipped with flagpoles at a minimum, with some having benches. Stops are located at both the near- and far-side of intersections. Stop locations include:
- 23rd Avenue / East 7th Street
- 23rd Avenue / 29th Avenue
- 29th Avenue / Glascock Street
- Fruitvale Avenue / Alameda Avenue
- Bus stops are most numerous along International Boulevard, averaging one every three-four intersections or about every 0.20-0.25 miles. The level of amenities provided varies by location, with some bus stops consisting only of a flagpole, while others are more elaborate with benches and/or covered shelters. Bus stops are located at both near-/far-sides of the intersection.
- Bus stops exist along the E 12th Street Corridor for the Local 62, north of Fruitvale Station as well as on 29th and Fruitvale Avenue, just east of the study area.
- The Fruitvale BART station is a hub of transit activity just west of the International Blvd. Corridor. Several routes originate/terminate at the BART station. The bus parking and maneuvering area is located at the west/south side of the station and includes five sawtooth bays to the north of the station and three along a center island. A bus loading area also exists in front of the station as well. Buses enter from 35th Avenue on the east side of the facility and exit via 33rd Avenue onto East 10th Street. Covered shelters exist at these locations for BART and AC Transit transfer passengers.

Bicycle/Pedestrian Assessment

A summary of the existing bicycle and pedestrian circulation issues within the study area are presented below.

- Major north-south arterial streets such as International Boulevard and E 12th Street lack designated bike lanes. This makes bike commuting to downtown Oakland from the Plan Area difficult.

- The 23rd and 29th Avenue overcrossings lack adequate sidewalks, have poor street-level access, and have abrupt grade changes: The two bridge structures spanning I-880 at 23rd Avenue and the single bridge structure at 29th Avenue only have narrow sidewalks on one side. Pedestrian access from the street level to the bridge sidewalks occurs at the base of each bridge and via stairways. These stairways are not compliant with the Americans with Disabilities Act (ADA). Also, the overcrossings have steep grades and abrupt grade changes as they rise to clear I-880. Steeper grades make it more difficult for pedestrians to cross using these sidewalks.

- All three bridges crossing the Oakland Estuary (Park Street, Fruitvale Avenue, and High Street) lack bicycle lanes. Bicyclists currently use the mixed-flow travel lanes and the narrow pedestrian paths on the sides of the bridges to cross from Alameda to Oakland.

- Three of the most significant gaps in the shoreline alignment of the Bay Trail occur at the three Estuary bridges. There is currently no access under the bridges and no marked or protected at-grade crossings.

- The existing gaps in the Bay Trail result in an indirect north-south route through the study area. This route forces bicyclists and pedestrians onto streets with high truck traffic. This routing also forces crossings at busy intersections without well-marked crosswalks.

- High Street has an overall poor quality pedestrian environment. A large number of industrial uses, narrow sidewalks, a lack of bike lanes and shoulders, prohibited pedestrian crossings at some intersections, and a lack of pedestrian amenities such as street trees create an overall poor walking experience. At the I-880 / High Street interchange, a sidewalk does not exist on the north side of High Street under I-880. Therefore, pedestrian crossings are prohibited at the north leg of the High Street / Coliseum Way and the High St / SB I-880 Off-Ramp /Oak port Street intersections. This

requires pedestrians to cross several legs in order to traverse the interchange.

- The Class 2 bike lanes on Fruitvale Avenue are narrow. Also, no sidewalk exists on the north side of Fruitvale Avenue from Elmwood Avenue (near I-880) to Alameda Avenue (near the Fruitvale Avenue Bridge).
- The intersections at the Park Street Triangle and on Fruitvale Avenue and High Street near I-880 have difficult unprotected crossings for bicyclists and pedestrians. These intersections have a higher rate of bicycle and pedestrian accidents.

Parking

The parking analysis includes a summary of the on and off-street parking supply within the Plan Area. Overall, the available parking supply is adequate to satisfy existing parking demands. **Table 4.4-6** provides a qualitative summary of parking supply and demand for each of the Plan Area's four sub-areas.

4.4.3 REGULATORY SETTING

This section discusses the various regulatory and planning documents that guide the development of the study area's transportation system.

City of Oakland Local Plans, Policies and Regulations

City of Oakland Transit First Policy

The City adopted what is known as the "Transit First" Policy in 1996. This resolution supports public transit and other alternatives to single occupant vehicles, and directs the LUTE to incorporate "various methods of expediting transit services on designated streets, and encouraging greater transit use."

Oakland General Plan

Estuary Policy Plan. A key objective of the EPP is to enhance mobility along the shoreline and to provide improved connectivity across I-880. The following policies were identified in the EPP:

Table 4.4-6 Parking Supply and Demand by Sub-Area

Central Estuary Plan Sub-Area	Parking Supply	Parking Demand
West	60 spaces of diagonal parking provided along the west side of Embarcadero (16th Ave to Livingston St) 40 spaces of perpendicular parking provided on the south side of Denison St (Embarcadero to King St) Union Point Park has 67 dedicated off-street spaces in a lot on the north end of the Park and 48 spaces in a lot at the south end Office buildings in the Embarcadero Cove area have large off-street lots containing several hundred parking spaces Parallel on-street parking spaces are provided along Embarcadero, Livingston St, Kennedy St, and 23rd Ave	The existing supply appears adequate to meet parking demand on most streets.
Central-West	The Jingletown area has on-street parking on all block faces. Approximately 40 perpendicular parking spaces are provided on Glasscock St (Derby Ave to Lancaster St), and 15 perpendicular spaces are provided on Derby Ave (Glasscock St to the Estuary) The area is characterized by a mix of land uses including residential, light industrial, institutional (e.g., School of Mosaic Arts), and some retail	The mix of land uses generates considerable parking demand In some areas, the various parking demands and vehicle types (cars versus trucks) compete for the available on-street spaces A lack of parking policy and restrictions can result in a somewhat chaotic parking situation
Central-East	This area consists mostly by large industrial users and the Home Depot. The large industrial users have dedicated off-street parking. The Home Depot has a large off-street lot with several hundred spaces. The sub-area's small residential section has on-street parking along most block faces.	The supply appears adequate to meet the parking demands at the industrial sites and at Home Depot.
East	This area's industrial users have large off-street parking areas for employees and large trucks.	The parking supply appears adequate to meet demand.

Source: Arup, 2009.

SAF-9: Provide a continuous Embarcadero Parkway from Ninth Avenue to Damon Slough. This policy includes creating a continuous Bay Trail along the shoreline.

SAF-10: Work with Caltrans, BART, and other transportation agencies to upgrade connecting routes between inland neighborhoods, I-880, and local streets, to enhance East Oakland access to the waterfront. If feasible, SAF-10 calls for construct a new full-movement interchange at 23rd Avenue (with direct linkages to the Park Avenue Bridge) and an urban diamond interchange at 42nd Avenue (with frontage road connections to Fruitvale). This policy also calls for enhancing 29th Avenue and High Street as local connecting streets, improving Fruitvale Avenue to serve as a pedestrian and transit link between the waterfront and the BART station.

The CEIG addresses some, but not all, of the detailed elements contained in these policies. Some policy elements, such as the continuous Embarcadero Parkway, are not feasible at this time because of existing land uses.

Land Use and Transportation Element (LUTE), Transportation Diagram (City of Oakland, 1998). The General Plan LUTE contains a series of policy statements that promotes a balanced multimodal approach to transportation planning within the city. These policies support the city's "Transit First!" policy. "The Transit First!" Policy declared Oakland's support for public transit and other alternatives to single-occupancy vehicles along "transit preferential streets".

LUTE transportation policies applicable to the project study area include:

Policy T3.5: Including Bikeways and Pedestrian Walks. The city should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible.

Policy T3.6: Encouraging Transit. The city should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated "transit streets".

Policy T3.7: Resolving Transportation Conflicts. The city, in constructing and maintaining its transportation infrastructure, should resolve any conflicts between public transit and single occupancy vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environmental, public safety, economic development, health, and social equity impacts.

Policy T6.2: Improving Streetscapes. The city should make major efforts to improve the visual quality of streetscapes. Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented and include lighting, directional signs, trees, benches, and other support facilities.

The LUTE segments the transportation system into two components:

- Facilities serving "Local Access" needs
  - Streets and roads ranging from the classic urban grid downtown to winding hilly roads
  - Pedestrian and bicycle facilities from the Oakland hills stairways to waterfront promenades
- Facilities serving "Regional Access" needs
  - Public transit centering on the AC Transit system hub and confluence of BART routes
  - Regional Bikeways System
  - Passenger ferry service to Alameda and San Francisco
  - Freeways providing access north via I-80, south via I-880, west to San Francisco and Peninsula via the Bay Bridge, and east via State Route 24 and I-580

City of Oakland Bicycle Master Plan (City of Oakland, 2007). Key changes proposed for the bicycle network within the study area by the Bicycle Master Plan are:

- Expansion of the Bay Trail, completing existing gaps on this Class 1 bike path
- A Class 1 bike path along the BART alignment southeast of Fruitvale Avenue
- Class 2 bike lanes on E 12th Street (west of Fruitvale Avenue)
- Class 3A on Fruitvale Avenue (north of E 12th Street)
- Class 3A arterial bike route on E 12th Street (east of Fruitvale Avenue)
- A Class 3B Bike Boulevard on East 7th Street (currently a Class 3 bike route)
- Removal of bikeways Oakport Street

Standard Conditions of Approval

If specific developments are approved by the City, then all applicable Standard Conditions of Approval (SCA) for parking and transportation demand management (TDM), and construction traffic and parking would be adopted as conditions of approval and required of development facilitated by the Proposed Amendments to help ensure less-than-significant traffic and circulation impacts. The SCAs are incorporated and required as part of the project, so they are not listed as mitigation measures.

SCA 20: Improvements in the Public Right-of-Way (General).
Timing: Approved prior to the issuance of a P-job or building permit.

a) The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and/or mitigations and city requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW.

b) Review and confirmation of the street trees by the city's Tree Services Division is required as part of this condition and/or mitigations.

c) The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit.

d) The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

SCA 21: Improvements in the Public Right-of-Way (Specific).
Timing: Approved prior to the issuance of a grading or building permit.

Final building and public improvement plans submitted to the Public Works Agency shall include the following components:

a) The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public ROW showing all proposed improvements and compliance with the conditions and/or mitigations and city requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the EBMUD, street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval.

b) Review and confirmation of the street trees by the city's Tree Services Division is required as part of this condition and/or mitigations.

c) The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications and maintenance standards for the improvements. Improvements shall be completed prior to the issuance of the final building permit.

d) The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

SCA 22: Payment for Public Improvements.
Timing: Prior to issuance of a final inspection of the building permit.

The project applicant shall pay for and install public improvements made necessary by the project including damage caused by construction activity.

An update to SCA 25, Parking and Transportation Management Demand, provides information on transportation and parking demand management:

SCA 25: Parking and Transportation Demand Management.
Timing: Prior to issuance of a final inspection of the building permit.

The property owner shall pay for and submit for review and approval by the City a Transportation Demand Management (TDM) plan containing strategies to:

- Reduce the amount of vehicle traffic and parking demand generated by the project.

- Ensure that expected increases in vehicle traffic resulting from growth in employment and housing opportunities in the City of Oakland will be adequately mitigated.
- Reduce drive-alone commute trips during peak traffic periods by using a combination of services, incentives, and facilities.
- Promote more efficient use of existing transportation facilities and ensure that the project is designed in ways to maximize the potential for alternative transportation usage.
- Establish an ongoing monitoring and enforcement program to ensure that the TDM plan is implemented.
- The TDM plan shall include strategies to increase pedestrian, bicycle, transit, and carpool/vanpool use. All four modes of travel shall be considered, and parking management and parking reduction strategies should be included. Actions to consider include the following:

a) Inclusion of additional long term and short term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement.

b) Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, onsite signage and bike lane striping.

c) Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials.

d) Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.

e) Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.

f) Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).

g) Employees or residents can be provided with a subsidy, determined by the property owner and subject to review by the City, if the employees or residents use transit or commute by other alternative modes.

h) Provision of an ongoing contribution to AC Transit service to the area between the development and nearest mass transit station. If that is not available, the project sponsor shall make an ongoing contribution to an existing area shuttle service between the development and nearest mass transit station. The last option is establishment of a new shuttle service between the development and the nearest mass transit station. The contribution required for the service (any option) will be based on the cost of the last option.

i) Guaranteed ride home program for employees, either through 511.org or through separate program.

j) Pre-tax commuter benefits (commuter checks) for employees.

k) Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.

l) On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools.

m) Distribution of information concerning alternative transportation options.

n) Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.

o) Parking management strategies including attendant/valet parking and shared parking spaces.

p) Requiring tenants to provide opportunities and the ability to work off-site.

q) Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite.

r) Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

s) The property owner shall implement the approved TDM on an ongoing basis, and shall submit an annual compliance report for review and approval by the City that documents the status and effectiveness of the TDM program. This report will be reviewed either by City staff or a peer review consultant chosen by the City and paid for by the property owner. If timely reports are not submitted and/or the reports indicate that the property owner has failed to make a reasonable effort to achieve the goals of the TDM plan, the project will be considered in violation on the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval.

SCA 33: Construction Traffic and Parking.
Timing: Prior to the issuance of a demolition, grading, or building permit.

The project applicant and construction contractor shall meet with 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 Department of Planning, Building & Neighborhood Preservation and the Public Works Agency. The plan shall include at least the following items and requirements:

a) 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.

b) Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.

c) Location of construction staging areas for materials, equipment, and vehicles at an approved location.

d) A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. The City (including the Public Works Agency and the Department of Planning, Building & Neighborhood Preservation) shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.

e) Provision for accommodation of pedestrian flow.

Major Project Cases:

f) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on street spaces or insert name of street.

g) Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the city Building Inspector and/or photo documentation, at the applicant's expense, before the issuance of a Certificate of Occupancy.

h) Any heavy equipment brought to the construction site shall be transported by truck, where feasible.

i) No materials or equipment shall be stored on the traveled roadway at any time.

j) Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.

k) All equipment shall be equipped with mufflers.

l) Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

SCA G: Railroad Crossings.
Timing: Analysis required during project review; implementation prior to project completion.

The Transportation Impact Studies (TIS) otherwise required to be prepared for the project, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossing resulting from project-related traffic. In general, the major types of impacts to consider are collisions between trains and vehicles, trains and pedestrians, and trains and bicyclists. The TIS should include an analysis of potential queuing onto railroad tracks. A "Diagnostic Review" must be undertaken and include specific traffic elements, such as roadway and rail description, accident history, traffic volumes (all modes, including pedestrian and bicyclist crossing movements), train volumes, vehicular speeds, train speeds, and existing rail and traffic control.

Where the TIS identifies potentially substantially dangerous crossing conditions at at-grade railroad crossings caused by the project, measures relative to the project's traffic contribution to the crossings may be applied through project redesign and/or incorporation of the appropriate measures to reduce potential adverse impacts caused by specific housing development projects. These measures may include, without limitation, the following:

a) Installation of grade separations at crossings, i.e., physically separating roads and railroad tracks by constructing overpasses or underpasses

b) Improvements to warning devices at existing highway rail crossings that are impacted by project traffic

c) Installation of additional warning signage

d) Improvements to traffic signaling at intersections adjacent to crossings, e.g., signal preemption

e) Installation of median separation to prevent vehicles from driving around railroad crossing gates

f) Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains

g) Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains

h) Construction of pull-out lanes for buses and vehicles transporting hazardous materials

i) Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way

j) Elimination of driveways near crossings

k) Increased enforcement of traffic laws at crossings

l) Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

Any proposed improvements must be coordinated with California Public Utility Commission (CPUC) and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings).

Central Estuary Design Guidelines

The proposed project includes design guidelines that are intended to minimize potential conflicts between cars, pedestrians, and bicyclists and to create even and continuous sidewalk surfaces in the Plan Area. The following guidelines would ensure pedestrian and bicycle safety in the Plan Area:

- Locate and design driveways and ramps to minimize contact between vehicles, pedestrians and bicyclists, as well as with vehicles on adjacent streets. Minimizing driveways also creates more space for on-street parking, street trees, and street furnishings.

- Driveway and entry widths should be narrowed in order to minimize their presence along streets. Encourage businesses to narrow driveway widths where entering traffic can cross lanes at entries that may be controlled or where infrequent activity is expected to reduce potential conflicts.

- Uneven sidewalk surfaces should be avoided where driveway slopes cross sidewalks. Allow sidewalks to remain level and continuous to signal to drivers that they are crossing the pedestrian realm and must yield accordingly.

- Similarly, sidewalk paving patterns, color and materials should be continued across driveways to strengthen the understanding that cars are crossing the pedestrian space.

4.4.4 ANALYSIS OF POTENTIAL IMPACTS

This section discusses the project's potential adverse impacts related to transportation and traffic circulation, bicycles and pedestrians, transit, and parking. Traffic impacts are assessed quantitatively for each study intersection and CMP roadway segment in the study area by comparing the plus Project LOS results to the No Project LOS. The CEQA thresholds described previously are used to identify impacts under Existing, Interim Year 2020, and Cumulative Year 2030 conditions. The other travel modes (transit, bicycle, pedestrian) and transportation issues (e.g., parking, safety, queuing) are evaluated qualitatively.

CEQA Thresholds of Significance Criteria

The City of Alameda's LOS standards and impact thresholds will apply for intersections located within their jurisdiction (intersection #s 14, 21, and 28). For the purpose of this EIR, the Project would have a significant transportation impact if the following occurs:

- Causes an intersection to degrade below LOS D. If an intersection were already at LOS E or worse, an impact would be considered significant if project traffic would: a) cause the total intersection average delay to increase by four or more seconds, or contribute more than three percent to the cumulative growth in overall traffic volume under 2035 conditions.

According to the City of Oakland's CEQA thresholds, the project would have a significant impact on the environmental if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system,

including but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit, specifically:

Traffic Load and Capacity Thresholds

1. At a study, signalized intersection which is located outside the Downtown area[1], the project would cause the level of service (LOS) to degrade to worse than LOS D (i.e., LOS E);

2. At a study, signalized intersection which is located within the Downtown area, the project would cause the LOS to degrade to worse than LOS E (i.e., LOS F);

3. At a study, signalized intersection outside the Downtown area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds, or degrade to worse than LOS E (i.e., LOS F);

4. At a study, signalized intersection for all areas where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more, or degrade to worse than LOS E (i.e., LOS F);

5. At a study, signalized intersection for all areas where the level of service is LOS F, the project would cause (a) the overall volume-to-capacity ("V/C") ratio to increase 0.01 or more or (b) the critical movement V/C ratio to increase 0.02 or more;

6. At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume traffic signal warrant;

7. For a roadway segment of the Congestion Management Program (CMP) Network, the project would cause (a) the LOS to degrade from LOS E or better

[1] The Downtown area is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by the 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.

to LOS F or (b) the V/C ratio to increase 0.03 or more for a roadway segment that would operate at LOS F without the project;[2]

8. Cause congestion of regional significance on a roadway segment on the Metropolitan Transportation System (MTS) evaluated per the requirements of the Land Use Analysis Program of the CMP; [3]

9. Result in substantially increased travel times for AC Transit buses; [4]

Traffic Safety Thresholds

10. Directly or indirectly cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard due to a new or existing physical design feature or incompatible uses; [5]

11. Generate substantial multi-modal traffic traveling across at-grade railroad crossings that cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard; 6

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[2] This threshold only applies to land use development projects that generate a vehicle trip on a roadway segment of the CMP Network located in the project study area and to transportation projects that would reduce the vehicle capacity of a roadway segment of the CMP Network.

[3] This threshold only applies to a land use development project that involves either (a) a General Plan amendment that would generate 100 or more p.m. peak hour trips above the current General Plan land use designation or (b) an EIR and the project would generate 100 or more p.m. peak hour trips above the existing condition. Factors to consider in evaluating the potential impact include, but are not limited to, the relationship between the project and planned improvements in the Countywide Transportation Plan, the project's consistency with City policies concerning infill and transit-oriented development, the proximity of the project to other jurisdictions, and the magnitude of the project's contribution based on V/C ratios.

[4] Factors to consider in evaluating the potential impact include, but are not limited to, the proximity of the project site to the transit corridor(s), the function of the roadway segment(s), and the characteristics of the potentially affected bus route(s). The evaluation may require a qualitative and/or quantitative analysis depending upon these relevant factors.

[5] Factors to consider in evaluating the potential impact to roadway users due to physical design features and incompatible uses include, but are not limited to, collision history and the adequacy of existing traffic controls.

[6] If the project will generate substantial multi-modal traffic across an at-grade railroad crossing, a Diagnostic Review will be required in consultation with the California Public Utilities Commission. The Review should include roadway and rail descriptions, collision history, traffic volumes for all modes, train volumes, vehicular speeds, train speeds, and existing rail and traffic controls.

12. Directly or indirectly result in a permanent substantial decrease in pedestrian safety; [7]

13. Directly or indirectly result in a permanent substantial decrease in bus rider safety; [8]

Other Thresholds

14. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

15. Fundamentally conflict with adopted city policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment; [9]

16. Result in a substantial, though temporary, adverse effect on the circulation system during construction of the project.

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[7] Consider whether factors related to pedestrian safety such as, but not limited to, the following are substantial in nature: Degradation of existing pedestrian facilities (removal of existing pedestrian refuge islands and/or bulbouts; Increase of street crossing distance; permanent removal or significant narrowing of an existing sidewalk, path, marked crossing, or pedestrian access way; Increase in pedestrian or vehicle volume at unsignalized or uncontrolled intersections; and sidewalk overcrowding); Addition of new vehicle travel lanes and/or turn lanes; Permanent removal of existing sidewalk-street buffering elements (e.g., on-street parking lane, planting strip, street trees); Addition of vehicle driveway entrance(s) that degrade pedestrian safety, with considerations given to the following: Number of proposed vehicle driveway entrances; Location of proposed vehicle driveway entrance(s); Visibility between pedestrians on the sidewalk and motorists using the proposed vehicle driveway entrance(s)].

[8] Consider whether factors related to bus rider safety such as, but not limited to, the following are substantial in nature: removal or degradation of existing bus facilities; siting of bus stops in locations without marked crossings, with insufficient sidewalks, or in isolated or unlit areas; and, addition of new bus riders that creates overcrowding at a bus stop.

[9] Factors to consider in evaluating the potential conflict include, but are not limited to, the following: Does the project prevent or otherwise substantially adversely affect the future installation of a planned transportation improvement identified in an adopted City policy, plan, or program?; Does the project fundamentally conflict with the applicable goals, policies, and/or actions identified in an adopted City policy, plan, or program?; Adopted City policies, plans, and programs to consider include, but are not limited to, the following: Land Use and Transportation Element (LUTE) of the General Plan (March 1998); Pedestrian Master Plan (November 2002); Bicycle Master Plan (December 2007); Public Transit and Alternative Modes Policy (formerly known as the "Transit-First Policy;" City Council Resolution 73036 C.M.S.); Sustainable Development Initiative (City Council Resolution 74678 C.M.S.); U.N. Environmental Accords (City Council Resolution 79808 C.M.S.); and, Capital Improvement Program.

Analysis Methodology

The transportation analysis presented in this section is appropriate for this EIR. While the exact timing, location, type, and intensity of individual projects cannot be determined with certainty, enough detail was available to develop assumptions regarding how best to distribute the future traffic volumes across the Plan Area.

Traffic conditions on the street network are evaluated by analyzing intersection traffic operations and accident/collision data. Morning (7:00 to 9:00 AM) and Evening (4:00 to 6:00 PM) peak period intersection turning movement counts were collected at the thirty study intersection on March 11 and 12, 2009. The systemwide AM peak hour was identified as 7:45 to 8:45, while the PM peak hour was identified as 4:45 to 5:45.

The complete set of turning movement counts, lane configurations, and traffic control for each peak hour is presented in **Appendix D.** Signal timing plans were obtained from the Cities of Oakland and Alameda. The data from these timing plans were used in the HCM traffic analyses. **Appendix D** contains the technical calculation sheets for the traffic analysis.

Intersection Analysis Methodologies

Traffic operations at the study intersections were analyzed using methodologies contained in the 2000 Highway Capacity Manual (HCM) (Transportation Research Board, 2000). The HCM provides analysis methods and equations that estimate the peak hour delay experienced by vehicles at signalized and unsignalized (i.e., stop-controlled) intersections. Inputs to the HCM intersection calculations include peak hour traffic volumes, intersection geometrics (number of lanes), traffic signal timing parameters, and other data such as pedestrian volumes and the percentage of trucks.

The HCM delay estimates are used to assign a qualitative level of service (LOS) rating, which describes overall intersection operating conditions. LOS ranges from LOS A, indicating free flow traffic conditions with little or no delay, to LOS F, representing over-saturated conditions where traffic flows exceed design capacity. LOS F conditions typically result in excessive queuing and delays.

At signalized intersections, LOS is based on the weighted average delay (measured in seconds per vehicle) for all movements. At intersections with stop control on the minor side street approaches, LOS is based on the delay for the worst movement at the side street controlled approach. For all-way stop-controlled intersections, LOS is

based on the weighted average delay of all movements. **Table 4.4-7** presents the HCM LOS delay thresholds for signalized and unsignalized intersections.

The City of Oakland defines LOS D as the acceptable LOS for intersections. Intersections that exceed LOS D (i.e., E or F) are considered deficient from a traffic operations standpoint. However, traffic operations represent only one transportation planning goal, and must be weighed against other community values and policies. Improving traffic operations typically requires widening streets to accommodate additional travel lanes. In a dense urbanized area, such as Oakland, wider streets can degrade the pedestrian environment by increasing crossing distances, and can degrade the quality of the built environment because they require the acquisition of additional right-of-way and the removal of existing buildings along the street.

Table 4.4-7 Intersection Level of Service Thresholds

Level of Service	Signalized Intersection (sec/veh)[b]	Unsignalized Intersection (sec/veh)[b]	General Description
A	0 – 10.0	0 – 10.1	Free flow conditions
B	10.1 – 20.0	10.1 – 15.0	Limited congestion and short delays
C	20.1 – 35.0	15.1 – 25.0	Some congestion with average delays
D	35.1 – 55.0	25.1 – 35.0	Significant congestion and delays
E	55.1 – 80.0	35.1 – 50.0	Severe congestion and delays develop as intersection demand nears capacity.
F	> 80.0	> 50.0	Intersection capacity is exceeded. Extreme delays and queues result.

Notes:
[a] 2000 Highway Capacity Manual, Chapter 16 – Signalized Intersections and Chapter 17, Unsignalized Intersections
[b] HCM delay estimates and LOS thresholds are expressed as the average control delay (seconds per vehicle). Control delay includes the delay at the intersection that is attributable to the traffic control (initial deceleration delay, queue move-up time, stopped delay, and acceleration delay).
Source: Highway Capacity Manual, 2000.

Freeway and Arterial Roadway Segment Analysis Methodologies

CEQA thresholds 7 and 8 require impacts to be identified on freeway and arterial roadway segments on the CMP and MTS networks. The Plan Area includes three routes designated as "Tier 1" facilities in the Alameda County Transportation Commission's 2011 CMP. "Tier 1" routes carry a majority of the County's vehicle trips. Within the study area, segments of 23rd Avenue, 29th Avenue, and 42nd

Avenue (SR-77) are classified as Tier 1 CMP routes. Similar to the intersection analysis, the CMP's Land Use Analysis Program requires an analysis of freeway segments and designated CMP routes in the vicinity of the project. The MTS network in the vicinity of the Plan Area consists of approximately 30 segments. The full list of the MTS segments are provided in **Appendix D.** Only the impacted segments are reported throughout the remainder of this analysis.

The 2000 HCM methodology used for the intersection analysis also defines LOS criteria for arterial roadway segments (including freeways and arterials) that are based on traffic density and/or average speed. However, these criteria are not applicable to City's CEQA significance thresholds used to identify significant roadway impacts. The Florida Department of Transportation (FDOT) has developed a methodology to define roadway segment LOS based on generalized roadway volume capacities instead of density or speed. The FDOT methodology is consistent with the 2000 HCM, but is more applicable to the project's transportation impact assessments because the methodology is based on volume thresholds instead of speed. The FDOT thresholds have been used for the roadway segment analysis only; not the signalized intersections. The roadway segment analysis includes the I-880 freeway segments, the ACTC CMP analysis segments, and the MTS network segments.

Travel Demand Forecasting

The traffic forecasts for Interim and Cumulative scenarios described above were developed using the Alameda County Transportation Commission's (ACTC's) regional travel demand model ("Alameda Model"). The Alameda Model is maintained by ACTC and is updated every two years to reflect new land use forecasts developed by the Association of Bay Area Governments (ABAG) and transportation projects included in the Countywide Transportation Plan.

The Alameda Model was updated in February 2009 with ABAG's Projections 2007 (P07) land use forecast for 2015 and 2035. This update occurred when the Central Estuary planning process began in 2008/2009 and reflected a more optimistic pre-recession economic outlook. In April 2011, the Alameda Model was updated again, to reflect Projections 2009 (P09) land uses. The P09 update took into account the deep economic downturn that occurred in 2008-2009, and thus provided decreased growth assumptions going forward.

City staff decided to use the P07 Alameda Model for the EIR for two reasons: 1) the higher land use forecasts generate more conservative traffic volumes (i.e., higher, "worst case"), and 2) PO7 was the adopted model at the time the planning work on the project began.

Planned Transportation Improvements

ACTC has identified in its Countywide Transportation Plan a series of projects that they consider "fully funded". These projects include those identified in the Countywide Plan as "Committed" and "Tier 1". The Committed and Tier 1 projects are assumed in the Alameda Model and are incorporated into the traffic forecasting process.

In addition to these projects, city staff has developed a list of pending and proposed transportation projects (see **Appendix D** for the complete list), their funding/approval status, and how they should be treated in EIR traffic analyses. The city has grouped the transportation projects into three categories:

Approved, Funded and Will be Complete by June 2012; Include in Existing Conditions (as well as 2020/2035)

- ***High Street Overhead Seismic Retrofit Project:*** This project, which is partially complete, will replace the overhead structures on I-880 from Fruitvale Avenue to south of High Street. The portion that is complete is the reconfiguration of the I-880 / State Route (SR) 77 / 42nd Avenue interchange: two new at-grade intersections at the I-880 ramps and 42nd Avenue replace the previous ramp structures. The at-grade intersection component of this project is completed and is assumed in the Existing, Interim (2020), and Cumulative (2035) analyses. The two new at-grade intersections are shown as #31 and #32 in the transportation study area. The overall project is expected to be completed by 2012/2013.

Approved and Funded; Not Existing, but Include in 2020/2035 Future Baseline

- ***Interstate 880 (I-880) Operational and Safety Improvements at 29th Avenue and 23rd Avenue Overcrossings:*** This project will remove and reconstruct the overcrossing structures at 23rd and 29th Avenues, reconfigure several on and off-ramps, and extend the northbound auxiliary lane along I-880. Local circulation will be improved by simplifying some intersections and providing interim improvements at the base of the 29th Avenue bridge where it intersects the Park Street Triangle (at intersection

#12, a traffic signal is planned). The main impact on the study area is that the two structures on 23rd Avenue that cross I-880 will be combined into one. This will consolidate the two existing northbound I-880 on-ramps from 23rd Avenue into one. The consolidated on-ramps will create a new signalized intersection (#33) on the structure with a left-turn signal phase serving the northbound 23rd Avenue to northbound I-880 traffic. A new off-ramp from northbound I-880 will connect to the new 29th Avenue bridge. This new off-ramp will replace the existing off-ramp to 23rd Avenue. A new signalized intersection at 29th Avenue and the new off-ramp will be created (#34). Also, a roundabout is planned for the local street intersection under the 29th Avenue Bridge at East 8th Street. The roundabout will replace the existing all-way stop intersection at location #10. The project has a completion date of 2012/2013. Therefore, these intersections are assumed in the future year analyses.

- ***42nd Avenue / High Street Access Improvements:*** This project will build upon the High Street Overhead Project. The improvements include the extension of 42nd Avenue west from the new at-grade intersection at the southbound I-880 off-ramp to Jensen Street, and widening High Street under I-880. This project, when combined with the new at-grade intersections on 42nd Avenue included as part of the Seismic Retrofit, will improve the overall east-west street connectivity across I-880. These changes will result in 42nd Avenue serving as a parallel route to High Street that connects to Alameda Avenue. The bridge work included in the Seismic Retrofit will allow High Street to be widened to eight lanes under I-880. This will allow for two full left-turn lanes in both directions and two through travel lanes. This project has an estimated completion date of 2015. These circulation changes are assumed in the future year analyses.

Neither Approved, nor Funded: Do NOT include in Existing, 2020 or 2035

- ***AC Transit East Bay Bus Rapid Transit (BRT) Project in Alameda County (International Boulevard Corridor portion):*** This project includes the development of a BRT system along the Telegraph Avenue, Broadway, International and East 14th Street corridors. The BRT system would incorporate improvements intended to enhance bus reliability and reduce travel time. Within the vicinity of the study area, the BRT would travel along International Boulevard (E 14th Street). The current project description indicates that one travel lane in each direction would be converted to BRT-only operations along this segment of International Boulevard. The

dedicated BRT lanes would reduce lane capacity at the study intersections along International Boulevard. The impact analysis in the EIR does not assume BRT in the 2020 and 2035 future baseline. At the time that the traffic study commenced in 2009 and the Notice of Preparation (NOP) was prepared in 2011, the BRT project was not approved or funded. Therefore, the analysis proceeded without the BRT project included in the future baseline. Subsequently, on April 25, 2012 AC Transit approved the BRT and on July 17, 2012 the City of Oakland approved the BRT. However, the BRT is not fully funded. Regardless, a separate analysis assuming the BRT in the 2020 and 2035 future baseline was conducted. This analysis is contained in **Appendix D**. The analysis with the BRT on International assumes the same level of project trip generation and does not assume any traffic diversion caused by the potential congestion along International that is expected with the conversion of one mixed-flow travel lane to transit-only. Traffic diversion was not considered because the same traffic forecasts were applied across all of the analysis scenarios and the CEIG's study area was too small to consider the wide-ranging effects associated with traffic diversion.

CEIG Project Vehicle Trip Generation Estimate

The vehicle trip generation for the CEIG project was estimated using the growth increment for each land use type in **Chapter 3.0, Project Description**, and trip rates published by the Institute of Transportation Engineer's (ITE) *Trip Generation, 8th Edition*. Trip rates in the Bay Area and Oakland are generally lower than ITE rates, which typically capture a suburban setting with very few transit options. To better reflect regional trip making, a 20 percent reduction for "internal" or non-auto trips was assumed. Internal trips represent those non-auto trips made between uses within the Plan Area. A 15 percent reduction was also assumed for retail "pass-by" trips. Pass-by trips are vehicles already on the adjacent street network that enter the project as an intermediate stop on the way from another destination – pass-by trips do not constitute "new" trips added to the transportation system. The same project description is assumed across all of the analysis scenarios. **Table 4.4-8** presents the project's vehicle trip generation estimate for each land use type and sub-area.[10]

[10] The reduction in industrial square footage identified in the Project Description for the Central-West and Central-East sub-areas was dealt with by reducing the amount of manufacturing-related employment in the Alameda Model. Therefore, the industrial vehicle trips were not factored out of the ITE-based estimate.

The distribution of project vehicle trips was developed using the Alameda Model and a review of existing travel patterns and traffic volumes. The trip distribution assumptions for each sub-area are summarized below:

- Downtown Oakland (using I-880, International Boulevard, East 12th Street, and Embarcadero) = 30%
- East Oakland (east of International Boulevard) = 15%
- Alameda (across the Estuary bridges) = 15%
- Oakland South (I-880, International Boulevard, San Leandro Street) = 30%
- Fruitvale BART Station = 5%
- Fruitvale Village Shopping Center = 5%

While there are no site specific development programs, an approximate location of "zones" where CEIG project vehicle trips are generated within each sub-area was identified. The same overall distribution was used for each sub-area. The trip distribution assumptions were used to assign the vehicle trips through the network of study intersections.

Traffic Forecasting Process

The following steps outline the methodology used to develop the traffic forecasts used in the impact assessment:

1. The Alameda Model was reviewed to check the location of traffic analysis zones (TAZs) within the study area, confirm land uses, and verify that all critical street segments are present and coded correctly (i.e., street classifications, number of lanes, free-flow travel speeds, etc.). TAZs 269, 315, 316, and 378 are located within the Plan Area and correspond to the project's sub-areas. **Figure 4.4-5** presents the TAZ system.

2. Alameda Model master roadway network was modified to provide greater detail within the study area and to reflect roadway/intersection changes associated with the City's list of fully funded projects.

Table 4.4-8 Project Trip Generation

Land Use	ITE Code	Units	Quantity	Peak AM Rate	Peak PM Rate	Daily Rate	Peak AM			Peak PM			Daily		
							In	Out	Total	In	Out	Total	In	Out	Total
West															
Residential	220	du	0	0.51	0.62	6.65	0	0	0	0	0	0	0	0	0
Live/Work	220	du	11	0.51	0.62	6.65	1	4	6	4	2	7	37	37	73
Industrial	110	ksf	0	0.92	0.97	6.97	0	0	0	0	0	0	0	0	0
Retail	820	ksf	0	1	3.73	42.94	0	0	0	0	0	0	0	0	0
Office	710	ksf	83,713	1.55	1.49	11.01	114	16	130	21	104	125	461	461	922
						15% Pass-By Reduction	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
						20% Internal Trip Capture	*23*	*4*	*27*	*5*	*21*	*26*	*99*	*99*	*199*
						Subtotal	**92**	**16**	**108**	**21**	**85**	**105**	**398**	**398**	**796**
Central West															
Residential	220	du	391	0.51	0.62	6.65	40	160	199	158	85	242	1,300	1,300	2,600
Live/Work	220	du	20	0.51	0.62	6.65	2	8	10	8	4	12	67	67	133
Industrial	110	ksf	0	0.92	0.97	6.97	0	0	0	0	0	0	0	0	0
Retail	820	ksf	0	1	3.73	42.94	0	0	0	0	0	0	0	0	0
Office	710	ksf	0	1.55	1.49	11.01	0	0	0	0	0	0	0	0	0
						15% Pass-By Reduction	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
						20% Internal Trip Capture	*8*	*34*	*42*	*33*	*18*	*51*	*273*	*273*	*547*
						Subtotal	**34**	**134**	**168**	**133**	**71**	**204**	**1,093**	**1,093**	**2,187**

Land Use	ITE Code	Units	Quantity	Peak AM Rate	Peak PM Rate	Daily Rate	Peak AM			Peak PM			Daily		
							In	Out	Total	In	Out	Total	In	Out	Total
Project Trip Generation, continued.															
Central East															
Residential	220	du	0	0.51	0.62	6.65	0	0	0	0	0	0	0	0	0
Live/Work	220	du	0	0.51	0.62	6.65	0	0	0	0	0	0	0	0	0
Industrial	110	ksf	0	0.92	0.97	6.97	0	0	0	0	0	0	0	0	0
Retail	820	ksf	268071	1	3.73	42.94	164	105	268	490	510	1,000	5,755	5,755	11,511
Office	710	ksf	0	1.55	1.49	11.01	0	0	0	0	0	0	0	0	0
						15% Pass-By Reduction	*25*	*16*	*40*	*73*	*76*	*150*	*863*	*863*	*1,727*
						20% Internal Trip Capture	*33*	*21*	*54*	*98*	*102*	*200*	*1,151*	*1,151*	*2,302*
						Subtotal	**106**	**68**	**174**	**318**	**331**	**650**	**3,741**	**3,741**	**7,482**
East															
Residential	220	du	0	0.51	0.62	6.65	0	0	0	0	0	0	0	0	0
Live/Work	220	du	0	0.51	0.62	6.65	0	0	0	0	0	0	0	0	0
Industrial	110	ksf	691558	0.92	0.97	6.97	560	76	636	80	590	671	2,410	2,410	4,820
Retail	820	ksf	0	1	3.73	42.94	0	0	0	0	0	0	0	0	0
Office	710	ksf	360,238	1.55	1.49	11.01	491	67	558	91	446	537	1,983	1,983	3,966
						15% Pass-By Reduction	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
						20% Internal Trip Capture	*210*	*29*	*239*	*34*	*207*	*242*	*879*	*879*	*1,757*
						Subtotal	**841**	**115**	**956**	**137**	**829**	**966**	**3,515**	**3,515**	**7,029**
TOTAL							**1,073**	**333**	**1,406**	**609**	**1,316**	**1,925**	**8,747**	**8,747**	**17,494**

Source: Arup, 2012

3. The Alameda Model's base year 2005 scenario was run to conduct a "sub-area" validation at four screenlines surrounding the study area to check that the model is closely replicating the observed traffic counts entering and exiting the area. The travel speeds coded on critical roadway links in the network were adjusted to produce a traffic assignment result that better matched the observed counts.

4. The project TAZs in the 2015 and 2035 land use files were modified to "zero-out" the net growth (i.e., the land use totals in 2015 and 2035 were set equal to the base year 2005 totals). All other TAZs in the Alameda Model were left alone. This was done because the Alameda Model, as delivered by ACTC, contains land use quantities within the project TAZs that do not reflect the CEIG program. **Table 4.4-9** compares the Alameda Model's 2005 and 2035 totals for residential and employment in the four project TAZs to totals from the existing conditions report.

5. The 2015 and 2035 Alameda Model scenarios were run with the modified land use files containing the adjusted TAZs totals. The difference method was used to calculate the increment between the 2005 base year model run and the future year 2015 and 2035 runs. The difference method adjusts for estimation error between the counts and the base year model volume. The difference method calculates the increment of growth between the 2005 and the 2015/2035 model runs and adds the "difference" to the existing traffic counts. These adjusted forecasts serve as the basis for the 2035 No Project traffic volumes.

6. A straight-line interpolation was performed between the 2015 and 2035 forecasts to develop the 2020 No Project forecasts.

7. The 2020 and 2035 plus Project forecasts were developed by applying the trip generation and distribution assumptions described above to assign the project-related vehicle trips through the study area network.

Analysis Scenarios

This section evaluates the transportation-related conditions associated with the Plan Area for the following six scenarios:

- **Existing** – This scenario represents the existing conditions at the time of the traffic counts in March 2009.

- **Existing plus Project** – Existing conditions plus the estimated traffic generated by the full Project. No changes to the transportation network are assumed.

- **Interim Year 2020 No Project** – Future year conditions with the projected population and employment growth through 2020, along with the planned and programmed (i.e. funded) transportation improvements expected to be completed by 2020.

- **Interim Year 2020 plus Project** – Interim Year 2020 No Project plus the estimated traffic generated by the full project.

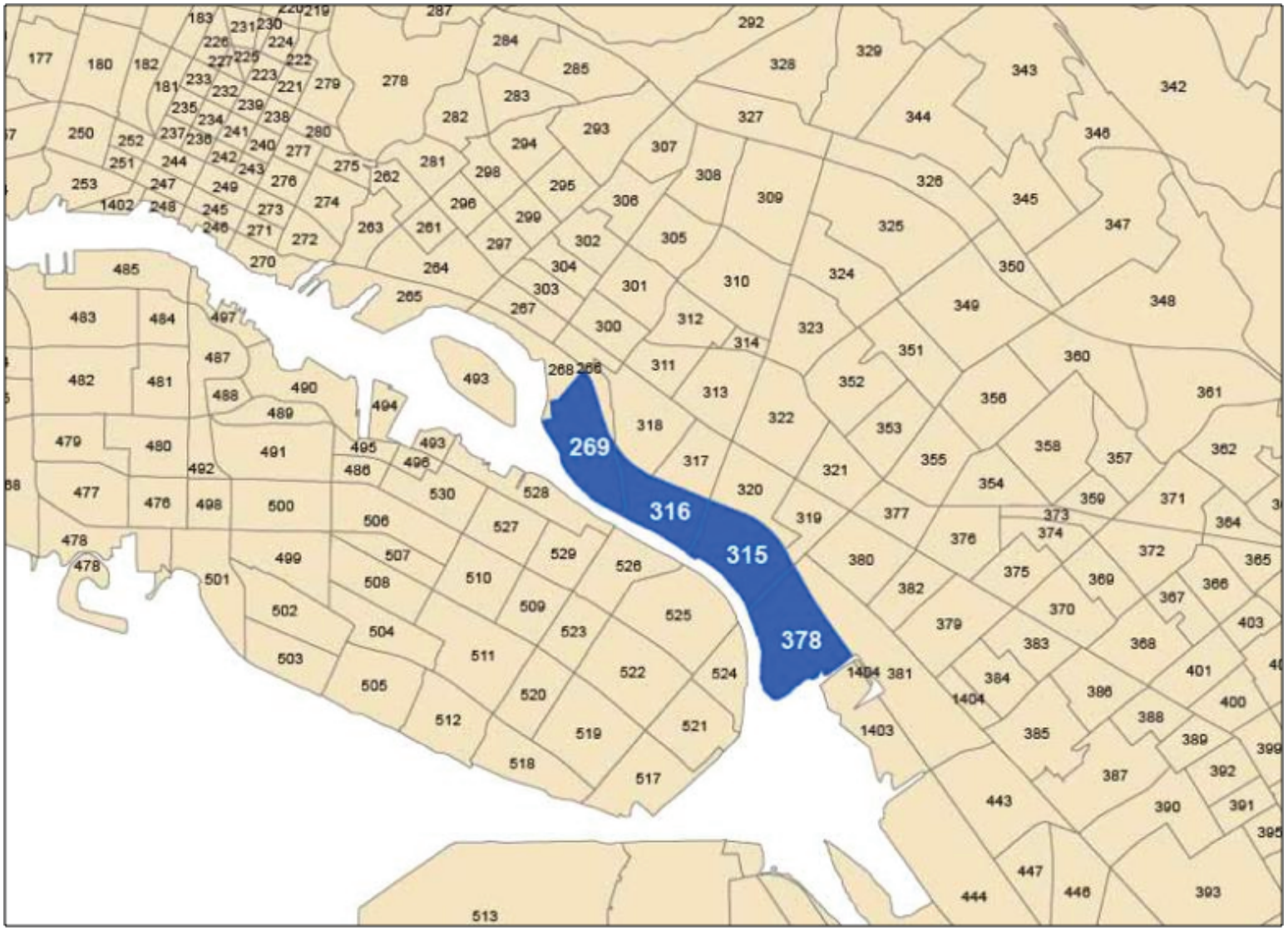
- **Cumulative Year 2035 No Project** – Future year conditions with the projected population and employment growth through 2035, along with the planned and programmed transportation improvements expected to be completed by 2035.

- **Cumulative Year 2035 plus Project** – Cumulative Year 2035 No Project plus the estimated traffic generated by the full project.

The same CEIG project description and vehicle trip generation estimate was assumed for the Existing plus Project, Interim Year 2020 plus Project, and Cumulative Year 2035 plus Project scenario. The timing and phasing related to the build-out of the project is highly uncertain, with full build-out unlikely until the year 2035 or beyond. Therefore, to eliminate the need to develop a phased implementation program that relates to specific uses and specific time horizons, the City has decided to apply the same project description across the various traffic analysis scenarios.

Transportation Analysis and Impact Assessment

A quantitative analysis was conducted per the City's guidelines for the study area intersections and roadway segments. The traffic forecasting assumptions and analysis methodologies described above were used to develop the intersection and roadway segment analyses.



Legend

Central Estuary Plan Area

Alameda Model Traffic Analysis Zone System

Figure **4.4-5**

Source: Arup, 2012.

Table 4.4-9 Alameda Model Land Use Comparison

		RESIDENTIAL			EMPLOYMENT		
		Existing	Alameda Model		Existing	Alameda Model	
		Dwelling Units	Households		Jobs		
Sub-Area	TAZ	2009	2005	2035	2007	2005	2035
West	269	90	70	815	2,726	1,389	1,413
Central-West	316	373	379	761	467	714	714
Central-East	315	54	58	58	1,031	1,151	1,321
East	378	4	3	3	572	1,774	1,181
TOTAL		**521**	**510**	**1,637**	**4,796**	**5,027**	**5,264**

Source: Arup, 2011

Existing plus Project Analysis

The Existing plus Project traffic volumes were developed by adding the project trip generation to the study area locations using the trip distribution assumptions previously described. **Table 4.4-10** presents the results of the Existing and Existing plus Project peak hour intersection LOS traffic analysis. All intersections with LOS exceeding the city's LOS D standard are highlighted in bold font. Significant Impacts are identified in the last column with a note identifying the City's appropriate CEQA threshold.

For the purposes of this analysis of potential impacts, the number of project-related trips routed through the 29th Avenue / Ford Street intersection is reported and used to identify if a traffic impact occurs under Existing plus Project conditions. This issue does not occur in the Interim and Cumulative scenarios because this location will be signalized with the 29th/23rd Project.

Table 4.4-11 presents the results of the Existing and Existing plus Project peak hour roadway segment LOS traffic analysis. Project-related impacts are identified using the CEQA thresholds described in the previous sections.

Table 4.4-10 Existing plus Project Intersection LOS Traffic Analysis

Intersection	Traffic Control[1]	Peak Hour	LOS / Delay (sec/veh)[2]		Impact[3]
			Existing	Existing plus Project	
1. Embarcadero/16th Ave	Side-Street Stop	AM PM	C / 16 D / 26	C / 17 (WBL) D / 26 (WBL)	N
2. International Blvd (E 14th St)/22nd Ave	Signal	AM PM	A / 8 A / 8	A / 8 A / 9	N
3. E 12th St/22nd Ave/23rd Ave	Signal	AM PM	C / 28 C / 30	C / 29 C / 33	N
4. 23rd Ave / E 11th St	Signal	AM PM	B / 16 C / 30	B / 16 C / 25	N
5. Dennison St/Kennedy St/ SB 880 off-ramp	SSSC	AM PM	A / 8 (NBL) A / 8 (NBL)	+xx trips +yy trips	N
6. Kennedy St/SB 880 on-ramp	Uncontrolled	AM PM	A / 4 (SBL) A / 6 (SBL)	A / 2 (SBL) A / 5 (SBL)	N
7. 29th Ave/International Blvd	Signal	AM PM	B / 16 B / 15	B / 16 B / 16	N
8. 29th Ave/E 12th St	Signal	AM PM	B / 14 B / 18	B / 13 B / 16	N
9. E 8th St/Lisbon Ave/NB 880 on-ramp	SSSC	AM PM	C / 16 B / 12	C / 16 (SBR) B / 12 (SBL)	N
10. E 9th St/E 8th St/NB 880 off-ramp	AWSC	AM PM	F / 80 C / 19	F / 85 C / 19	**Y-TRAN-1**
11. 23rd Ave/Ford St	Signal[3,4]	AM PM	A / 8 B / 12	D / 41 D / 50	N
12. 29th Ave/Ford St	SSSC[3,4]	AM PM	A / 7 (WBR) B / 10 (WBR)	+94 trips +86 trips	N
13. 29th Ave/23rd Ave/Park St	SSSC[3,4]	AM PM	A / 8 (EBL) A / 8 (EBL)	D / 26 (WBR) C / 16 (WBR)	N
14. Park St/Lincoln Ave/Tilden Way (Alameda)	Signal	AM PM	B / 12 B / 15	B / 12 B / 14	N
15. Fruitvale Ave/International Blvd	Signal	AM PM	B / 16 B / 19	B / 17 B / 19	N
16. Fruitvale Ave/E 12th St	Signal	AM PM	C / 24 C / 27	C / 25 C / 32	N
17. Fruitvale Ave/San Leandro St/E 10th St	Signal	AM PM	B / 19 C / 20	B / 19 C / 25	N
18. Fruitvale Ave/E 9th St	Signal[3]	AM PM	C / 26 C / 24	C / 26 D / 37	N

Intersection	Traffic Control[1]	Peak Hour	LOS / Delay (sec/veh)[2]		Impact[3]
			Existing	Existing plus Project	
19. Fruitvale Ave/E 8th St	Signal[3]	AM PM	B / 18 B / 12	B / 13 B / 18	N
20. Fruitvale Ave/Alameda Ave	Signal	AM PM	B / 15 B / 15	B / 16 B / 16	N
21. Tilden Way/Fernside Blvd/Blanding Ave (Alameda)	Signal	AM PM	C / 21 C / 20	C / 22 B / 19	N
22. 42nd Ave/International Blvd	Signal	AM PM	C / 34 C / 34	D / 35 D / 45	N
23. High St/International Blvd	Signal	AM PM	B / 11 B / 11	B / 12 B / 17	N
24. High St/E 12th St	Signal	AM PM	A / 7 B / 11	A / 7.2 B / 11	N
25. High St/San Leandro St	Signal	AM PM	C / 23 C / 24	C / 24 C / 26	N
26. High St/Coliseum Wy	Signal[3]	AM PM	C / 22 C / 30	D / 40 E / 75	**Y-TRAN-2**
27. High St/SB 880 off-ramp/Oakport St	Signal[3]	AM PM	B / 18 B / 15	C / 32 D / 39	N
28. High St/Fernside Blvd (Alameda)	Signal	AM PM	C / 34 C / 28	D / 47 C / 25	N
29. Coliseum Wy/NB 880 off-ramp	SSSC[3]	AM PM	D / 25 (EBT) D / 28 (EBT)	F / 122 (EBT) F / 69 (EBT)	**Y-TRAN-3**
30. Oakport St/SB 880 on-ramp	SSSC[3]	AM PM	D / 33 (NBT) E / 36 (NBT)	D / 34 (NBL) E / 36 (NBL)	N
31. 42nd Ave/I-880 NB Ramp	Signal	AM PM	A / 7 A / 7	A / 7 A / 8	N
32. 42nd Ave/I-880 SB Ramp	Signal	AM PM	A / 7 A / 7	A / 7 A / 7	N

Notes: Intersection approach abbreviations: WBL = westbound left-turn; SBL = southbound left-turn; SBR = southbound right-turn; WBR = westbound right-turn; EBT = eastbound through; NBL = northbound left-turn.

[1] Traffic Control: SSSC = side-street stop control, AWSC = all-way stop control, Uncontrolled (no approach is controlled), Signal = traffic signal. The critical stop controlled movement with the worst delay is used to identify LOS (per HCM 2000 methodologies).

[2] LOS / Delay (seconds per vehicle) based on HCM 2000 methodologies. BOLD results indicate that the LOS exceeds the city's LOS D operating standard.

[3] Significant Impact: this column identifies the transportation impact # (TRAN) if a significant impact occurs using the City's CEQA thresholds.

Source: Arup, 2012.

Table 4.4-11 Existing plus Project Roadway Segment LOS Traffic Analysis

				Existing (2009)			Existing plus Project			
#	CMP Segment	Dir	Lanes	Vol	v/c	LOS	Vol	v/c	LOS	Impact Y/N
AM Peak Hour										
	I-880: 16th Ave	NB	4	8,758	1.04	*F*	8,827	1.05	*F*	N
1	Freeway (4-lanes)	SB	4	6,628	0.79	D	6,848	0.82	D	N
	I-880: 23rd Ave	NB	4	7,262	0.86	D	7,355	0.88	D	N
2	Freeway (4-lanes)	SB	4	6,098	0.73	D	6,336	0.75	D	N
	I-880: Fruitvale Ave	NB	4	7,166	0.85	D	7,253	0.86	D	N
3	Freeway (4-lanes)	SB	4	6,619	0.79	D	6,864	0.82	D	N
	I-880: 50th Ave	NB	4	7,251	0.86	D	7,476	0.89	E	N
4	Freeway (4-lanes)	SB	4	7,218	0.86	D	7,288	0.87	D	N
	23rd Ave: Alameda to I-880	EB	2	1,394	0.75	D	1,418	0.76	D	N
5	Class II Arterial (2-lane)	WB	2	333	0.18	C or Better	339	0.18	C or Better	N
	29th Ave: Alameda to I-880	EB	1	801	0.93	D	824	0.96	E	N
6	Class II Arterial (1-lane)	WB	1	216	0.25	C or Better	252	0.29	C or Better	N
	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	406	0.11	C or Better	415	0.11	C or Better	N
7	Uninterrupted Flow Highway (2-lane)	WB	2	908	0.24	C or Better	922	0.25	C or Better	N

#	CMP Segment	Dir	Lanes	Existing (2009) Vol	Existing (2009) v/c	Existing (2009) LOS	Existing plus Project Vol	Existing plus Project v/c	Existing plus Project LOS	Impact Y/N
PM Peak Hour										
	I-880: 16th Ave	NB	4	7,550	0.90	E	7,821	0.93	E	N
1	Freeway (4-lanes)	SB	4	6,795	0.81	D	6,922	0.82	D	N
	I-880: 23rd Ave	NB	4	6,686	0.80	D	6,977	0.83	D	N
2	Freeway (4-lanes)	SB	4	6,073	0.72	C or Better	6,229	0.74	D	N
	I-880: Fruitvale Ave	NB	4	7,603	0.91	E	7,946	0.95	E	N
3	Freeway (4-lanes)	SB	4	6,486	0.77	D	6,684	0.80	D	N
	I-880: 50th Ave	NB	4	7,964	0.95	E	8,092	0.96	E	N
4	Freeway (4-lanes)	SB	4	6,710	0.80	D	6,986	0.83	D	N
	23rd Ave: Alameda to I-880	EB	2	895	0.48	C or Better	919	0.49	C or Better	N
5	Class II Arterial (2-lane)	WB	2	617	0.33	C or Better	643	0.34	C or Better	N
	29th Ave: Alameda to I-880	EB	1	699	0.81	D	708	0.82	D	N
6	Class II Arterial (1-lane)	WB	1	257	0.30	C or Better	309	0.36	C or Better	N
	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	742	0.20	C or Better	797	0.21	C or Better	N
7	Uninterrupted Flow Highway (2-lane)	WB	2	596	0.16	C or Better	649	0.17	C or Better	N

Source: Arup, 2012

Interim Year 2020 No Project/Plus Project Impacts and Mitigations

Table 4.4-12 presents the results of the Interim Year 2020 No Project and plus Project peak hour intersection LOS traffic analysis. All intersections with LOS exceeding the city's LOS D standard are highlighted in **bold** font. Significant Impacts are identified in the last column with a note identifying the appropriate CEQA threshold.

Table 4.4-13 presents the results of the Interim Year 2020 No Project and plus Project peak hour roadway segment LOS traffic analysis. Project-related impacts are identified using the CEQA thresholds described in the previous sections.

Table 4.4-12 Interim Year 2020 plus Project Intersection LOS Traffic Analysis

Intersection	Traffic Control[1]	Peak Hour	LOS/Delay (sec/veh)[2]		Impact[3]
			Interim Year 2020 No Project	Interim Year 2020 plus Project	
1. Embarcadero/16th Ave	SSSC	AM PM	C / 22 (WBL) E / 49 (WBL)	C / 23 (WBL) F / 51 (WBL)	**Y-TRAN-4**
2. International Blvd (E 14th St)/22nd Ave	Signal	AM PM	B / 11 B / 12	B / 12 B / 13	N
3. E 12th St/22nd Ave/23rd Ave	Signal	AM PM	D / 41 E / 69	D / 43 E / 70	**Y-TRAN-5**
4. 23rd Ave/E 11th St	Signal	AM PM	B / 17 B / 17	B / 19 B / 17	N
5. Dennison St/Kennedy St/ SB 880 off-ramp	SSSC	AM PM	Not analyzed		
6. Kennedy St/SB 880 on-ramp	Uncontrolled	AM PM	A / 3 (SBL) A / 5 (SBL)	A / 3 (SBL) A / 5 (SBL)	N
7. 29th Ave/International Blvd	Signal	AM PM	C / 22 C / 30	C / 25 C / 33	N
8. 29th Ave/E 12th St	Signal	AM PM	C / 26 C / 28	C / 28 C / 29	N
9. E 8th St/Lisbon Ave/NB 880 on-ramp	SSSC	AM PM	Not analyzed. The 29th/23rd Project closes the 880 on-ramp; no project traffic is assigned.		
10. E 9th St/E 8th St/NB 880 off-ramp	Roundabout	AM PM	C / 23 A / 8	C / 24 A / 9	N
11. 23rd Ave/Ford St	Signal	AM PM	B / 18 C / 27	A / 9 C / 27	N

Intersection	Traffic Control[1]	Peak Hour	LOS/Delay (sec/veh)[2] Interim Year 2020 No Project	LOS/Delay (sec/veh)[2] Interim Year 2020 plus Project	Impact[3]
12. 29th Ave/Ford St	SSSC	AM PM	B / 12 A / 9	B / 18 B / 11	N
13. 29th Ave/23rd Ave/Park St	SSSC	AM PM	E / 35 (WBR) C / 21 (WBR)	E / 36 (WBR) C / 21 (WBR)	N
14. Park St/Lincoln Ave/Tilden Way (Alameda)	Signal	AM PM	C / 20 C / 33	C / 21 C / 34	N
15. Fruitvale Ave/International Blvd	Signal	AM PM	C / 25 C / 25	C / 28 C / 27	N
16. Fruitvale Ave/E 12th St	Signal	AM PM	D / 38 D / 40	D / 40 D / 44	N
17. Fruitvale Ave/San Leandro St/E 10th St	Signal	AM PM	D / 50 D / 48	D / 53 D / 52	N
18. Fruitvale Ave/E 9th St	Signal	AM PM	D / 48 D / 43	D / 50 E / 58	**Y-TRAN-6**
19. Fruitvale Ave/E 8th St	Signal	AM PM	C / 20 C / 22	C / 20 C / 23	N
20. Fruitvale Ave/Alameda Ave	Signal	AM PM	B / 14 B / 12	B / 14 B / 13	N
21. Tilden Way/Fernside Blvd/Blanding Ave (Alameda)	Signal	AM PM	D / 36 D / 39	D / 36 D / 40	N
22. 42nd Ave/International Blvd	Signal	AM PM	F / 89 E / 73	F / 93 F / 85	**Y-TRAN-7**
23. High St/International Blvd	Signal	AM PM	C / 28 B / 20	C / 29 D / 52	N
24. High St/E 12th St	Signal	AM PM	B / 11 B / 16	B / 11 B / 18	N
25. High St/San Leandro St	Signal	AM PM	C / 29 C / 22	D / 43 E / 56	**Y-TRAN-8**
26. High St/Coliseum Wy	Signal	AM PM	B / 20 C / 23	C / 21 D / 36	N
27. High St/SB 880 off-ramp/Oakport St	Signal	AM PM	C / 26 B / 16	C / 28 C / 35	N
28. High St/Fernside Blvd (Alameda)	Signal	AM PM	D / 52 D / 42	E / 68 D / 52	**Y-TRAN-9**
29. Coliseum Wy/NB 880 off-ramp	SSSC	AM PM	E / 39 (EBT) F / 82 (EBT)	F / >120 (EBT) F / >120 (EBT)	**Y-TRAN-3**

Intersection	Traffic Control[1]	Peak Hour	LOS/Delay (sec/veh)[2] Interim Year 2020 No Project	LOS/Delay (sec/veh)[2] Interim Year 2020 plus Project	Impact[3]
30. Oakport St/SB 880 on-ramp	SSSC	AM PM	E / 40 (NBR) F / 62 (NBR)	E / 40 (NBL) F / 62 (NBR)	N
31. 42nd Ave/I-880 NB Ramp	Signal	AM PM	B / 14 B / 15	B / 14 B / 18	N
32. 42nd Ave/I-880 SB Ramp	Signal	AM PM	B / 19 B / 18	B / 18 B / 19	N
33. 23rd Ave/I-880 NB Ramp	Signal	AM PM	D / 44 B / 14	D / 53 B / 14	N
34. 29th Ave/I-880 Ramps	Signal	AM PM	A / 10 B / 11	B / 10 B / 11	N

Notes: Intersection approach abbreviations: WBL = westbound left-turn; SBL = southbound left-turn; SBR = southbound right-turn; WBR = westbound right-turn; EBT = eastbound through; NBL = northbound left-turn; NBR = northbound right-turn

[1] Traffic Control: SSSC = side-street stop control, AWSC = all-way stop control, Uncontrolled (no approach is controlled), Signal = traffic signal. The critical stop controlled movement with the worst delay is used to identify LOS (per HCM 2000 methodologies).

[2] LOS / Delay (seconds per vehicle) based on HCM 2000 methodologies. BOLD results indicate that the LOS exceeds the city's LOS D operating standard.

[3] Significant Impact: this column identifies the transportation impact # (TRAN) if a significant impact occurs using the City's CEQA thresholds.

Source: Arup, 2012.

Table 4.4-13 Interim Year 2020 plus Project Roadway Segment LOS Traffic Analysis

#	CMP Segment	Dir	Lanes	Interim Year 2020 No Project		LOS	Interim Year 2020 With Project		LOS	Impact
				Vol	v/c		Vol	v/c		
AM Peak Hour										
1	I-880: 16th Ave	NB	4	9,589	1.14	*F*	9,658	1.15	*F*	N
	Freeway (4-lanes)	SB	4	7,300	0.87	D	7,520	0.90	E	N
2	I-880: 23rd Ave	NB	4	7,900	0.94	E	7,993	0.95	E	N
	Freeway (4-lanes)	SB	4	6,693	0.80	D	6,931	0.83	D	N
3	I-880: Fruitvale Ave	NB	4	8,140	0.97	E	8,227	0.98	E	N
	Freeway (4-lanes)	SB	4	7,208	0.86	D	7,453	0.89	E	N
4	I-880: 50th Ave	NB	4	8,268	0.98	E	8,493	1.01	*F*	**Y-TRAN-26**
	Freeway (4-lanes)	SB	4	7,909	0.94	E	7,979	0.95	E	N
5	23rd Ave: Alameda to I-880	EB	2	1,418	0.76	D	1,442	0.77	D	N
	Class II Arterial (2-lane)	WB	2	451	0.24	C or Better	457	0.24	C or Better	N
6	29th Ave: Alameda to I-880	EB	1	992	1.15	*F*	1,015	1.18	*F*	N
	Class II Arterial (1-lane)	WB	1	247	0.29	C or Better	283	0.33	C or Better	N
7	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	586	0.16	C or Better	595	0.16	C or Better	N
	Uninterrupted Flow Highway (2-lane)	WB	2	1,064	0.28	C or Better	1,078	0.29	C or Better	N

#	CMP Segment	Dir	Lanes	Interim Year 2020 No Project		LOS	Interim Year 2020 With Project		LOS	Impact
				Vol	v/c		Vol	v/c		
PM Peak Hour										
1	I-880: 16th Ave	NB	4	8,209	0.98	E	8,481	1.01	*F*	**Y-TRAN-27**
	Freeway (4-lanes)	SB	4	7,304	0.87	D	7,431	0.88	E	N
2	I-880: 23rd Ave	NB	4	7,231	0.86	D	7,522	0.90	E	N
	Freeway (4-lanes)	SB	4	6,566	0.78	D	6,722	0.80	D	N
3	I-880: Fruitvale Ave	NB	4	8,229	0.98	E	8,571	1.02	*F*	**Y-TRAN-28**
	Freeway (4-lanes)	SB	4	7,005	0.83	D	7,203	0.86	D	N
4	I-880: 50th Ave	NB	4	8,650	1.03	*F*	8,778	1.04	*F*	N
	Freeway (4-lanes)	SB	4	7,258	0.86	D	7,535	0.90	E	N
5	23rd Ave: Alameda to I-880	EB	2	1,066	0.57	C or Better	1,090	0.58	C or Better	N
	Class II Arterial (2-lane)	WB	2	739	0.40	C or Better	765	0.41	C or Better	N
6	29th Ave: Alameda to I-880	EB	1	918	1.07	*F*	927	1.08	*F*	N
	Class II Arterial (1-lane)	WB	1	292	0.34	C or Better	344	0.40	C or Better	N
7	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	903	0.24	C or Better	958	0.25	C or Better	N
	Uninterrupted Flow Highway (2-lane)	WB	2	745	0.20	C or Better	798	0.21	C or Better	N

Source: Arup, 2012.

Cumulative Year 2035 No Project/Plus Project Impacts and Mitigations

Table 4.4-14 presents the results of the Interim Year No Project and plus Project peak hour intersection LOS traffic analysis. All intersections with LOS exceeding the city's LOS D standard are highlighted in bold font. Significant impacts are identified in the last column with a note identifying the appropriate CEQA threshold.

Table 4.4-15 presents the results of the Cumulative Year 2035 No Project and plus Project peak hour roadway segment LOS traffic analysis. Project-related impacts are identified using the CEQA thresholds described in the previous sections.

Table 4.4-14 Cumulative Year 2035 plus Project Intersection LOS Traffic Analysis

Intersection	Traffic Control[1]	Peak Hour	LOS / Delay (sec/veh)[2]		Impact[3]
			Cumulative Year 2035 No Project	Cumulative Year 2035 plus Project	
1. Embarcadero/16th Ave	SSSC	AM PM	E / 40 (WBL) F />120 (WBL)	E / 41 (WBL) F />120 (WBL)	**Y-TRAN-4**
2. International Blvd (E 14th St)/22nd Ave	Signal	AM PM	C / 29 C / 26	D / 38 C / 32	N
3. E 12th St/22nd Ave/23rd Ave	Signal	AM PM	D / 54 F / >120	D / 55 F / >120	**Y-TRAN-5**
4. 23rd Ave/E 11th St	Signal	AM PM	A / 6 C / 30	A / 6 C / 32	N
5. Dennison St/Kennedy St/ SB 880 off-ramp	SSSC	AM PM	Not analyzed		
6. Kennedy St/SB 880 on-ramp	Uncontrolled	AM PM	A / 2 (SBL) A / 6 (SBL)	A / 2 (SBL) A / 6 (SBL)	N
7. 29th Ave/International Blvd	Signal	AM PM	D / 46 C / 29	D / 54 C / 31	N
8. 29th Ave/E 12th St	Signal	AM PM	D / 41 E / 58	D / 44 E / 59	**Y-TRAN-10**
9. E 8th St/Lisbon Ave/NB 880 on-ramp	SSSC	AM PM	Not analyzed. The 29th/23rd Project closes the 880 on-ramp; no project traffic is assigned.		
10. E 9th St/E 8th St/NB 880 off-ramp	Roundabout	AM PM	D / 32 A / 9	D / 33 A / 9	N
11. 23rd Ave/Ford St	Signal[3,4]	AM PM	C / 20 E / 74	C / 20 E / 75	N

Intersection	Traffic Control[1]	Peak Hour	LOS / Delay (sec/veh)[2] Cumulative Year 2035 No Project	LOS / Delay (sec/veh)[2] Cumulative Year 2035 plus Project	Impact[3]
12. 29th Ave/Ford St	SSSC3[,4]	AM PM	C / 34 D / 44	D / 52 E / 61	**Y-TRAN-11**
13. 29th Ave/23rd Ave/Park St	SSSC[3,4]	AM PM	F / 87 (WBR) E / 35 (WBR)	F / 89 (WBR) E / 36 (WBR)	**Y-TRAN-12**
14. Park St/Lincoln Ave/Tilden Way (Alameda)	Signal	AM PM	D / 46 F / 104	D / 50 F / 109	**Y-TRAN-13**
15. Fruitvale Ave/International Blvd	Signal	AM PM	D / 42 C / 35	D / 50 D / 38	N
16. Fruitvale Ave/E 12th St	Signal	AM PM	E / 60 E / 68	E / 68 E / 73	**Y-TRAN-14**
17. Fruitvale Ave/San Leandro St/E 10th St	Signal	AM PM	F / >120 D / 41	F / >120 D / 42	**Y-TRAN-15**
18. Fruitvale Ave/E 9th St	Signal[3]	AM PM	F / 108 F / 114	F / >120 F / >120	**Y-TRAN-6**
19. Fruitvale Ave/E 8th St	Signal[3]	AM PM	C / 32 C / 35	C / 33 D / 37	N
20. Fruitvale Ave/Alameda Ave	Signal	AM PM	B / 19 B / 16	C / 22 B / 19	N
21. Tilden Way/Fernside Blvd/Blanding Ave (Alameda)	Signal	AM PM	E / 62 E / 71	E / 62 E / 75	**Y-TRAN-16**
22. 42nd Ave/International Blvd	Signal	AM PM	F / >120 F / >120	F / >120 F / >120	**Y-TRAN-17**
23. High St/International Blvd	Signal	AM PM	D / 44 E / 69	E / 73 F / >120	**Y-TRAN-18**
24. High St/E 12th St	Signal	AM PM	B / 12 B / 16	B / 12 B / 19	N
25. High St/San Leandro St	Signal	AM PM	E / 72 F / 114	F / >120 F / >120	**Y-TRAN-19**
26. High St/Coliseum Wy	Signal[3]	AM PM	B / 20 C / 31	C / 28 D / 51	N
27. High St/SB 880 off-ramp/Oakport St	Signal[3]	AM PM	C / 27 B / 19	E / 80 E / 62	**Y-TRAN-20**
28. High St/Fernside Blvd (Alameda)	Signal	AM PM	E / 80 D / 54	F / 94 E / 63	**Y-TRAN-21**
29. Coliseum Wy/NB 880 off-ramp	SSSC[3]	AM PM	F / 94 (EBT) F / >120 (EBT)	F / >120 (EBT) F / >120 (EBT)	**Y-TRAN-3**

Intersection	Traffic Control[1]	Peak Hour	LOS / Delay (sec/veh)[2] Cumulative Year 2035 No Project	LOS / Delay (sec/veh)[2] Cumulative Year 2035 plus Project	Impact[3]
30. Oakport St/SB 880 on-ramp	SSSC[3]	AM PM	F / 57 (NBR) F / >120 (NBR)	F / 57 (NBR) F / >120 (NBR)	N
31. 42nd Ave/I-880 NB Ramp	Signal	AM PM	C / 25 B / 19	D / 45 C / 30	N
32. 42nd Ave/I-880 SB Ramp	Signal	AM PM	C / 21 B / 20	C / 20 B / 20	N
33. 23rd Ave/I-880 NB Ramp	Signal	AM PM	F / 112 C / 35	F / 116 D / 40	**Y-TRAN-22**
34. 29th Ave/I-880 Ramps	Signal	AM PM	B / 13 B / 17	B / 14 C / 21	N

Notes: Intersection approach abbreviations: WBL = westbound left-turn; SBL = southbound left-turn; SBR = southbound right-turn; WBR = westbound right-turn; EBT = eastbound through; NBL = northbound left-turn; NBR = northbound right-turn

[1] Traffic Control: SSSC = side-street stop control, AWSC = all-way stop control, Uncontrolled (no approach is controlled), Signal = traffic signal. The critical stop controlled movement with the worst delay is used to identify LOS (per HCM 2000 methodologies).

[2] LOS / Delay (seconds per vehicle) based on HCM 2000 methodologies. BOLD results indicate that the LOS exceeds the city's LOS D operating standard.

[3] Significant Impact: this column identifies the transportation impact # (TRAN) if a significant impact occurs using the City's CEQA thresholds.

Source: Arup, 2012.

Table 4.4-15 Cumulative Year 2035 plus Project Roadway Segment LOS Traffic Analysis

#	CMP Segment	Dir	Lanes	Cumulative Year 2035 No Project		LOS	Cumulative Year 2035 plus Project		LOS	Impact Y/N
				Vol	v/c		Vol	v/c		
AM Peak Hour										
1	I-880: 16th Ave	NB	4	10,851	1.29	*F*	10,920	1.30	*F*	N
	Freeway (4-lanes)	SB	4	8,327	0.99	E	8,547	1.02	*F*	**Y-TRAN-29**
2	I-880: 23rd Ave	NB	4	8,861	1.05	*F*	8,954	1.07	*F*	N
	Freeway (4-lanes)	SB	4	7,600	0.90	E	7,838	0.93	E	N
3	I-880: Fruitvale Ave	NB	4	9,685	1.15	*F*	9,772	1.16	*F*	N
	Freeway (4-lanes)	SB	4	8,097	0.96	E	8,342	0.99	E	N
4	I-880: 50th Ave	NB	4	9,888	1.18	*F*	10,113	1.20	*F*	N
	Freeway (4-lanes)	SB	4	8,960	1.07	*F*	9,030	1.07	*F*	N
5	23rd Ave: Alameda to I-880	EB	2	1,428	0.76	D	1,452	0.78	D	N
	Class II Arterial (2-lane)	WB	2	612	0.33	C or Better	618	0.33	C or Better	N
6	29th Ave: Alameda to I-880	EB	1	1,304	1.52	*F*	1,327	1.54	*F*	N
	Class II Arterial (1-lane)	WB	1	271	0.32	C or Better	307	0.36	C or Better	N
7	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	774	0.21	C or Better	783	0.21	C or Better	N
	Uninterrupted Flow Highway (2-lane)	WB	2	1,228	0.33	C or Better	1,242	0.33	C or Better	N

#	CMP Segment	Dir	Lanes	Cumulative Year 2035 No Project		LOS	Cumulative Year 2035 plus Project		LOS	Impact Y/N
				Vol	v/c		Vol	v/c		
PM Peak Hour										
1	I-880: 16th Ave	NB	4	9,202	1.10	*F*	9,473	1.13	*F*	**Y-TRAN-30**
	Freeway (4-lanes)	SB	4	8,061	0.96	E	8,188	0.97	E	N
2	I-880: 23rd Ave	NB	4	8,046	0.96	E	8,337	0.99	E	N
	Freeway (4-lanes)	SB	4	7,303	0.87	D	7,459	0.89	E	N
3	I-880: Fruitvale Ave	NB	4	9,166	1.09	F	9,509	1.13	*F*	**Y-TRAN-31**
	Freeway (4-lanes)	SB	4	7,780	0.93	E	7,978	0.95	E	N
4	I-880: 50th Ave	NB	4	9,682	1.15	*F*	9,810	1.17	*F*	N
	Freeway (4-lanes)	SB	4	8,079	0.96	E	8,355	0.99	E	N
5	23rd Ave: Alameda to I-880	EB	2	1,300	0.70	C or Better	1,324	0.71	C or Better	N
	Class II Arterial (2-lane)	WB	2	906	0.48	C or Better	932	0.50	C or Better	N
6	29th Ave: Alameda to I-880	EB	1	1,298	1.51	*F*	1,307	1.52	*F*	N
	Class II Arterial (1-lane)	WB	1	324	0.38	C or Better	376	0.44	C or Better	N
7	42nd Ave (SR-77): I-880 to Int'l Blvd	EB	2	1,106	0.29	C or Better	1,161	0.31	C or Better	N
	Uninterrupted Flow Highway (2-lane)	WB	2	888	0.24	C or Better	941	0.25	C or Better	N

Source: Arup, 2012.

Discussion of Impacts

This section summarizes the project's impacts and mitigations organized by the City's CEQA impact thresholds. CEQA thresholds #1 through #8 were applied to determine impacts to traffic operations at study intersections and roadway segments. Where potentially significant impacts have been identified on study area intersections and roadway segments, mitigation measures have been recommended to reduce impacts. The feasibility and effectiveness of these mitigation measures is also discussed. This section is followed by a qualitative assessment of CEQA thresholds #9 through #17, which includes a discussion of the "Planning-Related Non-CEQA Issues". For feasible mitigation measures (i.e., non-SU impacts), an estimate of the time-horizon is identified.

Traffic Load and Capacity Thresholds #1 through #6

Thresholds 1-6 describe how project-related traffic affects operations at signalized and unsignalized intersections. The mitigation measures discussed in this section do not assume that the BRT project is constructed. For informational purposes, the mitigations associated with the traffic patterns assumed after the construction of the BRT project are discussed in **Appendix D**.

Impact TRAN-1: Under Existing plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #10 (E 9th St / E 8th St / NB 880 off-ramp, unsignalized all-way stop control) from LOS F with 80 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.

Mitigation TRAN-1: The 29th/23rd Overcrossing Project will be constructing a roundabout at this intersection and reconfiguring the street system. The NB I-880 off-ramp traffic will no longer be routed through this location, but instead will use a new off-ramp that will intersect 29th Avenue directly on the new overcrossing structure. The proposed roundabout and the change in traffic flows associated with the 29th/23rd Project will successfully improve intersection operations to LOS B, which will reduce the impact to a *less-than-significant* (LTS) level.

Significance after Mitigation: LTS

Implementation: With the project. The impact will be mitigated with the construction of the roundabout with the 29th/23rd Overcrossing project in 2013.

Impact TRAN-2: Under Existing plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #26 (High St / Coliseum Wy, signalized) from LOS C with 30 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.

Mitigation TRAN-2: The 42nd Avenue / High Street Access Improvements Project will widen High Street to accommodate additional travel and left-turn lanes. The widening of High Street will improve intersection operations to LOS B, which will reduce the impact to a *less-than-significant* level.

Significance after Mitigation: LTS

Implementation: With the project. The impact will be mitigated with the construction of the additional lanes on High Street with the 42nd Avenue / High Street Access Improvements project in 2015/2016.

Impact TRAN-3: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #29 (Coliseum Wy / NB 880 off-ramp, unsignalized side-street stop control) from LOS D with 25 seconds of delay (AM) and 28 seconds of delay (PM) to LOS F with 122 seconds of delay (PM) and 69 seconds of delay (PM). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.

Mitigation TRAN-3: The impact at this intersection is triggered by the delay incurred at the stop-controlled approach on Coliseum Way. The off-ramp movement from NB I-880 is uncontrolled because of its proximity to the freeway mainline travel lanes. A traffic signal and reconfiguration of the intersection would mitigate this impact to a less-than-significant level. However, these improvements would be located partially within Caltrans right-of-way, which would require their approval. This places the implementation of this mitigation measure outside the control of the City. From Caltrans perspective, this intersection is also likely too close to the freeway to ensure that queues from a traffic signal would not spill back to the freeway mainline. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-4: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #1 (Embarcadero / 16th Avenue, unsignalized side-street stop control) from LOS E with 49 seconds of delay (No Project) to LOS F with 51 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection, which meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.

Mitigation TRAN-4: Install a traffic signal and reconfigure the lanes at this location, optimize the signal timing (i.e., adjust the allocation of green time for each intersection approach for peak periods of the day), and coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group (if applicable). Construct other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection.

To implement this measure, the project sponsor shall submit the following to the City of Oakland's Transportation Engineering Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) documents to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for the elements listed below:

- 2070L Type Controller w/ Cabinet Assembly
- GPS communication (clock),
- Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile),
- Countdown Pedestrian Head Module Switch out,
- City Standard ADA wheelchair ramps,
- Video Detection on Existing (or new, if required)

- Mast Arm Poles, full actuation (where applicable),
- Polara Push Buttons (full actuation),
- Bicycle detection (full actuation),
- Pull Boxes,
- Signal interconnect and communication w/ trenching (where applicable), or through (E) conduit (where applicable)- 600 feet maximum,
- Conduit replacement contingency,
- Fiber Switch,
- PTZ Camera (where applicable)

These improvements will successfully mitigate this impact to LOS B, which will reduce the impact to a *less-than-significant* (LTS) level.

Significance after Mitigation: LTS

Implementation: This mitigation measure will need to be implemented by 2015.

Impact TRAN-5: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #3 (E 12th / 22nd Ave / 23rd Ave, signalized) from LOS E with 69 seconds of delay (No Project) to LOS E with 70 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left and westbound left) to degrade by more than six seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #4.

Mitigation TRAN-5: Construct a second left-turn lane from NB E 12th to WB 22nd, modify the signal operation and phasing, and optimize the signal timings. The right-of-way necessary to construct this turn lane would require the removal of the on-street parking along the east curb of E 12th approaching 22nd Avenue (approximately 15 on-street parking spaces would need to be removed) and would require the realignment of the NB travel lanes along E 12th Street. These physical changes are considered infeasible at this time. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-6: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #18 (Fruitvale Ave / E 9th St, signalized) from LOS D with 43 seconds of delay (No Project) to LOS E with 58 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.

Mitigation TRAN-6: At the SB approach on E 9th, provide a dedicated SB left-turn lane to EB Fruitvale with protected left-turn signal phasing. This will require modifications to the signal design, operation, and phasing to provide the protected left-turn movement and an optimization of the signal timing plans. To implement this measure, the project sponsor shall submit to the City for review and approval Plans, Specifications, and Estimates (PS&E) as detailed in Mitigation Measure TRAN-4. The SB left-turn lane could be accommodated by either: a) converting one of the NB travel lanes on E 9th to the SB left-turn lane, or b) widening E 9th on the west side of the roadway, which would require removing trees, reconfiguring the at-grade rail crossing, and rebuilding the traffic signal. No on-street parking would need to be removed. The existing SB travel lane would be converted to a shared through/right-turn lane. This improvement would improve operations to LOS D, which would reduce the impact to a *less-than-significant* level.

Significance after Mitigation: LTS

Implementation: This mitigation measure will need to be implemented by 2018.

Impact TRAN-7: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #22 (42nd Ave / International Blvd, signalized) from LOS E with 73 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The increase in delay of 12 seconds is considered a *significant impact* under CEQA threshold #3.

Mitigation TRAN-7: Construct a third NB/SB through lane along International, modify the signal operation and phasing, and optimize the signal timings. To implement this improvement, a third travel lane in each direction would be required along International for a segment extending beyond this specific location and the boundaries of the study area. Obtaining the right-of-way required to implement this mitigation would include acquiring parcels adjacent to the street and/or the elimination of on-street parking. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-8: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS C with 22 seconds of delay (No Project) to LOS E with 56 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.

Mitigation TRAN-8: Construct a third EB/WB travel lane along High Street. To implement this improvement, a third travel lane in each direction would be required along High for a segment extending from International to Tidewater. Obtaining the right-of-way required to implement this mitigation would include acquiring parcels or portions of parcels adjacent to the street. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-9: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS D with 52 seconds of delay (No Project) to LOS E with 68 seconds of delay (plus Project). This is considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.

Mitigation TRAN-9: Widen Fernside Blvd to accommodate additional travel lanes at the intersection. Widening Fernside Blvd would require the acquisition of additional right-of-way and/or the elimination of on-street bike lanes and parking. This would conflict with the City of Alameda's General Plan Circulation Element and Bicycle Plan. This intersection is also located within the City of Alameda, so it would require the approval of a jurisdiction outside of the City of Oakland. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-10: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #8 (29th Ave / E 12th St, signalized) from LOS E with 58 seconds of delay (No Project) to LOS E with 59 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left from E 12th to 29th and westbound left from 29th to E 12th) to degrade by more than six seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #4.

Mitigation TRAN-10: Providing a second left-turn lane at the northbound and westbound approaches should provide sufficient capacity to mitigate this impact.

However, acquiring the right-of-way required to construct these left-turn lanes is limited by existing properties and the elevated BART tracks that run along the median. Also, on-street parking would have to be removed and the travel lanes realigned to accommodate these measures. These physical changes are considered infeasible at this time. This leaves this impact as *significant and unavoidable* (SU).

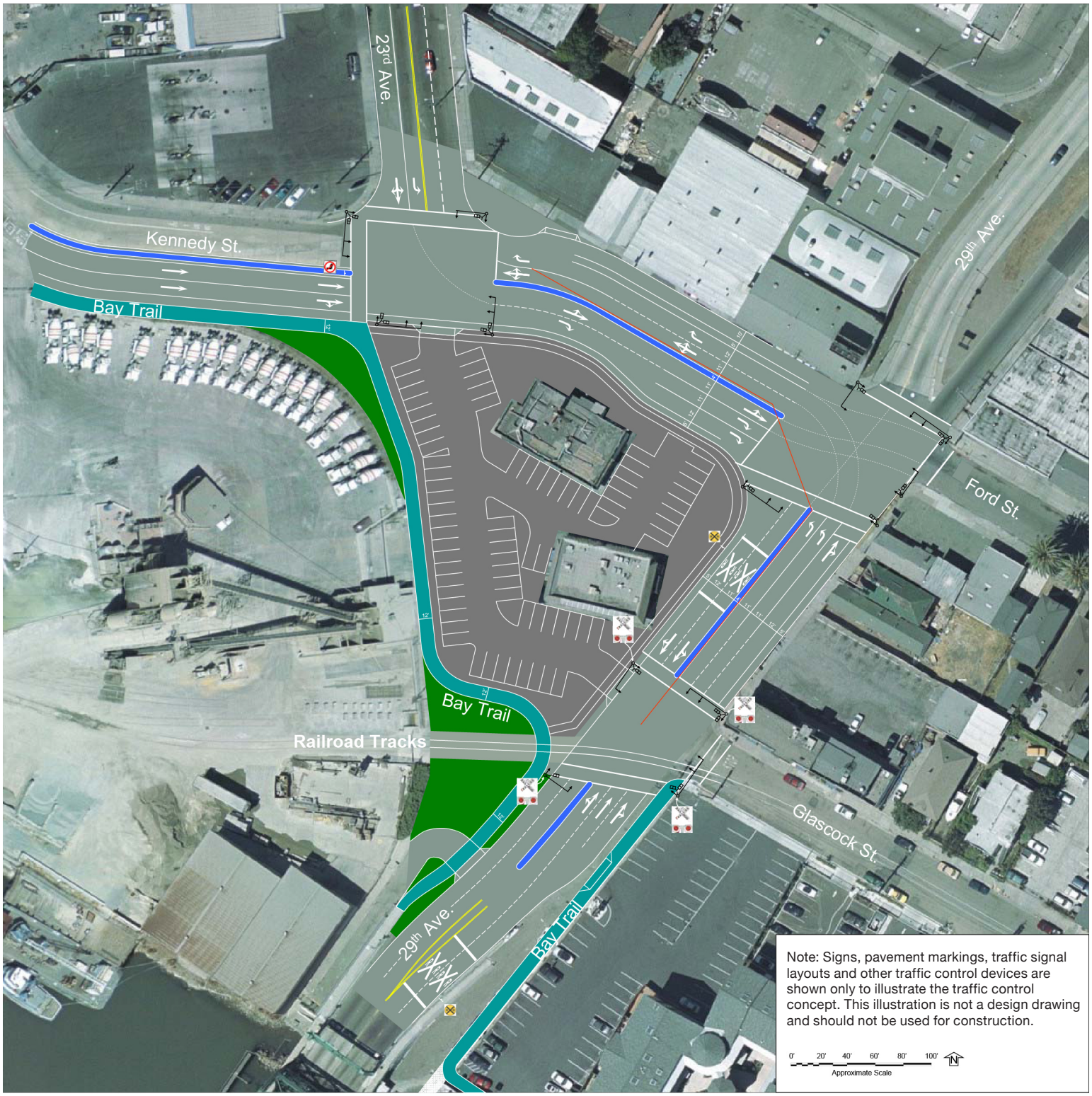
Significance after Mitigation: SU

Impact TRAN-11: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #12 (29th Ave / Ford St, signalized with the 29th/23rd Overcrossing Project) from LOS D with 44 seconds of delay (No Project) to LOS E with 61 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.

Mitigation TRAN-11: The 2035 analysis assumes that this intersection is signalized and reconfigured with the completion of the 29th/23rd Overcrossing Project. However, these improvements are not sufficient to maintain acceptable Level of Service traffic operations with the addition of project traffic in 2035 and thus further mitigation is required at this location and the two other intersections that comprise the Park Street Triangle (23rd Ave/Ford St (Intersection # 11) and 29th Ave/23rd Ave (Intersection # 13)) for both congestion- and safety-related reasons.

Specific recommendations of the 2006 Park Street Triangle Traffic Study Report (see **Appendix D**) included closing one leg of the Park Street Triangle and converting the other two legs to two-way traffic flow. **Figure 4.4-6** shows one alternative developed from the study prepared in 2006, although other alternative solutions were also considered.

The recommended alternative would improve pedestrian and bicycle access through the area and would provide for the extension of the Bay Trail as called for in the Oakland Waterfront Bay Trail Feasibility Study. However, the qualitative traffic assessment prepared for the Park Street Triangle Traffic Study Report also identified potential secondary impacts to access to adjacent properties as a result of the intersection reconfiguration. Additionally, the recommended alternative would result in left-turns in and out of driveways in order to access local businesses, with potential safety impacts. Further, no quantitative analysis was performed to assess the effects of trains and the Park Street draw bridge; as such, it will be necessary to further coordinate with the CPUC and the Union Pacific, the City of Oakland and Alameda County (bridge operators) and review the proposed crossing to determine the appropriate type of highway-rail crossing warning devices early in the design process.



Previously Evaluated Park Street Triangle Improvements

Figure 4.4-6

Source: Dowling and Associates, 2006.

Addressing the congestion impact at 29th Ave/Ford St is inextricably linked with the other intersections within the Park Street Triangle (23rd Ave/Ford St (Intersection # 11) and 29th Ave/23rd Ave (Intersection # 13), and all of the associated issues identified in the Park Street Triangle Traffic Study Report, as well as issues resulting from future development of sites within the study area. Therefore, there needs to be developed a detailed design plan for intersection improvements to the Park Street Triangle (including 29th Ave/Ford St), subject to review and approval of the City, addressing the issues listed above and below.

Specifically, to implement this measure, the future project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- A comprehensive study of existing traffic signal facilities and coordination with City Transportation Services Division on the scope of improvements necessary to meet City standards.

- This study shall address, at a minimum, the following community comments on the Park Street Bridge Traffic Study Report: (1) developing strategies to reduce the potential for bicyclists to ride the wrong way on the narrow Park Street Bridge walkways; (2) installing signs and pavement markings outside of the study area such as directional signage in support of regional bicycle travel including signage directing cyclists (from the City of Alameda) to the safest routes to the Embarcadero and signage at the corner of E. 7th St. and Kennedy St. directing cyclists to the City of Alameda (current signage only directs riders to Fruitvale Ave.); (3) developing specialized treatments for motor vehicles, pedestrians and bicyclists, and details regarding access, parking and landscaping (to be addressed during the design phase of project development); and (4) consideration should be given to removing the prohibition of left turns and U-turns for southbound traffic on 29th Avenue at Ford Street (motorists often make these maneuvers in violation of existing traffic signs prohibiting the movements, and no collisions have been reported involving those maneuvers).

- The study shall also address the following standard traffic study contents: (a) street closures; (b) queuing impacts of short left turn lanes: (c) geometric analysis of new lane configurations and offsets to accommodate all modes

(safety and operations); (d) analysis of cycle length on vehicle, bus, and pedestrian crossings (safety and operations); (e) opportunities to install bike lanes; (g) potential parking space removal; and (h) drainage relocation. The study could result in recommendations that would not require the intersection to be signalized.

- Plans, Specifications, and Estimates (PS&E) to modify the intersection to accommodate the signal installation (or other improvements). All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for among other items the elements listed below:
  - 2070L Type Controller
  - GPS communication (clock)
  - Accessible pedestrian crosswalks according to Federal and State Access Board guidelines
  - City Standard ADA wheelchair ramps
  - Full signal actuation (includes video detection, pedestrian push buttons, bicycle detection)
  - Accessible Pedestrian Signals, audible and tactile according to Federal Access Board guidelines
  - Countdown Pedestrian Signals
  - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet.
- Signal timing plans for the signals in the coordination group.
- A final design plan for this intersection improvement, subject to review and approval of the City.

The future project sponsor shall fund, prepare, and install the approved plans and improvements. The study shall be prepared no later than 2020, as the implementation of these improvements is required by 2022.

This impact is conservatively deemed to be *significant and unavoidable* (SU) because of the complex issues associated with the intersection (described in detail above), and because the specific improvements to be implemented, according to City standards, must be finalized after a detailed intersection/signalization engineering design study is performed and a preferred, detailed design selected by the City.

Significance after Mitigation: SU

Implementation: This mitigation measure will need to be implemented by 2022.

Impact TRAN-12: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #13 (29th Ave / 23rd Ave / Park St, unsignalized side-street stop control). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.

Mitigation TRAN-12: Implement Mitigation Measure TRAN-11. This impact is conservatively deemed *significant and unavoidable (SU)* for the reasons stated above under TRAN-11.

Significance after Mitigation: SU

Implementation: This mitigation measure will need to be implemented by 2022.

Impact TRAN-13: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #14 (Park St / Lincoln Ave / Tilden Wy, signalized) from LOS F with 104 seconds of delay (No Project) to LOS F with 109 seconds of delay (plus Project). These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.

Mitigation TRAN-13: Provide dedicated protected left-turn lanes on Park Street and modify the signal phasing/timing plans. Additional right-of-way and/or the elimination of on-street parking would be required to accommodate these left-turn lanes and still maintain two through lanes in both directions. This would conflict with the City of Alameda's General Plan Circulation Element. This intersection is also located within the City of Alameda, so it would require the approval of a jurisdiction outside of the City of Oakland. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-14: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #16 (Fruitvale Ave / E 12th St, signalized) from LOS E with 60 seconds of delay (AM, No Project) and 68 seconds (PM, No Project) to LOS E with 68 seconds of delay (AM, plus Project) and 73 seconds of delay (PM, plus Project). In both the AM and PM, the project traffic would cause the average delay at the intersection to degrade by more than four seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #3.

Mitigation TRAN-14: A second left-turn lane from northbound E 12th St to westbound Fruitvale Ave and a second left-turn lane from southbound E 12th St to eastbound Fruitvale Ave would be required to mitigate this impact. However, several buildings are built close to the street and the elevated BART tracks in the median provide considerable constraints for widening the road and realigning the travel lanes. For these reasons, the physical changes are considered infeasible at this time. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-15: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #17 (Fruitvale Ave / San Leandro St / E 10th St, signalized). The principle cause for the delay is the left-turn movement from westbound Fruitvale to southbound San Leandro. The intersection's v/c ratio would increase by 0.04, which is considered a *significant impact* under CEQA threshold #5.

Mitigation TRAN-15: A second left-turn lane from westbound Fruitvale to southbound San Leandro would be required to mitigate this impact. However, several buildings are built close to the street, which limits the opportunity for acquiring the sufficient right-of-way needed to construct the lane. For these reasons, the physical changes are considered infeasible at this time. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-16: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #21 (Tilden Wy / Fernside Blvd / Blanding Ave, signalized) from LOS E with 71 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.

Mitigation TRAN-16: Provide dedicated protected left-turn lanes on the Blanding Avenue and Fernside Boulevard approaches and modify the signal phasing/timing plans. Additional right-of-way and/or the elimination of on-street parking would be required to accommodate these left-turn lanes and still maintain two through lanes in both directions. This would conflict with the City of Alameda's General Plan Circulation Element. This intersection is also located within the City of Alameda, so it would require the approval of a jurisdiction outside of the City of Oakland. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-17: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM and PM peak hour LOS F condition at intersection #22 (42nd Ave / International Blvd, signalized). The intersection's v/c ratio increases by over 0.05 in the PM, which is considered a *significant impact* under CEQA threshold 5.

Mitigation TRAN-17: None feasible; see discussion under Mitigation TRAN-7.. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-18: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #23 (High St / International Blvd, signalized) from LOS D with 44 seconds of delay (No Project) to LOS E with 69 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS E to F. Both of these conditions are considered a *significant impact* under CEQA threshold #1 (AM) and #3 (PM).

Mitigation TRAN-18: None feasible; see discussion under Mitigation TRAN-7. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-19: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS E to F. In the PM peak hour, project traffic would exacerbate a LOS F condition by causing the v/c ratio to increase by 0.20. These conditions are considered a *significant impact* under CEQA threshold #1 and #3.

Mitigation TRAN-19: Construct a third EB/WB travel lane along High Street. To implement this improvement, a third travel lane in each direction would be required along High for a segment extending from International to Tidewater. Obtaining the right-of-way required to implement this mitigation would include acquiring parcels or portions of parcels adjacent to the street. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-20: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #27 (High St / SB 880 off-ramp / Oakport St, signalized plus additional improvements constructed with the 42nd Avenue / High Street Access Project) from LOS C with 44 seconds of delay (No Project) to LOS E with 80 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS B to E. These conditions are considered a *significant impact* under CEQA threshold #1.

Mitigation TRAN-20: The 2035 baseline assumes that the 42nd Avenue / High Street Access Improvements Project are constructed, which will greatly increase the capacity on High Street under I-880. However, these improvements are not sufficient to maintain traffic operations with the addition of project traffic in 2035. Further mitigation would be required at this location. A third eastbound/westbound travel lane along High Street would be required to fully mitigate this impact. However, widening High Street under I-880 is constrained by the I-880 structural columns and existing land uses to the west of I-880. For these reasons, these mitigations are considered infeasible and this impact remains *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-21: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS E with 80 seconds of delay (No Project) to LOS F with 94 seconds of delay (plus Project). In the PM peak hour, project traffic would cause LOS to degrade from LOS D to E. These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.

Mitigation TRAN-21: Widen Fernside to accommodate additional travel lanes at the intersection. Widening Fernside would require acquiring additional right-of-way and/or the elimination of on-street bike lanes and parking. This would conflict with the City of Alameda's General Plan Circulation Element and Bicycle Plan. This

intersection is also located within the City of Alameda, so it would require the approval of another jurisdiction. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-22: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the PM peak hour LOS F condition at intersection #33 (23rd Ave / NB 880 on-ramp, new signalized intersection with the 29th/23rd Overcrossing Project). The v/c ratio increases by 0.01, which is considered a *significant impact* under CEQA threshold #5.

Mitigation TRAN-22: This intersection is created with the 29th / 23rd Overcrossing Project. This intersection is identified as operating at LOS E during the AM peak hour under 2035 conditions in the 29th/23rd Overcrossing EIR. Additional mitigation is limited because of the new 23rd Avenue overcrossing and other improvements associated with that project. For these reasons, other mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Traffic Load and Capacity Thresholds #7 and #8

Thresholds #s 7 and 8 describe how project-related traffic affects operations on roadway segments identified in ACTC's CMP network and MTC's MTS network.

CMP SEGMENTS

Impact TRAN-23: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 50th Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-23: Any widening of I-880 is very unlikely. However, improvements to freeway interchanges, such as the improvements programmed in the 29th/23rd Project, will help improve traffic flow along the freeway. Improved transit services and TDM programs will also help reduce the traffic demand on the freeway system. Specific physical improvements along I-880 require approval by Caltrans. Therefore, any freeway mitigations are considered infeasible at this time and this impact is considered *significant and unavoidable.*

Significance after Mitigation: SU

Impact TRAN-24: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-24: None feasible; see discussion under Mitigation TRAN-23. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-25: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-25: None feasible; see discussion under Mitigation TRAN-23. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-26: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on southbound I-880 at 16th Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-26: None feasible; see discussion under Mitigation TRAN-23. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-27: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-27: None feasible; see discussion under Mitigation TRAN-23. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-28: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from

LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a *significant impact* under CEQA threshold #7.

Mitigation TRAN-28: None feasible; see discussion under Mitigation TRAN-23. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

MTS SEGMENTS

Impact TRAN-29: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS D or better to F on MTS segment #21 (High Street: I-880 to Tidewater). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-29: The 42nd Avenue / High Street Access Improvements Project will widen High Street to accommodate additional travel and left-turn lanes. These improvements will improve operations to LOS B, which will reduce the impact to a *less-than-significant* level.

Significance after Mitigation: Less-than-significant.

Impact TRAN-30: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS D or better to F on MTS segment #22 (High St: Tilden to Central). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-30: Widening of High Street through this residential area of Alameda is unlikely and would conflict with the City of Alameda's General Plan Circulation Element. This intersection is located within the City of Alameda, so it would require the approval of another jurisdiction. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-31: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E or better to F on MTS segment #3 (International Blvd: 29th Ave to Fruitvale Ave). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-31: Construct a third NB/SB through lane along International. To implement this improvement, a third travel lane in each direction would be required along International for a segment extending beyond this specific location and the boundaries of the study area. Obtaining the right-of-way required to implement this mitigation would include acquiring parcels adjacent to the street and/or the elimination of on-street parking. For these reasons, this mitigation is considered infeasible. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-32: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #4 (International Blvd: Fruitvale Ave to 42nd Ave). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-32: None feasible; see discussion under Mitigation TRAN-31. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-33: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM peak hour on MTS segment #5 (International Blvd: 42nd Ave to High St). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-33: None feasible; see discussion under Mitigation TRAN-31. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Impact TRAN-34: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #6 (International Blvd: High St to 50th Ave). This is considered a *significant impact* under CEQA threshold #8.

Mitigation TRAN-34: None feasible; see discussion under Mitigation TRAN-31. This leaves this impact as *significant and unavoidable* (SU).

Significance after Mitigation: SU

Traffic Load and Capacity Threshold #9 – AC Transit Travel Times

Threshold #9 describes how project-related traffic affects travel times for AC Transit buses.

Impact TRAN-35: The traffic analysis indicates that the project would result in a degradation of LOS at several intersections and roadway segments. The degradation of intersection operations at these locations, particularly along International Boulevard at High Street and 42nd Avenue, would result in an increase in AC Transit travel times for routes traveling along International Boulevard.

However, the City has no reliable basis to establish a numerical threshold for "substantially increased travel times" due to several factors:

First, bus service, in general, can change quite frequently over time in response to external factors, as is the case with AC Transit's bus network. During the duration of the Proposed Amendments, existing routes may no longer exist or new routes may be added to service or altered in some way. In fact, AC Transit has generally reduced its bus service over the past few years in response to budget issues. Similar to parking, transit service is not part of the physical environment, and can change.

Second, any numerical threshold to determine the significance of increased travel times needs to consider additional characteristics of the bus service, including its headway (the amount of time between scheduled trips) and total travel time. Given the changeable nature of bus service, establishing such thresholds is not reasonable, as service can be rerouted, eliminated, or created at any time. Consideration would also have to be given to different types of transit service (e.g., trunk service, Transbay service, local service, and community service), as they generally operate with different characteristics.

Third, unlike the situation for intersections or roadway facilities, there are no well-established methodologies for characterizing the operations of transit service in relation to travel times. For intersections, clear distinctions are made between intersections that operate at acceptable conditions (e.g., LOS D or better) and those that operate at unacceptable conditions (e.g., LOS E or LOS F), and separate impact thresholds are provided. For bus service, however, there is no well-established LOS equivalent for characterizing transit service in relation to travel times.

The three factors above are basic factors that make estimating AC Transit travel times with reasonable certainty throughout the life of the project, or establishing numerical thresholds for AC Transit travel times, difficult and impractical.

Mitigation TRAN-35: None required.

Significance after Mitigation: LTS

Traffic Safety Thresholds #10, #12, and #13

Impact TRAN-36: Traffic safety was evaluated by analyzing five years of collision data obtained from the California Highway Patrol's (CHP) Statewide Integrated Traffic Records System (SWITRS). The SWITRS collision data contains a record of all motor vehicle collisions. For each record, information on the type of collision (vehicle / vehicle, vehicle / pedestrian, or vehicle / bicycle) is provided. The location of the collision is also provided. This allows for the data to be sorted by collision type and geocoded to a location on the roadway network. The geocoded collision data were used to develop a list of collision "hot-spots" throughout the study area. At these "hot spots", city staff can identify geometric and design deficiencies, which can eventually lead to safety improvement recommendations.

Figure 4.4-7 presents a five-year history (2002 to 2007) of all collisions (motor vehicles with other vehicles, pedestrians, and bicycles) that have occurred within the transportation study area. The three areas with the highest motor vehicle collision rates over the last five years are:

- High Street / International Boulevard (133 incidents)
- E 12th Street / 23rd Avenue (123 incidents)
- Within the Park Street Triangle, the 23rd Avenue / Ford Street / Kennedy Street intersection experienced 33 incidents; and the 29th Avenue / Ford Street intersection experienced 21 incidents over the last five years

The project will have no significant safety-related impact to traffic, pedestrian movement, or transit. The projected number of vehicle trips generated by project land uses is not significant enough, particularly at the locations listed above, to cause a measurable impact on the rate or severity of collisions. The majority of the project-related trips are concentrated on High Street and 42nd Avenue. Both of these roadway facilities are slated for future improvements, which will enhance the design of the street. These future improvements are anticipated to enhance vehicular and pedestrian safety. No transit service currently operates along High Street. Therefore, bus rider safety would be unaffected by the proposed High Street/42nd Avenue improvements.

The CEIG design guidelines will require that future development adopt universal design and improved streetscape elements that should improve safety for all users and travel modes.

Mitigation TRAN-33: None required

Traffic Safety Thresholds #11 – Railroad Crossing

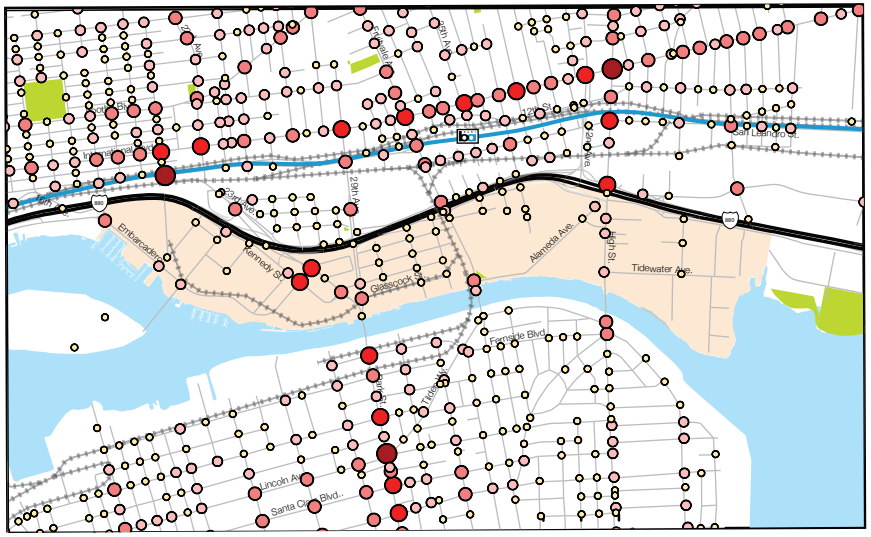
Impact TRAN-37: The project has the potential to introduce additional vehicle, bicycle and pedestrian traffic to existing at-grade railroad crossings thereby potentially contributing to safety issues along railroad corridors. For example vehicle traffic generated by new development may potentially cause vehicle queuing at intersections resulting in traffic backing up onto at-grade railroad crossings, possibly resulting in train/automobile/pedestrian collisions and potentially causing injuries and/or fatalities. A substantial increase in traffic generated by development could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains) and would constitute a significant impact. The active rail lines are shown on **Figure 4.4-1.**

Based on the traffic analysis presented in this EIR, there are a few intersections on Fruitvale Avenue and High Street where queuing near at-grade rail crossings could become an issue in the future under Interim Year 2020 and/or Cumulative Year 2035 conditions.

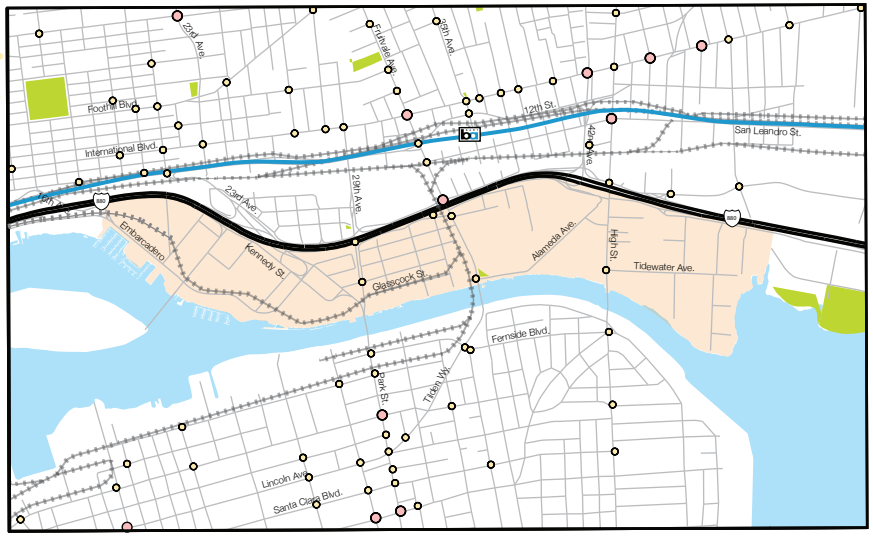
On Fruitvale Avenue, intersections #17 (Fruitvale Ave / San Leandro St) and #18 (Fruitvale Ave / E 9th St) are identified as having LOS F operations and SU impacts under 2035 plus Project conditions. San Leandro Street is less than 200 feet (ft) north of the freight rail tracks, while E 9th Street is approximately 550 ft to the south.

On High Street, intersections #25 (High St / San Leandro St) and #27 (High St / SB 880 off-ramp / Oakport St) have SU impacts identified under 2035 plus Project conditions. San Leandro Street appears to be an adequate distance to the north, approximately 750 ft. It's unlikely that queues will spill back from San Leandro to the at-grade crossing. However, the intersections on High Street under I-880 are less than 400 ft to the south of the freight rail tracks. Congestion through this area could result in queuing extending back to the at-grade rail crossing.

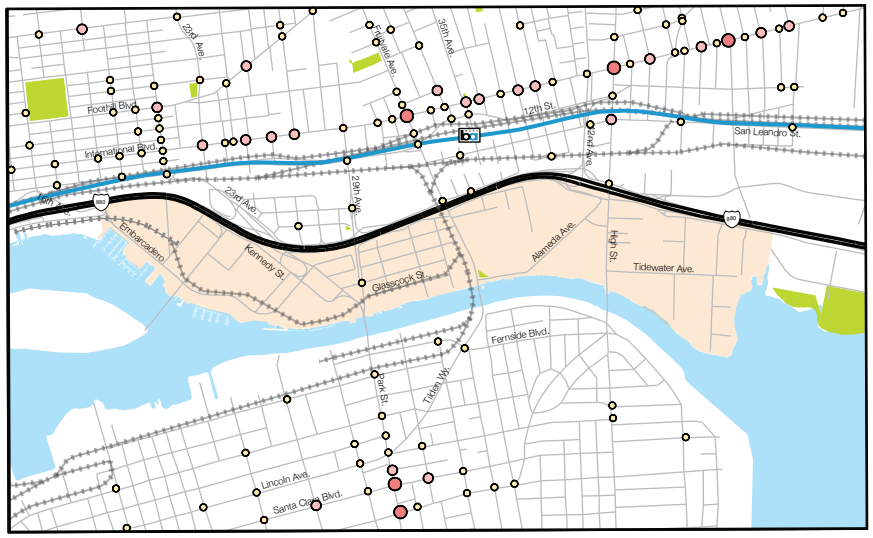
All Collisions



Bike Collisions



Pedestrian Collisions



Legend

Plan Area

All Collisions (Auto/Auto, Bike/Auto, Pedestrian/Auto)

NOTE: Does not include collisions on I-880

- 1 - 5 Collisions
- 5 - 20 Collisions
- 20 - 50 Collisions
- 50 - 100 Collisions
- 100+ Collisions
- Railroad

Bike/Auto Collisions and Pedestrian/Auto Collisions

NOTE: Does not include collisions on I-880

- 1 - 2 Collisions
- 2 - 5 Collisions
- 5 - 10 Collisions
- 10 - 15 Collisions
- 15+ Collisions

N

0 0.5 1
MILES

Transportation Study Area Traffic Collisions

Figure 4.4-7

Source: Arup, 2012.

Implementation of SCA G, Railroad Crossings, would be applied to identify potential queuing near at-grade railroad crossing resulting from project-related traffic.

Any proposed improvements must be coordinated with California Public Utility Commission (CPUC) and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings).

While SCA G, Railroad Crossings, would already be incorporated to lessen project's impact to the at-grade railroad crossing. Further mitigation is not feasible for this impact. To the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), and the consent or approval of the CPUC or Railroad is required, the impact would remain *significant and unavoidable* under CEQA threshold #11.

Significance after mitigation: SU

Other Thresholds #15 – Potential Conflict with Other City Policies & Plans

The project will have no significant impact or cause any fundamental conflict with adopted City policies, plans, or programs. The City of Oakland General Plan LUTE and "Transit First" Policy state a strong preference for encouraging the use of alternative transportation modes, such as transit, bicycling, and walking. Development facilitated by the CEIG would encourage use of alternative modes because it would provide a variety of new uses near existing and other planned uses. Proposed projects would encourage pedestrian activity by providing a variety of complementary uses within walking distance of other residential, commercial, employment, and cultural uses. In addition, the various project components are located in an area that is well-served by transit, including major AC Transit corridors and a BART station.

Consistent with the City of Oakland General Plan LUTE and "Transit First" Policy, the project components, as required by the City's SCA 25, would implement a TDM program to encourage more residents, employees, and/or visitors to shift from driving alone to other modes of travel. Potential TDM measures may include, but are not limited to, transit ticket subsidies, awareness programs, direct transit sales, providing a guaranteed ride home program, and parking management strategies. Individual projects will determine the specific components of their TDM program to encourage increased use of alternative transportation modes.

The project components are expected to be consistent with the City of Oakland *Pedestrian Master Plan* by including features and improvements as needed such as using traffic signals and their associated features (e.g., pedestrian signal heads) to improve pedestrian circulation and access such as sidewalks, curb ramps, and intersection crossings. Individual projects are also expected bo be consistent with ADA requirements.

The project would be consistent with the City of Oakland *Bicycle Master Plan* in that it does not preclude implementation of the Plan by modifying roadways that have been designated for future bicycle facilities. In addition, project components are expected to provide adequate bicycle parking.

In summary, the project generally would be consistent with policies, plans and programs described above, and would not cause a significant impact by conflicting with adopted policies, plans, or programs supporting alternative transportation.

Other Thresholds #16 – Construction Impacts

Impact TRAN-38: Activities related to the construction of various elements of the Project, particularly the retail and commercial uses in the Central-East and East sub-areas, could lead to temporary congestion. Construction requires the delivery of building materials, sometimes the import or export of earth fill materials, as well as travel by construction workers on a daily basis to and from the sites, potentially disrupting local traffic flow depending on the specific construction site.

SCA 33, Construction Traffic and Parking, requires development projects to enact specific and comprehensive construction traffic and parking plans to minimize disruption on streets adjacent to construction sites. Adherence to SCA 33 would reduce construction traffic impacts to a less-than-significant level. No mitigation is required.

Other Thresholds #17 – Air Travel Patterns

The project will have no significant adverse impact on air traffic patterns.

Other Recommended Measures

The following measures recommend a series of future transportation projects included in the CEIG's Appendix A and other approved plans. The feasibility of individual street improvements will be tied to funding and approval by the City. These recommended measures are intended for informational purposes only.

Measure A: Implement the "Recommended Future Transportation Improvements" illustrated in Figure A-1 of Appendix A would help alleviate some of the impacts identified under Cumulative Year 2035 conditions. Additional street connectivity with appropriate bicycle and pedestrian accommodations (per City design guidelines) should be explored to help mitigate impacts along High Street and 42nd Avenue. The High Street Access Improvements Project assumes intersection widening along High Street. However, additional physical improvements would still be required to mitigate project-related traffic impacts at several locations under Cumulative 2035 conditions. Additional improvements along High Street and 42nd Avenue could prove infeasible because of various right-of-way constraints. Instead of additional physical improvements at High Street, enhanced roadway connectivity in the Central-West and East sub-areas adopted as part of the CEIG would help to distribute traffic from High Street to 42nd Avenue.

The High Street Access Project includes a direct connection from Alameda Avenue to 42nd Avenue and the intersections on 42nd Avenue have additional capacity to support higher traffic loads. Improved connectivity and the diversion of traffic to 42nd Avenue would better distribute traffic and reduce demands on High Street.

Measure B: Investigate ways to implement the feasible "Recommended Corridor-Wide Improvements" and "Recommended Localized Improvements" identified in *Fruitvale Alive! Master Transportation Plan* (CHS Consulting Group, June 2005). This plan provides recommended pedestrian, bicycle, traffic, transit, and parking improvements along Fruitvale Avenue at San Leandro, East 12th Street, and International Boulevard.

Planning-Related Non-CEQA Issues

The following transportation-related topics are not considerations under CEQA but are required to be evaluated by the City of Oakland in order to inform decision-makers and the public about other relevant transportation issues. These topics are addressed qualitatively in the impact assessment.

Parking

The Court of Appeal has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects. Similarly, the December 2009 amendments to the State CEQA Guidelines (which become effective March 18, 2010) removed parking

from the State's Environmental Checklist (Appendix G of the State CEQA Guidelines) as an environmental factor to be considered under CEQA. Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the City of Oakland, in its review of the proposed project, wants to ensure that the project's provision of parking spaces along 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) would be minimized. As such, although not required by CEQA, parking conditions are evaluated in this document as a non-CEQA topic for informational purposes.

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 alternative modes of travel would be in keeping with the city's Public Transit and Alternative Modes Policy (sometimes referred to as the "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.

The project will have no adverse impact on parking within the study area. Specific projects should be designed to supply adequate off-street parking and meet the city's parking requirements. The actual parking supply would be considered for each individual development on a case-by-case basis. Parking requirements by code are determined based on the type of development and the environment/area in which the project takes place (e.g., zoning classification).

SCA-25 should also be applied to help manage parking demand. SCA-25 contains strategies for encouraging the use of alternative transportation as well as reducing on-site parking demand. Each of these strategies has pros and cons and should be evaluated on a project-by-project basis. Not every strategy may be suitable for

every development site, e.g., shared parking may work well in a large development located adjacent to commercial activities, but would probably not work well for a small development in a more isolated all residential area. Moreover, the City's "Transit First," and other policies, discourage the creation of more parking. Parking requirements are part of the Oakland Planning Code, Chapter 17.116, and have not been substantially revised since the adoption of the code in 1965.

Transit Ridership

Transit load is not part of the permanent physical environment; transit service changes over time as people change their travel patterns. Therefore, the effect of the proposed project on transit ridership need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects, such as causing the construction of new permanent transit facilities which in turn causes physical effects on the environment. Furthermore, an increase in transit ridership is an environmental benefit, not an impact. One of the goals of the Land Use and Transportation Element of the Oakland General Plan is to promote transit ridership.

The project will have a less-than-significant impact on BART and AC Transit ridership. The greatest potential for generating new transit riders is the new residential development proposed for the Central-West sub-area. However, the additional residential and live/work units proposed for this sub-area will not be enough to impact BART or AC Transit service. The retail proposed for the Central-East sub-area and the industrial for the East sub-area is not served directly by any AC Transit route – no regular transit service is provided along High Street.

Queuing

The traffic analysis indicates that project-related vehicle trips will increase congestion and degrade LOS, particularly in Cumulative Year 2035 conditions. Vehicle queuing will be an issue at the impacted intersections. However, vehicle queuing was not reported for this analysis.

Traffic Control Devices

The intersection impact statements identify the need for a new traffic signal at Embarcadero / 16th Avenue. Other potential traffic signals could be required at the intersections that comprise the Park Street Triangle.

Collision History

The collision history is noted in the CEQA traffic safety thresholds requirement above.

4.4.5 REFERENCES

AC Transit East Bay Bus Rapid Transit Project Draft Environmental Impact Statement/Environmental Impact Report (US DOT, AC Transit, May 2007)

Alameda County Congestion Management Agency 2008 Countywide Transportation Plan

Alameda County Transportation Commission. 2010 LOS Monitoring Study

Alameda-Contra Costa Transit District, 2012. Available at: http://www.actransit.org/; last accessed May 31, 2012

Alameda Countywide Transportation Model Update, Projections 2009, Draft Model Documentation (Dowling Associates, April 2011)

Bay Area Rapid Transit (BART). 2008. BART Station Study.

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City of Oakland. December 2007. Bike Master Plan.

City of Oakland. 2002. Pedestrian Master Plan

City of Oakland, CEQA Thresholds of Significance Guidelines, Appendix E. August 24, 2011

City of Oakland General Plan. 1998. Land Use and Transportation Element (LUTE), Transportation Diagram

City of Oakland and EDAW. 2006. Oakland Waterfront Trail, Bay Trail Feasibility & Design Guidelines.

Dowling Associates, September 28, 2006. Park Street Triangle Traffic Study, Final Report

Florida Department of Transportation. 2009. FDOT Quality/Level of Service Handbook.

Transportation Research Board. 2000 Highway Capacity Manual (HCM).

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4.5 OTHER ENVIRONMENTAL TOPICS

This section addresses all environmental resource topics not evaluated in **Sections 4.1, Air Quality; 4.2, Greenhouse Gas Emissions and Global Climate Change; 4.3, Noise;** and **4.4, Transportation/Traffic.**

A discussion of project impacts is provided below, based on the City of Oakland *CEQA Thresholds of Significance Guidelines* (CEQA thresholds).

4.5.1 AESTHETICS

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts of the Estuary Policy Plan upon the general aesthetics of the Oakland Estuary were evaluated under the subsection "Visual Resources" in the previously adopted environmental document. However, since the EPP EIR was published, the City's CEQA thresholds have been expanded to cover aesthetic topics that were not previously addressed. The EPP EIR only analyzed potential adverse effects on scenic views and overall visual character. This Supplemental EIR presents an updated analysis based on the current and expanded criteria of the City's CEQA thresholds, which includes consideration of the project's potential impacts related to shadows, light and glare, and winds.

The EPP EIR identified significant impacts to the scenic views from the Oakland Estuary; however, implementation of the General Plan policies, as well as additional policies proposed as part of the EPP, were determined to reduce all potential impacts to a less-than-significant level. Implementation of the land use designations and zoning amendments proposed as part of the project would not result in development patterns substantially different from what was previously evaluated in the EPP EIR. As such, future development consistent with the CEIG is not anticipated to increase impacts to scenic views beyond what was evaluated in the previous environmental document.

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. In an Initial Study, the City concluded that adoption and implementation of the Housing Element – including the eventual construction of 13,501 housing units City-wide -- would result in less-than-significant impacts related to aesthetics, shadow, and wind assuming adherence to the existing General Plan Policies, City's SCAs, and/or previously imposed LUTE EIR mitigation measures.

Existing Conditions

The existing visual character of the Plan Area is urban, dominated by man-made elements with a diverse and vibrant mix of uses linked by waterfront open space. Its unique neighborhoods include an eclectic mix of building styles, ranging from creatively decorated facades to unusual landscaping, retail and civic uses, and businesses and industries. Industrial warehouses and manufacturing facilities are generally one- to two-story concrete blocks or steel long rectangular warehouses. The factory towers at Con Agra, located in the West Planning Area, represent a visual landmark that contributes to the area's industrial character.

Existing nighttime sources of light in the Plan Area include wall-mounted lights on industrial warehouses, manufacturing facilities, associated loading docks, and streetlights.

Analysis of Potential Impacts

Would the project:

1. Have a substantial adverse effect on a public scenic vista?[1] (LTS)

The General Plan OSCAR Element calls for the protection of scenic views, particularly: (a) views of the Oakland-Berkeley hills, (b) views of downtown and Lake Merritt, (c) views of the shoreline, and (d) panoramic views from Skyline Boulevard/Grizzly Peak Road, and other hillside locations. Views from the Plan Area include two of the four protected views: the Oakland-Berkeley hills and the estuary shoreline.

Implementation of the land use designations and zoning amendments proposed as part of the project would allow for increased land use densities in areas where views of the hills and/or estuary are available. Increased building mass in these areas could block these protected views, especially in the Embarcadero Cove district, where the proposed zoning would allow for the construction of a waterfront hotel. However, the General Plan and EPP include the following policies applicable to all new development that would protect views of the Oakland-Berkeley hills and the estuary shoreline.

[1] Only impacts to scenic view enjoyed by members of the public generally (but not private views) are potentially significant

LUTE

Policy W3.2: 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 build environment along the waterfront.

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

Policy W9.3: 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 W11.6/W12.7: Development in this area should be designed to enhance direct access to and along the water's edge to maximize waterfront views and vistas and to make the public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings.

OSCAR

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

Policy OS-10.1: 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.

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

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

EPP

Policy JL-9: Establish a well-structured system of water-oriented open spaces.

Oakland Municipal Code

Chapter 15.52: *Views.* This chapter establishes standards for the resolution of view obstruction claims to provide a reasonable balance between trees and view-related values for both private views and protected public view corridors

Impacts to the aesthetics of the Plan Area are generally associated with the specific sites, and would be evaluated on a case-by-case basis as development applications are received. Compliance with the General Plan policies W3.2, W3.4, W9.3, W11.6/W 12.7, OS-7.3, OS-10.1, OS-10.2, and OS-10.3; EPP policies JL-9, Chapter 15.52 of the Oakland Municipal Code, and Design Guidelines would ensure that new development within the Plan Area does not block protected views of the waterfront, and that access to these existing views is preserved and/or enhanced. Impacts to scenic views/vistas would be reduced to a less-than-significant level. No mitigation is required.

2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway? (NI)

According to the Scenic Highways Element of the General Plan, the City of Oakland currently has two designated scenic routes: MacArthur Freeway/State Route 580 and Skyline Boulevard/Grizzly Peak. Neither of these two routes transect the Plan Area. Therefore, the project would not affect scenic resources within a state or locally designated scenic highway.

3. Substantially degrade the existing visual character or quality of the site and its surroundings? (LTS)

The project includes Design Guidelines that would guide the quality and character of new development and would protect the relationship of the Plan Area's waterfront with surrounding districts and neighborhoods. One of the main objectives of the project is to ensure that the current eclectic mix of residential, commercial, and industrial uses within the Plan Area can be retained. Furthermore, implementation of the land use designations and zoning amendments proposed as part of the project would generally update the City's Planning Code to match the development that currently exists within the Plan Area.

The following General Plan policies would also ensure that the existing visual character and quality of the Plan Area would not be adversely affected by future development consistent with the CEIG.

OSCAR

Policy OS-4.1: *Provision of Useable Open Space.* Continue to require new multi-family development to provide useable outdoor open space for its residents

Policy OS-4.2: *Protection of Residential Yards.* Recognize the value of residential yards as a component of the city's open space system and discourage excessive coverage of such areas by buildings or impervious surfaces.

Policy OS-4.3: *Protection of Rural Characters.* Conserve the rural, open character of areas which have historically developed at very low densities, particularly those areas where the prevailing lot size is one acre or larger.

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

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

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

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

Policy OS-12.1: *Street Tree Selection.* Incorporate a broad and varied range of tree species which is reflected on a city-maintained list of approved trees. Street tree selection should respond to the general environmental conditions at the planting site, including climate and micro-climate, soil types, topography, existing tree planting, maintenance of adequate distance between street trees and other features, the character of existing development, and the size and context of the tree planting area.

Policy OS-12.2: *Street Tree Maintenance.* Maintain street trees to promote their natural forms, eliminate hazardous conditions, provide adequate vertical clearance over streets and sidewalks, and abate pest and disease problems.

LUTE

Policy N1.8: *Making Compatible Development.* The height and bulk of commercial development in "Neighborhood Mixed-Use Center" and "Community Commercial" areas should be compatible with that which is allowed for residential development.

Policy N3.8: *Required High-Quality Design.* 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.

Policy N3.10: *Guiding the Development of Parking.* Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized

Policy N7.1: *Ensuring Compatible Development.* New residential development in Detached Unit and Mixed Housing Type areas should be compatible with the density, scale, design, and existing or desired character of surrounding development.

Policy N8.2: *Making Compatible Interfaces Between Densities.* 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.

Policy N9.7: *Creating Compatible but Diverse Development.* Diversity in Oakland's build 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

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

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

Policy W12.5: *Defining Mixed Use Characteristics.* The mixed use characteristics for the area should incorporate office, commercial, and industrial uses, with recreation facilities and housing where appropriate and feasible

Policy W12.6: *Specifying Public Access and Linkages.* With a residential community, the Kennedy Tract neighborhood, adjacent to the waterfront, efforts should be made to create inviting, landscape, and signed connections and gateways to the waterfront. Support efforts in developing access to the Fruitvale Bridge fishing pier and additional open space.

Policy W12.7: *Defining Design Criteria.* Development in this area should be designed to enhance direct access to and along the water's edge, maximize waterfront views and vistas, and make public pedestrian access and spaces inviting. Development and amenities must be sensitive to immediate surroundings.

Development within the Plan Area would also be subject to the following titles and chapters and the Oakland Municipal Code with regards to existing visual quality. The chapters identified under Title 17 provide the required design review procedure and screening standards that apply to all future development within the Plan Area.

Oakland Municipal Code

Chapter 8.24: *Property Blight.* This chapter requires a level of maintenance of residential, commercial, and industrial property that will protect and preserve the livability, appearance, and social and economic stability of the city.

Oakland Planning Code

Title 17 of the City's Municipal Code is known as the Oakland Planning Code. The Planning Code includes the building requirements for residential structures within various zones throughout the city.

Title 17, Section 17.124: *Landscaping and Screening Standards.* The purpose of the provisions outlined in this chapter is to prescribe standards for development and maintenance of planting, fences, and walls; for the conservation and protection of property; and through improvements of the appearance of individual properties, neighborhoods, and the city.

Title 17, Section 17.136: *Design Review Procedure.* The purpose of the provisions outlined in this chapter is to prescribe the procedure for the review of proposals located in areas or on site, or involving uses, which require special design treatment and consideration of relationships to the physical surroundings. This procedure will be applied to all proposals for which design review is required by the zoning regulations. An application for design review must be made by the owner of the affected property on a form prescribed by the City Planning Department and then filed with this department. The application must be accompanied by certain information, including, but not limited to, site and building plans, elevations, and relationships to adjacent properties.

The following SCAs are applicable to the future development within the Plan Area with regards to landscaping requirements.

Standard Conditions of Approval

SCA 5: Conformance to Approved Plans; Modification of Conditions or Revocation.
Timing: Ongoing

a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.

c) Violation of any term, Conditions/ Mitigation Measures or project description relating to the Approvals is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approvals or alter these Conditions/ Mitigation Measures if it is found that there is violation of any of the Conditions/ Mitigation Measures or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Conditions of Approval.

SCA 12: Required Landscape Plan for New Construction and Certain Additions to Residential Facilities.
Timing: Prior to issuance of a building permit

Submittal and approval of a landscape plan for the entire site is required for the establishment of a new residential unit (excluding secondary units of five hundred (500) square feet or less), and for additions to Residential Facilities of over five hundred (500) square feet. The landscape plan and the plant materials installed pursuant to the approved plan shall conform with all provisions of Chapter 17.124 of the Oakland Planning Code, including the following:

a) Landscape plan shall include a detailed planting schedule showing the proposed location, sizes, quantities, and specific common botanical names of plant species.

b) Landscape plans for projects involving grading, rear walls on downslope lots requiring conformity with the screening requirements in Section 17.124.040, or vegetation management prescriptions in the S-11 zone, shall show proposed landscape treatments for all graded areas, rear wall treatments, and vegetation management prescriptions.

c) Landscape plan shall incorporate pest-resistant and drought-tolerant landscaping practices. Within the portions of Oakland northeast of the line formed by State Highway 13 and continued southerly by Interstate 580, south of its intersection with State Highway 13, all plant materials on submitted landscape plans shall be fire-resistant The City Planning and Zoning Division shall maintain lists of plant materials and landscaping practices considered pest-resistant, fire-resistant, and drought-tolerant.

d) All landscape plans shall show proposed methods of irrigation. The methods shall ensure adequate irrigation of all plant materials for at least one growing season.

SCA 13: Landscape Requirements for Street Frontages.
Timing: Prior to issuance of a final inspection of the building permit.

a) All areas between a primary Residential Facility and abutting street lines shall be fully landscaped, plus any unpaved areas of abutting rights-of-way of improved streets or alleys, provided, however, on streets without sidewalks, an unplanted strip of land five (5) feet in width shall be provided within the right-of-way along the edge of the pavement or face of curb, whichever is applicable. Existing plant materials may be incorporated into the proposed landscaping if approved by the Director of City Planning.

b) In addition to the general landscaping requirements set forth in Chapter 17.124, a minimum of one (1) fifteen-gallon tree, or substantially equivalent landscaping consistent with city policy and as approved by the Director of City Planning, shall be provided for every twenty-five (25) feet of street frontage. On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet, the trees to be provided shall include street trees to the satisfaction of the Director of Parks and Recreation.

SCA 14: Assurance of Landscaping Completion.
Timing: Prior to issuance of a final inspection of the building permit.

The trees, shrubs and landscape materials required by the conditions of approval attached to this project shall be planted before the certificate of occupancy will be issued; or a bond, cash, deposit, or letter of credit, acceptable to the city, shall be provided for the planting of the required landscaping. The amount of such or a bond, cash, deposit, or letter of credit shall equal the greater of two thousand five hundred dollars ($2,500.00) or the estimated cost of the required landscaping, based on a licensed contractor's bid.

SCA 15: Landscape Maintenance.
Timing: Ongoing

All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required fences, walls and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

SCA 16: Landscape Requirements for Downslope Lots.
Timing: Prior to issuance of a final inspection of the building permit.

On downslope lots where the height of the rear elevation of the primary Residential Facility exceeds twenty-eight (28) feet, landscaping that meets the following requirements shall be planted to screen the rear face of the building.

a) A minimum of one (1) fifteen-gallon tree or five (5) five-gallon shrubs, or substantially equivalent landscaping as approved by the Director of City Planning, shall be provided for each fifteen (15) feet of lot width, measured at the rear face of the residence.
b) The landscape screening shall be elected and maintained such that it is sufficient in size within five (5) years of planting to screen, at a minimum, the lower ten (10) feet of the structure.

SCA 17: Landscape Requirements for Street Frontages.
Timing: Prior to issuance of a final inspection of the building permit.

On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet and does not interfere with access requirements, a minimum of one (1) twenty-four (24) inch box tree shall be provided for every twenty-five (25) feet of street frontage, unless a smaller size is recommended by the city arborist. The trees to be provided shall include species acceptable to the Tree Services Division.

SCA 18: Landscape Maintenance.
Timing: Ongoing.

All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

SCA 19: Underground Utilities.
Timing: Prior to issuance of a building permit.

The project applicant shall submit plans for review and approval by the Building Services Division and the Public Works Agency, and other relevant agencies as appropriate, that show all new electric and telephone facilities; fire alarm conduits; street light wiring; and other wiring, conduits, and similar facilities placed underground. The new facilities shall be placed underground along the project applicant's street frontage and from the project applicant's structures to the point of service. The plans shall show all electric, telephone, water service, fire water service, cable, and fire alarm facilities installed in accordance with standard specifications of the serving utilities.

SCA 43: Tree Removal Permit on Creekside Properties.
Timing: Prior to issuance of a final inspection of the building permit.

Prior to removal of any tree located on the project site which is identified as a creekside property, the project applicant must secure the applicable creek protection permit, and abide by the conditions of that permit.

SCA 44: Tree Removal during Breeding Season.
Timing: Prior to issuance of a tree removal permit.

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

SCA 45: Tree Removal Permit.
Timing: Prior to issuance of a demolition, grading, or building permit.

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

SCA 46: Tree Replacement Plantings.
Timing: Prior to issuance of a demolition, grading, or building permit.

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

a) No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.

b) Replacement tree species shall consist of Sequoia sempervirens (Coast Redwood), Quercus agrifolia (Coast Live Oak), Arbutus menziesii (Madrone), Aesculus californica (California Buckeye) or Umbellularia californica (California Bay Laurel) or other tree species acceptable to the Tree Services Division.

c) Replacement trees shall be at least of twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.

d) Minimum planting areas must be available on site as follows:

   i. For Sequoia sempervirens, three hundred fifteen square feet per tree;

   ii. For all other species listed in #2 above, seven hundred (700) square feet per tree.

e) In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.

f) Plantings shall be installed prior to the issuance of a final inspection of the building permit, subject to seasonal constraints, and shall be maintained by the project applicant until established. The Tree Reviewer of the Tree Division of

the Public Works Agency may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planting which fails to become established within one year of planting shall be replanted at the project applicant's expense.

SCA 47: Tree Protection During Construction.
Timing: Prior to issuance of a demolition, grading, or building permit.

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

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

b) Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the City Tree Reviewer from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.

c) No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Tree Reviewer from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.

d) Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.

e) If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Agency of such damage. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.

f) All debris created as a result of any tree removal work shall be removed by the project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to create a more cohesive development pattern in the Plan Area. The following guidelines would ensure that the quality and character of future development within the Plan Area would protect the relationship of the Central Estuary shoreline with surrounding districts and neighborhoods:

Site Context

- An infill project should not be designed in isolation when there is a discernable and predominant neighborhood development pattern along the block or across the street. A new building should respond to the desirable characteristics of the surrounding area based on its location within the Central Estuary. Characteristics may include neighboring block size, lot size, scale of buildings, massing and articulation, setbacks (front, side and rear), building placement, location of yards and windows, and use.
- Infill projects that span one block or more than one block should develop in distinct segments that reflect the scale of the neighboring blocks, lots and buildings. This is particularly important where smaller lot sizes predominate, such as in the Jingletown/Elmwood Area, Embarcadero Cove, the Mixed-Use Triangle, and the Food Industry Cluster, but are encouraged in other locations where a more pedestrian-oriented environment is desirable.

- Projects spanning more than one block should be broken up by streets, pedestrian pass-throughs or open spaces.
- Projects spanning one or more blocks should orient buildings to address all sides of each block with active frontages.

Building Design

- Building Design, of the CEIG includes Design Guidelines that are intended to create cohesive character regarding frontages, setbacks, building heights, massing/density, entryways, facades, and architectural detailing.

The guidelines provide detailed direction, covering a variety of site planning and design considerations that would enhance the area's livability and quality of place for existing and future users. The project is therefore expected to have a beneficial impact on the overall character and quality of the Plan Area.

Compliance with General Plan policies OS-4.1 and OS-4.2; and SCAs 12, Required Landscape Plan for New Construction and Certain Additions to Residential Facilities; SCA 13, Landscape Requirements for Street Frontages; SCA 14, Assurance of Landscaping Completion; SCA 15, Landscape Maintenance; SCA 16, Landscape Requirements for Downslope Lots; SCA 17, Landscape Requirements for Street Frontages; and SCA 18, Landscape Maintenance would ensure that future development within the Plan Area provided and maintained suitable landscaping for residential land uses and street frontages that would enhance the visual quality of the area. Oakland Municipal Code Chapters 8.24 and General Plan Policy OS-4.4 discourage the negative visual impacts associated with neighborhood blight. The proposed expansion of the park land use designations within the Plan Area would comply with Policy OS-9.2, and would officially establish boundaries for the existing parks along the city's shoreline. Compliance with General Plan Policy OS-9.3 would ensure that the current gateways to the Plan Area (e.g., Park Street and High Street bridges to Alameda) are maintained, and provide a sense of arrival into the area. Compliance with General Plan policies N1.8, N3.8, N3.10, N7.1, N8.2, and N9.7, would ensure that future development projects are designed with densities, building heights, and setbacks that are compatible with the existing character of the surrounding development. Similarly, General Plan policies W2.10, W3.2, W12.5, W12.6, and W12.7 would ensure that future development within the waterfront areas are designed to enhance the existing visual character and quality of the area.

In addition to the above-listed General Plan policies, City codes and conditions, each project would be subject to the requirements policies OS-7.3, OS-7.4, OS-12.1, OS-12.2, the City of Oakland Tree Protection Ordinance and SCA 43, Tree Removal

Permit on Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Peplacement Plantings and SCA 47, Tree Protection During construction; all of which pertain to tree protection and removal permits (see **Section 4.5.3**, **Biological Resource**s, item 6). These conditions and codes would reduce the potential for new development to remove mature tree stands that provide an enhanced visual quality to the Plan Area.

The proposed Design Guidelines listed below would ensure that the current eclectic mix of residential, commercial, and industrial uses within the Plan Area can be retained. The guidelines provide detailed direction, covering a variety of site planning and design considerations that will enhance the area's livability and quality of place for existing and future users. Compliance with the General Plan policies, Oakland Municipal Code, SCAs, and Design Guidelines would reduce impacts to the visual character and quality of the Plan Area to a less-than-significant level. No mitigation is required.

4. Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area? (LTS)

While the project itself would not result in any direct physical changes to the Plan Area, future development projects may include outdoor lighting and/or reflective building surfaces (i.e., large window fronts and bright exterior coatings) that would adversely affect day or nighttime views in the area. Additional exterior lighting from new developments could potentially spill off-site and onto nearby residential properties if proper controls are not incorporated into the lighting design. Glare could result from daytime reflection of sunlight off flat and reflective surfaces, and could annoy people in the area that have direct views of the reflective materials.

However, new development within the Plan Area would be subject to the SCAs and the Oakland Municipal Code, which provide guidelines for the installation and operation of lighting for certain types of development.

Oakland Municipal Code

Chapter 9.16.060: *Lighting.* No person shall make any electric service connection to, or supply any electrical energy to, any ornamental street lighting installation until the Electrical Department has inspected and approved such installation, and determined its conformance to the applicable rules and regulations of the city.

Standard Conditions of Approvals

SCA 40: Lighting Plan.
Timing: Prior to the issuance of an electrical or building permit.

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

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to minimize potential glare created by future developments in the Plan Area. The following guidelines would address this issue:

Windows and Transparency

- Window design should maximize interior daylighting while reducing glare through the use of passive shading devices to maintain visibility between the exterior and interior of the building.

Façade Articulation and Architectural Detailing

- To the greatest extent feasible, avoid reflective building materials that may create flare along the ground level.

Compliance with Oakland Municipal Code Chapter 9.16.060 and SCA-40 would prevent the installation of new ornamental street lighting and/or exterior lighting fixtures without proper review of the potential glare and spillover light that would affect adjacent properties. In addition, the Planning Code includes building requirements for residential structures within various zones throughout the Plan Area. A majority of the zones have regulations eliminating objectionable glare and nighttime lighting effects.

The Design Guidelines identified in the CEIG would also include direction for the use of lighting in a way that is appropriate for the scale of the development and reduces potential spillover light. Compliance with the Oakland Municipal Code, Planning Code, SCA-40, Lighting Plan, and Design Guidelines would reduce potential light and glare impacts from future development projects to a less-than-significant level. No mitigation is required.

5. **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)? (LTS)**

   and

6. **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? (LTS)**

Solar collectors gather the sun's energy and transform its radiation into heat and/or energy. Solar collectors can be mounted anywhere, but need to be facing the sun, and be clear of shadows during the peak daylight hours. Within the Plan Area, south-facing solar collectors mounted on rooftops are ideal. According to City records, there is currently one identified solar collector within the Plan Area, located at 610 Lancaster Street, within the Jingletown/Elmwood district.

Future development projects consistent with the CEIG may cast shadows on the existing and/or future solar collectors within the Plan Area, thus potentially compromising their functionality.

The City tracks the locations of solar collectors through the permitting process with the Building Services Division. As part of the standard design review and environmental review required for each individual development application with the city, potential impacts from new buildings on existing solar collectors are routinely analyzed by staff, and design changes are requested of applicants to avoid such impacts, prior to the approval of any project. As such, impacts from development under the CEIG on existing solar collectors and/or passive solar design would be reduced to less than significant though the city's design review process. No mitigation is required.

7. **Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space? (LTS)**

   and

8. **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? (LTS)

Future development projects consistent with the CEIG may cast shadows on existing public or quasi-public parks, lawns, gardens, or open space, which could cause a significant impact. In addition, while there are no documented historic resources in the Plan Area, due to the relative age of existing development, the potential for historic resources to occur is high (see **Section 4.5.4, Cultural and Historic Resources**). Shadows cast by future development in the Plan Area could impair a potential resource's historic significance by altering those physical characteristics of the resource that convey its historical significance and that justify its eligibility for listing.

Although the General Plan policies and the Standard Conditions of Approval do not expressly contain regulations regarding shadows created by new structures or landscaping, the regular design review criteria in the Planning Code does include a finding "that the proposed design will protect, preserve, or enhance desirable neighborhood characteristics".[2] General Plan Policy N3.9 also states that "residential development should be encouraged to orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views from neighboring buildings…" The general objective for new development to have the least impact on existing land uses is used by city planning staff to evaluate potential shadow impacts, often through shadow studies.

In addition, the City of Oakland Planning and Zoning Division will approve applications for new development only upon determination that the proposal conforms to the conditions set forth in the Special Residential Design Review Standards and Criteria (Standards).[3] The Standards specify that "the building addition is oriented in a manner that provides solar access for interior rooms, where desirable, and maintains direct sunlight to adjacent properties wherever possible." It also sets forth the period in which the impact of shadows is to be considered. The city has a mediation procedure in place for any disputes that may arise over solar access rights.

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[2] Municipal Code 17.136.050(a)2

[3] The Special Residential Design Review Standards and Criteria were originally written in January, 1992 and were revised in March, 2004.
http://www.oaklandnet.com/government/ceda/revised/planningzoning/zoningsection/zoning-forms/SRDR.pdf

As part of the standard design review and environmental review required for each individual development application with the city, potential shadow impacts from new buildings on adjacent land uses are routinely analyzed by staff, and design changes are requested of applicants to avoid such impacts, prior to the approval of any project. As such, shadow impacts from development under the CEIG would be reduced to a less-than-significant level through the city's design review process. No mitigation is required.

9. 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? (NI)

All future development within the Plan Area would be subject to the Planning Code, which contains lighting requirements for various land uses that are intended to eliminate objectionable light and glare that would affect adjacent properties. Compliance with the Planning Code and implementation of the standard design review process by city staff would ensure that potential conflicts with light-related policies and regulations are avoided. Implementation of the land use designations and zoning amendments proposed as part of the project would not require a variance to any policies or regulations in the General Plan, Planning Code, or Uniform Building Code. No impact would occur.

10. Create winds that exceed 36 mph for more than one hour during daylight hours during the year?[4] (NI)

While the project itself would not result in any direct physical changes to the Plan Area, future development may create wind-tunnels that generate uncomfortable wind speeds at the base of new buildings (particularly if those buildings are tall and

[4] 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. Downtown is defined in the Land Use and Transportation Element 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. The wind analysis must consider the project's contribution to wind impacts to on- and off-site public and private spaces. Only impacts to public spaces (on- and off-site) and off-site private spaces are considered CEQA impacts. Although impacts to on-site private spaces are considered a planning-related non-CEQA issue, such potential impacts still must be analyzed.

located in areas exposed to higher wind speeds). The Plan Area is known to experience higher wind speeds than other inland parts of the city because the exposure to the open waters of the Oakland Estuary. As such, new development that includes taller, in-fill construction could exacerbate wind speeds to a level that is uncomfortable for the pedestrians in the Plan Area.

For the purposes of CEQA, the city uses a pedestrian wind hazard criterion that a potentially significant wind impact if a project would result in winds greater than 36 miles per hour (mph) persisting for more than 1 hour per year at any of the sidewalk locations modeled for the project. The city also requires wind analyses for development that proposes building heights over 100 feet tall (from ground level). Implementation of the standard environmental review process by city staff would ensure that wind factors are considered prior to approving future development projects within the Plan Area, and that wind speeds remain at a comfortable and safe level. Wind impacts due to development under the Central Estuary Implementation Guide would therefore be less than significant. No mitigation is required.

4.5.2 AGRICULTURE AND FOREST RESOURCES

Findings of the Oakland Estuary Policy Plan EIR

Potential impacts to agriculture and forest resources were not evaluated in the previously adopted EPP EIR.

Findings of the General Plan OSCAR Element and LUTE

Agricultural resources and/or land(s) currently zoned for agricultural uses are not present within the City's planning area.

Existing Conditions

The project is located in an urban area and is completely developed with existing buildings and infrastructure. No agricultural uses or forest resources are present within or adjacent to the Plan Area.

Analysis of Potential Impacts

Would the project:

1. **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (NI)**

   and

2. **Conflict with existing zoning for agricultural use, or a Williamson Act contract? (NI)**

The existing and proposed zoning for the Plan Area does not include any agricultural land use designations. The area is mapped as urban or built-up in the Farmland Mapping & Monitoring Program, 2010 Alameda County Map,[5] and as urban or built-up and incorporated city land in the Alameda County Williamson Act Lands 2009 Map.[6] Therefore, no impact to agriculture resources would occur.

3. **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (NI)**

   and

4. **Result in the loss of forest land or conversion of forest land to non-forest use? (NI)**

The existing and proposed zoning for the Plan Area does not include any forest land/timberland use designations. Therefore, the project would not conflict with or cause rezoning of forest resources. Impacts would occur.

[5] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2010. Map of Alameda County, available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/ala10.pdf; last accessed June 1, 2012.

[6] California Department of Conservation, Division of Land Resource Protection, Williamson Act Program, 2009. Alameda County Williamson Act Lands 2009 Map, available at: ftp://ftp.consrv.ca.gov/pub/Dlrp/WA/Map%20and%20PDF/Alameda/AlamedaWA_09_10.pdf; last accessed June 1, 2012.

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

As described above, there are no agricultural or forest resources within or adjacent to the Plan Area, and the closest agricultural lands and forests are well beyond the city limits. The existing and proposed zoning for the Plan Area does not include any agricultural or forest land/timberland use designations. Therefore, the project would have no direct or indirect impact on agriculture or forest resources.

4.5.3 BIOLOGICAL RESOURCES

Findings of the Oakland Estuary Policy Plan EIR

Impacts of the Estuary Policy Plan (EPP) upon biological resources were evaluated under the subsection "Vegetation and Wildlife" in the previously adopted EPP EIR. Development consistent with the EPP was determined to have LTS impacts to biological resources with adherence to existing policies in the General Plan OSCAR Element, proposed policies in the EPP, and CEQA requirements for subsequent environmental review.

Implementation of the land use designations and zoning amendments proposed as part of the project would not directly increase potential impacts to biological resources beyond what was evaluated in the previous environmental document. However, because of the time that has transpired since the previous environmental document was certified, the city has compiled updated information regarding existing resources within the Plan Area. This draft SEIR presents an updated analysis based on a Biological Evaluation Report that was prepared for the project in April 2009 (see **Appendix C**). The updated analysis includes a review of the latest version of the California Natural Diversity Data Base (2009) to identify all documented occurrences of special-status plant and wildlife species within a 5-mile radius of the Plan Area.

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study determined that compliance with policies contained in the City's General Plan, OSCAR and LUTE elements, Chapters 13.16 and 12.36 of the Municipal Code, and the City's SCAs would ensure that development under the Housing Element would comply with federal, State, and local laws. In addition, future development under

the Housing Element would be required to protect trees, wetlands, and other biological resources that may be suitable habitat for sensitive or special status species. No significant impacts to biological resources were identified.

Existing Conditions

Special-Status Wildlife Species

A review of the latest version of the California Natural Diversity Data Base (2009) determined that there are no documented occurrences of special-status wildlife species in the Plan Area. However, several special-status wildlife species have been documented in the surrounding five-mile area (see Table 1 of the Biological Evaluation Report, included as **Appendix C**).

Portions of MLKRS within the Plan Area contains habitat that could support special-status wildlife species, such as the salt marsh harvest mouse, salt-marsh wandering shrew, California clapper rail, California black rail, Alameda song sparrow, great egret rookery, great blue heron rookery, burrowing owl (wintering only), northern harrier, and osprey. In addition, several special-status aquatic species could occur in the marine and estuarine habitats adjacent to MLKRS. Cooper's hawk and osprey could also potentially nest in larger trees that are present in and near MLKRS and other shoreline areas.

Special-Status Plant Species

There are no documented occurrences of special-status plant species within the Plan Area, but special-status plant species have been documented within the surrounding five-mile area. Only one special-status plant species (i.e., Point Reyes bird's-beak) has potential to occur in the Plan Area. The marsh habitats within MLKRS and other shoreline areas in the Plan Area provide potential habitat for this species.

Trees

In addition to the mature trees located within MLKRS and along the shoreline areas, the largest cluster of trees within the developed portion of the Plan Area exists in the northern portion of 23rd Ave.

Analysis of Potential Impacts

Would the project:

1. **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (LTS)**

Most of MLKRS has an existing land use designation of *Parks*; however, a new boathouse and portions of the Bay Trail that are considered park land uses i.e. current Parks designation. As part of the project, the parks designation would be expanded to encompass these new facilities, taking lands out of the Planned Waterfront Development 3 designation (PWD-3, shown in **Figure 3-2**) for the Tidewater South area. Expanding the parks designation would not affect the natural vegetation in the MLKRS, which provide potential habitat for the special-status wildlife and plant species identified above.

Future development projects consistent with the CEIG may require the removal of larger trees, which could serve as potential habitat for the protected bird species, including Cooper's hawk and osprey. The General Plan OSCAR Element adopted a series of policies associated with impacts to sensitive plant and wildlife species, which are identified below

OSCAR

Policy CO-7.1: *Protection of Native Plant Communities.* Protect native plant communities, especially oak woodlands, redwood forests, native perennial grasslands, and riparian woodlands, from the potential adverse impacts of development. Manage development in a way which prevents or mitigates adverse impacts to these communities.

Policy CO-9.1: *Habitat Protection.* Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas.

Policy CO-11.1: *Protection from Urbanization.* Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.

Policy CO-11.2: *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.

In addition the following federal and State regulations would apply to future development within the Plan Area.

Federal and State Regulations

Federal Endangered Species Act: The Federal Endangered Species Act (FESA) (16 USC, Section 1531 et seq.) defines "endangered" species as those in danger of extinction throughout all or a significant portion of their range. A "threatened" species is any species that is likely to become an "endangered" species within the foreseeable future throughout all, or a significant portion of its range. Additional special-status species include "candidate" species and "species of concern." "Candidate" species are those for which the USFWS has on file enough information to propose listing as endangered or threatened. "Species of concern" are those for which listing is possibly appropriate but for which the USFWS lacks sufficient information to support a listing proposal. A species that has been "delisted" is one whose population has met its recovery goal target and is no longer in jeopardy of extinction. Taking of a federally listed species is prohibited under Section 9 of the FESA. Taking is defined by FESA (§ 3[19]) to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An incidental take of a listed species requires consultation with the USFWS, or National Marine Fisheries Service (NMFS), as appropriate.

California Endangered Species Act: The California Endangered Species Act (CESA) and the Native Plant Protection Act authorize the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (Fish and Game Code, Sections 2050-2098). CESA defines "endangered" species as those whose continued existence in California is jeopardized. State-listed "threatened" species are those not currently threatened with extinction, but that may become endangered if their environments change or deteriorate. In addition, interim protection is provided to candidate species while they are being reviewed by the Fish and Game Commission. The California Code of Regulations (Title 14, Section 670.5) lists animal species considered by the state to be endangered and threatened. Section 2080 of the Fish and Game Code prohibits the taking of state-listed plants and

animals. Formal consultation must be initiated with the CDFG for projects that may have an adverse effect on a state-listed species. If no state-listed species will be affected by a proposed project, environmental documentation is provided to CDFG at the discretion of the lead agency.

California Department of Fish and Game Fully Protected Species and Species of Concern: The CDFG also designates "fully protected" species as those that may not be taken or possessed (Fish and Game Code § 3511 [Fully Protected Birds], § 4700 [Fully Protected Mammals], § 5050 [Fully Protected Reptiles and Amphibians] and § 5515 [Fully Protected Fish]). Species designated as fully protected or protected may or may not be listed as endangered or threatened. The CDFG also maintains a list of animal "Species of Special Concern," most of which are species whose breeding populations in California may face extirpation. Although these species have no protected legal status, the CDFG recommends consideration of them during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future. Under provisions of the California Environmental Quality Act, the lead agency, and the CDFG, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFG considers species of concern and species on Lists 1A, 1B, or 2 of the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994) as qualifying for consideration under this CEQA provision. Species on the Native Plant Society's List 3 or 4 may, but generally do not, qualify for protection under this provision.

The Migratory Bird Treaty Act of 1918 (16 USC §§ 703-711): Makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 30 Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered "take" and is potentially punishable by fines and/or imprisonment.

Standard Conditions of Approvals

SCA D: Bird Collision Reduction.
Timing: Prior to issuance of a building permit and ongoing

The project applicant, or his or her successor, including the building manager or homeowners' association, shall submit plans to the Planning and Zoning Division,

for review and approval, indicating how they intend to reduce potential bird collisions to the maximum feasible extent. The applicant shall implement the approved plan, including all mandatory measures, as well as applicable and specific project Best Management Practice (BMP) strategies to reduce bird strike impacts to the maximum feasible extent.

a) Mandatory measures include all of the following:

   i. Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with three second flash instead of blinking red or rotating lights.

   ii. Minimize the number of and co-locate rooftop-antennas and other rooftop structures.

   iii. Monopole structures or antennas shall not include guy wires.

   iv. Avoid the use of mirrors in landscape design.

   v. Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass.

b) Additional BMP strategies to consider include the following:

   i. Make clear or reflective glass visible to birds using visual noise techniques. Examples include:

      1. Use of opaque or transparent glass in window panes instead of reflective glass.

      2. Uniformly cover the outside clear glass surface with patterns (e.g., dots, decals, images, abstract patterns). Patterns must be separated by a minimum 10 centimeters (cm).

      3. Apply striping on glass surface. If the striping is less than 2 cm wide it must be applied vertically at a maximum of 10 cm apart (or 1 cm wide strips at 5 cm distance).

      4. Install paned glass with fenestration patterns with vertical and horizontal mullions of 10 cm or less.

      5. Place decorative grilles or louvers with spacing of 10 cm or less.

      6. Apply one-way transparent film laminates to outside glass surface to make the window appear opaque on the outside.

      7. Install internal screens through non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects.

8. Install windows which have the screen on the outside of the glass.
9. Use UV-reflective glass. Most birds can see ultraviolet light, which is invisible to humans.
10. If it is not possible to apply glass treatments to the entire building, the treatment should be applied to windows at the top of the surrounding tree canopy or the anticipated height of the surrounding vegetation at maturity.

ii. Mute reflections in glass. Examples include:

1. Angle glass panes toward ground or sky so that the reflection is not in a direct line-of-sight (minimum angle of 20 degrees with optimum angle of 40 degrees).
2. Awnings, overhangs, and sunshades provide birds a visual indication of a barrier and may reduce image reflections on glass, but do not entirely eliminate reflections.

iii. Reduce Light Pollution. Examples include:

1. Turn off all unnecessary interior lights from 11 p.m. to sunrise.
2. Install motion-sensitive lighting in lobbies, work stations, walkways, and corridors, or any area visible from the exterior and retrofitting operation systems that automatically turn lights off during after-work hours.
3. Reduce perimeter lighting whenever possible.

iv. Institute a building operation and management manual that promotes bird safety. Example text in the manual includes:

1. Donation of discovered dead bird specimens to authorized bird conservation organization or museums to aid in species identification and to benefit scientific study, as per all federal, state and local laws.
2. Production of educational materials on bird-safe practices for the building occupants.
3. Asking employees to turn off task lighting at their work stations and draw office blinds or curtains at end of work day.
4. Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible.

Compliance with federal and State regulations, the General Plan policies CO-7.1, CO-9.1, CO-11.1, CO-11.2, and SCA D, Bird Collision Reduction, would ensure the protection of sensitive plant and wildlife and their habitat within the Plan Area. In addition, each project would be subject to the requirements of the City of Oakland Tree Protection Ordinance and SCAs 43, Tree Removal Permit on Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Replacement Plantings; and SCA 47, Tree Protection During Construction, all of which pertain to tree protection and removal permits (see item 6 below). SCA 44, Tree Removal During Breeding Season, restricts tree removal during the breeding season, effectively avoiding impacts to these species. Therefore, potential impacts to protected species would be less than significant. No mitigation is required.

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (LTS)

The only location within the Plan Area that contains habitat that could be considered a "sensitive natural community" is located in and adjacent to MLKRS. Because the project does not propose any zoning or land use designations that allow for physical improvements in their area, implementation of the CEIG would not affect the natural vegetation in the MLKRS, and no direct impacts to sensitive natural communities would occur. However, future development within the Plan Area could generate sediment and contaminated run-off during construction, which would adversely affect the water quality of the habitat within MLKRS. In addition to the policies identified under item 1 above, the General Plan OSCAR Element and LUTE adopted a series of policies associated with reducing impacts to riparian and aquatic resources, which are identified below.

OSCAR

Policy CO-5.3: *Control of Urban Runoff.* Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, 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.

Policy CO-6.1: *Creek Management.* Protect Oakland's remaining natural creek segments by retaining creek vegetation, maintaining creek setbacks, and controlling bank erosion. Design future flood control projects to preserve the natural character of creeks and incorporate provisions for public access, including trails, where feasible. Strongly discourage projects which bury creeks or divert them into concrete channels.

Policy CO-6.5: *Protection of Bay and Estuary Waters.* Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.

Policy CO-8.1: *Mitigation of Development Impacts*. Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.

LUTE

Policy W-3.1: *Requiring Consistency with Conservation Objectives and Policies.* 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 W-3.2: *Enhancing the Quality of the Natural and Built Environment.* The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance and should not detract from, or damage the quality of the overall natural and man-made environment along the waterfront.

Policy W-3.3: *Protecting and Preserving Wetland Plant and Animal Habitat.* Native plant communities, wildlife habitats and sensitive habitats should be protected and enhanced.

Future development projects within the Plan Area would also be subject to several federal and State regulations, identified below, in addition to the City Municipal Code (Chapter 13.16), which specifically address storm water management and discharge control to provide provisions for the safeguarding of creeks and waterways from contaminated run-off.

Federal and State Regulations

Clean Water Act (CWA): Under Section 404 of the CWA (33 USC, Section 1344), the U.S. Army Corps of Engineers (Corps) regulates the disposal of dredged and fill materials into waters of the United States." Waters of the United States include intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, and wetlands adjacent to any water of the United States (CFR 33, Part 328). In areas subject to tidal influence, Section 404 jurisdiction extends to the high tide line. Certain waters of the United States are considered "special aquatic sites" because they are generally recognized as having particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallows, coral reefs, and riffle and pool complexes. Special aquatic sites are defined by the U.S. Environmental Protection Agency and may be afforded additional consideration in the permit process for a project. Special aquatic sites include habitats such as wetlands, mudflats, and eelgrass beds. Currently, EPA's CWA regulations at 40 CFR 122.3(a) exclude from regulation under the National Pollutant Discharge Elimination System (NPDES), "...any other discharge incidental to the normal operation of a vessel." Therefore, ballast water discharges have not been and are currently not being regulated under the Clean Water Act.

Rivers and Harbors Act: The Corps also regulates navigable waters under Section 10 of the Rivers and Harbors Act. Navigable waters are defined as "…those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce" (33 CFR, Part 322.2). A permit from the Corps must be obtained for any work within jurisdictional waters of the United States.

Regional Water Quality Control Board 401 Certification (associated with Section 404 of the Clean Water Act): The Regional Water Quality Control Board (RWQCB) must conduct a separate review of all projects subject to Section 404 to determine whether they require a Section 401 Water Quality Certification or a waiver of discharge requirements. Section 401 refers to the section of the Clean Water Act that gives states authority to issue, waive, or deny certification that the proposed activity is in conformance with state water quality standards.

Section 1602 of the Fish and Game Code of California: The CDFG asserts jurisdiction over fish, wildlife, and plant resources, as well as their habitats. When

any alteration of a lake, stream, or river occurs within the State, the CDFG is empowered under Section 1602 of the Fish and Game Code of California to issue a Streambed Alteration Agreement, which is designed to ensure protections of said resources.

Oakland Municipal Code

Chapter 13.16: *City of Oakland Creek Protection, Storm Water Management, and Discharge Control Ordinance.* The storm water management and discharge control ordinance was adopted in 1997 to provide stronger provisions to manage and safeguard creeks. It includes permitting guidelines for construction near creeks within the City of Oakland. According to the ordinance, a creek is defined as a watercourse that is a naturally occurring swale or depression, or engineered channel, which carries fresh or estuarine water either seasonally or year round within city boundaries. Creeks are capable of supporting riparian, wetland and other aquatic habitats within and along the banks of the channels.

Compliance with the General Plan policies, Municipal Code Chapter 13.16, and the above federal and State regulations would protect the waterfront and sensitive communities within the Plan Area from contaminated storm water runoff potentially generated from future development projects. In addition, the Oakland Municipal Code and City SCAs include several provisions for the protection of water quality as it relates to stormwater runoff. Refer to **Section 4.5.7, Hydrology & Water Quality**, for a complete assessment of the project's potential impacts to water quality. Potential impacts to riparian habitats or other sensitive natural communities within the Plan Area would be reduced to a less-than-significant level with adherence to these regulations. No mitigation is required.

3. Have a substantial adverse effect on federally protected wetlands (as defined by section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means? (LTS)

The tidal marshes and estuarine habitats within MLKRS and the shorelines bordering the western portion of the Plan Area are considered jurisdictional resources. Implementation of the land use designations and zoning amendments proposed as part of the project would not affect these resources. While an increased density of commercial/industrial land uses would be allowed under the proposed zoning amendments within the Jingletown/Elmwood neighborhood (Central West), on the ground, this would most likely result in taller buildings, and not a physical expansion of the existing development along the shoreline.

In addition, jurisdictional waters are highly regulated by the federal and State programs identified above under item 2. A permit from theCorps, RWQCB, and/or the San Francisco Bay Conservation and Development Commission (BCDC) would be required for any work that would result in fill being deposited into these shoreline areas. The estuarine channel in MLKRS is likely considered a jurisdictional water of the CDFG. A Streambed Alteration Agreement from the CDFG would be required for any work affecting the bed and/or banks of the estuarine channel.

Future development projects within the Plan Area would also be subject to Oakland Municipal Code 13.16 and SCA 84, Regulatory Permits and Authorizations, which requires the application and issuance of regulatory permits and authorizations from the aforementioned agencies, prior to issuance of a demolition, grading, or building permit in the vicinity of a creek or waterway.

Standard Conditions of Approvals

SCA 84: Regulatory Permits and Authorizations.[7]
Timing: prior to demolition, construction and/or grading.

The applicant shall obtain all necessary regulatory permits and authorizations from applicable resource/regulatory agencies including, but not limited to, the Regional Water Quality Control Board, Bay Conservation and Development Commission, California Department of Fish and Game, U. S. Fish and Wildlife Service, and Army Corps of Engineers and shall comply with all requirements and conditions of the permits/authorizations. The project applicant shall submit evidence of the approved permits/authorizations to the City.

Compliance with the General Plan policies, Municipal Code Chapter 13.16, SCA 84, Regulatory Permits and Authorizations, and applicable federal and State regulations would reduce indirect impacts related to storm water runoff to a less-than-significant level, protecting the jurisdictional waters within the Plan Area. No mitigation is required.

4. Substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (LTS)

[7] SCA 84, Regulatory Permits and Authorizations, was updated by the City of Oakland on August 30, 2012

The project is located in an urban area and is completely developed with existing buildings and infrastructure. No wildlife corridors are present within or adjacent to the Plan Area. However, as discussed above under item 1, future development within the Plan Area may require the removal of larger trees, which could serve as potential habitat for migratory birds that use the trees for nesting. Each project would be subject to the requirements of the City of Oakland Tree Protection Ordinance and SCAs 43, Tree Removal Permit of Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Replacement Plantings; and SCA 47, Tree Protection During Construction, all of which pertain to tree protection and removal permits (see item 6 below). SCA 44, Tree Removal During Breeding Season, restricts tree removal during the breeding season, effectively avoiding impacts to migratory birds. In addition, the General Plan OSCAR Element adopted a series of policies associated with impacts to sensitive plant and wildlife species, which are identified above under item 1. Compliance with these policies and conditions would reduce any potential impacts to wildlife movement to a less-than-significant level. No mitigation is required.

5. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan? (NI)

The Plan Area is not located within or adjacent to a habitat conservation plan or natural community conservation plan. Therefore, no conflicts with a habitat conservation plan or natural community preservation plan would occur.

6. Fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?[8] (LTS)

The project would not directly conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code Chapter 12.36) by direct removal of any protected trees. However, future development projects within the Plan Area may

[8] Factors to be considered in determining significance include the number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) protected trees to remain, with special consideration given to native trees.[8] Protected trees include *Quercus agrifolia* (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *Pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on city property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed are considered to be protected trees.

affect the larger trees present. These projects would be subject to the following requirements of the City of Oakland Tree Protection Ordinance and SCAs 43, Tree Removal Permit of Creekside Properties; SCA 44, Tree Removal During Breeding Season; SCA 45, Tree Removal Permit; SCA 46, Tree Replacement Plantings; and SCA 47, Tree Protection During Construction, all of which pertain to tree protection and removal permits.

Oakland Municipal Code

Chapter 12.36: *City of Oakland Tree Ordinance.* The tree ordinance requires property owners to obtain a permit before removing protected trees from their property.

Standard Conditions of Approvals

SCA 43: Tree Removal Permit on Creekside Properties.
Timing: Prior to issuance of a final inspection of the building permit.

Prior to removal of any tree located on the project site which is identified as a creekside property, the project applicant must secure the applicable creek protection permit, and abide by the conditions of that permit.

SCA 44: Tree Removal during Breeding Season.
Timing: Prior to issuance of a tree removal permit.

To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of raptors shall not occur during the breeding season of March 15 and August 15. If tree removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds.

SCA 45: Tree Removal Permit.
Timing: Prior to issuance of a demolition, grading, or building permit.

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

SCA 46: Tree Replacement Plantings.
Timing: Prior to issuance of a final inspection of the building permit.

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

SCA 47: Tree Protection During Construction.
Timing: Prior to issuance of a demolition, grading, or building permit.

Adequate protection shall be provided during the construction period for any trees which are to remain standing.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to encourage tree planting and preservation in the Plan Area. The following guidelines would ensure that future development within the Plan Area would account for tree protection:

Stormwater Management

- Tree planting and preservation should be encouraged along streets and within private property for new developments to enhance livability.
- During the design phase, work with project applicants to preserve significant on-site trees. During construction, ensure that remaining trees are protected from damage and that soil and other conditions are improved.
- Where planting space available for trees is constrained, consider using engineered products such as root barriers and structural soils to greatly increase the success rate and life span of new and existing trees or using large containerized bio-retention gardens that receive and treat stormwater.

Compliance with the City's General Plan policies, SCAs, and Tree Ordinance and the Central Estuary design guidelines would reduce any potential tree removal impacts to a less-than-significant level. No mitigation is required.

7. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (Chapter 13.16) intended to protect biological resources?[9] (NI)

Please refer to the discussions under item 2 and item 3 above. All future development projects within the Plan Area would be required to comply with the City's Creek Protection Ordinance (Chapter 13.16). The project does not proposed any land use designations or zoning changes that would conflict with this ordinance.

4.5.4 CULTURAL AND HISTORIC RESOURCES

Findings of the Oakland Estuary Policy Plan (EPP) EIR

The Estuary Policy Plan's potential impacts to cultural and historic resources were evaluated under the subsection "Cultural and Historic Resources" in the previously adopted environmental document. The EPP EIR found less-than-significant impacts to these resources with adherence to the existing policies in the Historic Preservation Element and LUTE of the General Plan, proposed policies in the EPP, and CEQA requirements for subsequent environmental review. However, because of the time that has transpired since the previous environmental documents were certified, the city has compiled updated information regarding existing cultural resources within the Plan Area. This Supplemental EIR presents an updated analysis based on a record search at the Northwest Information Center that was prepared for the project in April 2009 (see **Appendix C**). The updated analysis includes a review of the latest California Historical Resources Information System (CHRIS) to identify all documented cultural and historic resources within the Plan Area.

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study found that compliance with the goals, policies, and programs of the City's General Plan; Municipal Code (Title 17), SCAs, and LUTE EIR Mitigation Measure G.2 would ensure that development under the Housing Element would comply with

[9] Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and/or aquatic habitat through (a) discharging a substantial amount of pollutants into a creek, (b) significantly modifying the natural flow of the water, (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability, or (d) adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat.

federal and State laws protecting cultural resources, resulting in a less-than-significant impact. In addition, should any sensitive resources be discovered during the construction of future development projects under the Housing Element, all building activity should cease until a resource mitigation plan and monitoring program is prepared by a qualified professional as described in SCAs. As such, the Housing Element Initial Study concluded that development at the identified opportunity sites would have a less-than-significant impact to cultural resources.

Existing Conditions

The City of Oakland conducted a reconnaissance-level survey of the Plan Area in 1997 and many buildings and structures in the Plan Area were given ratings indicating potential historic significance and potential eligibility for listing in local, state, or federal registers of historic properties. The Office of Historic Preservation "Historic Property Data File for Alameda County" reflects this survey effort, showing that many parcels within the Plan Area are designated as "subject to reconnaissance survey only and not yet fully evaluated".

Less than 15 percent of the Plan Area has been inspected for prehistoric and historic period archeological resources. While the southeastern portion of the Plan Area has been the subject of several studies, including subsurface testing, very little is known about the archaeology of the northwestern portion of the Plan Area.

Historical Resources

Review of historical literature and maps indicate that there are no known properties within the Plan Area that are listed in the National Register of Historic Places, California Register of Historic Places, or City of Oakland Local Register of Historical Resources. However, because residential and industrial buildings, as well as bridges, wharves and piers within the Plan Area have not yet been intensively investigated beyond the reconnaissance-level survey conducted in 1997, and because these resources have potential for significance for association with the tidal canal and the Oakland inner harbor and waterfront history, the Plan Area has a high sensitivity for historic architectural resources. The findings of this analysis is only "reconnaissance"; therefore, intensive surveys may need to be completed for future development facilitated by the CEIG (see *Analysis of Potential Impacts, Item 1,* below).

Specific resources within the Plan Area that should be considered for historic architectural sensitivity include, but are not limited to the following:

- Businesses that produced material for the World War II effort (e.g., Owens-Brockway);
- Some of the earliest local railroads in the 1850's and 1860s (e.g., Alameda Wharf Railroad, Central Pacific, Southern Pacific);
- Jingletown neighborhood, a Potential Designated Historic District, an Area of Secondary Importance;
- A few properties close to the freeway, along E 7th Street have been noted with a '7R' designation - Identified in Reconnaissance Level Survey: Not evaluated. (State of California Historic Resources Status Codes);
- Early industrial developments, Oakland as the largest grain port on the West Coast (e.g., ConAgra facility, also a '7R' property: Not Evaluated); American Can Company (currently Home Depot site);
- Remaining wharf, pier and bridge structures, descendents of the original USACE tidal canal dredging project and subsequent industrial development it encouraged.

As shown on **Figure 4.5-1**, the Jingletown/Elmwood district, a residential neighborhood located in the center of the Plan Area, and the immediately surrounding development are considered to have a high potential for historic resources. The residential and industrial buildings within Jingletown/Elmwood district, as well as bridges (i.e. Park Street Bridge, Fruitvale Bridge, and High Street Bridge), wharves, and piers are also considered potential historical architectural resources in the Plan Area. Refer to **Appendix C** for a detailed discussion of potential historic architectural resources in the Plan Area.

Archaeological Resources

Based on a CHRIS record search at the Northwest Information Center, two historic-era archaeological sites are located within the Plan Area, including the Southern Pacific Railway rail spur that runs through the West Subarea of the Plan Area, and a cluster of ten historic period features near High Street and I-880, four of which were determined eligible for the National Register of Historic Places. The mix of residential and commercial uses in the Plan Area also suggests a high likelihood of encountering historic-era archaeological resources including the archaeological remains of building foundations beneath the existing potentially historic structures. Historic-era archaeological resources may include but are not limited to, the

remains of both commercial and residential building foundations and wall and transportation systems, such as railroad sidings, roadways, wharves, or railroad tracks. Archaeological features most likely to be abundant within the Plan Area include artifact accumulations containing bottles, cans, ceramics and other materials found in trash pits or privies.

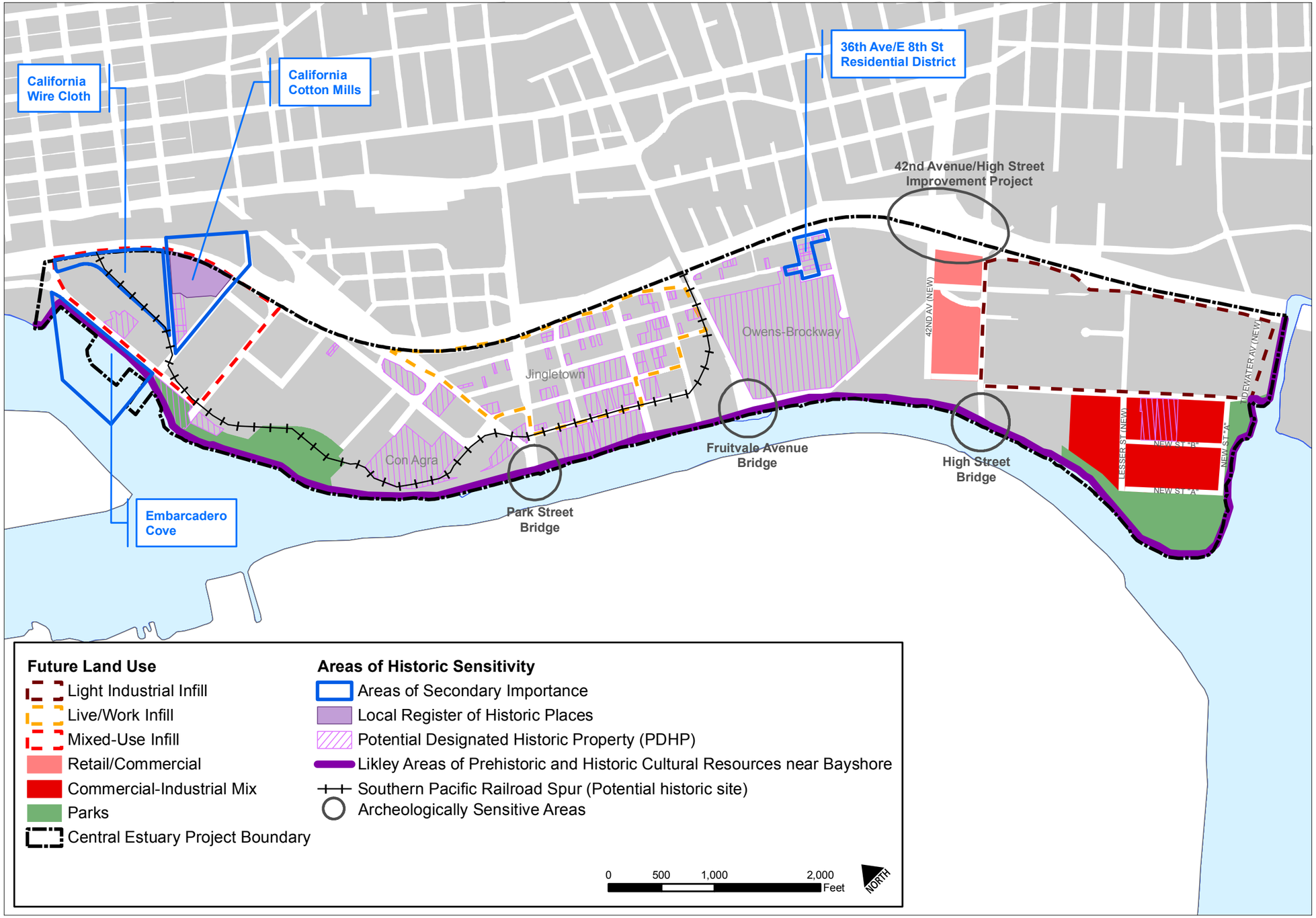
No previously documented prehistoric-era archaeological sites have been recorded within the Plan Area. However, several prehistoric sites have been documented near the Plan Area, including two sites to the south, and three to the north and west. Near the northern edge of the Plan Area, a "shell mound" has been documented. It is expected that several types and classes of undocumented archaeological sites may be present within the Plan Area, particularly along the shorelines and in close proximity to drainages and geomorphic features. The types of prehistoric site constituents expected in these areas typically include a dark ashy soil containing fire-altered rock, food debris (shell, faunal bone), ground, flaked and pecked stone artifacts, shell and bone artifacts, and baked clay. It is not uncommon for these types of prehistoric sites or shell mounds to contain burials.

The Plan Area, before the channelization of the estuary, is in closed proximity to two historic freshwater streams. Observations from other areas near the San Francisco Bay suggest that prehistoric occupation was concentrated along major watercourses with a series of sites located at the bay margin and inland. As such, it is possible that Native Americans occupied the Plan Area in the past. A records search of the Native American Heritage Commission sacred lands file was conducted on May 22, 2012. No Native American cultural resources are documented within the Plan Area.

Paleontological Resources

According to the University of California Museum of Paleontology online database of paleontological discoveries, there are no recorded paleontological resources within the Plan Area.[10] However, there is a potential that undocumented paleontological resources exist. These resources typically include the fossilized remains of the area's early plants and animals (millions of years ago).

[10] Carrasco, M.A., B.P. Kraatz, E.B. Davis, and A.D. Barnosky. 2005. Miocene Mammal Mapping Project (MIOMAP). University of California Museum of Paleontology http://www.ucmp.berkeley.edu/miomap/; accessed June 3, 2012



Likely Areas of Historical Sensitivity

Figure 4.5-1

Source: Circlepoint, 2012.

Figure 4.5-1 Likely Areas of Historical Sensitivity (back)

Analysis of Potential Impacts

Would the project:

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

Although no known properties are listed as historical resources, due to the relative age of existing buildings and structures, there is potential that unrecognized historic architectural resources exist in the Plan Area. It is possible that future development projects in the Plan Area could involve demolition of, or impacts to cultural or historic resources. However, prior to the issuance of approvals from the City of Oakland, each of these projects would be subject to CEQA review, as well as to the SCAs, and policies of the Historic Preservations Element and LUTE of the General Plan. The policies and conditions that apply to the future development under the CEIG are described below.

Recommended Measure: Should specific development projects be submitted, as part of the environmental review process, an OCHS intensive survey shall be conducted/confirmed (even if one already exists or if an OCHS reconnaissance survey exists). This provision would generally apply to buildings, structures, objects, district, sites, and natural features related to human presence 50 years old and older.

- If an OCHS intensive survey exists on the property it should be updated and confirmed; or
- If an OCHS reconnaissance survey exists for the property, an OCHS intensive survey shall be conducted; or

- If there is not an OCHS intensive survey, the OCHS shall be consulted to determine if it appears that a parcel may include property types that may have historical significance, and if so, an OCHS intensive survey shall be conducted.

Historic Preservation Element

Policy 1.3: *Designated Historic Properties.* The city will designate significant older properties which definitively warrant preservation as Landmarks, Preservation Districts or Heritage Properties. The designations will be based on a combination of Historical and Architectural Inventory Ratings, National Register of Historical Places criteria, and special criteria for Landmarks and Preservation District eligibility. Landmarks, properties which contribute or potentially contribute to Preservation Districts, and Heritage Properties will be called "Designated Historic Properties".

Policy 2.1: *Preservation Incentives and Regulations for Designated Historic Properties.* The city will use a combination of incentives and regulations to encourage preservation of significant older properties and areas which have been designated as Landmarks, Preservation Districts, or Heritage Properties. The regulations will be applied according to the importance of each property, with the more important properties having stronger regulations.

Policy 2.4: *Landmark and Preservation District Regulations.* (a) Demolitions and removals involving Landmarks or Preservation Districts will generally not be permitted unless certain findings are made; (b) Alterations or New Construction will normally be approved if they are found to meet the Secretary of Interior's Standards for the Treatment of Historic Properties; (c) Findings involving alterations of Landmarks or Preservation Districts will seek to balance preservation with other concerns; (d) Specific regulations are set forth in Tables 4-1 and 4-2 of the *Historic Preservation Element*.

Policy 2.6: Preservation Incentives.

(b) Compatible new development on vacant noncontributing Preservation District parcels will be eligible for the following incentives: (iv) broader range of permitted or conditionally-permitted uses; (v) transferable development rights; (vi) priority for economic development and community development project assistance and eligibility for possible historic preservation grants for low-income housing; and (vii) eligibility for acquisition, rehabilitation, and other development assistance from a possible historic preservation revolving fund or possible Marks historical rehabilitation bond program.

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.

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 Potential Designated Historic Properties, 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 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.

Policy 3.6: *Historic Preservation and City-Sponsored or Assisted Projects.* To the extent consistent with other Oakland *General Plan* provisions, City-sponsored or assisted projects involving an existing or Potential Historic Property will: (a) avoid adverse effects on these properties; (b) incorporate preservation efforts; (c) be considered to have no effect on the properties if they conform with the Secretary of Interior's Standards.

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 Historical Resources: 1) All Designate 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.

Policy 3.8.1 (2): *Include Historic Preservation Impacts in City's Environmental Review Regulations.* Relocation may be considered to mitigate significant effects to a Historical Resource. Measures appropriate to mitigate significant effects to a

Historical Resource may include relocation of the affected Historical Resource to a location consistent with its historical or architectural character.

Policy 4.1: *Archaeological Resources.* To protect significant archaeological resources, the city will take special measures for discretionary projects involving ground disturbances located in archaeologically sensitive areas

LUTE

Policy N9.8: *Preserving History and Community.* Locations that create as sense of history and community within the city should be identified and preserved where feasible.

Standard Conditions of Approval

SCA 56: Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition).
Timing: Prior to issuance of a demolition permit.

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

a) Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3'x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City ;and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations;

b) Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division;

c) Maintaining the signs and advertising in place for a minimum of 90 days; and

d) Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

SCA 57: Vibrations Adjacent Historic Structures.
Timing: Prior to issuance of a demolition, grading or building permit.

The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage buildings adjacent to the project site and design means and methods of construction that shall be utilized to not exceed the thresholds.

The General Plan policies and SCAs 56, Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition); SCA 57, Vibrations Adjacent to Historic Structures, address preserving design elements of historic buildings, architectural integrity, and ensure that new development in historic districts are visually interesting and compatible in character with the surroundings. The potential impacts to historic resources resulting from future development projects in the Plan Area would be addressed on a site-by-site basis. Compliance with these policies and conditions would avoid any potential adverse effects to historic resources as a result of the future development in the Plan Area, reducing potential impacts to a less-than-significant level. No mitigation is required.

2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5? (LTS)

Based on a CHRIS records search at the Northwest Information Center, two historic archaeological sites are located within the Plan Area, including the Southern Pacific Railway rail spur, and a cluster of ten historic period features near High Street and I-880. In addition, the mix of residential and commercial land uses in the Plan Area suggests a high likelihood of encountering historic-era archaeological resources during the construction of development facilitated by the CEIG, such as the archaeological remains of building foundations beneath the existing potentially historic structures. If ground-disturbing activities during construction are not sensitive to those cultural resources, then physical impacts could result. Disruption of such resources could result in a significant impact under CEQA.

However, prior to the issuance of approvals from the City of Oakland, each future development project would be subject to CEQA review, as well as to the SCAs, and policies of the Historic Preservations Element of the General Plan. The policies and conditions that apply to potential future impacts to archaeological resources are described below.

Compliance with the Historic Preservation Element Policy 4.1 and SCA 52, Archaeological Resources; SCA 53, Human Remains and SCA E, Archaeological Resources – Sensitive Areas, would ensure that the excavation contractor and associated construction personnel are clear about how unanticipated discoveries of archeological resources are to be treated. The provision of halting all activity when such a discovery is made, and the requirement for the evaluation of the resource by qualified personnel, would reduce potential impacts to archaeological resources to a less-than-significant level. No mitigation is required.

Standard Conditions of Approval

SCA 52: Archaeological Resources.
Timing: Ongoing throughout demolition, grading, and/or construction.

a) Pursuant to CEQA Guidelines section 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

b) In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.

c) Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to

evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.

SCA E, Archaeological Resources – Sensitive Areas, below applies to all projects that are located in archaeologically sensitive areas. Archaeologically sensitive areas include areas in which previous CEQA documents or other information identified a higher likelihood of archaeological finds.

SCA E: Archaeological Resources – Sensitive Areas.
Timing: Prior to issuance of a demolition, grading, or building permit.

The project applicant shall implement either Provision A (Intensive Pre-Construction Study) or Provision D (Construction ALERT Sheet). However, if in either case a high potential presence of historic-period archaeological resources on the project site is indicated, or a potential resource is discovered, the project applicant shall also implement all of the following provisions:

- Provision B (Construction-Period Monitoring),
- Provision C (Avoidance and/or Find Recovery), and
- Provision D (to establish a Construction ALERT Sheet if the Intensive Pre-Construction Study was originally implemented per Provision A, or to update and provide more specificity to the initial Construction ALERT Sheet if a Construction Alert Sheet was originally implemented per Provision D).

Provision A through Provision D are detailed as follows:

Provision A: ***Intensive Pre-Construction Study*** - The project applicant, upon approval from the City Planning and Zoning Division, may choose to complete a site-specific, intensive archaeological resources study prior to soil-disturbing activities occurring on the project site. The purpose of the site-specific, intensive archaeological resources study is to identify early the potential presence of history-period archaeological resources on the project site. If that approach is

selected, the study shall be conducted by a qualified archaeologist approved by the City Planning and Zoning Division. If prepared, at a minimum, the study shall include:

- An intensive cultural resources study of the project site, including subsurface presence/absence studies, of the project site. Field studies conducted by the approved archaeologist(s) may include, but are not limited to soil analysis, auguring and other common methods used to identify the presence of archaeological resources;
- A report disseminating the results of this research;
- Recommendations for any additional measures that could be necessary to mitigate any adverse impacts to recorded and/or inadvertently discovered cultural resources.

If the results of the study indicate a high potential presence of historic-period archaeological resources on the project site, or a potential resource is discovered, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction (see Provision B, Construction-Period Monitoring, below), implement avoidance and/or find recovery measures (see Provision C, Avoidance and/or Find Recovery, below), and prepare an ALERT Sheet that details what could potentially be found at the project site (see Provision D, Construction ALERT Sheet, below).

Provision B: ***Construction-Period Monitoring*** - Archaeological monitoring would include briefing construction personnel about the type of artifacts that may be present (as referenced in the ALERT Sheet, require per Provision D, Construction ALERT Sheet, below) and the procedures to follow if any are encountered, field recording and sampling in accordance with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation, notifying the appropriate officials if human remains or cultural resources are discovered, or preparing a report to document negative findings after construction is completed. If a significant archaeological resource is discovered during the monitoring activities, adherence to Provision C, Avoidance and/or Find Recovery, discussed below), would be required to reduce the impact to less than significant. The project applicant shall hire a qualified archaeologist to monitor all ground-disturbing activities on the project site throughout construction.

Provision C: ***Avoidance and/or Find Recovery*** - If a significant archaeological resource is present that could be adversely impacted by the proposed project, the project applicant of the specific project site shall either:

- Stop work and redesign the proposed project to avoid any adverse impacts on significant archaeological resource(s); or,
- If avoidance is determined infeasible by the City, design and implement an Archaeological Research Design and Treatment Plan (ARDTP). The project applicant shall hire a qualified archaeologist who shall prepare a draft ARDTP that shall be submitted to the City Planning and Zoning Division for review and approval. The ARDTP is required to identify how the proposed data recovery program would preserve the significant information the archaeological resource is expected to contain. The ARDTP shall identify the scientific/historic research questions applicable to the expected resource, the data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. The ARDTP shall include the analysis and specify the curation and storage methods. Data recovery, in general, shall be limited to the portions of the archaeological resource that could be impacted by the proposed project. Destructive data recovery methods shall not be applied to portions of the archaeological resources if nondestructive methods are practical. The project applicant shall implement the ARDTP. Because the intent of the ARDTP is to save as much of the archaeological resource as possible, including moving the resource, if feasible, preparation and implementation of the ARDTP would reduce the potential adverse impact to less than significant.

Provision D: *Construction ALERT Sheet* - The project applicant, upon approval from the City Planning and Zoning Division, may choose to prepare a construction ALERT sheet prior to soil-disturbing activities occurring on the project site, instead of conducting site-specific, intensive archaeological resources pursuant to Provision A, above. The project applicant shall submit for review and approval by the City prior to subsurface construction activity an "ALERT" sheet prepared by a qualified archaeologist with visuals that depict each type of artifact that could be encountered on the project site. Training by the qualified archaeologist shall be provided to the project's prime contractor; any project subcontractor firms (including demolition, excavation, grading, foundation, and pile driving); and/or utilities firm involved in soil-disturbing activities within the project site.

The ALERT sheet shall state, in addition to the basic archaeological resource protection measures contained in other standard conditions of approval, that in the event of discovery of the following cultural materials, all work must be stopped in the area and the City's Environmental Review Officer contacted to evaluate the find: concentrations of shellfish remains; evidence of fire (ashes, charcoal, burnt earth, fire-cracked rocks); concentrations of bones; recognizable

Native American artifacts (arrowheads, shell beads, stone mortars [bowls], humanly shaped rock); building foundation remains; trash pits, privies (outhouse holes); floor remains; wells; concentrations of bottles, broken dishes, shoes, buttons, cut animal bones, hardware, household items, barrels, etc.; thick layers of burned building debris (charcoal, nails, fused glass, burned plaster, burned dishes); wood structural remains (building, ship, wharf); clay roof/floor tiles; stone walls or footings; or gravestones.

Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, and supervisory personnel. The ALERT sheet shall also be posted in a visible location at the project site.

If the project applicant chooses to implement Provision D, Construction ALERT Sheet, and a potential resource is discovered on the project site during ground disturbing activities during construction, the project applicant shall hire a qualified archaeologist to monitor any ground disturbing activities on the project site during construction (see Provision B, Construction-Period Monitoring, above), implement avoidance and/or find recovery measures (see Provision C, Avoidance and/or Find Recovery, above), and prepare an updated ALERT Sheet that addresses the potential resource(s) and other possible resources based on the discovered find found on the project site.

3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (LTS)

While the Plan Area does not contain known paleontological resources, previously unrecorded materials may be encountered during the construction of future development projects facilitated by the CEIG. If ground-disturbing activities during construction are not sensitive to the potential discovery of unknown resources, then physical impacts could result. Disruption of such resources could result in a significant impact under CEQA.

However, prior to the issuance of approvals from the City of Oakland, each of these projects would be subject to CEQA review, as well as to SCA 54, Paleontological Resources, described below. Compliance SCA 54 would avoid any potential adverse effects to paleontological resources as a result of the future development in the Plan Area, reducing potential impacts to a less-than-significant level. No mitigation is required.

SCA 54: Paleontological Resources.
Timing: Ongoing throughout demolition, grading, and/or construction.

In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 1995,1996)). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

4. Disturb any human remains, including those interred outside of formal cemeteries? (LTS)

While the Plan Area does not contain known Native American cultural resources, previously unrecorded materials, including human remains, may be encountered during the construction of future development projects. If ground-disturbing activities during construction are not sensitive to the potential discovery of unknown resources, then physical impacts could result. Disruption of such resources could result in a significant impact under CEQA.

However, prior to the issuance of approvals from the City of Oakland, each of these projects would be subject to CEQA review, as well as to the SCA 53, Human Remains, as described below. Implementation of SCA 53 would ensure that the excavation contractor and associated construction personnel are clear about how unanticipated discoveries of human remains are to be treated. The provision of halting all activity when such a discovery is made, and the requirement for the evaluation of the resource by qualified personnel, would reduce potential impacts to human remains to a less-than-significant level. No mitigation is required.

SCA 53: Human Remains.
Timing: Ongoing throughout demolition, grading, and/or construction.

In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and

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

4.5.5 GEOLOGY AND SOILS

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Risks associated with geologic and soil hazards under the Estuary Policy Plan were evaluated under the subsection "Geology and Seismicity" in the previously adopted environmental document.

The EPP EIR identified less-than-significant impacts associated with ground shaking and ground failure impacts, specifically seismically-induced liquefaction, densification, or landslides, due to existing policies in the OSCAR, applicable federal regulations, and the Uniform Building Code. With regards to soil conditions, the EPP EIR found less-than-significant impacts associated with subsidence, settling, and expansive soils due to existing policies in the OSCAR.

Given that the project is located within the area previously evaluated, and that geological and soil conditions are generally unchanged, implementation of the land use designations proposed as part of the project would not result in development patterns substantially different from what was previously evaluated in the EPP EIR. The project is not anticipated to increase impacts associated with geologic and soil hazards beyond what was evaluated in the previous environmental document. Nevertheless, this Supplemental EIR presents an updated analysis based on the updated conditions presented in the Geological Technical Study prepared for the Plan Area, included as **Appendix C**.

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study determined that compliance with policies contained in the City's General Plan,

OSCAR Element and LUTE, applicable sections of the Municipal Code, and SCAs would ensure that development under the Housing Element would comply with federal, State, and local laws, and have less than significant impacts related to geology and seismic risks. In addition, the City's SCAs, would address erosion issues. In addition, future development under the Housing Element would be required to prove site suitability, with regard to geologic hazards, through a geological investigation. As such, the Housing Element Initial Study concluded that development at the identified opportunity sites would have a less-than-significant impact related to seismic failures, geologic instability, erosion, and expansive soils. There would be no impact related to the City's soils capacity to support septic tanks.

Existing Conditions

Topography

The Plan Area is located at the western perimeter of the City of Oakland, adjacent to the Oakland Estuary. The Plan Area is relatively flat, with a gentle slope in the west, south, and southwest towards the Oakland Estuary and San Leandro Bay. Elevations in the Plan Area range from approximately 20 feet above mean sea level (msl) in the eastern portion to approximately 5 msl along the southern portion of the Plan Area.

Geological Setting

The Plan Area is located at the western margin of a broad, alluvial plain that slopes gently west from the Oakland Hills to the San Francisco Bay. In general, the central portion of the Plan Area is underlain by Quaternary alluvium, while the northwest and southeastern portions are underlain by recent artificial fill that overlies Bay Mud. **Figure 4.5-2** shows the geological map of the Plan Area.

Seismic Activity and Hazards

The Plan Area is located in a seismically active region, of northern California. The closest known active fault to the Plan Area is the Hayward fault located approximately three miles to the northeast. Other known active faults in the region that could cause seismic activity in the Plan Area include the Calaveras and Concord/Green Valley faults to the east and the San Andreas fault located to the west. Historically, the Plan Area has experienced a high level of seismic activity. Given the regional proximity of several active faults, the Plan Area would likely experience a relatively large degree of ground shaking during a significant earthquake on a nearby fault.

Seismically-induced hazards, such as liquefaction, dynamic settlement, lateral spread, and slope instability may potentially occur in the Plan Area following a significant seismic event. The Plan Area is susceptible to moderate to very high levels of liquefaction; very high liquefaction potential areas are concentrated in the northwestern and southern portions of the Plan Area. Such areas are also at higher risk for seismically induced dynamic settlement. There is potential for lateral spread along the Plan Area waterfront where free-facing slopes and exposed slopes are underlain by liquefiable soils. Although the Plan Area is not located within a landslide hazard zone, unprotected steep areas mainly along the waterfront may be susceptible to instability.

Soil Conditions

According to the Natural Resources Conservation Service (NRCS), the northern portion of the Plan Area is underlain by clay soils (known as Urban Land-Clear Lake complex). Clay soils can be expansive when there is a change in the moisture content. Such soils are prone to losing cohesion and collapsing. Bay Mud, which is overlain with artificial fill in the northwest and southeast portions of the Plan Area, is recognized as a compressible soil (see Figure 4 of the Geological Technical Study). Compressible soils can be susceptible to settlement when additional loads are placed on them. Loose, poorly compacted fill is also a form of compressible soil.

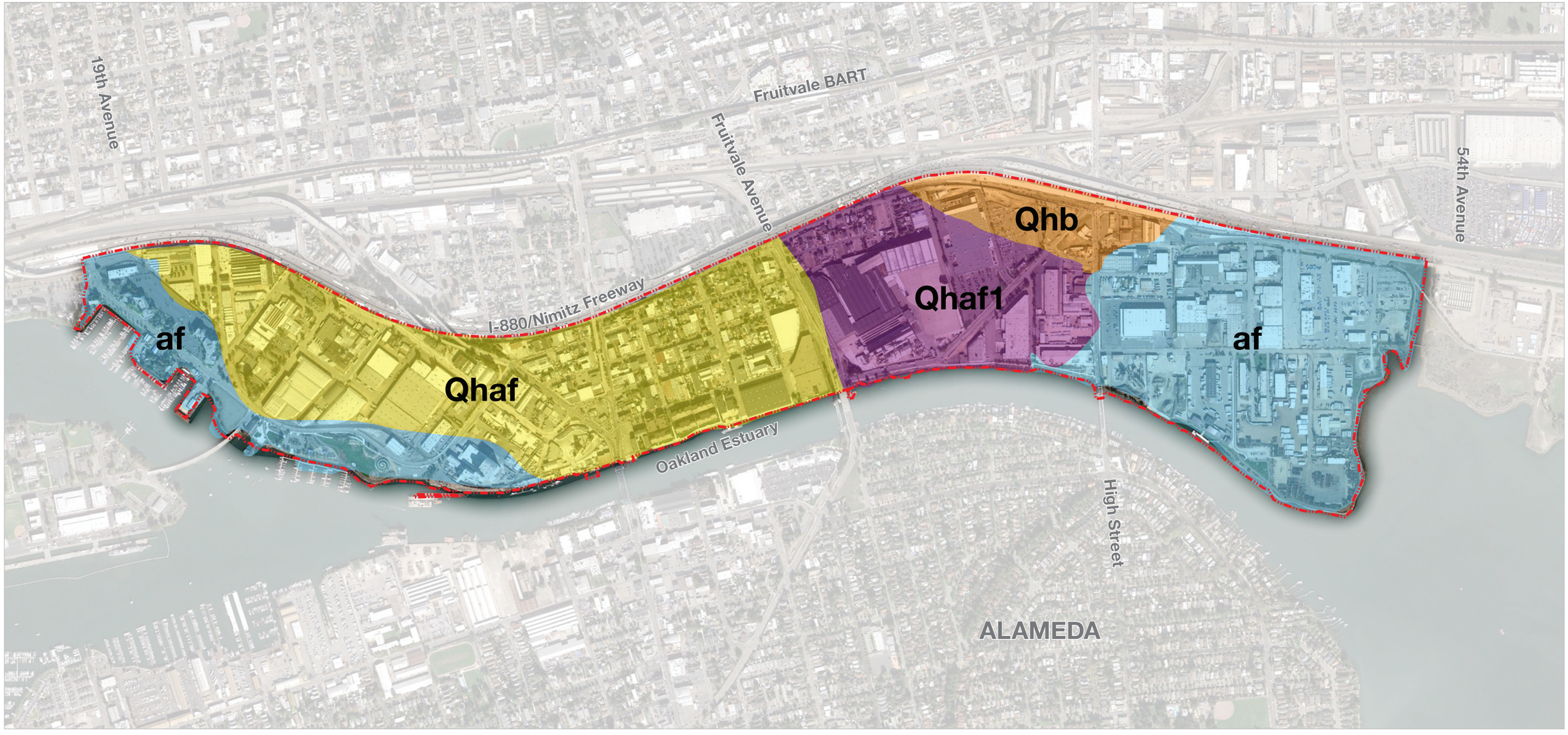
Analysis of Potential Impacts

Would the project:

1. **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 issues by the State Geologist for the area based on other substantial evidence of a known fault?[11] (LTS)**

[11] Refer to California Geological Survey 42 and 117 and Public Resources Code section 2690 et. seq.



Legend

- Plan Area
- af — Artificial fill (Historic)
- Qhaf — Alluvial fan and fluvial deposits (Holocene)
- Qhaf1 — Young alluvial fan deposits (Holocene)
- Qhb — Basin deposits (Holocene)

0 250 500 1000 FEET

Geological Map

Figure 4.5-2

Source: Ninyo & Moore, 2009.

Figure 4.5-2 Geological Map (back)

The closest active fault is located three miles northeast of the Plan Area. There are no known active faults crossing the Plan Area; the Plan Area is not located in or adjacent to an Alquist-Priolo Earthquake Fault Zone. Accordingly, there are no impacts associated with the potential for ground-surface ruptures of a fault as there are no active faults in the Plan Area.

- **Strong seismic ground shaking? (LTS)**
- **Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, or collapse? (LTS)**

  and

- **Landslides? (LTS)**

Given the proximity of several active faults in the region, the Plan Area would experience a relatively large degree of ground shaking during a significant earthquake on a nearby fault. The Plan Area is susceptible to several seismically-induced ground failure hazards, such as liquefaction, dynamic settlement, lateral spread, and slope instability.

Although implementation of the project's proposed land use designations and zoning amendments would not result in any immediate physical development, future development allowed under the CEIG could potentially expose people or structures to seismic ground shaking or ground failures. Prior to the issuance of approvals from the City of Oakland, future projects would be subject to all applicable state and local regulations, policies of the General Plan OSCAR Element, and applicable SCAs, as listed below.

State Regulations

Seismic Hazards Mapping Act (*Public Resources Code, Division 2, Chapter 7.8, Sections 2690 et seq.*): The Seismic Hazards Mapping Act protects public safety from the effects of strong ground shaking, and earthquake induced liquefaction, landslides, or other ground failures. In accordance with the Act, construction located within liquefaction and landslide hazard zones would be required to conduct a seismic investigation and recommended construction methods to mitigate potential seismic hazards identified.

Uniform Building Code: The Uniform Building Code (UBC) is based on the most current International Building Code and contains engineering and design code requirements that address seismic safety for new construction. The UBC is updated every three years and will continually be updated to provide for additional measures to reduce seismic risks.

City of Oakland – Building Services Division

City of Oakland Building Code: Project sponsors would be required to submit an engineering analysis accompanied by detailed engineering drawings to the Building Services Division prior to excavation, grading, or construction activities on a proposed project site. This is consistent with standard city practices to ensure that all buildings are designed and built in conformance with the seismic requirements of the City 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.

OSCAR

Policy CO-2.1: *Slide Hazards.* Encourage development practices which minimize the risk of landsliding.

Policy CO-2.2: *Unstable Geological Features.* Retain geological features known to be unstable, including serpentine rock, areas of known landsliding, and fault lines, as open space. Where feasible, allow such lands to be used for low-intensity recreational facilities.

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

Standard Conditions of Approval

The following SCAs apply to projects that require a Tentative Tract Map or Tentative Parcel Map.

SCA 58: Soils Report.
Timing: Required as part of the submittal of a Tentative Tract or Tentative Parcel Map.

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

A. Logs of borings and/or profiles of test pits and trenches:

   a) The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to establish a soils profile suitable for the design of all the footings, foundations, and retaining structures.

   b) The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.

   c) All boring logs shall be included in the soils report.

B. Test pits and trenches

   a) Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures.

   b) Soils profiles of all test pits and trenches shall be included in the soils report.

C. A plat shall be included which shows the relationship of all the borings, test pits, and trenches to the exterior boundary of the site. The plat shall also show the location of all proposed site improvements. All proposed improvements shall be labeled.

D. Copies of all data generated by the field and/or laboratory testing to determine allowable soil bearing pressures, sheer strength, active and passive pressures, maximum allowable slopes where applicable and any other information which may be required for the proper design of foundations, retaining walls, and other structures to be erected subsequent to or concurrent with work done under the grading permit.

E. Soils Report. A written report shall be submitted which shall include, but is not limited to, the following:

   a) Site description;

   b) Local and site geology;

   c) Review of previous field and laboratory investigations for the site;

d) Review of information on or in the vicinity of the site on file at the Information Counter, City of Oakland, Office of Planning and Building;

e) Site stability shall be addressed with particular attention to existing conditions and proposed corrective attention to existing conditions and proposed corrective actions at locations where land stability problems exist;

f) Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required;

g) Conclusions and recommendations for temporary and permanent erosion control and drainage. If not provided in a separate report they shall be appended to the required soils report;

h) All other items which a Soils Engineer deems necessary;

i) The signature and registration number of the Civil Engineer preparing the report.

F. The Director of Planning and Building may reject a report that she/he believes is not sufficient. The Director of Planning and Building may refuse to accept a soils report if the certification date of the responsible soils engineer on said document is more than three years old. In this instance , the Director may be require that the old soils report be recertified, that an addendum to the soils report be submitted, or that a new soils report be provided.

The following SCA applies to projects that require a Tentative Tract Map or Tentative Parcel Map and are located within the Seismic Hazard Zone.

SCA 60: Geotechnical Report.
Timing: Required as part of the submittal of a tentative Tract Map or tentative Parcel Map.

a) A site-specific, design level, Landslide or Liquefaction geotechnical investigation for each construction site within the Plan Area shall be required as part of this project and submitted for review and approval by the Building Services Division. Specifically:

i. Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be accordance with applicable City ordinances and polices, and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults.

ii. The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots, and sidewalks).

iii. The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Oakland.

iv. The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the "No Build" zone. The map shall include a statement that the locations and limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge.

v. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the projects design phase, shall be incorporated in the project.

vi. Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.

vii. A peer review is required for the Geotechnical Report. Personnel reviewing the geologic report shall approve the report, reject it, or withhold approval pending the submission by the applicant or subdivider of further geologic and engineering studies to more adequately define active fault traces.

b) Tentative Tract or Parcel Map approvals shall require, but not be limited to, approval of the Geotechnical Report.

Compliance with the aforementioned General Plan OSCAR policies and SCAs, with applicable state and local regulations would require special provisions, such as preparation of a soils and geotechnical report, to safeguard against seismic hazards. Adherence to these regulations, policies, and SCAs would reduce potential adverse effects related to seismically-induced ground shaking and ground failures to a less-than-significant level. No mitigation is required.

2. Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways? (LTS)

Implementation of the project's proposed land use designations and zoning amendments would not include any physical development that would immediately

cause potential erosion issues. However, future development in the Plan Area may result in soil erosion or loss of topsoil due to construction activities. Construction related to future development, including excavation and earth-moving activities, may expose underlying soils to erosion. Please refer to items 1, 2, 3, and 4 in **Section 4.5.7, Hydrology and Water Quality**, for a discussion regarding the potential impacts of erosion during the construction-period.

As discussed in **Section 4.5.7, Hydrology and Water Quality**, compliance with the Municipal Code (Chapter 13.16), Grading Ordinance, Sedimentation and Erosion Control Ordinance, and SCAs (SCA 24, Construction Management Plan; SCA 34, Erosion and Sedimentation Control (When no grading permit is required); SCA 55, Erosion and Sedimentation Control Plan; SCA 75, Stormwater Pollution Prevention Plan (SWPPP); SCA 77, Erosion, Sedimentation, and Debris Control Measures; SCA 82, Erosion, Sedimentation, and Debris Control Measures; and SCA 85, Creek Monitoring) would minimize construction-related erosion impacts to a less-than-significant-level.

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

Soils in the Plan Area have a moderate to high expansion potential in areas of relatively high clay content. Further, the Bay Mud underlying the Plan Area and loose, poorly compacted fills are compressible soils susceptible to settlement when additional loads are placed on them. As such, soils in the Plan Area have moderate to severe development limitation related to shrink-swell potential.

Although implementation of the project's proposed land use designations and zoning amendments would not result in any immediate physical development, future development allowed under the CEIG could potentially be located on expansive soils. Prior to the issuance of approvals from the City of Oakland, future projects would be subject to all pertinent provisions of the Seismic Hazards Mapping Act, Uniform Building Code, City Building Code, OSCAR policies (CO-2.1, CO-2.2, CO-2.3), and SCAs (SCA 58, Soils Report; and SCA 60, Geotechnical Report) listed above under items 1, 2, 3, and 4 above. Further, Chapter 16 and 18 of the City Building Code and Action CO-1.1.3 of the OSCAR Element would address potential issues pertaining to expansive soils.

City Building Code

Chapter 16: This chapter ensures that structures intended for human occupancy built on expansive soils are subject to less-than-significant settling or heaving effects by requiring such development to meet specific minimum structural design standards.

Chapter 18: This chapter presents the identification and treatment of expansive soils and specifies the requirements for foundation and soil investigations; excavations, grading, and fill; and the design of footings and foundation support.

OSCAR

Action CO-1.1.3: *Consideration of Soil Constraints in Development.* Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable case materials and drainage provisions should be incorporated where necessary.

Compliance with applicable state and local regulations, policies, and SCAs would require special provisions, such as preparation of a soils and geotechnical report, to safeguard against expansive soil hazards. Adherence to these regulations, policies, and SCAs would reduce potential adverse effects related to s expansive soil hazards to a less-than-significant level. No mitigation is required.

4. Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property? (LTS)

and

5. 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? (LTS)

Implementation of the project's proposed land use designations and zoning amendments would not result in developing physical structures. However, future development allowed under the CEIG could potentially create risks to life or property if developing on locations in the Plan Area with unsuitable features.

Potentially unsuitable features such as undocumented abandoned wells, filled pits or swamps, buried mounds, tank vaults, unmarked sewer lines, unknown fill soils, or landfills for which there are no approved closures and post-closure plans would be revealed by the soil and geotechnical investigations required by SCA 58, Soils

Report; and SCA 60, Geotechnical Report. Compliance with the SCAs would reveal potentially unsuitable features and mitigate related impacts to a less-than-significant level.

6. 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? (NI)

Sewer mains are used in the Plan Area for current land uses for wastewater disposal and are anticipated for continued long-term use. No impact is anticipated.

Should future development under the CEIG propose alternate wastewater disposal systems, or septic tanks, the soil capacity for supporting these systems would be revealed by the soil and geotechnical investigations required by SCA 58, Soils Report; and SCA 60, Geotechnical Report. Compliance with the SCAs would identify potential soil capacity issues and mitigate related impacts to a less-than-significant level.

4.5.6 HAZARDS AND HAZARDOUS MATERIALS

Findings of the Oakland Estuary Policy Plan (EPP) EIR

The general risks associated with hazards and hazardous materials associated with development under the Estuary Policy Plan were evaluated under the subsection "Hazardous Materials" in the previously adopted environmental document. Potential sources of hazardous materials within the Plan Area include sites with historic or existing use of hazardous materials, as well as potential and confirmed hazardous material release sites. The proximity of housing to these sources could increase the potential for public exposure to hazardous substances through accidental release. In addition, there is a potential to encounter hazardous substances in building materials and building materials during excavation, grading, or demolition activities associated with future development.

The EPP EIR found less-than-significant impacts related to these types of risks due to the existing General Plan policies, proposed policies in the EPP, and legal requirements established by the Regional Water Quality Control Board (RWQCB), Department of Toxic Substances and Control (DTSC), and Occupational Safety and Health Administration (OSHA).

The general hazardous risks identified in the EPP EIR have not changed since the publication of the previous environmental document. However, because of the time that has transpired, the city has compiled updated information regarding existing hazards specific to the Plan Area's past and present land uses. This Supplemental EIR presents the following updated analysis based on Environmental Site Assessments (ESAs) conducted for the Plan Area in 2009. (See **Appendix C**)

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study determined that impacts associated with hazardous materials transport, use and disposal would be less-than-significant and compliance with the Municipal Code would further reduce impacts. Compliance with the City's SCAs, and General Plan Policies, as well as Chapter 8.42 of the Municipal Code would ensure that hazardous building materials and/or contaminated soils and/or groundwater would be properly identified, handled, removed, and/or remediated. Compliance with SCA 67, Health and Safety Plan per Assessment, would protect the health and safety of construction workers on sites where hazardous materials have been identified. Compliance with SCA 67 would not only protect workers on the site, but would also mitigate impacts beyond the site, including potential impacts to sensitive receptors at nearby schools. Compliance with SCA 35, Hazards Best Management Practices, would reduce the risk of construction-related soil and groundwater contamination. As a result, the risk of an upset or accident resulting in the release of hazardous materials during demolition or construction would be less than significant.

Existing Conditions

Existing Hazardous Material Contamination

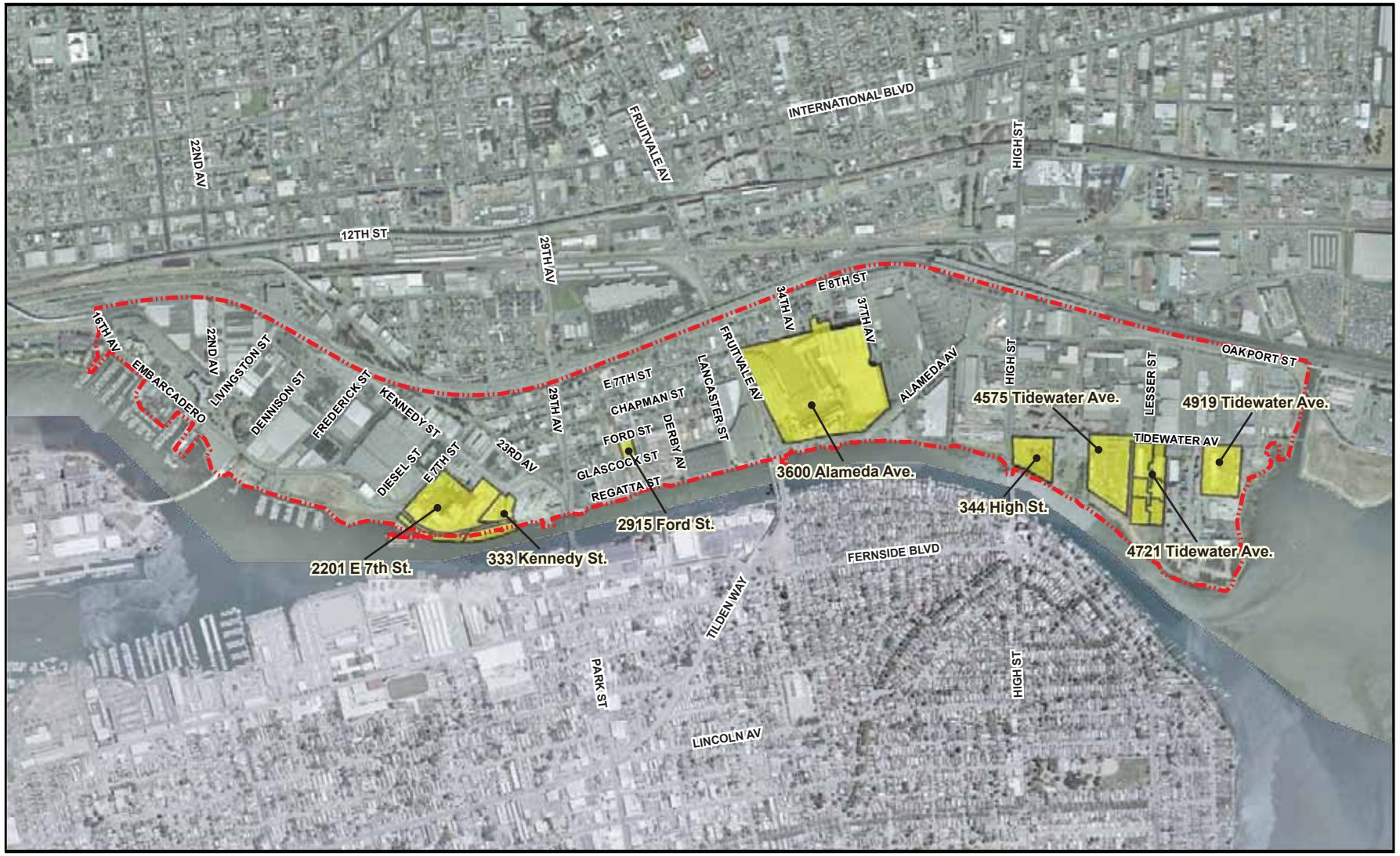
A Phase I ESA was conducted for the Plan Area in November 2009 (included as **Appendix C**) to determine the level of hazardous material risks associated with existing and past land uses. The Phase I ESA identified 24 properties of high to moderate concern with regards to hazardous material risks. The particular area of highest risk is within the eastern portion of the Plan Area, where two properties of concern and a former lumber yard site are located. It is likely that this area has been contaminated with hazardous materials, such as motor-oil, volatile organic compounds, and other solvents.

A limited Phase II ESA was conducted in November 2009 at six selected properties in the Plan Area to evaluate the existing subsurface soils and shallow groundwater in the area. **Table 4.5-1** and **Figure 4.5-3** identify the locations of the subsurface investigations. Most of the areas that were investigated exhibit moderate levels of petroleum constituents (gasoline and diesel) in the soils and groundwater. Elevated concentrations of other metals and chlorinated solvents were also found in the groundwater beneath the Plan Area.

Table 4.5-1 Phase II Soil and Groundwater Testing Results at Selected Properties

Property Location	Soil Results	Groundwater Results
2201 East 7th Street	TPH concentration exceeding respective ESLs, highest concentration being diesel and motor oil; concentrations of several metals exceeding respective ESLs	Slightly elevated metal concentrations
333 Kennedy Street	--	Gasoline derived hydrocarbons likely related to a former gasoline pump and possibly an associated tank.
2915 Ford Street	Mildly impacted with gasoline derived hydrocarbons and MTBE	Impacted by TPH diesel and motor oil ranges above respective ESLs; and chlorinated solvents cis-1,2-DCE, TCE and vinyl chloride.
344 High Street	Impacted with diesel and motor oil range hydrocarbons and chromium, possibly indicative of a waste oil spill or leak.	Impacted by motor oil range TPH compounds.
4575 Tidewater Avenue	Impacted by diesel and motor oil range TPHs.	No sample available to test.
4703-4723 Tidewater Avenue	Impacted by TPH diesel and motor oil ranges.	Impacted by TPH diesel and motor oil ranges; and mildly impacted by metals.

Source: Ninyo and Moore, 2009.



Legend

- Plan Area
- Subsurface Investigations (2009)

0 250 1000 1500
FEET

Subsurface Investigations

Figure 4.5-3

Source: Ninyo & Moore, 2009.

Analysis of Potential Impacts

Would the project:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (LTS)

Existing and future commercial or industrial development projects consistent with the CEIG would regularly transport, use, or dispose of hazardous materials; and hazardous materials could be accidently released into the environment during these activities. However, individual development projects would be required to comply with all hazardous materials regulations, which are codified in Title 8 of the California Code of Regulations (CCR), and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code to reduce the risk to human health and to the environment from the routine use of potentially hazardous substances. These regulations must be implemented by employers/businesses, as appropriate for any construction project, and are monitored by the state (e.g., Cal/OSHA in the workplace or DTSC for hazardous waste) and/or local jurisdictions (e.g., the Oakland Fire Services Agency and the Alameda County Health Care Services Agency, Environmental Health Department).

Prior to the issuance of approvals from the city, each project would also be subject to policies of the LUTE and the Safety Element of the General Plan. Policies with regard to the proximity of sensitive receptors to land uses that could accidentally release hazardous materials into the environment are described below.

Safety Element

Policy HM-1: Minimize the potential risks to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials.

Policy HM-3: Seek to prevent industrial and transportation accidents involving hazardous materials, and enhance the city's capacity to respond to such incidents.

LUTE

Policy I/C4.2: *Minimizing Nuisances.* The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through appropriate siting and efficient implementation and enforcement of environmental and development controls.

Development within the Plan Area would also be subject to the following titles of the Oakland Municipal Code:

Municipal Code

Chapter 8.12 *Hazardous Materials*

This chapter explains how the City of Oakland assumes the authority and responsibility for the implementation of Chapter 6.95 of the California Health and Safety Code (Health and Safety Code Section 25500 et seq.), as to the handling of the hazardous materials in the city. Pursuant to Section 25502 of Chapter 6.95, the city shall have exclusive jurisdiction within its boundaries for the purposes of carrying out Chapter 6.95.

Standard Conditions of Approval

SCA 74: Hazardous Materials Business Plan.
Timing: Prior to issuance of a business license.

The project applicant shall submit a Hazardous Materials Business Plan for review and approval by Fire Prevention Bureau, Hazardous Materials Unit. Once approved this plan shall be kept on file with the City and will be updated as applicable. The purpose of the Hazardous Materials Business Plan is to ensure that employees are adequately trained to handle the materials and provides information to the Fire Services Division should emergency response be required. The Hazardous Materials Business Plan shall include the following:

a) The types of hazardous materials or chemicals stored and/or used on site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.

b) The location of such hazardous materials.

c) An emergency response plan including employee training information

d) A plan that describes the manner in which these materials are handled, transported and disposed.

Compliance with federal and state regulations, General Plan policies, Chapter 8.12 and 17.100A of the Municipal Code, and SCA 74, Hazardous Materials Business Plan, would ensure that existing and future commercial and industrial land uses within the Plan Area implemented standard safety provisions for the use, transport or disposal of hazmats, such that related risks would be LTS. No mitigation is required.

2. 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? (LTS)

Future development consistent with the CEIG may occur on properties that contain sediments and soils contaminated with hazardous materials. Improper handling of contaminated soil and/or groundwater could result in inadvertent release into the environment, which would have an adverse health impacts for those who come into contact with the hazardous materials.

In addition, future development projects within the Plan Area that include the demolition of existing buildings known or suspected to contain hazardous building materials such as asbestos, lead-based paint and/or PCBs could expose construction workers to harmful contaminants.

Prior to the issuance of approvals from the city, each project would be subject to CEQA review, as well as to the SCAs, and General Plan policies. Policies and conditions with regard to health risks during construction activities are described below.

OSCAR

Policy CO-1.2: *Soil Contamination Hazards.* Minimize hazards associated with soil contamination through appropriate storage and disposal of toxic substances, monitoring of dredging activities, and cleanup 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.

LUTE

Policy I/C2.1: Pursuing Environmental Clean-Up: The environmental cleanup of contaminated industrial properties should be actively pursued to attract new users in targeted industrial and commercial areas.

Policy I/C.3: Ensure that Oakland is adequately served by a wide variety of commercial uses, appropriately sited to provide for competitive retail merchandising and diversified office uses, as well as personal and professional services.

Standard Conditions of Approval

To the extent that any development would involve the demolition of existing structures and/or be located on properties that could contain asbestos, SCA 41, Asbestos Removal in Structures; and SCA 42, Asbestos Removal in Soil would apply.

SCA 41: Asbestos Removal in Structures.
Timing: Prior to issuance of a demolition permit.

If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, The project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and BAAQMD Regulation 11, Rule 2, as may be amended.

SCA 42: Asbestos Removal in Soil.
Timing: Prior to issuance of a demolition, grading, or building permit.

To minimize the release of naturally occurring asbestos in the soil during construction, the project applicant shall require the construction contractor to demonstrate compliance with Bay Area Air Quality Management District's (BAAQMD) Asbestos Airborne Toxic Control Measures for Construction, Grading, Quarrying and Surface Mining Operations (implementing CCR section 93105) for activities that disturb the soil, such as grading, etc.

A. Minimum Requirements where area to be disturbed with Construction Grading Operations is 1 acre or less

Administrative Requirements

a) No notification is required to the BAAQMD office; unless

b) Upon discovery of naturally occurring asbestos, serpentine, or ultramafic rock the project applicant must notify the BAAQMD's Air Pollution Control Officer (APCO) by the next business day.

Dust Control Requirements

a) Vehicle speed shall be ≤ 15 mph

b) Sufficient water shall be applied to the area prior to disturbance to prevent visible emissions from crossing project boundaries.

c) Areas to be graded or excavated shall be kept adequately wetted to prevent visible emissions from crossing project boundaries.

d) Storage piles kept shall be adequately wetted, treated with dust suppressant, or covered when the material is not being added or removed.

e) Equipment must be washed down before moving from the property onto the paved roadway.

f) Visible track-out on paved public road must be cleaned using wet sweeping or High Efficiency Particulate Air (HEPA) filter equipped vacuum device within 24 hours.

g) Implement the preceding dust control measures within 24 hours upon discovery of naturally occurring asbestos, serpentine, or ultramafic rock.

B. Minimum Requirements where area to be disturbed with Construction Operations is More than 1 acre

Administrative (Prior to the start of work)

a) Asbestos Dust Minimization Plan shall be submitted to BAAQMD and approved prior to engaging in the any construction or grading operation.

b) The Asbestos Dust Minimization Plan provisions shall be implemented at the beginning and maintained throughout the duration of the construction or grading activity.

Dust Control Requirements

The Asbestos Dust Minimization Plan shall include one or more provisions to address the following topics:

a) Control for traffic on on-site unpaved roads, parking lots, and staging areas shall include: limiting vehicle speed to less than 15 mph, and one or more of the following: watering every two hours of active operations or sufficiently often to keep area wetted; applying chemical dust suppressants to consistent with manufacturer's directions; maintaining gravel cover with a silt content less than 5% and asbestos content less than .25% as determined using the asbestos bulk test method; or any other measure as effective as those listed above.

b) Control for earthmoving activities shall include one or more of the following: pre-wetting the ground to the depth of the anticipated cuts; suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line despite applicable of dust measures; application of water prior to any land clearing; or any other measure as effective.

c) Storage piles shall be kept adequately wetted or covered with tarps when the material is not being added or removed.

d) Storage piles must be stabilized when inactive for more than 7 days by implementing one or more of the following: adequately wetting the site, establishing and maintaining surface crusting material, chemical dust suppressant or stabilizer, covering with tarps or vegetative cover, installation of wind barriers of 50% porosity around three sides of the pile areas, or any measure as effective.

e) Equipment must be washed down before moving from the property onto paved roadway.
Track-out prevention and control measures shall include:

   i. Removal of visible track-out on paved public road at any location where vehicles exit the work site using wet sweeping or High Efficiency Particulate Air (HEPA) filter equipped vacuum device at least one time per day.

   ii. Installation of one or more of the following track-out prevention devices: gravel pad, tire shaker, wheel wash system, not less than 50 feet of pavement extending from intersection with paved public road, or other measure as effective.

f) Control for offsite-transport shall include the following: maintenance of trucks such that no spillage can occur from holes or openings in cargo compartments; loads are adequately wetted; and either covered with tarps or loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6” from the top and that at no point of the load extends above the top of the cargo compartment.

g) Post project stabilization of disturbed surfaces shall occur using one or more of the following: establishing vegetative cover; placement of at least 3” of non-asbestos-containing material, paving, or other measure deemed sufficient to prevent 10 mph winds from causing visible emissions.

Administrative (After completion of work)

a) If required by the BAAQMD's APCO, the plan must include an air-monitoring component which shall specify the following: type of air sampling device; siting of the device; sampling of the device; sampling duration and frequency; and analytical method.

b) The plan shall state the frequency with which the information will be reported to BAAQMD.

c) The owner/operator shall keep maintain the following records for at least 7 years following completion of the project: results of any required air monitoring; documentation for any geologic evaluation conducted for the purposes of obtaining an exemption; and results of any bulk sampling conducted by the owner/operator to document applicability done or at the request of APCO.

SCA 61, Site Review by the Fire Services Division; SCA 62, Phase I and/or Phase II Reports; SCA 63, Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment; SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 67, Health and Safety Plan per Assessment; and SCA 68, Best Management Practices for Soil and Groundwater Hazards, would apply to: (a) all development projects that include the redevelopment or reuse of historically industrial or commercial buildings; (b) if the site has been identified in the City records for hazardous materials, such as the Permit Tracking System (PTS), or (c) if the site has been identified on the State Cortese List, which is discussed further under item 5, later in this section. Presence on the State Cortese List precludes use of a Categorical Exemption under CEQA and would trigger the preparation of a project-level Initial Study which could lead to the preparation of either a Mitigated Negative Declaration or an Environmental Impact Report.

SCA 61: Site Review by the Fire Services Division.
Timing: Prior to the issuance of a demolition, grading or building permit.

The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.

SCA 62: Phase I and/or Phase II Reports.
Timing: Prior to the issuance of a demolition, grading or building permit.

Prior to issuance of demolition, grading, or building permits the project applicant shall submit to the Fire Prevention Bureau, Hazardous Materials Unit, a Phase I environmental site assessment report, and a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

SCA 63: Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment.
Timing: Prior to the issuance of demolition, grading or building permit

The project applicant shall submit a comprehensive assessment report to the Fire Prevention Bureau, Hazardous Materials Unit, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACM), lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.

SCA 64: Environmental Site Assessment Reports Remediation.
Timing: Prior to issuance of a demolition, grading, or building permit

If the environmental site assessment reports recommend remedial action, the project applicant shall:

a) Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.

b) Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.

c) Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.

SCA 65: Lead-based Paint Remediation.
Timing: Prior to issuance of a demolition, grading, or building permit

If lead-based paint is present, the project applicant shall submit specifications to the Fire Prevention Bureau, Hazardous Materials Unit signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.

SCA 66: Other Materials Classified as Hazardous Waste.
Timing: Prior to issuance of any demolition, grading or building permit

If other materials classified as hazardous waste by State or federal law are present, the project applicant shall submit written confirmation to Fire Prevention Bureau, Hazardous Materials Unit that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.

SCA 67: Health and Safety Plan per Assessment.
Timing: Prior to the issuance of any demolition, grading or building permit

If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.

SCA 68: Best Management Practices for Soil and Groundwater Hazards.
Timing: Ongoing throughout demolition, grading, and construction activities.

The project applicant shall implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards.

a) Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance

with applicable local, state and federal agencies laws, in particular, the Regional Water Quality Control Board (RWQCB) and/or the Alameda County Department of Environmental Health (ACDEH) and policies of the City of Oakland.

b) Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Oakland, the RWQCB and/or the ACDEH. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building (pursuant to the Standard Condition of Approval regarding Radon or Vapor Intrusion from Soil and Groundwater Sources

c) Prior to issuance of any demolition, grading, or building permit, the applicant shall submit for review and approval by the City of Oakland, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the ACDEH, have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous contamination at the site. The applicant also shall provide evidence from the City's Fire Department, Office of Emergency Services, indicating compliance with the Standard Condition of Approval requiring a Site Review by the Fire Services Division pursuant to City Ordinance No. 12323, and compliance with the Standard Condition of Approval requiring a Phase I and/or Phase II Reports.

SCA-69: Radon or Vapor Intrusion from Soil or Groundwater Sources:
Timing: Ongoing.

The project applicant shall submit documentation to determine whether radon or vapor intrusion from the groundwater and soil is located on-site as part of the Phase I documents. The Phase I analysis shall be submitted to the Fire Prevention Bureau, Hazardous Materials Unit, for review and approval, along with a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. Applicant shall implement the approved recommendations. (Note: The full text of SCA35, Hazards Best Management Practices, is provided in **Section 4.5.5, Geology and Soils**.

Development under the Central Estuary Implementation Guide would also be subject to the following titles of the Oakland Municipal Code.

Compliance with the City of Oakland SCA-41, Asbestos Removal in Structures; SCA 42, Asbestos Removal in Soil; SCA 61, Site Review by the Fire Services Division; SCA 62, Phase I and/or Phase II Reports; SCA 63, Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment; SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 68, Best Management Practices for Soil and Groundwater Hazards; SCA 69, Radon or Vapor Intrusion from Soil or Groundwater Sources, and General Plan Policies CO-1.2, I/C2.1, and I/C.3 would ensure that hazardous building materials and/or contaminated soils and/or groundwater would be properly identified, handled, removed, and/or remediated. SCA 61 through 66, and 69, as listed above, require a site-specific Phase I ESA and/or Phase II ESA for development projects meeting certain criteria. The intention of the Phase I ESA is to identify known or potential contamination issues. When this determination is made, a Phase II ESA is conducted. A Phase II ESA typically includes evaluating soils and/or groundwater samples for potential contamination. A Phase II can also include inspecting existing structures to identify hazardous building components. A Phase II typically includes recommendations for remediation and/or safe handling of identified contaminants. Hazards to construction workers and the general public during demolition and construction shall be prevented by the preparation and implementation of site-specific health and safety plans, as recommended by the Occupational Health and Safety Administration, per SCA-67, Health and Safety Plan per Assessment. Compliance with SCA-35, Hazards Best Management Practices, would reduce the risk of construction-related soil and groundwater contamination. As a result, the risk of an upset or accident resulting in the release of hazardous materials during demolition or construction would be less than significant. No mitigation would be required.

3. Create a significant hazard to the public through the storage or use of acutely hazardous materials near sensitive receptors?[12] (LTS)

Refer to the discussion under item 1 above. Compliance with General Plan Policies HM-1, HM-3, I/C4.2, N5.1, W1.2, and W6.2, along with Chapter 8.12 and 17.100A of the Municipal Code, would reduce impacts associated with the handling and/or

[12] Per the BAAQMD CEQA Guidelines, evaluate whether the project would result in persons being within the Emergency Response Planning Guidelines (ERPG) exposure level 2 for acutely hazardous air emissions either by siting a new source or a new sensitive receptor. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.

storage of hazardous materials to a less-than-significant level, and restrict incompatible development with regard to the proximity of sensitive receptors to land uses that could accidentally release hazardous materials into the environment. No mitigation is required.

4. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (LTS)

Refer to the discussion under item 1 above. The only school within the Plan Area is Beacon Day School, located at 2101 Livingston Street; several other schools are adjacent to the Plan Area limits. . Compliance with General Plan Policies I/C4.2, N5.1, W1.2, and W6.2 would protect the existing schools within the Plan Area from new sources of hazardous material emitters and/or handlers, reducing potential impacts to a less-than-significant level. No mitigation is required.

5. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (i.e., the "Cortese List") and, as a result, would create a significant hazard to the public or the environment? (LTS)

As discussed under item 2 above, SCA 61, Site Review by the Fire Services Division; SCA 62, Phase I and/or Phase II Reports; SCA 63, Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment; SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 68, Best Management Practices for Soil and Groundwater Hazards; SCA 69, Radon or Vapor Intrusion from Soil or Groundwater Sources, require a Phase I and/or Phase II ESA(s) for development projects meeting certain criteria. A Phase I ESA prepared for a project site typically lists current and past operations, reviews environmental agency databases (including the State Cortese List) records, identifies site reconnaissance observations, and summarizes potential contamination issues.[13] If the Phase I ESA identifies known or potential contamination issues, including presence on the

[13] The Cortese database identifies groundwater monitoring wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks having a reportable release, and all solid waste disposal facilities from which there is known migration.

Cortese list, a Phase II ESA is conducted. A Phase II ESA typically includes collecting soils and/or groundwater samples at the project site and transmitting the samples to a laboratory for analysis.

Therefore, in the event that a development application for a project under the CEIG does not already include a Phase I ESA, one will be required through the permit application process. The Phase I ESA will identify whether or not the site is on the State Cortese List.

Presence on the State Cortese List precludes use of a Categorical Exemption under CEQA and may trigger the preparation of a project- level Initial Study which could lead to the preparation of either a Mitigated Negative Declaration or an Environmental Impact Report. Presence on the Cortese list does not preclude development on the site; it just requires adequate CEQA review to determine whether development of the site would result a significant hazard to the public or the environment.

The City of Oakland's SCA 61, Site Review by the Fire Services Division; SCA 62, Phase I and/or Phase II Reports; SCA 63, Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment; SCA 64, Environmental Site Assessment Reports Remediation; SCA 65, Lead-based Paint Remediation; SCA 66, Other Materials Classified as Hazardous Waste; SCA 68, Best Management Practices for Soil and Groundwater Hazards; SCA 69, Radon or Vapor Intrusion from Soil or Groundwater Sources, tie the Phase I and Phase II requirements to the permit application process, as described above. SCA-67, Health and Safety Plan per Assessment, requires a Health and Safety Plan to protect construction workers per the Phase I or II recommendations. SCA-68, Best Management Practices for Soil and Groundwater Hazards; promulgates Best Management Practices (BMPs) for handling contaminated soils and groundwater. Implementation of these SCAs would reduce potential risks associated with new development located on sites documented in the Cortese list to a LTS level. No mitigation is required.

6. Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions? (LTS)

The project would not result in any physical changes to the existing roadway configuration in the Plan Area. Should future development projects result in changes to the roadway network, subsequent environmental review would be

required address potential impacts related to emergency access routes. The following SCA-4, Conformance with other Requirements, would require the appropriate design review process to ensure that emergency access routes are maintained and/or created with the appropriate lengths, widths, turning radii, etc.

SCA 4: Conformance with other Requirements.
Timing: Prior to issuance of a demolition, grading, P-job, or other construction related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval 3.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

As part of the design review process, the Oakland Fire Department would review all applications for new development in order to ensure that adequate emergency access was provided. This process, as required by SCA 4, Conformance with other Requirements, would reduce potential impacts to a less-than-significant level. No mitigation is required.

7. **Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a significant safety hazard for people residing or working in the project area? (NI)**

   and

8. **Be located within the vicinity of a private airstrip, and would result in a significant safety hazard for people residing or working in the project area? (NI)**

Oakland International Airport is the nearest airport to the Plan Area, located approximately 1.75 miles southeast (beyond San Leandro Bay). However, no portion of the Plan Area falls within the airport land use master plan.[14] No other public or private airstrips are located in the project vicinity. There are no impacts with respect to safety and proximity to the airports/airstrips.

9. Fundamentally impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (LTS)

The project would not affect an emergency response and/or evacuation plan. See response to item 6 above. Implementation of the standard design review process would reduce impacts to less-than-significant level. No mitigation is required.

10. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (NI)

The project is located in an urbanized area and not adjacent to any wildland areas. Future development projects within the guide area would not be susceptible to wildland fires. No impacts related to wildland fires would occur.

4.5.7 HYDROLOGY AND WATER QUALITY

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Hydrology and water quality impacts associated with development under the Estuary Policy Plan were evaluated under the subsection "Hydrology and Water Quality" in the previously adopted environmental document. The EPP EIR identified less-than-significant impacts associated with water quality, specifically impacts resulting from construction-activities, intensification of land uses, and stormwater runoff, due to existing policies in the LUTE and applicable SCAs.

Implementation of the land use designations and zoning amendments proposed as part of the project would not result in development patterns substantially different from what was previously evaluated in the EPP EIR. As such, the project is not anticipated to increase impacts on hydrology and water quality beyond what was

[14] Oakland International Airport Master Plan. 2006
http://www.flyoakland.com/masterplan_oak/support_documents.shtml

evaluated in the previous environmental documents. However, this Supplemental EIR presents an updated analysis based on the updated information regarding the existing conditions for the Plan Area.

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study determined that compliance with General Plan policies, the Municipal Code, and the City's SCAs would ensure that development under the Housing Element would not result in significant impacts as a result of runoff/erosion, groundwater depletion, and/or flooding/hazards. Thus, the development of identified opportunity sites in the Housing Element Initial Study would have a less-than-significant impact regarding hydrology and water quality.

Existing Conditions

The quality of water resources within the city has been and continues to be affected by the diverse range of urban uses, from industrial uses to recreation. Pollutant sources include both point and nonpoint sources. Point source pollutants are pollutants discharged at a discrete location, such as a pipe. These sources are primarily municipal and industrial discharges, and are regulated by federal and State laws under the National Pollutant Discharge Elimination System (NPDES) and Porter Cologne Water Quality Act to protect the quality of receiving waters. Non-point source pollutants are diffuse sources of pollutants that are discharged over a large area, such as sheet flow runoff from a large field, and are not regulated under the NPDES program. Although stormwater runoff is a diffuse source of pollutants, because it is conveyed within a storm drainage system and discharged at discrete locations, stormwater runoff is regulated as a point-source discharge.[15]

The City of Oakland has an extensive natural drainage system consisting of creeks and tributaries which collect and convey stormwater from the hills out into the Bay. Some of the creeks near the Bay are tidally-influenced which likely results in a mixture of fresh and salt-water forming an estuarial habitat. These creeks may also support sensitive wetland species dependent on estuarial habitat (see **Section 4.5.3, Biological Resources** for a further discussion of sensitive wildlife and plant species within the Plan Area). Contaminated run-off from the existing watersheds draining

[15] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study

into Oakland Estuary, including the Plan Area, has resulted in the Oakland Estuary being listed as an impaired water body in the 2006 303(d) list prepared by the State Water Resources Control Board. Sausal Creek and Damon Slough were recently added to the list of impaired water bodies due to the amount of debris/trash present in the waterways.[16]

Analysis of Potential Impacts

Would the project:

1. Violate any water quality standards or waste discharge requirements? (LTS)

The project would allow for the development and redevelopment of intensified residential, commercial/office, mixed, and park/open spaces uses in addition to the historical industrial uses in the Plan Area. However, this new development, predominantly within urban infill sites, is not expected to substantially increase impervious area within the Plan Area, and so stormwater flow into the stormwater systems should not substantially increase.

Future development within the Plan Area would be required to comply with the applicable NPDES permits, which also serve as Waste Discharge Requirements (WDRs), including the Municipal NPDES permit for stormwater discharges; the Construction General Permit for construction activities with land disturbance of more than one acre; and the Industrial General Permit WDR. Compliance with waste discharge requirements would be evaluated on a case-by-case basis as development projects are reviewed. The city's standard review process would ensure that no development would conflict with any water quality standards or waste discharge requirements. No impacts would occur.

2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted)? (LTS)

[16] Arup, 2009. Personal communication with Circlepoint regarding existing conditions report.

The Plan Area is already developed in an urban setting, that generally consists of impervious surfaces (structures and paved ground). The project would allow for redevelopment and infill in accordance with the land use designations and zoning amendments proposed as part of the CEIG. As the Plan Area is already developed, potential project impacts to groundwater supplies and groundwater recharge would not be expected. Further, water for future projects would be supplied by EBMUD, and not drawn from local groundwater sources (see **Section 4.5.13, Utilities and Service Systems**).

Along the Plan Area waterfront, the project proposes to formalize the existing park and open space designations in the West and East Planning Areas. Formalization of these parks and open space areas would help ensure that these areas remain largely undeveloped, which would promote infiltration and recharge of groundwater. This would be a beneficial impact. Therefore, impacts on groundwater supplies and groundwater recharge are less-than-significant. No mitigation is required.

3. Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters? (LTS)

Construction-related Water Quality Impacts

Implementation of the land use designations and zoning amendments proposed as part of the project could involve extensive construction activities associated with development and redevelopment of the Plan Area. Construction, including excavation and earth-moving activities, may expose underlying soils to wind and water erosion leading to sedimentation and impacting the water quality of receiving waters. Further, due to the extensive history and use of hazardous substances in the Plan Area, it is possible that ground-disturbing activities associated with construction may expose contaminated soils or groundwater and result in the potential to spread the contaminants to surface waters.

However, prior to the issuance of approvals from the City of Oakland, future projects would be subject to CEQA review, as well as the Construction General Permit, requirements of the City's Municipal Code, and SCAs. Construction activities that would cumulatively disturb one or more acres of land surfaces would be subject to the requirements of the Construction General Permit, including development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include construction stormwater quality best management practices (BMPs) designed to protect water resources and water quality from construction activity degradation.

In addition to the requirements of the Construction General Permit, the following Municipal Code requirements and SCAs would address potential construction-related water quality impacts in the Plan Area.

Municipal Code

Chapter 13.16: *City of Oakland Creek Protection, Stormwater Management, and Discharge Control.* The stormwater management and discharge control ordinance establishes comprehensive guidelines for the regulation of discharge into the city's storm drain system and provides provisions to manage and safeguard creeks. It includes permitting guidelines for construction near creeks within the City of Oakland.

Ordinance No. 10312: *Grading Ordinance.* 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 for approval.

Ordinance No. 10446: *Sedimentation and Erosion Control Ordinance.* 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.

Standard Conditions of Approvals

SCA 24: Construction Management Plan.
Timing: Prior to issuance of a demolition, grading, or building permit.

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

SCA 34: Erosion and Sedimentation Control (when no grading permit is required).
Timing: Ongoing throughout demolition grading, and/or construction activities.

The project applicant shall implement BMPs to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating the BMPs shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division. At a minimum, the project applicant shall provide filter materials deemed acceptable to the city at nearby catch basins to prevent any debris and dirt from flowing into the city's storm drain system and creeks.

SCA 35: Hazards Best Management Practices.
Timing: Prior to commencement of demolition, grading, or construction.

The project applicant and construction contractor shall ensure that construction of Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;

b) Avoid overtopping construction equipment fuel gas tanks;

c) During routine maintenance of construction equipment, properly contain and remove grease and oils;

d) Properly dispose of discarded containers of fuels and other chemicals.

e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.

f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area

shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

The following SCA applies to all projects that require a grading permit, except for projects that involve construction on slopes that exceed 20 percent.

SCA 55: Erosion and Sedimentation Control Plan.
Timing: Prior to any grading activities

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

b) Timing: Ongoing throughout grading and construction activities. The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

SCA 77: Erosion, Sedimentation, and Debris Control Measures.
Timing: Prior to issuance of demolition, grading, or construction-related permit.

The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable BMPs for the construction industry, and as outlined in the Alameda Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

a) On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the street, gutters, stormdrains.

b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.

d) Install filter materials acceptable to the Engineering Division at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the city storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

e) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.

f) Direct and locate tool and equipment cleaning so that wash water does not discharge into the street, gutters, or stormdrains.

g) Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on

the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

h) Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

i) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

j) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the street, gutter, and stormdrains.

k) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

l) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The city may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

The following SCA applies to all projects that disturb one acre or more of surface area.

SCA 75: Stormwater Pollution Prevention Plan (SWPPP).
Timing: Prior to and ongoing throughout demolition, grading, and/or construction activities.

The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB). The project applicant must file a notice of intent (NOI) with the SWRCB. The project applicant will be required to prepare

a SWPPP and submit the plan for review and approval by the Building Services Division. 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; a list of provisions to eliminate or reduce discharge of materials to stormwater; BMPs, and an inspection and monitoring program. Prior to the issuance of any construction-related permits, the project applicant shall submit to the Building Services Division a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP shall start with the commencement of construction and continue through the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.

The following SCAs apply to all projects that involve a Creek Protection Permit. SCA 85, Creek Monitoring, applies to projects that involve a Category III and IV Creek Protection Permit.

SCA 82: Erosion, Sedimentation, and Debris Control Measures.
Timing: Prior to issuance of demolition, grading, or construction-related permit.

The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable BMPs for the construction industry, and as outlined in the Alameda Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

a) On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek.

b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.

d) All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.

e) Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the Engineering Division at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the city storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

f) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.

g) Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek.

h) Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

i) Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

j) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

k) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, and stormdrains.

l) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

m) Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construction without prior approval of Planning and Zoning.

n) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The city may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

SCA 85: Creek Monitoring.
Timing: Prior to issuance of a demolition, grading, or building permit within vicinity of the creek.

A qualified geotechnical engineer and/or environmental consultant shall be retained and paid for by the project applicant to make site visits during all grading activities; and as a follow-up, submit to the Building Services Division a letter certifying that the erosion and sedimentation control measures set forth in the Creek Protection Permit submittal material have been instituted during the grading activities.

Long-term Water Quality Impacts

The proposed project would result in a long-term increase in waterfront and water-oriented uses, which could in turn result in water quality impacts to surface waters. Further, the intensification of residential, commercial, mixed, and open space land uses in the Plan Area would be expected to contribute various pollutants to the stormwater runoff, including fuel leaks and wear from vehicles, sediments, building washdown and cleaning liquids, pesticides and fertilizers in landscaped area, and atmospherics deposition of pollutants.

However, new development would be required to comply with existing stormwater runoff controls so that no significant changes in stormwater runoff would be expected with implementation of the project. Compliance with the required measures for stormwater runoff control under the Countywide NPDES permit and the following adopted policies in the LUTE, OSCAR, and SCAs would minimize potential water quality impacts to the Estuary and receiving waters from stormwater runoff.

LUTE

Policy CO-5.3: Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, improper disposal of household hazardous wastes, illicit dumping, and marina "liveaboards;" and (c) improve water quality in Lake Merritt to enhance the lake's aesthetic, recreational and ecological functions.

OSCAR

Policy W-3.1: 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 Open Space, Conservation, and Recreation Element of the City's General Plan.

Municipal Code

Chapter 13.16: *City of Oakland Creek Protection, Storm Water Management, and Discharge Control Ordinance.* The storm water management and discharge control ordinance was adopted in 1997 to provide stronger provisions to manage and safeguard creeks. It includes permitting guidelines for construction near creeks within the City of Oakland. According to the ordinance, a creek is defined as a watercourse that is a naturally occurring swale or depression, or engineered channel, which carries fresh or estuarine water either seasonally or year round within city boundaries. Creeks are capable of supporting riparian, wetland and other aquatic habitats within and along the banks of the channels.

Standard Conditions of Approvals

The following SCA applies to all projects that involve new development on slopes that exceed 20 percent.

SCA 76: Drainage Plan for Projects on Slopes Greater than 20%.
Timing: Prior to issuance of building permit (or other construction-related permit)

The project drawings submitted for a building permit (or other construction-related permit) shall contain a drainage plan to be reviewed and approved by the Building Services Division. The drainage plan shall include measures to reduce the post-construction volume and velocity of stormwater runoff to the maximum extent practicable. Stormwater runoff shall not be augmented to adjacent properties or creeks. The drainage plan shall include and identify the following:

i. All proposed impervious surface on the site;

ii. Anticipated directional flows of on-site stormwater runoff;

iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces;

iv. Source control measures to limit the potential for stormwater pollution; and

v. Stormwater treatment measures to remove pollutants from stormwater runoff.

The following SCAs apply to all projects that create or replace less than 10,000 square feet of impervious surfaces or involve the construction of one single-family home.

SCA 78: Site Design Measures for Post-Construction Stormwater Management.
Timing: Prior to issuance of building permit (or other construction-related permit)

The project drawings submitted for a building permit (or other construction-related permit) shall contain a final site plan to be reviewed and approved by Planning and Zoning. The final site plan shall incorporate appropriate site design measures to manage stormwater runoff and minimize impacts to water quality after the construction of the project. These measures may include, but are not limited to, the following:

i. Minimize impervious surfaces, especially directly connected impervious surfaces;

ii. Utilize permeable paving in place of impervious paving where appropriate;

iii. Cluster buildings;

iv. Preserve quality open space; and

v. Establish vegetated buffer areas.

Timing: Ongoing, the approved plan shall be implemented and the site design measures shown on the plan shall be permanently maintained.

SCA 79: Source Control Measures to Limit Stormwater Pollution.
Timing: Prior to issuance of building permit (or other construction-related permit)

The applicant shall implement and maintain all structural source control measures imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution. Ongoing: The applicant, or his or her successor, shall implement all operational BMPs imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution.

The following SCAs apply to all projects that create or replace one acre or more of impervious surfaces.

SCA 80: Post-Construction Stormwater Management Plan.
Timing: Prior to issuance of building permit (or other construction-related permit)

The applicant shall comply with the requirements of Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Alameda Countywide Clean Water Program. The applicant shall submit with the application for a building permit (or other construction-related permit) a completed Construction-Permit-Phase Stormwater Supplemental Form to the Building Services Division. The project drawings submitted for the building permit (or other construction-related permit) shall contain a stormwater management plan, for review and approval by the city, to manage stormwater run-off and to limit the discharge of pollutants in stormwater after construction of the project to the maximum extent practicable.

a) The post-construction stormwater management plan shall include and identify the following:
    i. All proposed impervious surface on the site;
    ii. Anticipated directional flows of on-site stormwater runoff; and
    iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and
    iv. Source control measures to limit the potential for stormwater pollution;
    v. Stormwater treatment measures to remove pollutants from stormwater runoff; and

vi. Hydromodification management measures so that post-project stormwater runoff does not exceed the flow and duration of pre-project runoff, if required under the NPDES permit.

b) The following additional information shall be submitted with the post-construction stormwater management plan:

i. Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and

ii. Pollutant removal information demonstrating that any proposed manufactured/mechanical (i.e. non-landscape-based) stormwater treatment measure, when not used in combination with a landscape-based treatment measure, is capable or removing the range of pollutants typically removed by landscape-based treatment measures and/or the range of pollutants expected to be generated by the project.

All proposed stormwater treatment measures shall incorporate appropriate planting materials for stormwater treatment (for landscape-based treatment measures) and shall be designed with considerations for vector/mosquito control. Proposed planting materials for all proposed landscape-based stormwater treatment measures shall be included on the landscape and irrigation plan for the project. The applicant is not required to include on-site stormwater treatment measures in the post-construction stormwater management plan if he or she secures approval from Planning and Zoning of a proposal that demonstrates compliance with the requirements of the City's Alternative Compliance Program.

Prior to final permit inspection: The applicant shall implement the approved stormwater management plan.

SCA 81: Maintenance Agreement for Stormwater Treatment Measures.
Timing: Prior to final zoning inspection.

For projects incorporating stormwater treatment measures, the applicant shall enter into the "Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement," in accordance with Provision C.3.e of the NPDES permit, which provides, in part, for the following:

i. The applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and

ii. Legal access to the on-site stormwater treatment measures for representatives of the city, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The agreement shall be recorded at the County Recorder's Office at the applicant's expense.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to address water quality treatment in the Plan Area by integrating bio-retention and filtration facilities into future development within the Plan Area. The following guidelines would minimize pollutant runoff in the Plan Area:

Stormwater Management

- Integrate urban stormwater management facilities into project to minimize pollutant runoff while creating attractive landscape features that add to the aesthetic environment of the Central Estuary to fulfill the EPA's National Pollutant Discharge Elimination System (NPDES) requirements for stormwater management. The main objectives of stormwater management facilities are to hold water, convey and slow its movement, remove sediments and impurities, and allow it to infiltrate.
- Incorporate bio-retention facilities in projects and particularly in communal open spaces where they can provide habitat an aesthetic value.
- Incorporate bio-filtration facilities into surface parking lots and other large, paved circulation, service and storage areas.
- Review the potential to incorporate infiltration capacity into the design of street tree trenches.
- Ensure that infiltration facilities are protected from accumulating sediment and debris, and compaction during construction, as they can severely impair the effectiveness of the infiltration facility.

SCA 76, Drainage Plan for Projects on Slopes Greater than 20%; SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution, and SCA 80, Post-Construction Stormwater Management Plan, would require projects to prepare a drainage plan and post-construction stormwater management plan incorporating site design and source control measures to limit stormwater pollution. SCA 81, Maintenance Agreement for Stormwater Treatment Measures, would ensure that projects enter into a

maintenance agreement for stormwater treatment to ensure that stormwater control measures are being implemented. Policy CO-5.3, W-3.1, and the applicable CEIG require projects to employ water quality treatment strategies and designs to minimize pollutant runoff in the Plan Area.

Given these requirements, potential construction- and operation-related water quality impacts would be mitigated on a site-by-site basis. Compliance with these conditions would avoid any potential adverse effects from construction-related water quality impacts as a result of future development in the Plan Area. No mitigation is required.

Compliance with these conditions and guidelines would avoid any potential adverse effects from long-term water quality impacts as a result of future development in the Plan Area. No mitigation is required.

Implementation of Oakland's Grading Ordinance and Sedimentation and Erosion Control Ordinance would ensure that construction permits for future development under the CEIG included provisions that control potential erosion and sedimentation issues likely to affect water quality. Similarly new development would be required to comply with the SCA 24, Construction Management Plan; SCA 34, Erosion and Sedimentation Control (When no grading permit is required); SCA 55, Erosion and Sedimentation Control Plan; SCA 77, Erosion, Sedimentation, and Debris Control Measures; SCA 82, Erosion, Sedimentation, and Debris Control Measures; and SCA 85, Creek Monitoring, which require the completion of erosion and sedimentation control plans and measures, when appropriate. For construction projects that would disturb more than one acre, the preparation and implementation of a SWPPP would be required in conformance with the NPDES General Construction Permit. Adherence to the established erosion and sedimentation control measures would reduce potential water quality impacts from construction activities to a less-than-significant level. No mitigation is required.

Oakland Municipal Code (Chapter 13.16), General Plan policies from the LUTE and OSCAR Element, and SCA 76, Drainage Plan for Projects on Slopes Greater than 20%; SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction Stormwater Management Plan; and SCA 81, Maintenance Agreement for Stormwater Treatment Measures, would require new development to establish operational stormwater treatment measures that protect water quality after construction is complete. Adherence to these operational measures would reduce

long-term water quality impacts to a less-than-significant level. No mitigation is required.

4. Result in substantial flooding on- or off-site? (LTS)

and

5. Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems? (LTS)

Implementation of the land use designations and zoning amendments proposed as part of the project would allow for restructuring land uses within the Plan Area, modifying allowable land use types and intensities. These changes would by and large consist of redevelopment or infill within an existing urban area. Overall, changes in runoff patterns of volumes would likely be negligible in areas currently developed and paved. Since the Plan Area is already developed, the changes in runoff pattern, volume and quantity would be negligible and would not exceed the capacity of the stormwater drainage system or cause flooding on- or off-site (refer to **Section 4.5.12, Utilities and Service Systems**).

Prior to the issuance of approvals for the City of Oakland, future projects would be subject to CEQA review, as well as to the City's SCAs. New development would be required to comply with existing runoff controls so that no significant changes in stormwater flow runoff would be expected. Compliance with the following SCAs would address potential runoff impacts in the Plan Area.

Standard Conditions of Approval

The following SCAs apply to all projects that create or replace less than 10,000 square feet of impervious surfaces or involve the construction of one single-family home.

SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; and SCA 80, Post-Construction Stormwater Management Plan (provided above) would require projects to prepare a drainage plan and post-construction stormwater management plan incorporating site design and source control measures to limit excess runoff. SCA 81, Maintenance Agreement for Stormwater Treatment Measures, (provided above) would ensure that projects enter into a maintenance agreement for stormwater treatment to ensure that excess runoff and control measures are being implemented.

"SCAs 83, Creek Protection Plan; SCA 84, Regulatory Permits and Authorizations; SCA 85, Creek Monitoring; and SCA 86, Creek Landscaping Plan, apply to all project that involve a category II and IV creek protection permit".

SCA 83: Creek Protection Plan.
Timing: Prior to and ongoing throughout demolition, grading, and/or construction activities.

a) The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.

b) If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

SCA 86: Creek Landscaping Plan.
Timing: Prior to issuance of a demolition, grading, or building permit within vicinity of the creek.

The project applicant shall develop a final detailed landscaping and irrigation plan for review and approval by the Planning and Zoning Division prepared by a licensed landscape architect or other qualified person. Such a plan shall include a planting schedule, detailing plant types and locations, and a system for temporary irrigation of plantings.

a) Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.

b) All landscaping indicated on the approved landscape plan shall be installed prior to the issuance of a Final inspection of the building permit, unless bonded pursuant to the provisions of Section 17.124.50 of the Oakland Planning Code.

c) All landscaping areas shown on the approved plans shall be maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All paving or impervious surfaces shall occur only on approved areas.

The following SCA apply to projects that involve a new connection to the city's stormwater and sewer system.

SCA 91: Stormwater and Sewer.
Timing: Prior to completing the final design for the project's sewer service.

Confirmation of the capacity of the city's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to reduce stormwater runoff associated with future development within the Plan Area. The following guideline addresses this issue:

Stormwater Management

- Reduction of impervious surfaces is the most direct way to reduce stormwater flows. Concerted efforts to reduce parking and make the impervious surfaces used for service and storage more efficient are equally important.
- The use of permeable paving to reduce surface run-off is encouraged wherever feasible for parking stalls, plazas and courtyards.
- Where possible, drainage should be directed to planting areas to maximize percolation.

Loose pavers such as cobbles should be fixed into position with a ridged edge and should comply with all applicable requirements and standards under the Americans with Disabilities Act (ADA).

SCA 78, Site Design Measures for Post-Construction Stormwater Management; SCA 79, Source Control Measures to Limit Stormwater Pollution; SCA 80, Post-Construction Stormwater Management Plan, SCA 81, Maintenance Agreement for Stormwater Treatment Measures; SCA 86,Creek Landscaping Plan; and SCA 91, Stormwater and Sewer, require projects to incorporate BMPs and source control measures to address excess runoff. SCAs 83, Creek Protection Plan, would require the preparation of a creek protection plan to minimize potential runoff impact to the creek after construction. The applicable CEIG require projects to employ water quality treatment strategies and designs to minimize pollutant runoff in the Plan Area. Compliance with these conditions and guidelines would avoid any potential adverse effects from excessive runoff as a result of future development in the Plan Area. No mitigation is required.

Given these requirements, potential impacts associated excessive runoff from new projects would be mitigated on a site-by-site basis. Compliance with these conditions and guidelines would avoid any potential adverse effects from excessive runoff as a result of future development in the Plan Area. No mitigation is required.

6. **Create or contribute substantial runoff which would be an additional source of polluted runoff? (LTS)**

Refer to Hydrology and Water Quality Threshold 1 discussion.

7. **Otherwise substantially degrade water quality?**

Refer to Hydrology and Water Quality Threshold 3 discussion.

8. **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? (LTS)**

   and

9. **Place within a 100-year flood hazard area structures which would impede or redirect flood flows? (LTS)**

As shown in **Figure 4.5-4**, the Plan Area is generally located within a low to moderate risk area for potential flooding. The majority of the Plan Area is designated Zone X (unshaded) which are areas of minimal flood hazards and above the 500-year flood level. A strip of land in the Central-West Planning Area, between Fruitvale Avenue and Lancaster Street, is designated Zone X (shaded). Zone X (shaded) areas are of moderate flood hazards, between the limits of the 100-year and 500-year flood levels. Both Zone X shaded and unshaded designations are outside the 100-year floodplain.

The Oakland Estuary and several sliver areas along the Plan Area's waterfront are designated Zone AE. Zone AE areas are within the 100-year floodplain. Although unlikely, future development projects may place housing or structures within these waterfront sliver areas mapped within a 100-year floodplain. However, prior to the issuance of approvals from the City of Oakland, each of these projects would be subject to CEQA review and the following City's Municipal Code and SCAs, as appropriate.

Municipal Code

Chapter 15.04.660: *California Building Code Chapter 18B Grading, Excavation, and Fills.* Section 1802B.13 requires that development with a Flood Hazard Area must provide sufficient mitigation to minimize potential risks in order to obtain a Grading Permit.

Standard Conditions of Approvals

SCA 89: Regulatory Permits and Authorizations.
Timing: Prior to issuance of a demolition, grading, or building permit.

Prior to construction within the floodway or floodplain, the project applicant shall obtain all necessary regulatory permits and authorizations from the Alameda County Flood Control and Water Conservation District and shall comply with all conditions issued by that agency.

SCA 90: Structures within a Floodplain.
Timing: Prior to issuance of a demolition, grading, or building permit.

a) The project applicant shall retain the civil engineer of record to ensure that the project's development plans and design contain finished site grades and floor elevations that are elevated above the Base Flood Elevation if established within a 100-year flood event.

b) The project applicant shall submit final hydrological calculations that ensure that the structures will not interfere with the flow of water or increase flooding.

Given these requirements, the potential risks associated with placing housing or structures in a 100-year flood hazard area would be mitigated on a site-by-site basis. Compliance with these conditions would avoid any potential adverse effects from risks associated with placing housing or structures within a 100-year flood hazard area as a result of future development in the Plan Area. No mitigation is required.

10. Expose people or structures to a substantial risk of loss, injury, or death involving flooding? (LTS)

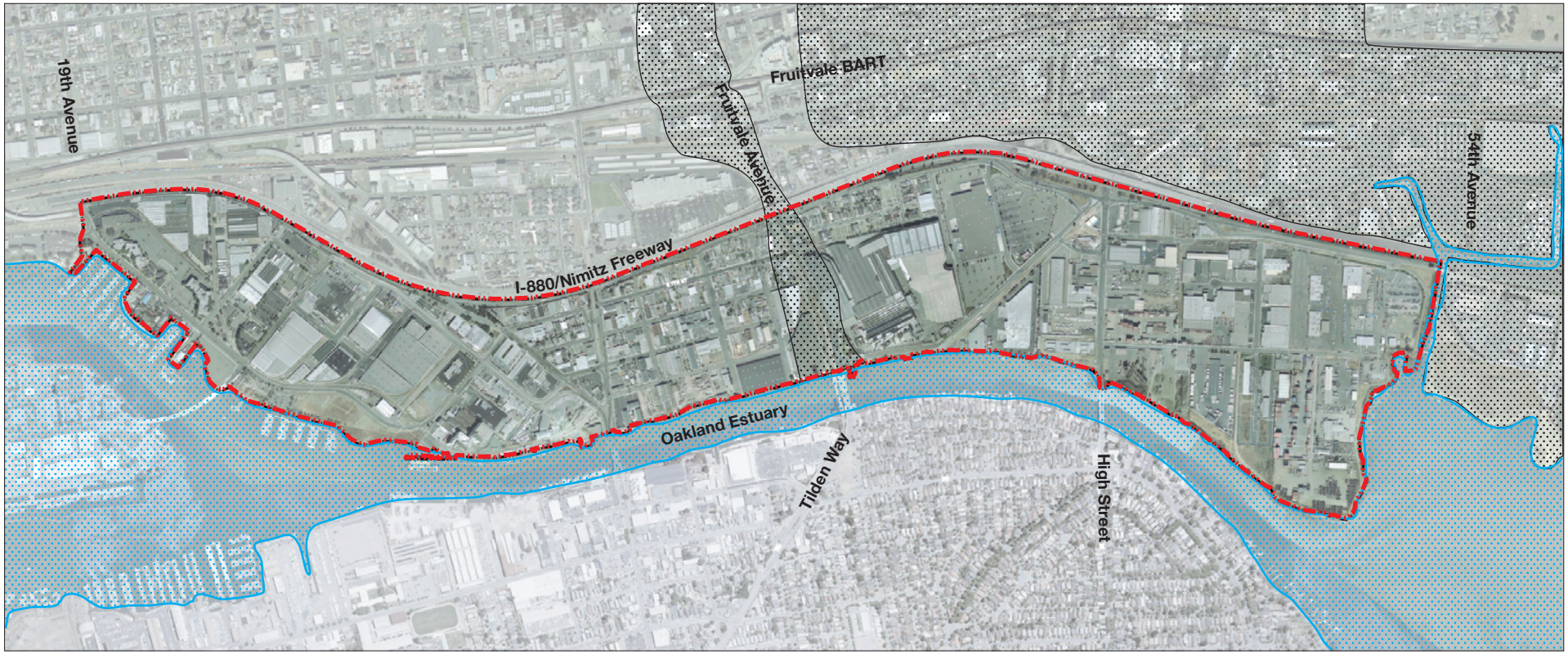
Sea Level Rise

Existing Conditions

Global climate change refers to changes in the Earth's weather including temperature, precipitation, and wind patterns. The world's leading climate scientists have reached consensus that global climate change is underway, is "very likely" caused by humans, and hotter temperatures and rises in sea level "would continue for centuries," no matter how much humans control future emissions. Based upon a review of various climate models, the Intergovernmental Panel on Climate Change (IPCC) reports that temperature increases by the year 2099 are likely to range from one to seven (1-7) degrees Fahrenheit, although other regional models for northern California estimate global temperature increases of up to nine (9) degrees Fahrenheit. Increases in global temperatures in these ranges may have multiple effects on the water resources in Oakland, including sea level rise and increased flooding risk.

There have been a number of recent projections on the future magnitude of sea level rise in the San Francisco Bay Area (Bay Area). Each of the projections make different assumptions in relation to the rapid economic growth and large expansions of greenhouse gas (GHG) emissions, as well as several other global components that affect sea level rise (i.e., thermal expansion, melting of global ice, oceanic circulation, and vertical land movement). The State of California Sea Level Rise Interim Guidance Document developed by the Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), recommends the consideration of the following sea level rise scenarios for planning purposes in the San Francisco Bay Area region and California as a whole:

- Year 2050 scenario – 16-inch rise (equivalent to 1.3 feet or 0.4 meters)
- Year 2100 scenario – 55-inch rise (equivalent to 4.6 feet or 1.4 meters)



Legend

Plan Area

FEMA Flood Zone Designations:

Moderate to low risk areas:
Zone X: 500-year floodplan

High Risk Areas:
Zone AE: 100-year floodplan

FEMA Flood Zone Map

Figure 4.5-4

Source: Federal Emergency Management Agency, 2012.

These scenarios have been adopted as policy by the California State Coastal Conservancy and are used by the San Francisco Bay Conservation and Development Commission (BCDC) and other regional and state agencies for planning purposes.

In addition to sea level rise, global warming may affect other flood related factors such as storm surge, wave height and run-up, and rainfall intensity. Generally more intense but less frequent precipitation is predicted, with storm patterns shifting to earlier in the fall and winter months. More intense storms may cause increased storm surge and wave heights in the Bay.

State, Regional and Local Efforts to address Climate Change

State Level

California Climate Adaptation Strategy

The 2009 California Climate Adaptation Strategy[17], is a multi-sector strategy designed to help guide California's efforts in adapting to climate change impacts. It was developed per a November 2008 Executive Order (S-13-08) by the Governor with input from multiple state agencies. The purpose of the 2009 Strategy is to identify the best known science on climate change impacts in seven specific sectors and make recommendations on how to manage those effects.

The seven sectors in the report include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. The contents of the strategy were developed to address how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. A key recommendation in the Strategy is that State agencies should generally not plan, develop, or build any new significant structure in a place where that structure will require significant protection from sea level rise, storm surges, or coastal erosion during the expected life of the structure. However, the Strategy recognizes that vulnerable shoreline areas containing existing development that have regionally significant economic, cultural, or social value may have to be protected, and infill development in these areas may be accommodated. The Strategy stated that State agencies should incorporate this policy into their decisions and other levels of government are also encouraged to do so.

[17] California Natural Resources Agency. 2009 California Climate Adaptation Strategy. Available at: <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

Draft California Climate Adaptation Policy Guide

The Draft California Climate Adaptation Policy Guide (APG)[18] was published in April of 2012 by the California Emergency Management Agency and the California Natural Resources Agency to provide a method for local and regional entities to evaluate vulnerability and devise adaption strategies to address the impacts of climate change including sea level rise and flooding. The APG seeks to provide a comprehensive approach to climate adaptation. However, because the most effective adaptation policy is based on local conditions, needs, and resources, the APG is not prescriptive in its approach. Instead, it is a decision-making framework that provides guidance for communities to begin taking direct actions in response to climate impacts. The APG is divided into three parts: 1) Introduction and Framework, 2) Regional Adaption Considerations, and 3) Adaption Strategies.

The APG analyzed specific regions including the Bay Area and the following climate impact sectors: Equity, Health and Socio-Economic Impacts; Ocean and Coastal Resources; Water Management; Biodiversity and Habitat; Forest and Rangeland and Agriculture, as well as Transportation and Energy Infrastructure. The APG identified sea level rise, flooding, equity, health and socio-economic impacts, fire, and ecosystem and agriculture as areas to consider in developing for adaption strategies. The selected adaption strategies included:

Strategy 3.1: Develop an adaptive management plan to address the long term impacts of sea level rise.

Strategy 3.3: Require accounting of sea level rise in all applications for new development in shoreline areas.

San Francisco Bay Conservation and Development Commission Permit Program

The San Francisco Bay Conservation and Development District (BCDC) is a state agency created in 1965 to regulate development in the Bay and along its shoreline for the purpose of limiting and controlling the amount of fill placed in the Bay. It is necessary to obtain a BCDC permit prior to undertaking most work in the Bay or

[18] California Emergency Management Agency and California Natural Resources Agency. *2012 California Climate Change Adaptation Policy Guide*. Available at: http://resources.ca.gov/cimate_adaption/docs/APG_-_PUBLIC_DRAFT_4.9.12_small.pdf

within 100 feet of the shoreline, including filling, dredging, shoreline development and other work. There are several different types of permit applications, depending on the size, location, and impacts of a project.

BCDC's review of proposed projects and policies within its jurisdiction that may be impacted by sea level rise are guided by the climate policies in the San Francisco Bay Plan[19] (Bay Plan), which were adopted in an amendment on October 6, 2011. The Bay Plan was amended to address sea level rise impacts and includes revisions to the findings and policies in the Tidal Marshes and Tidal Flats, Safety of Fills, Protection of the Shoreline, and Public Access sections. More specifically, the Bay Plan requires that when planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared to determine all types of potential flooding, degrees of uncertainty, consequences of defense failure and risks to existing habitat from proposed flood protection devices. The Bay Plan climate policies also states that most projects should be designed to be resilient to a mid-century sea level rise projection and an adaptive management plan be developed to address the long-term impacts based on the risk assessment conducted for the project. In recognition of the need for a regional perspective on the issue, the Bay Plan recommends the development of a regional sea-level rise strategy adaptation strategy.

Oakland's Draft Energy and Climate Action Plan

The City of Oakland has prepared a Draft Energy and Climate Action Plan (ECAP) which was considered by the Oakland City Council on March 1, 2011. The purpose of the ECAP is to identify and prioritize actions the City can take to reduce energy consumption and greenhouse gas emissions associated with Oakland. In addition to greenhouse gas emissions, the ECAP recognizes that climate change will likely include sea level rise and flooding impacts. Furthermore the ECAP notes that climate change vulnerability is a function of exposure to climate impacts, sensitivity to those impacts and the capacity to adapt and recover. The ECAP includes several adaption and resilience strategies including the following:

Climate Action Plan AD-1: The City shall continue to participate in local and regional efforts to assess potential sea level rise impacts and shall consider

[19] Bay Conservation Development Commission. *2011 San Francisco Bay Plan*. Available at: http://bcdc.ca.gov/laws_plans/plans/sfbay_plan.shtml

implementing appropriate future recommended adaptation strategies as they are developed.

Climate Action Plan AD-2: Conduct a study of all local climate impacts in collaboration with local partners including the BCDC, the Pacific Institute and UC Berkeley.

Climate Action Plan AD-6: Encourage and participate actively in efforts of regional partners including BCDC to engage in the development of a regional climate adaption strategy informed by climate impact modeling, scenario analysis and development of adaption strategies to advance regional climate adaption capacity and resilience. Collaborate with local partners to ensure that the actions of neighboring jurisdictions or other agencies do not indirectly exacerbate impacts to Oakland neighborhoods.

Analysis of Potential Impacts

The San Francisco Bay Conservation and Development Commission (BCDC)[20] has recently completed an analysis of potential sea level rise in the San Francisco Bay based on projections of a 16 inch sea level rise by mid-century (2050) and approximately 55 inch sea level rise by the end of the century (2100).

BCDC, the National Oceanic and Atmospheric Administration Coastal Services Center, along with local, regional, state and federal agencies and organizations, non-profit and private associations are currently engaged in a collaborative planning process called the Adapting to Rising Tides (ART Project). The ART project involves a subregion of the San Francisco Bay shoreline. Specifically, the ART Project encompasses a portion of the Alameda County shoreline, from Emeryville to Union City. The Central Estuary is located within the ART Project subregion. The purpose of the ART Project is to provide a potential methodology on how to assess impacts as well as guidance on developing adaption strategies associated with sea level rise for future planning.

The first phase of the Art Project identified the existing conditions of assets in twelve categories: airports; community land uses, services and facilities; contaminated lands; energy infrastructure & pipelines; ground transportation;

[20] Bay Conservation Development Commission. *2011 Living with a Rising Bay: Vulnerability and Adaption in the San Francisco Bay and on its Shoreline*. Available at: http://bcdc.ca.gov/BPA/LivingWithRisingBay.pdf

hazardous materials; natural areas, parks and recreation areas; seaport; shoreline protection; storm water; and waste water. The Existing Conditions and Stressors Report[21] was published in January of 2012 and notes several existing assets within the Central Estuary. These assets include a school, residential communities and businesses; contaminated sites; hazardous waste generators; Union Point Park; and energy, stormwater, engineered shoreline, and wastewater infrastructure.

The second phase of the ART Project evaluated the vulnerability of the assets noted in the Existing Conditions and Stressors report based on their exposure and sensitivity to impacts, and capacity to adapt to changes. The Vulnerability and Risk Assessment Report[22] was published in September of 2012. The report concludes that with a 16 inch sea level rise, the Central Estuary will experience an average shoreline overtopping of one foot during storm events and of two and half feet during storm events with wind waves. However, with a 55 inch sea level rise, the Central Estuary will experience an average shoreline overtopping of 1 foot at high tide, two and half feet during storm events, and five and half feet during storm events with wind waves.

The final phase of the ART Project uses this vulnerability and risk assessment as a foundation for identifying and evaluating possible adaptation strategies to improve the subregion's resilience to climate impacts. It is anticipated that the evaluation of adaption strategies will be published in January of 2013.

Impact HYDRO-1: The proposed project would expose people and structures to a substantial risk of loss, injury, or death involving flooding related to sea level rise. (LTS)

The impact of flooding related to sea level rise pertains to the impact of an existing/future environmental condition on the Plan Area. CEQA only requires an analysis of impacts pertaining to a project's impact on the environment. The impact of future growth in the Plan Area on the environment related to the project's GHG emissions—the cause of sea level rise—is analyzed and discussed in **Section 4.2, Greenhouse Gas Emissions/Global Climate Change**. Per CEQA, this Draft SEIR is not

[21] Bay Conservation Development Commission, Existing Conditions and Stressors Report, January 2012, Available at: http://www.adaptingtorisingtides.org/wp-content/uploads/2012/06/ART_ExistingCondtionsReport_final_sm.pdf

[22] Bay Conservation Development Commission, Vulnerability and Risk Assessment Report, September 2012, Available at: http://www.adaptingtorisingtides.org/vulnerability-and-risk-assessment-report/

required to analyze or mitigate impacts pertaining to the impact of the environment on the Plan Area. An appellate court specifically identified the effect of sea level rise on a project as an impact of the environment on a project and, therefore, not required to be analyzed under CEQA. However, although not legally required by CEQA, this Draft SEIR nevertheless discusses the impact of sea level rise on the Plan Area in the interest of being conservative and providing information to the public and decision-makers.

Portions of the Plan Area are located in areas likely to be at risk of flooding, erosion, or wetland shifts by the end of this century, based on the projected 16" and 55" sea level rise scenarios.[23] Proposed development projects located within 100 feet of the Estuary high require approval from BCDC. In accordance with BCDC's Bay Plan, BCDC can require a risk assessment and appropriate adaptation measures for projects at risk from sea level rise during the BCDC permitting process. The City's SCAs require compliance with the applicable requirements of regulatory agencies, including BCDC (SCA 84, Regulatory Permits and Authorizations). Even if sea level rise is considered an environmental impact, which it is not as discussed above and below, compliance with SCA 84 would reduce the potential impact of sea level rise for the portions of the Plan Area within BCDC's jurisdiction.

Although proposed development projects in the portions of the Plan Area located outside of BCDC's jurisdiction would not require BCDC approval, as the Bay water rises, the portions of the Plan area that were previously outside BCDC's jurisdiction will be subject to BCDC's regulatory authority. This is because the area within 100 feet of high tide will change.

Portions of the Plan Area potentially exposed to both a 16" and 55" sea level rise are being studied as part of BCDC's Adapting to Rising Tides project, which has already assessed existing conditions and vulnerability and risk to specific existing key asset categories. The project will further identify potential adaptation strategies to mitigate the effects of sea level rise. Adaptation strategies that could reduce vulnerability to sea level rise and storm impacts have not yet been developed and the development of these strategies will likely require the involvement of regional, state and federal partners and the residents and businesses in the community. In order to be effective, adaptation strategies will need to be developed on a variety of geographic scales–from site specific strategies incorporated into development

[23] Bay Conservation Development Commission, Shoreline Areas Potentially Exposed to Sea Level Rise, http://www.bcdc.ca.gov/planning/climate_change/maps/16_55/cbay_east.pdf

projects to regional and state strategies addressing larger issues like building codes, financing and governance. At this point, in the absence of these strategies being developed, it is difficult to project what will be included or effective at these different planning scales.

Furthermore, implicit in the discussion of global warming, greenhouse gas emissions and sea level rise is that it extends beyond specific development projects, a specific plan area, or, indeed, an entire City. As both a local and a regional issue and must be addressed in that context. The adopted Bay Plan and Oakland's Draft ECAP specifically recognizes this and includes actions to participate in the preparation of a regional climate adaption strategy.

As stated above, because the CEIG is not causing sea level rise, sea level rise will occur regardless of the adoption of CEIG and sea level rise is an impact of the environment on the project, it is not legally a CEQA impact.

11. Expose people or structures to a substantial risk of loss, injury, or death as a result of inundation by seiche, tsunami, or mudflow? (LTS)

As shown in **Figure 4.5-5**, the majority of the West and East Planning Areas, and the waterfront areas of the Central-West and Central-East Planning Areas, are located within a tsunami run-up zone.[24,25] In addition, portions of the West, Central-West, and Central-East Planning Areas are located within the Central Reservoir's inundation area and would be flooded following a catastrophic dam failure (see **Figure 4.5-6**).[26]

The identification of these flood zones is intended to provide planning agencies with the information needed for emergency response planning purposes, and does not dictate any restriction in land use development associated with the Plan Area. The Plan Area is a highly urbanized built environment that does not affect any spillway designs associated with the Central Reservoir dam. No new development would

[24] Run-up is a measurement of the height of the water that travels onshore during a tsunami, documented above a reference sea level.

[25] California Department of Conservation. *Alameda County Tsunami Inundation Maps, Oakland East Quadrangle.* Available: <http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Alameda/Pages/Alameda.aspx>. Accessed: May 2012.

[26] Association of Bay Area Governments (ABAG). *Dam Failure Inundation Hazard Map for North Oakland/Piedmont/Emeryville.* Available: <http://www.abag.ca.gov/bayarea/eqmaps/damfailure/dfpickc.html>. Accessed: May 2012.

occur within the inundation zones that is not currently within this urbanized setting. As such, implementation of the proposed land use changes and zoning designations under the CEIG would not result in increased risks associated with flooding from catastrophic events like a dam failure or tsunami. No impact would occur.

12. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or 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-site? (LTS)

Refer to Hydrology and Water Quality Threshold 4 and 5 discussions.

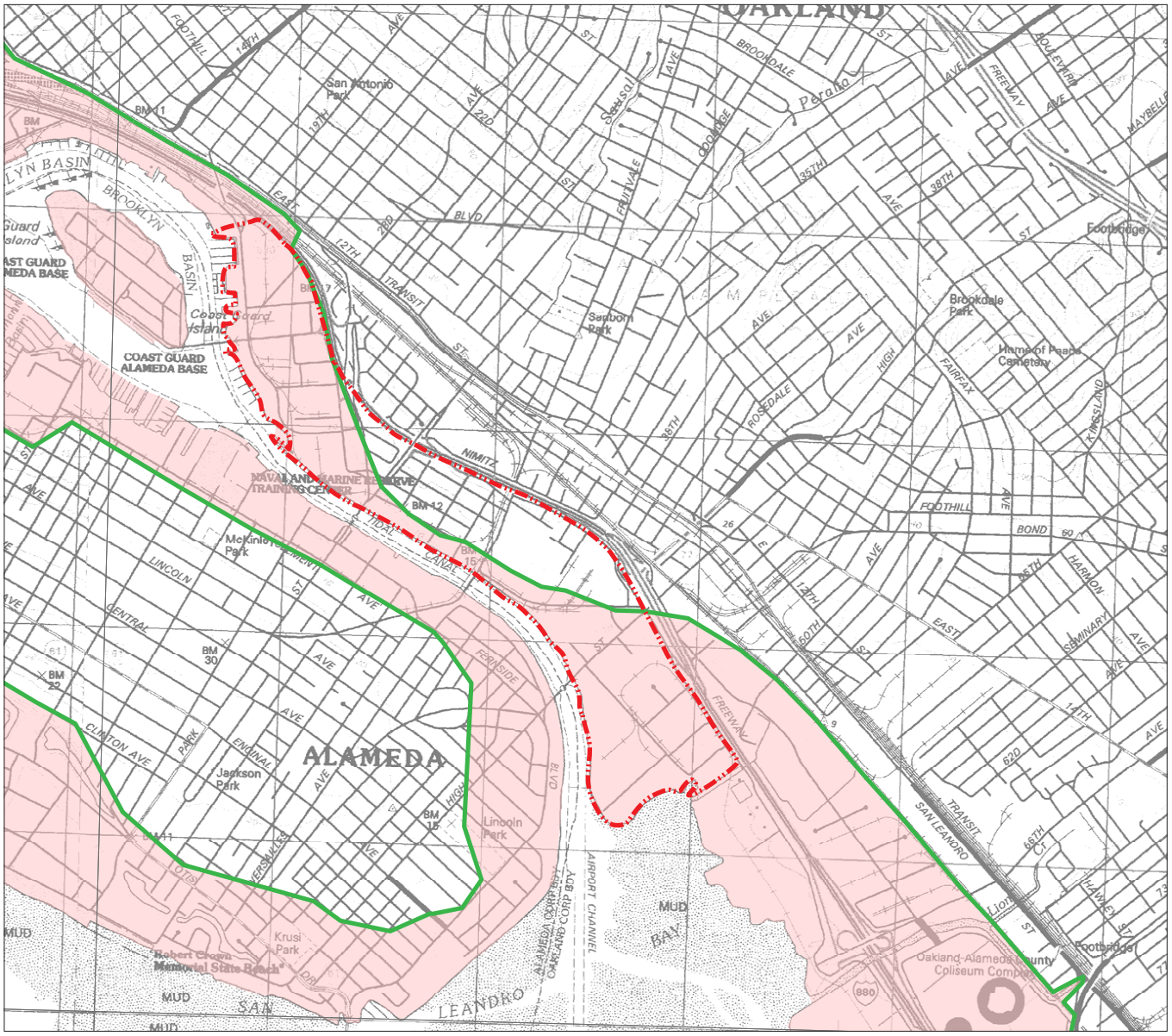
13. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources?[27] (LTS)

The proposed CEIG does not call for any new land use development patterns that would directly affect the hydrology or water quality of a creek protected under the Oakland Municipal Code (Chapter 13.16). However, as discussed under item 3 and 4, future development consistent with the CEIG could generate polluted runoff during construction activities as well as during long-term operations.

All future development project within the Plan Area would be required to comply with the City's Creek Protection Ordinance. Prior to the issuance of approvals from the City of Oakland, future projects would be subject to CEQA review, as well as to the applicable SCAs intended to protect hydrological resources described below.

Implementation of SCA 82, Erosion, Sedimentation, and Debris Control Measures, would require projects to prepare an erosion and sedimentation control plan incorporating applicable BMPs, thereby preventing erosion and polluted runoff from entering nearby creeks. SCAs 83, Creek Protection Plan; and SCA 85, Creek Monitoring, would require the preparation of a creek protection plan and creek monitoring activities to minimize potential impact to the creek during and after construction. Compliance with SCA 83 and 85 would ensure that erosion, sediment,

[27] 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 water quality through (a) discharging a substantial amount of pollutants into a creek, (b) significantly modifying the natural flow of the water or 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.



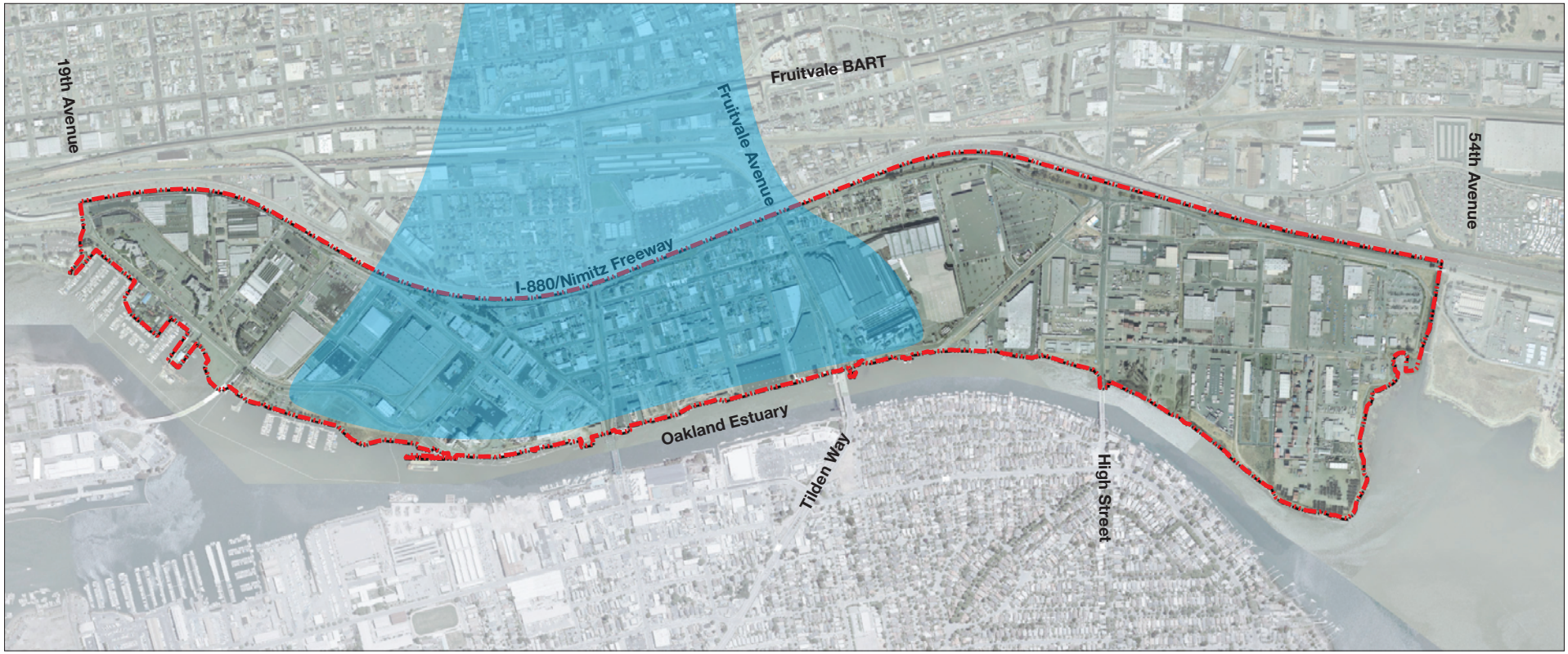
Legend

- Plan Area
- Tsunami Inundation Limits
- Tsunami Inundation Area

Tsunami Inundation Map

Figure 4.5-5

Source: California Department of Conservation, 2009.



Legend

Plan Area

Central Dam Failure Inundation Area

Note: Inundation area boundry is approximate.

Dam Failure Inundation Hazard Map

Figure 4.5-6

Source: ABAG, 1995.

stormwater, and construction management measures would be implemented at the construction site, thereby preventing erosion and polluted runoff from entering nearby creeks. Further, SCA 84, Regulatory Permits and Authorizations, (provided below) would ensure that applicable regulatory permits and approvals are obtained for construction near a creek. Compliance with these SCAa would avoid any potential adverse effects related to the hydrological resources of creeks as a result of the future development in the Plan Area. No mitigation is required.

4.5.8 LAND USE AND PLANNING

Findings of the Oakland Estuary Policy Plan EIR

Land use and planning impacts associated with the Estuary Policy Plan (EPP) were evaluated under the section "Land Use" in the previously adopted EPP EIR. The analysis concluded that the new waterfront "neighborhoods" allowed for under the EPP were consistent with the development envisioned under the General Plan. Conformity with the General Plan's envisioned development of the Oakland Establishment was determined to be a beneficial impact. With regard to adjacent land use incompatibilities, adherence to existing policies in the LUTE and measures outlined in the LUTE EIR, as well as policies proposed as part of the EPP, were determined to reduce potential land use conflicts to a less-than-significant level.

This Supplemental EIR presents an updated analysis on the project's proposed land use designation and zoning changes for the Plan Area. With respect to land use designation changes, the project would include map changes to better reflect the current park use for Union Point Park and MLKRS. In addition, a portion of the area designated as *Light Industrial 2* would change to *Residential Mixed Use* (RMU) for a portion of the West Planning Area (see **Figure 3-2**). In terms of zoning changes, the project proposes new zoning districts for the entire Plan Area to allow for more flexibility for mixed-use development (see **Figure 3-3**).

Findings of the Housing Element Initial Study

Development at the opportunity sites identified in the Housing Element would largely occur as infill, in an urbanized and built-out City. The Housing Element Initial Study analysis determined that compliance with the goals, policies, and programs of the City's General Plan; Municipal Code (Title 17); SCAs 4 Conformance with other Requirements; and SCA 5, Conformance to Approved Plans; Modifications of Conditions or Revocation; and Mitigation Measures from the LUTE EIR would ensure that development under the Housing Element would not conflict with adjacent land

uses, divide an existing community, or conflict with applicable land use policies. As such, the development of the identified opportunity sites in the Housing Element would have a less-than-significant impact with regard to land use.

Existing Conditions

Historically, the Plan Area has been predominantly zoned for industrial use as many industries have depended on waterfront access for raw materials and distribution. Although a number of well-established industrial uses remain, in recent years the Plan Area has evolved into a more mixed-use group of unique districts. Residential development interests have focused on industrial areas in the Plan Area because of the relative affordability of large parcels and its central location near the Oakland Estuary. This has resulted in the increasing diversity of uses, form, and character throughout the Plan Area.

Analysis of Potential Impacts

Would the project:

1. Physically divide an established community? (NI)

The project would ensure that the eclectic mix of residential, commercial, and industrial uses would be retained in the Plan Area. No physical barriers would be added that would divide the established community. The existing land use connectivity and circulation routes within the Plan Area would be maintained and no new roadways that could divide a community would be constructed as a part of this project. Thus, implementation of the CEIG would not physically divide an established community. No mitigation is required.

2. Result in a fundamental conflict between adjacent or nearby land uses? (LTS)

Incompatibilities between adjacent land uses in the Plan Area may arise from the designation of industrial areas for mixed-use development, which includes residential uses. As discussed in **Section 4.3, Noise**, new development allowed for under the CEIG would not increase noise within the Plan Area to a level that is inconsistent with the land use compatibility guidelines set forth in the General Plan. The majority of the noise increases would be reduced through the implementation of the city's SCAs, General Plan policies, or municipal codes.

The following policies from the LUTE and Mitigation Measures from LUTE EIR and EPP EIR address issues associated with potential land use conflicts within the Plan Area.

LUTE

Policy I/C4.1: *Protecting Existing Activities*. 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 uses.

Policy D10.7: *Developing Live Work Spaces.* Locational and performance criteria should be developed for live-work developments.

Policy W1.2: *Land Use Compatibility.* Land uses and impacts generated from such activities should be sensitive to one another and appropriate buffering should minimize the incompatibility of uses.

Policy W6.2: *Buffering of Heavy Industrial Uses.* Appropriate buffering measures for heavy industrial uses and transportation uses adjacent to residential neighborhoods should be developed.

Policy W10.5: Since the Fruitvale waterfront is and may continue to be an area that has a variety of uses, including industrial, incompatibilities should be mitigated through appropriate site planning and buffering.

EPP EIR Mitigation Measures

Mitigation Measure A.3: When the Oakland zoning ordinance is updated, ensure that the new zoning map designations for parcels in the Estuary Plan area reflect the development standards present on Pages 181-197 of the Draft Estuary Plan.

Policy I/C4.1 and D10.7 would ensure that existing land uses consistent with long-term plans are not changed due to the citing of new, incompatible development in the immediate area. Policies W1.2, W2.2, W10.5 would ensure that incompatible land uses established appropriate design criteria and bugger zones so that situating different land uses in close proximity would not result in significant land use conflicts. Implementation of these policies would ensure long-term land use compatibility within the Plan Area. Impacts related to land use compatibility would be less than significant. No mitigation is required.

3. Fundamentally conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment? (LTS)

The LUTE and EPP envisioned extensive redevelopment along the Oakland Estuary, with substantial changes from the traditional industrial land uses in the Plan Area. Both land use plans proposed to create a series of new waterfront "neighborhoods" along the Oakland shoreline, intensifying residential, commercial, mixed-uses, and parkland uses on the waterfront. Changes to the land use patterns proposed in the LUTE and EPP to facilitate infill redevelopment in the Plan Area are consistent with the goals and objectives of the General Plan.

Implementation of the land use designations and zoning amendments proposed as part of the project would provide more detailed design and density guidelines for future development within the Plan Area. The CEIG is a fulfillment of the objectives and policies adopted in the LUTE and EPP. As the project would clarify the land use policies for the Plan Area consistent with the vision of the LUTE and EPP, the project would not conflict with any applicable land use plan, policy, or regulations. This would be a beneficial impact as it is the desired outcome of the General Plan and the EPP. No mitigation is required.

4. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan? (NI)

The Plan Area is not located within or adjacent to a habitat conservation plan or natural community conservation plan. Therefore, no conflicts with a habitat conservation plan or natural community preservation plan would occur.

4.5.9 MINERAL RESOURCES

Findings of the Oakland Estuary Policy Plan (EPP) EIR

The previously adopted EPP EIR did not evaluate impacts to mineral resources.

Findings of the Housing Element Initial Study

Within the City of Oakland, there is one mining site that is identified by the Surface Mining and Reclamation Act (SMARA) as a Regionally Significant Resource. The Leona Quarry, Sector P, located between Claremont Canyon and the San Leandro border, contains rhyolite deposits and has been partially developed into Monte

Vista Villages, a townhome development. However, none of the housing opportunity sites identified in the Housing Element are near the Leona Quarry. Nor are any of the housing opportunity sites designated as a Regionally Significant Construction Aggregate Resources by the State Mining and Geology Board.

Existing Conditions

The Plan Area is outside any area of known mineral importance or history or mining.[28] The Leona Quarry, the city's only active quarry, is located more than three miles east of the Plan Area and is the most proximate mineral resources area to the Plan Area.

Analysis of Potential Impacts

Would the project:

1. **Result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state? (NI)**

   and

2. **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan; specific plan, or other land use plan? (NI)**

There are no known mineral resources within or adjacent to the Plan Area. Thus, implementation of the project's proposed land use designations and zoning amendments would not impact mineral resources. No mitigation is required.

4.5.10 POPULATION AND HOUSING

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts to population and housing as a result of the EPP were evaluated under the subsection "Population, Housing, and Employment" in the previously adopted environmental document. Since the publication of the EPP EIR, significant changes in the economy have resulted in changes to the projected growth and employment

[28] California Department of Conservation, Geological Survey. Aggregate Availability in California, 2006. Available: <http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52_map.pdf>. Accessed: May 2012.

for the San Francisco Bay region. This SEIR presents an updated analysis based on the Existing Conditions Report prepared for the project in May 2009 (see **Appendix E**). The updated population and housing analysis includes a description of the population characteristics and trends for the Plan Area.

Findings of the Housing Element Initial Study

The Housing Element Initial Study determined that the development of the identified housing opportunity sites would have no significant impact on the City's population or housing, or jobs/housing balance, either directly or indirectly, nor would it result in the displacement of people that could result in the need to provide relocation housing.

Existing Conditions

According to the 2010 US Census, there are 1,445 residents living within the boundaries of the Plan Area, with an overall population density of 3.47 persons per acre. The existing residential population in the Plan Area is not evenly dispersed. More than two-thirds of residents live in the Central-West Subarea, approximately one quarter of residents live in the Central-East Subarea, and the remaining residents live in the West Subarea of the Plan Area.[29]

In 2007, there were approximately 4,796 jobs located within the Plan Area. Over 60 percent of employment within the Plan Area consisted of jobs related to service industries and manufacturing. Other key employment industries within the Plan Area included wholesale and trade (12 percent), construction (11 percent), and retail trade (8 percent).[30]

[29] Association of Bay Area Governments, 2010. Census 2010 population and race data by census block group. Available online at http://www.bayareacensus.ca.gov/small/small.htm; last accessed July 24, 2012.

[30] City of Oakland, Community and Economic Development Agency. Existing Conditions Report. May 2009.

Analysis of Potential Impacts

Would the project:

1. 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 extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed? (LTS)

The CEIG is specifically intended to foster residential and employment growth in the Plan Area. In order to calculate the population and employment growth that would be generated from the construction of new dwelling units and new industrial and office land uses, this analysis extrapolated assumptions from the vehicle trip generation model[31], which is consistent with the model assumptions included in the traffic analysis. The trip generation model assumes 2.82 persons per single-family home, and 2.11 persons per live/work loft unit. These assumptions more accurately account for the higher densities of persons per single-family home by separating out the types of residential units that occur, and would increase, within the Plan Area. Similarly, the trip generation model includes specific employment assumptions based on the gross floor area (GFA) of specific land use types. For the purposes of this analysis, the GFA per employee ratio is assumed to be 700 square feet/employee for industrial land uses, and 500 square feet/employee for commercial land uses.

The number of housing units allowed within the Plan Area under the project includes 391 additional residential units and 31 additional live/work units. Given the above-mentioned assumptions, it is estimated that these additional residential units could result in the increase of approximately 1,168 persons living within the Plan Area.[32] The project would allow for an additional 374,857 square feet of industrial and 712,022 square feet of commercial/office development within the Plan Area. Assuming the GFA per employee ratios described above, it is anticipated

[31] Mixed-Use Development (MXD) Trip Generation Model (see City of Oakland, 2009. Existing Conditions Report, Appendix C)

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that the additional industrial and commercial/office space available for development would generate approximately 1,960 new jobs in the Plan Area.[33]

These growth increments are indirectly associated with the project's general plan amendments. While these increments exceed the growth projected under the current General Plan, the project's General Plan amendments would by necessity result in the need to recalibrate such projections. Since the project includes general plan map and text amendments specifically related to projected growth, the project would not induce substantial population growth in a manner not contemplated in the General Plan (as amended by the project). Moreover, the LUTE envisioned a substantial increase in housing construction in the Fruitvale waterfront[34] with the live-work units comprising most of the waterfront development and multi-family units along the transportation corridors. Thus, the project would not induce substantial population growth by increasing housing capacity in a manner not contemplated in the General Plan.

The proposed land use designations and zoning amendments would have a beneficial impact on the city's ability to meet the regional "fair share" housing allocations prescribed by ABAG by making more land available for housing. Additionally, housing development in the Plan Area would also help achieve regional goals of sustainability and open space preservation as it would make underutilized urban land available for housing developments.

The increase in households and population within the Plan Area would not be considered a significant impact in and of itself. However, growth under the project would result in a significant impact if existing infrastructure could not accommodate the projected growth. The project's land use designation and zoning amendments would foster redevelopment and future projects on sites in the Plan Area that are currently served with existing infrastructure. The potential for the project to result in unplanned expansions of existing infrastructure (roadways and utility systems) within the Plan Area are addressed in **Sections 4.4, Transportation/Traffic** and **4.5.13, Utilities and Service Systems**. Impacts discussed in these sections were determined to be LTS. No Mitigation Measures are required.

[34] This Fruitvale waterfront encompasses the West, Central-West, and Central-East planning subareas of the Plan Area.

2. **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element? (LTS)**

   and

3. **Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element? (LTS)**

Implementation of the land use designations and zoning amendments proposed as part of the project would not directly displace existing housing or people`. There are no existing residential land uses within the Plan Area that would not be permitted under the CEIG. It is possible that future development projects in the Plan Area could involve demolition of existing housing units in order to accommodate new and expanded residential buildings. Although unlikely, the land use designations and zoning revisions consistent with the proposed Residential Mixed Use (RMU) could potentially result in the conversion of housing to non-residential uses or the demolition of housing. However, prior to the issuance of approvals from the City of Oakland, future projects would be subject to CEQA review, as well as to the policies of the General Plan Housing Element and LUTE. The policies that apply to the housing requirements are listed below.

Housing Element

Substandard Housing Policy 1: The city recognizes that housing is a valuable resource that should be carefully conserved and maintained and will take all necessary steps to prevent damage to the city's occupied or vacant residential property.

Housing Production Policy 8: The city will make every attempt to preserve the existing housing stock whenever possible and to limit the conversion of residential units to non-residential units.

Housing Production Policy 12: The city, where economically feasible, will cause to be relocated, rather than demolish, residential property acquired for public or private purposes and urges Federal and State agencies to use a similar approach.

LUTE

Policy I/C4.1: 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.

Policy I/C4.2: The potential for new or existing commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through efficient and appropriate implementation and monitoring of environmental and development controls.

Policy N3.6: The city strongly encourages the moving of dwellings which might otherwise be demolished onto vacant lots where appropriate and economically feasible.

Policy N3.7: Legal non-conforming residential structures in residential areas may be allowed to rebuild at the original density in the case of catastrophic damage or destruction, subject to development standards. However, such rebuilding should be subject to development standards and should address other neighborhood concerns as appropriate.

Policy N12.7: The existing residential communities within and adjacent to the waterfront should be supported and enhanced.

Policies I/C4.1, I/C4.2, and N12.7 would ensure that existing development consistent with the long-term land use plans set forth by the City would be protected from the intrusion of incompatible land uses in the area. Substandard Housing Policy 1, Housing Production Policy 8 and 12, and Policy N3.6 ensure that the housing stock in the City would be conserved and maintained. These policies protect housing from displacement and ensure long-term land use compatibility. Compliance with these policies would avoid any potential adverse effects related to the displacement of housing and people as a result of the future development in the Plan Area. No mitigation is required.

4.5.11 PUBLIC SERVICES

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts to public services as a result of the Estuary Policy Plan were evaluated under the subsection “Public Services” in the previously adopted EPP EIR. The analysis concluded that the population generated from future development under the Estuary Policy Plan (i.e., housing and employment) would contribution to an increased demand for municipal services. This increased demand was determined to be less-than-significant with adherence to existing policies in the LUTE and mitigation measures in the LUTE EIR.

Because the CEIG proposes development and population growth assumptions specific to the Plan Area that were not previously considered in the EPP EIR, this draft SEIR presents an updated analysis of potential impacts to public services based on updated information regarding the existing conditions for the Plan Area.

Findings of the Housing Element Initial Study

The Housing Element Initial Study determined that the development of the identified housing opportunity sites may result in the need for new or expanded fire, police, school, and park facilities. The construction of new or expanded fire, police, school or park facilities could result in adverse environmental impacts. However, all future development would occur pursuant to General Plan policies, Municipal Code regulations, mitigation measures adopted for the LUTE EIR, and the SCAs that would reduce the potential impact on services to less-than-significant levels. Moreover, separate CEQA review would be implemented, as needed, for new construction as required by State law, and additional mitigation measures would be imposed to reduce impacts. As such, the Housing Element Initial Study concluded that impacts on public services would be less than significant.

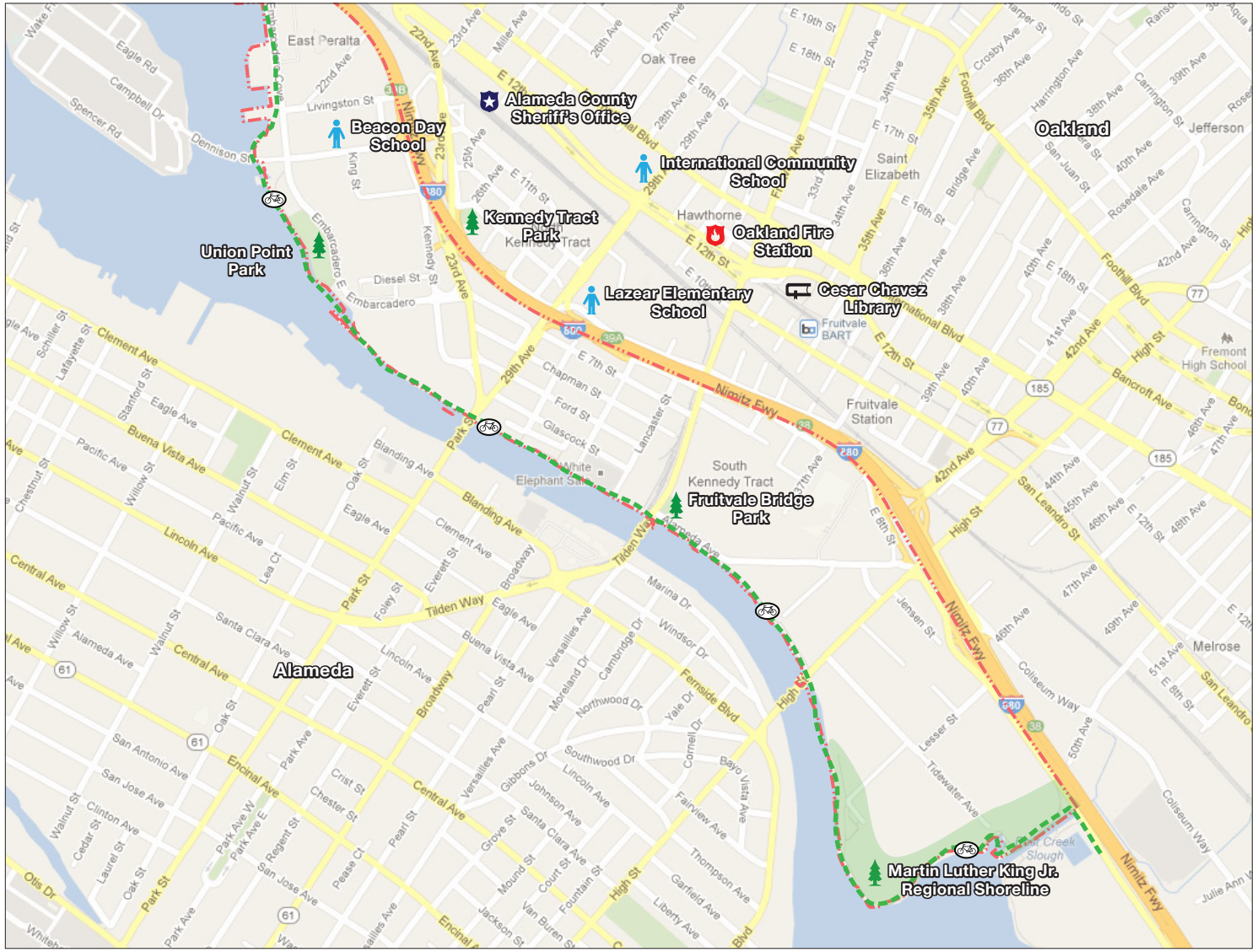
Existing Conditions

The City of Oakland provides its residents with municipal public services including fire and police protection and schools. **Figure 4.5-7** illustrates the closest public facilities to the Plan Area.

Fire Services

The Oakland Fire Department (OFD) provides a wide range of services and programs designed to prevent, prepare for, and respond to any and all emergencies that face the city. The OFD responded to over 62,353 emergency calls in 2009, of which approximately 65 percent were medically related.[35] As of 2009, the fire department operates 25 stations including the airport and has 500 uniformed personnel to fill 3

[35] Oakland Fire Department, "2009 Operational Statistics," available at: http://www.oaklandnet.com/fire/operations/statistics.asp; last accessed: May 29, 2012.



Existing Public Services and Recreational Facilities

Figure 4.5-7

Source: Circlepoint, 2012.

complete shifts of response personnel, and operate extensive equipment and resources to handle any emergency.[36] The nearest OFD station to the Plan Area is station 13, located at 1225 Derby Street, less than a mile away.

According to Action FI-1.2 of the General Plan Safety Element, the City's fire and emergency service standard is to respond to fires and other emergencies within seven minutes of notification 90 percent of the time. The Department is currently meeting this standard.[37] Response times vary between hill and flatland neighborhoods. In the hilly portions of the city, the varied topography, lower development densities, and narrow streets result in longer response times. Because the Plan Area is flat, physical constraints associated with the hillside neighborhoods in Oakland are not an issue. Typically, the OFD responds with two engines, one truck, and one chief for a residential structural fire; however, the actual number of personnel sent to a fire correlates with the intensity of the specific emergency.[38]

Police Services

The Oakland Police Department provides police service to the Plan Area. Currently, Oakland has 657 sworn officers in the Department.[39] Police services are divided into 57 community policing beats covering the city. The Plan Area is covered by beats, 19x, 20x, 23x and 26x.[40] Each beat is staffed by at least one (1) or up to two (2) officers, twenty-four (24) hours a day, seven (7) days a week. According to the Captain of Police, the OPD does not currently have an established performance standard or required ratio of sworn police officers to residents.[41] However, since

[36] Oakland Fire Department, "Operations," available at: http://www.oaklandnet.com/fire/operations/; last accessed: May 29, 2012

[37] Annette Fountaine, Dispatch Supervisor, Oakland Fire Department. Phone conversation July 16, 2012.

[38] City of Oakland General Plan, Housing Element Update 2007-2014, Initial Study. September 21, 2009

[39] Edward Poulson, Captain of Police, Oakland Police Department. Email communication April 27, 2012.

[40] Oakland Police Department Community Policing Beats, available at: http://www2.oaklandnet.com/oakca1/groups/police/documents/agenda/dowd005013.pdf; last accessed May 29, 2012.

[41] Edward Poulson, Captain of Police, Oakland Police Department. Email communication April 27, 2012.

2010, the department has lost more than 100 officers to budget cuts and attrition, and the city has suspended a requirement that the department maintain a minimum of just over 800 sworn police officers.[42]

School Services

The Plan Area is located in District 5 of the Oakland Unified School District (OUSD), and would be served by two elementary schools, three middle schools, and one high school (private charter schools not included). **Table 4.5-2** lists the schools that residents of the Plan Area would attend.

Table 4.5-2 Oakland Unified School District Boundaries within the Plan Area

School Name	School Type	Address	Relative Distance to the Plan Area
Lazear Elementary School	Elementary School	824 29th Avenue	0.1-mile
Melrose Leadership Academy	Elementary School	5328 Brann Street	1.9 miles
Roosevelt Middle School	Middle School	1926 19th Avenue	0.6-mile
United For Success	Middle School	2101 35th Avenue	1.0 mile
Coliseum College Prep and Roots International Academy	Middle School	1390 66th Avenue	1.5 miles
Fremont High School	High School	4610 Foothill Boulevard	0.8-mile

Source: Oakland Unified School District. Phone conversation May 31, 2012.

There are no public schools within the Plan Area. The closest public school to the Plan Area is Lazear Elementary, located directly across I-880, at 824 29th Avenue. The only school within the Plan Area is Beacon Day School, a private pre-K through grade 8 school, located at 2101 Livingston Street.

Analysis of Potential Impacts

Would the project:

[42] San Francisco Chronicle, Oakland Police Department Jobs Attract Thousands, March 23, 2012. Available at: http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2012/03/22/BAAT1NOURN.DTL; last accessed May 29, 2012.

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following publics service: Fire protection, Police protection, School, or; Other public facilities? (LTS)

Implementation of the land use designations and zoning amendments proposed as part of the project would not result in any direct physical impacts to the public services provided by the city. However, future development allowed under the CEIG could result in the increase of approximately 1,051 persons living within the Plan Area and about 1,000 employees working in the Plan Area. This increase in permanent and daytime populations has the potential to result in increased demand for the City's fire, police, and school services.

Fire Services

The additional residents that would occupy new housing units within the Plan Area would increase the number of service calls to the OFD. Typically, the factors that determine the whether increased demands would require additional staff and/or facilities include the proposed density of the residential development, location with regards to flatlands or hills, proximity to existing fire stations, and the presence of physical barriers to the development site. Given that the Plan Area is highly accessible from multiple major arterial roadways, is within 1-mile of a fire station, and does not have any physical challenges, such as hills or barriers, that would slow OFD responses, it is unlikely that a substantial change in staffing and/or facilities would be required as a result of the anticipated population growth under the CEIG.

In addition, the CEIG is a 20-year planning document that modifies/clarifies land use policy and associated densities and intensities to all properties within the Plan Area. Most of the Plan Area is built out at lower than permitted densities, but given the low historical parcel "turnover" rates, the complete redevelopment of every parcel in the Plan Area needed to achieve the maximum buildout of the Plan Area would be highly unlikely, particularly if assumed to occur in the next two decades alone. Given that the new development allowed for under the CEIG would occur over a long period of time, municipal services provided to the Plan Area would have adequate time to assess when additional staff or facilities may be required as individual projects are proposed.

The following policies in the General Plan Safety Element and LUTE address potential impacts on fire services resulting from population growth.

Public Safety Element

Policy FI-1: Maintain and enhance the city's capacity for emergency response, fire prevention, and fire fighting.

Action F1-1.1: Periodically assess the need for new or relocated fire stations and other facilities, changes in staffing levels, and additional or updated supplies, equipment, technologies and in-service training classes.

Action FI-1.2: Strive to meet a goal of responding to fires and other emergencies within seven minutes of notification 90 percent of the time.

Policy FI-2: Continue, enhance, or implement programs that seek to reduce the risk of structural fires.

Action F1-2.2: Continue to enforce provisions under the local housing code requiring the use of fire-resistant construction and the provision of smoke detectors and fire-extinguishing systems.

Action F1-2.3: Continue to review development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions of occupant evacuation and access by fire-fighting personnel and equipment.

LUTE

Policy N2.2: Provision of services by civic and institutional uses should be distributed and coordinated to meet the needs of city residents.

Policy N7.2: 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.

Policy N12.1: 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.

In addition to these policies, mitigation measures in the LUTE EIR require the City of Oakland to consider the availability of existing fire services; develop target ratios of firefighters to the population; analyze distribution services; and solicit comments from the OFD regarding the impact that a development could have on the department. The previously imposed mitigation measures that apply to the proposed CEOIG are listed below.

Mitigation Measure D.5-1a: In reviewing major land use or policy decisions, consider the availability of police and fire protection services, park and recreation services, schools, and library services in the affected areas, as well as the impact of the project on current service levels.

Mitigation Measure D.5-1e: Solicit comments from the Oakland Police and Fire Departments on major new development proposals to ensure that law enforcement and fire protection impacts are appropriately addressed and mitigated.

Standard Conditions of Approval

The following SCAs would require the appropriate design review process by OFD staff in order to ensure that future development within the Plan Area was constructed using the most current fire safety features.

SCA 4: Conformance with other Requirements.
Timing: Prior to issuance of a demolition, grading, privately constructed public improvement, or other construction related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval 3.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval,

including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

SCA 61: Site Review by the Fire Services Division.
Timing: Prior to the issuance of demolition, grading or building permit.

The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.

SCA 71: Fire Safety Phasing Plan.
Timing: Prior to issuance of a demolition, grading, and/or construction and concurrent with any p-job submittal permit.

The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

SCA 73: Fire Safety.
Timing: Prior to and ongoing throughout demolition, grading, and/or construction.

The project applicant and construction contractor will ensure that during project construction, all construction vehicles and equipment will be fitted with spark arrestors to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

Implementation of the City's SCAs would ensure that future development within the Plan Area would include the appropriate fire safety design standards during construction and operation. Conformance with SCA 4 requires building plans for development projects to be submitted to the Oakland Fire Services Division for review and approval. SCA 61, Site Review by the Fire Services Division; and SCA 71, Fire Safety Phasing Plan, also require Fire Services Division Approval to ensure that the site design and fire safety features of the project adequately address fire hazards. Conformance with SCA 73, Fire Safety, requires spark arrestors on construction equipment to further reduce the risk of construction-period fires. Implementation of the General Plan Policies and LUTE measures would ensure that

the increased demand on fire services is addressed as new development occurs within the Plan Area, and the need for additional staff and/or facilities identified. Given these policies, measures, and conditions, any additional demands on fire services from the development of the Plan Area under the CEIG would be reduced to a less-than-significant level.

Police Services

The overall number of emergency calls to the OPD may increase as population and employment increases within the Plan Area. Given that the Plan Area is highly accessible from multiple major arterial roadways and does not have any physical challenges, such as hills or barriers, that would slow police responses, it is unlikely that a substantial change in staffing and/or facilities would be required as a result of the anticipated population growth under the CEIG. Reconfiguration of police beats might be needed as the number of persons living and working within the Plan Area increases. The reconfiguration of police beats would not constitute a change that would directly result in additional facilities and associated physical impacts. Given that the population growth projected for the Plan Area would occur over a period of 20 years, municipal services provided to the Plan Area would have adequate time to assess when additional staff or facilities may be required as individual projects are proposed.

Policy N2.2 and Mitigation Measure D.5-1a from the LUTE EIR call for maintaining adequate police service within Oakland. The discussion below summarizes the previously listed LUTE and LUTE EIR policies and measures that call for maintaining police service as growth occurs.

LUTE

The overall number of emergency calls to the OPD may increase as population and employment increases within the Plan Area, which could potentially result in the need for new police facilities. However, General Plan Policy N2.2 (as outlined above) from the LUTE requires coordination of civic service with the needs of residents. The LUTE policy primarily reduces potential impacts by expanding law enforcement services to commensurate with growth, and assessing the need for additional police services as individual projects are proposed.

LUTE EIR

Mitigation measures in the LUTE EIR require the City of Oakland to: consider the availability of police services; develop target ratios of police officers to the population; increase police foot patrol and cruisers; analyze distribution services; and solicit comments from the OPD regarding the impact that a development could have on the department. The previously imposed Mitigation Measures D.5-1a and D.5-1e of the LUTE EIR, as outlined in more detail under "Fire Services," above, would apply to the future development under the CEIG.

Implementation of the General Plan Policies and LUTE measures would ensure that the increased demand on police services is addressed as new development occurs within the Plan Area, and the need for additional staff and/or facilities identified. Given these policies, measures, and conditions, any additional demands on police services from the development of the Plan Area under the CEIG would be reduced to a less-than-significant level.

School Services

Classroom overcrowding constitutes a significant impact on the environment if the overcrowding would result in construction of new or expanded school facilities, the construction of which would result in adverse physical changes to the environment. Minor changes in annual operating budgets and cash flows (fiscal impacts) are not considered to be environmental impacts and are therefore not discussed in this section.

Implementation of the land use designations and zoning amendments proposed as part of the project would not in of itself include construction of new or expanded school facilities, which could result in adverse physical impacts. However, there is the potential for the need for such construction in order to maintain service standards as population and employment increases within the Plan Area.

In the event that an impact to school services would occur, the Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50 [SB 50]) would apply. Senate Bill 50 restricts the ability of local agencies to deny project approvals on the basis that public school facilities (classrooms, auditoriums, etc.) are inadequate. School impact fees are collected at the time when building permits are issued. Payment of school fees is required by SB 50 for all new residential development projects and is considered "full and complete mitigation" of any school impacts. School impact fees are payments to offset capital cost impacts associated with new developments,

which result primarily from costs of additional school facilities, related furnishings and equipment, and projected capital maintenance requirements. As such, agencies cannot require additional mitigation for any school impacts.

The project would be developing within the OUSD boundaries, and would be subject to school impact fees established by that district at the time of construction. The school impact fees would be calculated based on the proposed square footage of improvements, and would be paid as part of the permit application fees. Compliance with requirements of state law will avoid a significant impact related to schools. No further mitigation is required.

4.5.12 RECREATION

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts to parks and recreational services as a result of the new development under the Estuary Policy Plan were evaluated under the subsection "Public Services" in the previously adopted environmental document. The EPP EIR identified less-than-significant impacts associated with the increase in service demand for park services due to existing policies in the OSCAR.

Because the CEIG proposes development and population growth assumptions specific to the Central Estuary Planning Area that were not previously considered in the EPP EIR, this draft SEIR presents an updated analysis of potential impacts to parks and recreational facilities based on updated information regarding the existing conditions for the Plan Area.

Findings of the Housing Element Initial Study

The Housing Element Initial Study determined that the addition of residential development could increase the use of existing neighborhood and regional parks, as well as other recreational facilities, resulting in a potentially significant impact. However, compliance with policies contained in the General Plan OSCAR Element and Municipal Code Titles 16 and 17 would ensure that future development under the Housing Element would comply with federal and State laws in regard to recreational facilities. Compliance with the goals and policies of the General Plan and the Municipal Code, the mitigation measures adopted for the LUTE EIR and the City's SCAs would ensure that future development under the Housing Element would provide adequate onsite open space areas for residents, while minimizing the environmental impacts thereof.

Existing Conditions

Although predominantly commercial/industrial and developed in nature, there are several existing public access and open space areas within the Plan Area. Approximately 17.2 acres of the Plan Area is designated for park uses. As shown in Figure 4.5-7, these parks and recreational facilities include:

- Martin Luther King Jr. Regional Shoreline Park: An 8-acre portion of the larger 741-acre[43] park is located in the East Planning Area and offers recreationists walking, jogging, cycling, bird watching, picnicking, and other opportunities along the waterfront open space.
- Fruitvale Bridge Park: A 0.3-acre park located in the Central-East Planning Area at the foot of the Fruitvale Avenue bridge.
- Union Point Park: A 9-acre waterfront park located in the West Planning Area that offers recreationists extensive play and picnic areas.
- San Francisco Bay Trail: This segment of the Bay Trail wraps around the Plan Area waterfront.
- Two other parks, the Derby Avenue and Lancaster Street Pocket Parks, are currently under construction in the Central-West Planning Area.
- The City's total park acreage standard is 10 acres per 1,000 residents (Policy REC-3.1). In the Plan Area, the City's park acreage standard is being exceeded with approximately 17.2 acres of parkland provided for the 916 residents.[44]

Analysis of Potential Impacts

Would the project:

1. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (LTS)

Future development consistent with the land use designations and zoning amendments proposed as part of the project could increase the population of the Plan Area by approximately 1,051 persons. To maintain the City's park acreage

[43] This figure includes the expansion of the Martin Luther King Jr. Regional Shoreline Park as formalized under the CEIG.

[44] For existing population numbers, please refer to **Section 4.5.10, Population and Housing**.

standard, an additional 10 acres of parkland would be needed. However, as the current park acreage standard in the Plan Area is being exceeded by approximately 7 acres, the incremental additional parkland needed to maintain the parks-to-resident ratio within the Plan Area would be approximately 3 acres.

Implementation of the land use designations and zoning amendments proposed as part of the project would not result in any direct physical impacts to the recreational facilities within the Plan Area. However, future development allowed for under the CEIG would generate additional populations in the Plan Area that would increase the demand on parks and recreational facilities. As parks and other public facilities are typically provided to serve a residential population, the City mandates that all residential development contribute to a park impact fee (Policy REC-10.2), which would fund acquisition of land and improvements for neighborhood and district parks.

Prior to the issuance of approvals from the City of Oakland, future residential projects would be subject to CEQA review, as well as to the following policies of the OSCAR Element, which dictate the provisions of park and recreational facilities.

OSCAR

Policy REC-3.1: *Level of Service Standard.* Use level of service standards of 10 acres of total parkland and 4 acres of local-serving parkland per 1,000 residents as a means of determining where unmet needs exist and prioritizing future capital investments.

Policy REC-3.2: *Systematic Allocation of Funds.* Follow a systematic process in allocating park and recreation funds. In general, allocate the greatest expenditures to those areas with the greatest unmet needs and place a priority on projects that maximize reductions in deficiency for the amount of money spent. However, maintain the flexibility to consider such factors as site opportunities, the availability of grants or matching funds, and linkages to other kinds if projects.

Policy REC-3.3: *Park Location Factors.* Consider a range of factors when locating new parks or recreational facilities, including local recreational needs, projected operating and maintenance costs, budgetary constraints, surrounding land uses, citizen wishes, accessibility, the need to protect or enhance a historic resource, and site visibility.

Policy REC-4.1: *Systematic Maintenance Provisions.* Provide for ongoing, systematic maintenance of parks and recreational facilities to prevent

deterioration, ensure public safety, and permit continued public use and enjoyment.

Policy REC-6.1: *Joint Use Agreements.* Promote joint use agreements and similar arrangements between the city, the Oakland Unified School District, and other public agencies to maximize the use of school and other non-park recreational facilities during non-school hours.

Policy REC-6.2: *Public-Private Partnerships.* Encourage public-private partnerships as a means of providing new recreational facilities on privately-owned sites. Promote joint use partnerships with local churches, private recreational service providers, and local non-profits.

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

Policy REC-10.1: *General Fund Support.* Continue to provide General Fund support for park and recreational services, acknowledging the importance of these services to the quality of life in Oakland.

Policy REC-10.2: *Parkland Dedication and Impact Fee.* To the extent permitted by law, require recreational needs created by future growth to be offset by resources contributed by that growth. In other words, require mandatory land dedication for large scale residential development and establish a park impact fee for smaller-scale residential development, including individual new dwelling units. Calculate the dedication or fee requirement based on a standard of four acres of local-serving parkland per 1,000 residents.

Policy REC-10.4: *Private Sector Provisions of Public Services.* Promote and support partnerships with the non-profit and private sectors in the development and operations of facilities which serve a public recreational need. Where financially feasible, consider joint financing and operating agreements for recreational facilities with other public and private agencies.

Policy OS-2.5: *Urban Park Acquisition Criteria.* 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.

Policy OS-4.1: *Provision of Usable Open Space.* Continue to require new multi-family development to provide usable outdoor open space for its residents.

Municipal Code

Chapter 16.20.040: *Open Spaces Other Than Streets.* This chapter mandates that consideration shall be given to the allocation of suitable areas for schools, parks, and playgrounds to be dedicated for public use, or reserved for the common use of all property owners within the proposed subdivision by covenant in the deeds. In addition, consideration shall be given to the allocation of suitable areas for open space, parks, and playgrounds to be dedicated for the common use of all property owners within the proposed subdivision by covenant in the deeds.

Chapter 16.20.050: *Tentative Map, reservation of land for public use.* This chapter explains that the Advisory Agency may require that areas of real property within the subdivision be reserved for schools, parks, recreational facilities, fire stations, libraries or other public uses.

Chapter 17.11: *OS Open Space Regulations.* The provisions of this chapter outline the OS open space zone regulations. The OS zone is intended to create, preserve, and enhance land for permanent open space to meet the active and passive recreational needs of Oakland residents and to promote park uses which are compatible with surrounding land uses and the city's natural environment. The chapter summarizes permitted activities, permitted facilities, sign limitations, maximum building heights, minimum yards, maximum impervious surfaces, buffering, and other zoning provisions.

Chapter 17.126: *Usable Open Space Standards.* The provisions of this chapter outline the standards for required usable open space. The purpose of these provisions is to prescribe standards for the development and maintenance of open areas which serve the need for leisure, recreation, and space. These standards apply to all usable open space required by other provisions of the zoning regulations.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to integrate public and private open spaces into future development within the Plan Area. The following guidelines would ensure this:

Open Space

- Integrate functional and active open space into the design of the site in the form of public plazas, entry courts, courtyards, roof gardens and terraces, and rear and side yards.
- Locate open spaces within access of all users to encourage social cohesion. Make at least one space a communal space that all users can access. Consolidate open space into one larger area rather than dispersing into smaller pieces, if possible.

Potential impacts on parks and public facilities would be addressed on a site-by-site basis. Policy REC-3.1 would ensure that additional parklands are created to serve a growing population by maintaining the City's parks-to-resident ratio. Policies REC-3.2, 10.1, and 10.2 would ensure that adequate funds for the creation of the necessary facilities would be collected at the time of design review and approval for future development in the Plan Area. Policies REC-3.3 and OS-2.5 and Municipal Code Chapter 17.11 and 17.126 would ensure that the appropriate locations are selected and provisions of any new facilities would be protected under the open space designation. Compliance with these policies, codes, and guidelines would prevent the overuse of recreational facilities such that substantial physical deterioration would occur, reducing potential impacts to less-than-significant. No mitigation is required.

2. Include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment? (LTS)

Implementation of the land use designations and zoning amendments proposed as part of the project would not physically construct or expand additional recreational facilities that would adversely impact the environment. The project would formalize existing park and open space designations in the West and East Planning Areas, but would not add new public open spaces beyond the current uses.

Future projects within the Plan Area which include additional parks or recreational facilities would be subject to CEQA review, as well as to the policies of the OSCAR

and the Municipal Code as identified under item 1. Compliance with the OSCAR policies and Municipal Code listed above would ensure that the development of recreational facilities at sites within the Plan Area would have a less-than-significant impact on the environment. No mitigation is required.

4.5.13 UTILITIES AND SERVICE SYSTEMS

Findings of the Oakland Estuary Policy Plan (EPP) EIR

Impacts of the Estuary Policy Plan upon utilities and service systems the Plan Area were evaluated under the subsection "Public Services" in the EPP EIR. Noting that the majority of the water delivery lines within the Plan Area were constructed in the 1920s and 1930s, the EPP EIR concluded that pipeline improvements, whether extensions or replacements, would be required for larger development projects permissible under the EPP. Similarly, the EPP EIR concluded that the additional wastewater generated by the future development of the area could require localized improvements to the sewage collection systems. The potential expansion of both potable water lines and wastewater infrastructure was determined to be a less-than-significant impact with adherence to existing policies in the General Plan (OSCAR Element and LUTE). The EPP EIR also concluded that development consistent with the EPP would result in increased water demand; however, this impact was determined to be less-than-significant with adherence to General Plan policies that require water conservation and encourage reclaimed water use. In addition, the "Public Services" subsection of the EPP EIR evaluated the potential impact from additional demands on solid waste services. Implementation of the City's Source Reduction and Recycling Element and the implementation of measures included in the LUTE were determined to be adequate in reducing additional demands for solid waste removal services to a less-than-significant level.

Impacts of the Estuary Policy Plan to energy systems were evaluated under the subsection "Energy" in the EPP EIR, which concluded that the future development consistent with the EPP would result in a marginal increase in energy demand. The increase was determined to be less-than-significant with adherence to existing policies in the General Plan OSCAR element.

Implementation of the land use designations and zoning amendments proposed as part of the project would not result in development patterns substantially different from what was proposed in the EPP EIR, but would increase allowable densities and intensities of certain land uses, particularly residential, mixed-use, and commercial in select Plan Area locations. Because the CEIG proposes development and

population growth assumptions specific to the Central Estuary Planning Area that were not previously considered in the EPP EIR, this draft SEIR presents an updated analysis of potential impacts to utilities and service systems within the Plan Area. The analysis of potential impacts to service systems based on an updated Water Supply Assessment (WSA) prepared by the East Bay Municipal Water District (EBMUD), as well as updated information regarding the existing conditions of the utility infrastructure in the Plan Area.

Findings of the Housing Element Initial Study

Development resulting from the Housing Element would be infill development in built-up areas or redevelopment of existing sites. The Housing Element Initial Study determined that compliance with General Plan policies found in the LUTE Element, LUTE EIR Mitigation Measure D.2-2, and SCA 91, Stormwater and Sewer, would ensure that impacts to wastewater treatment standards are less than significant. Impacts related to stormwater drainage capacity would be less than significant, and compliance with General Plan policies in the OSCAR Element, Policy T5.3 from the LUTE Element, and SCAs 78, Site Design Measures for Post-Construction Stormwater Management; and SCA 80, Post-Construction Stormwater Management Plan, would further reduce impacts.

The Housing Element Initial Study also determined that compliance with General Plan policies from the OSCAR Element, and Housing Element Action 7.4.2, along with green building or LEED certification objectives could reduce impacts on potable water demands to less than significant. In terms of supply infrastructure and conveyance facilities, EBMUD manages the regional conveyance system used to transport potable water supplies to each jurisdiction and customers in its service area. EBMUD also manages and maintains all the WTPs; any improvements or expansions are ultimately the responsibility of EBMUD; therefore, impacts to facilities as a result of implementation of the Housing Element were determined to be less than significant. As stated previously, EBMUD demand surveys conducted during preparation of its WSMP 2040 accounted for demands associated with buildout of the Housing Element along with demands throughout its service area. Moreover, EBMUD has adequate supplies from its diversions on the Mokelumne River coupled with supplies from the FRWP to serve demands under all hydrologic conditions; therefore, cumulative impacts to water supplies are less than significant.

Impacts related to solid waste were determined to be less than significant, and compliance with LUTE EIR Mitigation Measures D.4-1a, D.4-1b, and D.4-1c, and Actions from the Housing Element, as well as Chapter 15.34 of the Municipal Code

and SCA-36, Waste Reduction and Recycling, would further reduce impacts. There are adequate supplies of gas, and electricity for residential growth planned under the Housing Element. Furthermore, energy conservation measures under Title 24 and the City's Green Building Guidelines would minimize future energy demand. Impacts related to energy would be less than significant with compliance with various General Plan, Municipal Code requirements, and SCAs that reduce impacts. Also, compliance with actions of the Housing Element would further reduce impacts.

Existing Conditions

Electricity and Natural Gas

Pacific Gas and Electric Company (PG&E) supplies electricity to approximately 5.1 million electric customers throughout northern and central California, including customers in the City of Oakland. In 2010, PG&E's electric power was supplied by natural gas power plants (accounting for 19.6 percent of its power), nuclear generation (23.8 percent of the total power), large hydroelectric facilities (15.6 percent), renewable sources, such as wind, geothermal, biomass, and small hydro power (15.9 percent), and coal and other fossil fuel (2.2 percent).[4546]

Electricity is transported via a grid of high-voltage transmission lines to seven main substations in Oakland. These substations contain transformers that "step down" or reduce electricity to lower voltages for distribution. Local electricity capacity is a function of the capacity of the transmission network to convey power to the city, the capacity of substations to step down electricity to consumer voltages, and the capability of the local distribution network to deliver power to customers. Electricity is transmitted by overhead cables within the majority of the Plan Area, which may restrict future development unless relocated or moved underground. In addition, the capacity of existing electrical equipment may be limited.[47]

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[45] Pacific Gas & Electric Company, "PG&E's 2010 Electric Power Mix to Retail Customers accessed on May 31, 2012 at http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/index.shtml.

[46] PG&E's electric power mix estimates an additional 22.9 percent of is power was supplies by other "unspecified sources".

[47] Arup, 2009. Personal communication with Circlepoint regarding existing conditions report May 4, 2011.

PG&E also provides natural gas to the City of Oakland through a coordinated network of underground natural gas reservoirs, long distance transmission pipelines, and local distribution pipelines.

Stormwater

The Alameda County Flood Control and Water Conservation District (ACFCWCD) provides flood control services to the City of Oakland. The ACFCWCD's flood control infrastructure includes hundreds of miles of pipelines, channels, creeks, erosion control measures and pump stations. The City of Oakland is within Zone 12, which also includes the City of Emeryville.

The City of Oakland is responsible for building and maintaining the local storm drains that feed into the ACFCWCD's flood control system. Oakland maintains a storm drain system built between 1920 and 1950 consisting of 370 miles of pipes, 40 miles of creeks, five pump stations as well as other facilities including flood control dams, erosion control devices and tide gates.[48] New developments in the City of Oakland are required to mitigate peak flows through use of detention basins. If there is concern about possible contaminants in the water, bioswales or other filtration features may also be required (see **Section 4.5.7, Hydrology and Water Quality**).

The Plan Area contains two existing major storm drain system lines along Fruitvale Avenue and 37th Avenue. These two lines are reportedly operating near capacity and are identified in the City's Storm Drain Master Plan for recommended upgrades.[49]

Water Supply

Based on 2010 census data, the EBMUD water system serves 1.3 million people in a 332-square-mile area extending from Crockett on the north, southward to San Lorenzo (encompassing the major cities of Oakland and Berkeley), eastward from the San Francisco Bay to Walnut Creek, and south through the San Ramon Valley.[50] On an average annual basis, 90 percent of the water used by EBMUD comes from

[48] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study.

[49] Arup, 2009. Personal communication with Circlepoint regarding existing conditions report May 4, 2011.

[50] EBMUD, 2011. Urban Water Management Plan 2010.

the Mokelumne River watershed. EBMUD's secondary water supply source is local runoff from the East Bay area watersheds that is stored in terminal reservoirs located within the service area boundaries.

In general, the EBMUD water supply system collects water from the Mokelumne River, located on the western slope of the Sierra Nevada, and then transports, treats, and distributes water to customers in Alameda and Contra Costa counties. The supply system consists of a network of reservoirs, aqueducts, treatment plants, pumping stations, and distribution facilities. EBMUD has water rights and facilities to divert up to a daily maximum of 325 million gallons, which equates to approximately 364,000 acre-feet annually (AFA) from the Mokelumne River.[51]

EBMUD's water demand projections account for anticipated demands within EBMUD's service boundaries for variations in demand-attributed changes in development patterns. A summary of EBMUD's demand and supply projections over the next thirty years is provided in **Table 4.5-3**. The normal year water supply for 2010 was over 216 million gallions per day (mgd) and is expected to increase to 230 mgd by the year 2040, according to the EBMUD's Urban Water Management Plan 2010 (UWMP 2010) adopted in June 2011.Conditions that could, depending on hydrology, restrict EBMUD's ability to receive its full 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.
- Variability in rainfall and runoff.

Table 4.5-3 East Bay Municipal Utility District Demand and Supply Projections

EBMUD Demand and Supply Projections	2010	2015	2020	2025	2030	2035[1]	2040
Projected Demand (MGD)							
Customer Demand[2]	251	266	280	291	304	308	312
Adjusted for Cumulative Conservation[3]	(26)	(32)	(43)	(49)	(56)	(59)	(62)
Adjusted for Recycled Water[4]	(9)	(11)	(16)	(18)	(19)	(20)	(20)

[51] EBMUD, 2012. Water Supply Assessment – CEIG.

EBMUD Demand and Supply Projections	2010	2015	2020	2025	2030	2035[1]	2040
Planning Level of Demand	216	223	221	224	229	229	230
Projected Available Supply and Need for Supplemental Supply (MGD5)							
Normal Year	>216	>223	>221	>224	>229	>229	>230
Supplemental Supply Need	0	0	0	0	0	0	0
Single Dry Year (Multiple Dry Years – Year 1)							
Available Supply	211	217	215	218	223	222	222
Customer Rationing[6]	2%	3%	3%	3%	3%	3%	4%
Supplemental Supply Need[7]	5	6	6	7	7	8	8
Multiple Dry Years – Year 2							
Available Supply	183	189	188	190	194	194	195
Customer Rationing[6]	15%	15%	15%	15%	15%	15%	15%
Supplemental Supply Need[7]	21	21	21	21	22	22	22
Multiple Dry Years – Year 3							
Available Supply	183	189	188	190	183	164	144
Customer Rationing[6]	15%	15%	15%	15%	15%	15%	15%
Supplemental Supply Need[7]	21	21	21	21	33	53	73
Three-Year Drought							
Total Supplemental Supply Need (TAF)[7]	53	54	54	55	69	93	115

Source: EBMUD, 2011

Notes:

[1] Projected demand for 2035 is interpolated.

[2] Customer demand values are based on the demand projections from the "2040 Demand Study," Feb 2009. These projected water demands are based on land use in EBMUD's ultimate service area and is unadjusted for conservation and non-potable water. The values are also unadjusted for the current suppressed demand due to the 2007-2010 rationing period and the economic downturn.

[3] Existing conservation saving from the "1994 Water Conservation Master Plan" and planned conservation program savings based on the "2011 Water Conservation Master Plan".

[4] Existing recycled water achieved per the "1993 Water Supply Management Program" and planned recycled water program as outlined in Chapter 5 of the UWMP 2010.

[5] Projected available supply data includes dry year supply deliveries from the Freeport Regional Water Project (FRWP) and Bayside Groundwater Project, Phase 1. Delivery rules for the FRWP follow the rules as developed in the Freeport EIR, 2003.

[6] Rationing reduction goals are determined according to projected system storage levels in the Long-Term Drought Management Program guidelines per Table 3-2 in Chapter 3 of the UWMP 2010.

[7] The supplemental supply need is based on EBMUDSIM modeling studies. It is the amount of water needed based on EBMUD's updated demand projections, the provisions of the 1998 Joint Settlement Agreement and the rationing policy stated in Table 3-2, Chapter 3 of the UWMP 2010. The actual need will be dependent on antecedent conditions and the severity of actual drought conditions. Supplemental supply stored during the initial year of the drought could be later released, diminishing supplemental supply needs. During the drought that continued into 2010, the combined effects of water rationing and an economic downturn suppressed demand below the planning level of demand to maintain a sufficient water supply and deferred the need for supplemental water. However, if the drought had continued into its second year, most likely supplemental supplies would have been obtained from the Freeport Regional Water Facility as anticipated in the Interim Drought Management Program Guidelines discussed in Appendix G-2.

During prolonged droughts, the Mokelumne River supply cannot meet EBMUD's projected customer demands. However, EBMUD's system storage generally allows it to continue serving its customers during dry-year events. EBMUD imposes rationing based on the projected storage available at the end of September. By imposing rationing in the first dry year of potential drought periods, 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. The UWMP 2010 summarizes the Drought Management Program guidelines for consumer water reduction goals based on projected system storage.

In **Table 4.5-3**, a "Single Dry Water Year" (or Year 1 of "Multiple Dry Water Years") is determined to be a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving a reduction between 0 to 10 percent 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 10 to 15 percent reduction in customer demand. Year 3 of "Multiple Dry Years" is a year in which EBMUD would implement Drought Management Program elements at the "critical" stage. Despite water savings from EBMUD's aggressive conservation and recycling programs and rationing of up to 15 percent, additional supplemental supplies will be needed during Years 2 and 3 of a three-year drought.

Supplemental Water Supply and Demand Management

The goals of meeting projected water needs and increased water reliability rely on supplemental supplies, improving reliability of existing water supply facilities, water conservation and recycled water programs.

In 2011, EBMUD completed construction of the Freeport Regional Water Facility and the Bayside Groundwater Facility to augment its water supply during drought periods. However, additional supplemental supplies beyond those provided

through these facilities will still be needed, as noted above. The UWMP 2010 describes potential supplemental water supply projects that could be implemented to meet projected long-term water demands during multi-year drought periods. The EIR that EBMUD certified for the Water Supply Management Program 2040 examined the impacts of pursuing these supplemental supply projects at a program level. Separate project-level environmental documentation will be prepared by EBMUD, as appropriate, for specific components as they are developed in further detail and implemented in accordance with EBMUD's water supply needs.

Wastewater

The EBMUD Main Wastewater Treatment Plant (MWWTP) serves approximately 650,000 people in Alameda and Contra Costa Counties.[52] The plant is located in West Oakland near the San Francisco Bay Bridge. Primary wastewater treatment involves the removal of floating materials, oils and greases, sand and silt, and heavier organic solids, while secondary treatment further removes suspended organic and chemical impurities. In Oakland, wastewater flows into the MWWTP through the City's sanitary sewer system, which is comprised of over 1,000 miles of interconnecting sewer pipes built mostly between the 1960s and 1970s.

In 2010, EBMUD treated domestic, commercial and industrial wastewater for approximately 650,000 customers, and the average flow into the plant was 70 million gallons per day (mgd).[53] The EBMUD MMWTP has an average dry weather flow design capacity of 120 mgd. During peak wet weather events, the MWWTP has a primary treatment capacity of up to 320 mgd and a secondary treatment capacity of 168 mgd. However, the EBMUD MWWTP can provide capacity for a short-term hydraulic peak of 415 mgd through operation of an on-site wet weather storage basin.[54]

EBMUD's projections for future flows at the wastewater plant are based on assumptions about the amount of development that will take place within the service area. In areas considered to be fully developed, such as the Plan Area, a 20 percent increase in sanitary flow is assumed, taking possible higher densities into

[52] East Bay Municipal Utility District, " Wastewater Treatment and Sewers" accessed on May 30, 2012 at http://www.ebmud.com/our-water/wastewater-treatment-and-sewers.

[53] East Bay Municipal Utility District, "All About East Bay MUD" accessed on May 30, 2012 at http://www.ebmud.com/sites/default/files/pdfs/All-About-EBMUD-2011.pdf.

[54] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study.

consideration. EBMUD spent approximately $325 million between 1988 and 1998 to construct a wet weather collection and treatment system that was designed to prevent raw sewage from entering San Francisco Bay when heavy rainfall overwhelms the collection and treatment system. The wet weather system, including new large diameter pipelines and three wet weather treatment facilities, was designed to collect wastewater from the seven communities in the EBMUD wastewater service area. EBMUD has been issued an NPDES permit that prohibits discharge from the three existing wet weather facilities. There are no current plans to expand wastewater treatment capacity.[55]

However, when there are major storms, there can be infiltration of stormwater into the aging sanitary sewer system from misconnections, cracks, and other imperfections in system pipes, joints and manholes. This infiltration can lead to a 10-fold increase in the volume of wastewater that reaches EBMUD's sewer pipes and wastewater treatment plant. During wet weather, flows have occasionally exceeded the capacity of the treatment infrastructure, resulting in wastewater discharges into the San Francisco Bay. Contaminated run-off from the existing watersheds draining into Oakland Estuary, including the Plan Area, has resulted in the Oakland Estuary being listed as an impaired water body in the 2006 303(d) list prepared by the State Water Resources Control Board. Sausal Creek and Damon Slough were recently added to the list of impaired water bodies due to the amount of debris/trash present in the waterways.[56]

EBMUD reached a settlement in January 2009 with the Environmental Protection Agency (EPA) and the State Water Resources Control Board to address inadequately treated sewage discharges into the San Francisco Bay during heavy storms. This settlement requires EBMUD to repair leaking private sewer pipes, improve maintenance, and deploy flow meters to identify areas with high wet weather sewage flows and needed repairs. The EPA expects a final solution, which will include EBMUD and the contributing cities, to be developed in the next several years based on the data gathered and the work initiated under the order.[57]

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[55] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study; EPP EIR, 1998.

[56] Arup, 2009. Personal communication with Circlepoint regarding existing conditions report.

[57] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study

Solid Waste

Waste Management of Alameda County (WMAC) provides solid waste collection and disposal services to Oakland homes and businesses through an exclusive franchise agreement with the city. This agreement includes collection and processing of residential yard trimmings and recyclables within the Plan Area. Commercial recycling and organics collection and processing services are provided by independent service providers on the open market.

WMAC hauls Oakland's solid waste the Davis Street Transfer Station (DSTS), a Waste Management facility in San Leandro. WMAC also delivers source-separated residential recyclables and yard trimmings to DSTS, where they are processed and transported to end markets. DSTS operates a Construction & Demolition Material Recovery Facility (MRF) that handles Oakland solid waste, which is typically collected from construction sites or other "dry" accounts.

The DSTS, which has a maximum allowable capacity of 5,600 tons of waste per day, currently receives an average of 3,000-4,000 tons of waste per day.[58] Solid waste delivered to DSTS, and residuals from recycling and MRF operations at DSTS, are transferred to the Altamont Landfill in Livermore for disposal. The Altamont Landfill comprises 480 acres of permitted landfill area, has a maximum disposal rate of 11,150 tons per day, and has an average input of 7,505 tons per day. In 2008, the City of Oakland contributed 767 tons per day, roughly ten percent of the average daily input. Based on current disposal rates, there is sufficient capacity to meet the city's solid waste disposal needs through 2050.[59]

The City of Oakland is subject to several waste reduction targets. Assembly Bill 939, adopted by the State of California in 1989, requires that 50 percent of a local jurisdiction's total waste stream be diverted from landfills. To date, Oakland has successfully achieved the State's 50 percent waste reduction goal through voluntary participation in residential and commercial recycling collection programs. While the State no longer measures waste diversion using the familiar percentage metric,

[58] Rebecca Jewell, Davis Street Transfer Station, personal communication with Circlepoint June 1, 2012.

[59] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study

Oakland's most recent unofficial waste diversion percentage (2009) was 67 percent (2010 estimate is not yet available).[60]

In 2006, the Oakland City Council adopted a Zero Waste Goal striving for diversion of all solid waste generated in the city. Progress toward the Zero Waste Goal is measured by the tons of annual waste placed in landfills, with key milestones at five-year intervals between 2006 and 2020. The adopted Zero Waste Strategic Plan calls for a 90 percent reduction in tons of waste sent to landfills annually, from the then-current 400,000 tons per year to 40,000 tons per year by 2020. In 2010, annual tonnage to landfill reached an historic low of 291,000 tons.[61]

Analysis of Potential Impacts

Would the project:

1. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board? (LTS)

In response to the City's request, EBMUD prepared a water supply assessment memorandum that evaluated the existing and future water demands for the Plan Area, with and without the implementation of the CEIG (see Appendix F). The current estimated water demand for the Plan Area is approximately 600,000 gallons per day. EBMUD predicted that the estimated water demand for the Plan Area would increase to approximately 900,000 gallons per day with the implementation of the CEIG. According to EBMUD, the demand projections for the Plan Area are accounted for in the UWMP 2010. As such, the CEIG is not anticipated to change EBMUD's 2040 demand projections.

The increase in wastewater demand associated with future development under the CEIG can be estimated based on the projection of water demand calculated in EBMUD's water supply assessment for the project (approximately 300,000 gallons per day). Based on typical wastewater generation figures, approximately 80 percent of the water demand would enter the wastewater systems, totaling approximately

[60] City of Oakland, "Informational Report on Status of Zero Waste System Design" (July 12, 2011) accessed on May 31, 2012 at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak030643.pdf.

[61] City of Oakland, "Informational Report on Status of Zero Waste System Design" (July 12, 2011) accessed on May 31, 2012 at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak030643.pdf.

240,000 gallons per day. This additional flow would be within the MWWTP remaining capacity of 250 mgd for primary treatment and 98 mgd for secondary treatment. In addition, the increase in wastewater generation within the Plan Area would be part of the system-wide increases in flow projections anticipated by EBMUD for future wastewater treatment.

EBMUD's MWWTP and associated systems are anticipated to have adequate dry weather capacity to treat the proposed wastewater flows as a result of the future development within the Plan Area, provided that the wastewater meets the requirements of the current EBMUD Wastewater Control Ordinance. The Wastewater Control Ordinance regulates wastewater discharges into the EBMUD wastewater system and includes discharge limits (local limits) for select pollutants.

However, wet weather flows are a concern. EBMUD has historically operated three Wet Weather Facilities (WWFs) to provide treatment for high wet weather flows that exceed the treatment capacity of the MWWTP. On January 14, 2009, due to EPA's and the State Water Resources Control Board's re-interpretation of applicable law, the RWQCB issued an order prohibiting further discharges from EBMUD's WWFs. Additionally, on July 22, 2009 a Stipulated Order for Preliminary Relief issued by EPA, the SWRCB, and RWQCB became effective. This order requires EBMUD to begin work that will identify problem areas, begin to reduce through private sewer lateral improvements, and lay the groundwork for future efforts to eliminate discharges from the WWFs.[62]

Currently, there is insufficient information to forecast how these changes will impact allowable wet weather flows in the individual collection system subbasins contributing to the EBMUD wastewater system. As required by the EPA Order, EBMUD has conducted extensive flow monitoring and hydraulic modeling to determine alternative levels of flow reductions that could result in compliance with the new zero-discharge requirement at the WWFs. It is reasonable to assume that new regional requirements to reduce wet weather flows may be developed in the East Bay, but the schedule for implementation of any new requirements has not yet been determined.

In the interim, it is recommended that any planned projects include sewers that are designed and constructed in a manner that will exclude infiltration and inflow (I/I) to

[62] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study

the maximum extent practicable. In particular, redevelopment projects should carefully assess the condition of existing sewer infrastructure and consider replacement with improved pipe materials that are designed and constructed to exclude I/I.[63] In response to EBMUD's request, the city requires project applicants to incorporate the following measures into development projects: (1) replace or rehabilitate any existing sanitary sewer collection systems to reduce inflow and infiltration, and (2) ensure any new wastewater collection systems for new development projects are constructed to prevent infiltration and inflow to the maximum extent feasible. These measures are incorporated as SCA-91, Stormwater and Sewer, below. In addition, SCA 91, Stormwater and Sewer, requires that development projects under the CEIG would pay fees that would enable the city to minimize increases in I/I to offset sanitary sewer increases from the development (see item 2 above).

Given the above points, and the incorporation of SCA-91, Stormwater and Sewer the additional wastewater generated by future development within the Plan Area is not expected to exceed current wastewater treatment capacity at the MWWTP. Impacts to wastewater systems from the implementation of the CEIG would thus be less than significant.

2. Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects? (LTS)

New development within the urban infill sites is not expected to substantially increase impervious area within the Plan Area, and so stormwater flow into the city and ACFCWCD systems should not substantially increase. However, as previously discussed, the two existing storm drain systems within the Plan Area are operating at capacity, and cannot take any additional run-off from future development. The City's Storm Drain Master Plan recommends upgrades to the two major storm drainage lines to improve storm drainage capacity.

The following General Plan policies and SCA 91, Stormwater and Sewer, are in place to ensure increased flows or flow of sediment or debris into the city and ACFCWCD system would be minimized.

[63] Vince De Lange, P.E., Senior Civil Engineer, Supervisor of Wastewater Planning, East Bay Municipal Utility District. Personal communication with Caitlin Chase on July 18, 2012.

OSCAR

Policy CO-1.1: Regulate development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.

Action CO-1.1.1: Maintain, enforce, and periodically review development controls affecting soil removal, including the Grading Ordinance and the Sedimentation and Erosion Control Ordinance.

Action CO-6.1.2: Strengthen the Watercourse Protection Ordinance by adding development guidelines for properties abutting creeks and drainage courses, and provisions for conservation easements. These guidelines and provisions should ensure that natural drainage patterns are maintained as much as possible when new development occurs.

Action CO-5.3.2: Improve maintenance of storm drain inlets, channels, pipes, and catch basins to ensure their proper operation and to reduce the amount of debris and sediment flowing to creeks. Operate a regular OPW debris removal program to ensure that storm flows can be accommodated and that erosion resulting from clogged storm drains is minimized. As funding permits, replace antiquated drains with adequate capacity to convey stormwater runoff during the rainy season.

Standard Conditions of Approval

SCA 91: Stormwater and Sewer.
Timing: Prior to completing the final design for the project's sewer service.

Confirmation of the capacity of the city's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management

Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

The volume of run-off from Plan Area will likely be reduced due to new regulations and strict design protocols for stormwater systems. As part of the design review process for future projects, comparisons of runoff prior to development are compared with post development runoff to ensure that the development will not result in increased flow levels. The city refers each development to ACFCWCD, which reviews the project and imposes mitigation measures if the project exceeds previous stormwater flow. Project plans are reviewed by the Oakland Public Works Agency to make sure that the site design provides for adequate site drainage to moderate water flows to the city's storm drain system located in the public right-of-way.[64] Implementation of these standard design review processes and SCA requirements would ensure that impacts to stormwater systems within the Plan Area would be less than significant.

3. 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? (LTS)

In response to the City's request, EBMUD prepared a water supply assessment memorandum that evaluated the existing and future water demands for the Plan Area, with and without the implementation of the CEIG (see **Appendix F**). The current estimated water demand for the Plan Area is approximately 600,000 gallons per day. EBMUD predicted that the estimated water demand for the Plan Area would increase to approximately 900,000 gallons per day with the implementation of the CEIG. According to EBMUD, the demand projections for the Plan Area are accounted for in the UWMP 2010. As such, the CEIG is not anticipated to change EBMUD's 2040 demand projections.

In addition to pursuing supplemental water supply sources, EBMUD also maximizes resources through continuous improvements in the delivery and transmission of available water supplies, and investments in ensuring the safety of its existing water supply facilities. These programs, along with emergency interties and planned

[64] City of Oakland, 2009. General Plan – Housing Element Update 2007-2014 – Initial Study

water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the Plan Area. The implementation of the CEIG would therefore not exceed water supplies available from existing entitlements and resources, nor require or result in construction of water facilities or expansion of existing facilities

In addition, future development under the CEIG presents an opportunity to incorporate water conservation measures. Implementation of SCA 12, Required Landscape Plan for New Construction and Certain Additions to Residential Facilities, would require all new residential construction over 500 square feet to prepare a landscaping plan that incorporate pest-resistant and drought-tolerant landscaping practices. This would ensure that the future development under the CEIG, which would likely propose moderate landscaping areas, implemented a landscaping plan that did not incorporate plant types that require significant water use.

Any future development proposing a landscaping area equal to or greater than 2,500 square feet would also require that the landscaping plan meet the provisions of the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495), as cited in EBMUD's water supply assessment memo. The landscaping ordinance sets up the specific water efficiency standards to be incorporated into the larger landscaping plans, and is largely consistent with the existing requirements of SCA 12, Required Landscape Plan for New Construction and Certain Additions to Residential Facilities.

For larger projects that would require additional environmental review and public circulation, EBMUD staff would be afforded the opportunity to conference with project applicants to discuss water conservation programs and best management practices applicable to such projects. At that time, future project applicants could explore opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the proposed development. EBMUD has indicated that the future development under the CEIG may not be a likely candidate for recycled water due to minimal irrigation demand and the potential high cost to provide recycled water to the Plan Area. However, these options could be explored as part of the project-level environmental review process, as applicable.

Central Estuary Design Guidelines

The proposed project includes Design Guidelines that are intended to reduce water demands associated with future development in the Plan Area. The following guideline would ensure that water used for landscaping purposes in the Plan Area would not be used in a wasteful manner:

- Incorporate an irrigation system (drip irrigation systems are recommended) to ensure proper irrigation of plants during establishment and to protect against potential drought conditions in the long-term. Rainwater harvesting systems should be used to supplement irrigation and capture additional runoff from the project.

4. **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? (LTS)**

Refer to Utilities and Service Systems Threshold 1 discussion.

5. **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? (LTS)**

   and

6. **Violate applicable federal, state, and local statutes and regulations related to solid waste? (LTS)**

As discussed in **Section 4.5.10, Population and Housing**, the new development allowable under the CEIG could result in the increase of approximately 1,051 persons living within the Plan Area, and approximately 998 new jobs. Given the solid waste generation rates listed in **Table 4.5-4**, the increase in solid waste volume associated with this new development would be approximately 7.5 tons/day. This represents less than 0.1-percent of the maximum disposal rate (11,150 tons per day) for the Altamont Landfill, and represents a one percent increase in the city's

current daily solid waste contribution to the landfill (767 tons per day). Thus, the increase in new development under the CEIG would not exceed the capacity of a permitted landfill, and would not represent a significant increase in the demands for solid waste disposal.

Table 4.5-4 Waste Disposal Rates for Future Development within the Plan Area

Rate Type	Disposal Rate (pounds/person/day)[a]	Future Growth Under CEIG	Total Additional Waste Generation
Population	4.0	1,051 residents	2.1 tons/day
Employment	10.8	998 employees	5.4 tons/day
		Total	**7.5 tons/day**

Notes:
[a] Based on the jurisdictional diversion/disposal rate detail for the City of Oakland (2010), available at CalRecycle (http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionDetail.aspx?JurisdictionID=345&Year=2010); accessed May 31, 2012.
Source: Circlepoint, 2012.

Compliance with the regulatory measures listed below would further ensure that potential solid waste impacts would be reduced.

Housing Element

Action 7.4.3: *Waste Reduction.* Encourage, where feasible, multifamily developments to comply with the City's Zero Waste Plan.

Action 7.4.5: *Recycled Content of Building Materials.* Encourage, where feasible, the use of building materials with high recycled content.

Action 7.4.6: *Re-Use of Building Materials.* Encourage, where feasible, the re-use of building materials to reduce construction waste. Also encourage the reuse and rehabilitation of the city's historic building stock, using the General Plan's goal D6.2 as a guide.

Oakland Municipal Code

Chapter 15.34: Requires a Recycling and Waste Reduction Plan for construction and demolition activities. Developers are required to submit a construction

Waste Reduction and Recycling Plan (WRRP) that covers the construction phase. The City's Public Works and Community and Economic Development Agencies share review and approval of these plans.

Chapter 17.118: Requires new multifamily residential buildings of over 5 units to provide adequate, accessible, and convenient locations for the collection and storage of recyclable materials within containers and enclosures which are compatible with surrounding land uses and structures. This conforms with Chapter 18 of Division 30 of the CA Public Resources Code (commencing with Section 42900), known as the California Solid Waste Reuse and Recycling Access Act of 1991.

Standard Conditions of Approval

SCA 36: Waste Reduction and Recycling.
Timing: Prior to issuance of demolition, grading, or building permit

The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval. Timing: Prior to issuance of demolition, grading, or building permit.

Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of $50,000 or more (except R- 3), and all demolition (including soft demo). The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current city requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or at the building permit counter. After approval of the plan, the project applicant shall implement the plan.

Timing: Ongoing. The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current city requirements. The proposed program shall be in implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Planning Division of the Community and

Economic Development Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

The City is currently meeting or projected to meet local and State solid waste reduction targets. Because proposed development under the CEIG would represent only a small percent of the waste generated citywide, and because new development would be required to comply with the General Plan and Municipal Code policies listed below, it is expected that new development would not cause the city to fall out of compliance with existing solid waste requirements and would not violate applicable federal, state or local solid waste statutes and regulations. Impacts would be less than significant.

City of Oakland Ordinances

Construction and Demolition Ordinance: The city adopted the Construction and Demolition Ordinance to encourage development and redevelopment at higher intensities to reuse, salvage, and recycle construction and demolition debris in an effort to conserve natural resources, reduce the need for landfill space, and to stimulate markets for recycled resources. The Ordinance would apply to project that meet one of the following criteria:

1. New construction;
2. Non-residential or apartment house (3+ units) demolition; and
3. Non-residential or apartment house (3+ units) addition or alteration valued at or greater than 450,000 adjusted to year 2000 dollar values.

Projects must provide documentation calculating itemized and total volumes/weights of the materials proposed for reuse or salvage, and materials proposed for landfill. Documentation must show that at least 50 percent of the volume will be diverted and the proposal must be approved prior to obtaining a demolition and building permit.

Recycling Space Allocation Ordinance: Adopted as a result of State Assembly Bill 1327 (AB 1327), this ordinance requires certain developments to provide space for the collection and loading of recyclable materials in conformance with the standards established by the Integrated Waste Management Board. The Ordinance may apply to following projects:

1. New construction of public facilities where solid waste is collected and loaded and improvements to existing areas where solid waste is collected and loaded;

2. New construction of residential (5+ units) where solid waste is collected and loaded for 5 or more living units, and additions to existing residential (5+ units) adding 30 percent or more to the gross floor area; and
3. New construction of marinas, commercial, and industrial uses and additions to existing commercial and industrial uses adding 30 percent or more to the gross floor area; and
4. Multi-tenant residential, commercial, and industrial uses where applications are submitted for the entire project or by a single tenant, which singly or collectively add 30 percent or more to the gross floor area.

Projects are required to provide adequate, accessible and convenient areas for collecting and loading recyclable materials.

7. Violate applicable federal, state and local statutes and regulations relating to energy standards? (LTS)

All new development within the Plan Area is subject to Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings. Thus, new development under the CEIG would not violate state or local statutes or regulations relating to energy standards. No impact would occur.

8. Result in a determination by the energy 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 energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects? (LTS)

New development under the CEIG would result in the consumption of energy resources during construction, such as electricity, natural gas, and petroleum products. Once operational, the new development would also result in additional demands for the energy systems provided by PG&E for heating, cooling, ventilating, and lighting.

As discussed in **Section 4.5.10, Population and Housing**, the amount of allowable development under the CEIG would not induce substantial growth in a manner not contemplated in the General Plan, assuming the General Plan is amended by the CEIG project. PG&E uses ABAG projections based on land use development patterns

outlined in the local planning documents, like the City's General Plan, to forecast future service demands. As such, the amount of allowable development would not likely exceed future demand forecasts evaluated by PG&E.

However, due to the limited capacity of the existing power lines and equipment in the Plan Area, future development may require the installation of additional facilities (e.g. substations, transformers, switchgear, upgrading or relocation of existing cable/conduit). If necessary, PG&E would reinforce or expand its electric distribution facilities to meet increasing demands. The location of any expanded or reinforced facilities would be in a franchise area (i.e., any area that is not private property). Construction could result in environmental impacts such as loss of trees or erosion impacts. Nonetheless, the City of Oakland has jurisdiction over the PG&E easements; therefore, all General Plan policies, Municipal Code regulations, and SCAs would apply to the construction of new energy facilities within the city.

In addition, the below actions would help reduce energy reliance on PG&E services, thereby reducing the potential need to expand gas and electric facilities in the Plan Area.

State Regulations

California Green Building Standards Code (CALGreen): As of January 2011, new construction projects are required to comply with CALGreen which requires all new buildings in the state to be more energy efficient and environmentally responsible thorough comprehensive regulations that include a mix of prescriptive- and performance-based standards. CALGreen requirements for projects include:

- Reducing water consumption for 20 percent;
- Divert 50 percent of construction waste from landfills;
- Install low-pollutant-emitting materials;
- Include separate water meters for non-residential buildings' indoor and outdoor water use;
- Install moisture-sensing irrigation systems for larger landscape projects; and
- Include mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for non-residential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies.

Title 24, California Code of Regulations: Title 24, Part 6, of the California Code of Regulations (Energy Efficiency Standards for Residential and Nonresidential Buildings) was established in 1978 in response to a legislative mandate to reduce California's energy consumption. The State of California updates the Title 24 standards periodically to allow for the incorporation of new energy efficiency technologies and methods. These standards provide detailed minimum energy efficiency requirements for new construction. The standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. Compliance with these standards is verified and enforced through the city's design review and permitting process.

Housing Element

Action 7.2.1: *Energy and Climate Action Plan.* Consider opportunities and develop a prioritized comprehensive plan to minimize consumption of energy through conservation and efficiency and to increase use of energy from renewable energy technologies.

Action 7.2.2: *Alternative Energy Production.* Continue to review plans for residential construction, taking into account building orientation, street layout, lot design, landscaping, and street tree configuration, with the intent of maximizing solar access and cooling opportunities. Provide information and tools such as a solar energy generation calculator to assist the public in capitalizing on opportunities to generate renewable energy.

Action 7.2.3: *Technical Assistance.* Continue to educate people about the advantages of energy conservation and provide technical assistance to help new construction or remodeling projects achieve superior levels of energy efficiency.

City of Oakland Ordinance

Green Building Ordinance: Oakland's Green Building Ordinance applies to new construction, additions or alterations of residential building and large landscape projects, as well as the demolition of historic resources. The Green Building Ordinance is designed to reduce energy use, conserve water and other natural resources, limit solid waste during construction and operation and promote healthy indoor air quality.

Standard Condition of Approval

SCA H: Compliance with the Green Building Ordinance, OMC Chapter 18.02:
Timing: Prior to issuance of a demolition, grading, or building permit.

The applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the Green Building Ordinance, OMC Chapter 18.02.

a) The following information shall be submitted to the Building Services Division for review and approval with the application for a building permit:
   i. Documentation showing compliance with Title 24 of the 2008 California Building Energy Efficiency Standards.
   ii. Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit.
   iii. Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit.
   iv. Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (b) below.
   v. Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance.
   vi. Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit.
   vii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

b) The set of plans in subsection (a) shall demonstrate compliance with the following:
   i. CALGreen mandatory measures.
   ii. All pre-requisites per the LEED / GreenPoint Rated checklist approved during the review of the Planning and Zoning permit, or, if applicable, all the green building measures approved as part of the Unreasonable Hardship Exemption granted during the review of the Planning and Zoning permit.

iii. [Insert green building point level/certification requirement: (See Green Building Summary Table; for New Construction of Residential or Non-residential projects that remove a Historic Resource (as defined by the Green Building Ordinance)] the point level certification requirement is 75 points for residential and LEED Gold for non-residential) per the appropriate checklist approved during the Planning entitlement process.

iv. All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Planning and Zoning Division that shows the previously approved points that will be eliminated or substituted.

v. The required green building point minimums in the appropriate credit categories.

During construction: The applicant shall comply with the applicable requirements CALGreen and the Green Building Ordinance, Chapter 18.02.

a) The following information shall be submitted to the Building Inspections Division of the Building Services Division for review and approval:

i. Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit.

ii. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance.

iii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

After construction, as specified below: Within sixty (60) days of the final inspection of the building permit for the project, the Green Building Certifier shall submit the appropriate documentation to Build It Green / Green Building Certification Institute and attain the minimum certification/point level identified in subsection (a) above. Within one year of the final inspection of the building permit for the project, the applicant shall submit to the Planning and Zoning Division the Certificate from the organization listed above demonstrating certification and compliance with the minimum point/certification level noted above.

SCA I[65]: Compliance with the Green Building Ordinance, OMC Chapter 18.02, for Building and Landscape Projects Using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist.
Timing: Prior to issuance of a building permit.

The applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the Green Building Ordinance, (OMC Chapter 18.02.) for projects using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist.

a) The following information shall be submitted to the Building Services Division for review and approval with application for a Building permit:
    i. Documentation showing compliance with the 2008 Title 24, California Building Energy Efficiency Standards.
    ii. Completed copy of the green building checklist approved during the review of a Planning and Zoning permit.
    iii. Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below.
    iv. Other documentation to prove compliance.
b) The set of plans in subsection (a) shall demonstrate compliance with the following:
    i. CALGreen mandatory measures.
    ii. All applicable green building measures identified on the StopWaste.Org checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted.

During construction: The applicant shall comply with the applicable requirements of CALGreen and Green Building Ordinance, Chapter 18.02 for projects using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist.

[65] SCA I applies to projects that are rated using the Small Commercial or Bay Friendly Basic Landscape Checklists.

a) The following information shall be submitted to the Building Inspections Division for review and approval:

   i. Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit.

   ii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

Compliance with Title 24 energy efficiency standards and implement General Plan Actions 7.2.1, 7.2.2, 7.2.3 would reduce energy reliance on PG&E services and therefore reduce the need for expanded gas and electric service lines in the Plan Area. The need for new gas and electric facilities would be assessed on a site-by-site basis, as future projects are proposed. Given that any new improvements would be subject to all SCAs, design, and environmental review, future expansion of these types of service lines would be less-than-significant. No mitigation is required

4.5.14 CUMULATIVE ANALYSIS

The cumulative analyses of aesthetics, air quality, greenhouse gas emissions/global climate change, noise, and transportation/traffic, are provided in **Sections 4.1, Air Quality,** through **4.4, Transportation/Traffic**, respectively. The cumulative analysis for the remaining environmental topics (i.e., biology, cultural resources, etc.) is discussed below. The cumulative analysis for the environmental topics discussed in **Section 4.5, Other Environmental Topics**, is based on the full build-out of the General Plan, including the recently adopted elements.

Cumulative development includes past, present, and reasonably foreseeable development that could affect the same resources as the project in such a way that a combined physical impact could occur. Given the highly developed nature of the city and the lack of large amounts of undeveloped land within the Plan Area, reasonably foreseeable projects are anticipated to consist of the redevelopment of existing buildings and structures. Such development would be consistent with land uses in the EPP EIR that were previously considered at a cumulative level.

The EPP EIR states that build out of the Oakland Estuary, in combination with city-wide and regional development projections, would result in a cumulatively considerable contribution to significant cumulative impacts related to many resources, including emissions from mobile and stationary sources, degradation of water quality, energy consumption, seismic-related risks, traffic noise, and risks associated with the accidental release of hazardous materials.

As discussed in this chapter, new development under the CEIG would have less-than-significant impacts on many of these resources topics. The analysis provided below establishes whether the project's incremental contribution to the cumulative impacts would be deemed "considerable" under CEQA for these resources. **Table 4.5-5** provides a summary of the cumulative impacts identified in this section.

The project would also have no impact on resource topics that were not previously considered in the EPP EIR, including agriculture and forestry resources and mineral resources. Because the project would not have any effect upon these resources, the project's contribution to any identified cumulative impact upon these resources *would not* be considerable.

Aesthetics

The cumulative setting for aesthetics includes any proposed development and/or cumulative projects within the same viewshed as the Plan Area. As analyzed in **Section 4.5.1, Aesthetics**, future development under the CEIG would not result in a significant aesthetic impact. Future development would be consistent with the City's Design Guidelines established in the Planning Code; and together with the past, present, and reasonably foreseeable development projects, would be subject to the City's design review process. The purpose of the design review process is to consider the design treatment and relationship of buildings to the surrounding built environment and ensure no significant adverse aesthetic impacts would result. Thus, development under the CEIG would not combine with, or augment, any potential adverse aesthetic impacts that may be associated with other cumulative development.

and the City of Alameda. As explained in **Section 4.5.3, Biological Resources**, most natural areas in the Plan Area have been completely developed; however, several sensitive species and rare vegetation communities still exist. As such, development under the CEIG, as well as other past, present, and reasonably foreseeable development projects within the city, could have a significant cumulative impact on sensitive wildlife and plant species.

Agricultural and Forest Resources

The project would also have no impact on agriculture and forestry resources and would therefore not contribute considerably to any cumulative impact upon these resources.

Table 4.5-5 Comparison of Cumulative Impacts for Other Resource Topics

Resource Area	EPP EIR Cumulative Impact	Project Impact	Cumulatively Considerable Project Impact?
Aesthetics	Beneficial impacts from the creation of more visually distinctive areas and memorable gateways. Less-than-significant impact associated with changes in the visual character of the area from increased density development.	LTS	No
Agricultural and Forest Resources	Not Included	No Impact	No
Biological Resources	Less-than-significant impact associated with the loss of habitat for special-status vegetation and wildlife.	LTS	No
Cultural and Paleontological Resources	Less-than-significant impacts to historic and archeological resources with the implementation of the City's "plans and policies"	LTS	No
Geology and Soils	Less-than-significant impact related to increasing the number of persons exposed to seismic-related risks from property damage, injury, and death	LTS	No
Hazards and Hazardous Materials	Less-than-significant impact related to increasing the number of land uses that both use and dispose of hazardous materials.	LTS	No
Hydrology and Water Quality	Less-than-significant impact related to increasing the amount of runoff that contributes to the degradation of water quality in the San Francisco Bay.	LTS	No
Land Use and Planning	Not Included	LTS	No
Mineral Resources	Not Included	No Impact	No
Population and Housing	Not Included	LTS	No
Public Services	Not Included	LTS	No
Parks and Recreation	Not Included	LTS	No
Utilities and Service Systems	Not Included	LTS	No

Source: Circlepoint, 2012.

Biological Resources

The cumulative setting considered for the biological resources cumulative analysis is the City of Oakland, including the channels and waterways between the Plan Area

New development under the CEIG and other future projects in the city 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. 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. As explained in **Section 4.5.3, Biological Resources**, biological impacts resulting from the CEIG are considered less than significant. Therefore, given the heavily urbanized context, the effect of the project on biological resources, in combination with other foreseeable similar projects, would likely be less than significant. Given the number of similar development projects currently in progress, as well as those proposed at this time within the geographic context of this analysis, the incremental contribution of development under the CEIG towards cumulative biological impacts is not considered to be cumulatively considerable.

Cultural and Paleontological Resources

The cumulative setting considered for the cultural and paleontological resources cumulative analysis is the City of Oakland. Construction activities associated with the CEIG and past, present, and reasonably foreseeable future projects could result in significant impacts to both recorded and unknown archaeological, historic, and paleontological resources. However, similar to construction under the CEIG, future projects have or would be subject to the General Plan policies of the Historic Preservation Element, as well as the City's SCAs, which are designed to protect cultural and paleontological resources. The policies and conditions of approval also include provisions to ensure the discovery of human remains is reported to the proper authorities. Compliance with these policies and codes would reduce any potentially significant impacts to cultural and paleontological resources to a less-than-significant level. Therefore, implementation of the CEIG, together with the impact of past, present, and reasonably foreseeable future development in the city, would not result in a significant cumulative impact to cultural or paleontological resources.

Geology and Soils

Potential cumulative geology and seismic impacts do not typically extend beyond a project's boundaries since such geological impacts are typically confined to discrete spatial locations and do not combine to create an extensive cumulative impact. The development effects from the CEIG could affect the geology of an off-site location. As such, no significant cumulative impacts from risks associated with the geological and soils in the area would occur.

Hazards and Hazardous Materials

The cumulative setting considered for potential public health or hazards cumulative impacts consists of an area within a quarter-mile of the Plan Area, and the area along transportation routes within the City of Oakland that are used for the routine transport of hazardous materials. With the exception of transport, hazards and hazardous materials impacts associated with accidental exposure are generally site-specific and/or have limited mobility, and would not be expected to have cumulatively considerable effects beyond a quarter-mile.

Development and construction activities could increase the exposure of persons to hazardous materials, including contaminated soil, soil gas, groundwater, hazardous construction materials, and lead and asbestos. However, the use, storage, and disposal of hazardous materials has been increasingly regulated by local, State, and federal laws and regulations, as explained in **Section 4.5.6, Hazards and Hazardous Materials**. The historical trend within the regulatory community has been to strengthen the standards regarding the use, handling, and transport of hazardous materials, thereby minimizing the risk to public health, safety, and welfare. All of the future development within the Plan Area and immediately surrounding areas will be subject to these rigorous controls for site remediation and development. The current and future transport of hazardous materials within the cumulative setting will also be subject to these escalating regulations and any applicable City SCAs. As a result, the cumulative hazardous materials risks will not be significant. Additionally, compliance with the strict regulatory requirements associated with handling of hazardous materials would reduce the potential for any cumulatively considerable contribution from the future development under the CEIG to any potential cumulative impact.

Hydrology and Water Quality

The cumulative setting considered for the hydrology and water quality cumulative analysis consists of the area within the City of Oakland whose stormwaters discharge to the San Francisco Bay.

As discussed in **Section 4.5.7, Hydrology and Water Quality**, the Plan Area is largely developed with urban land uses. Future development within the Plan Area would consist of infill and redevelopment of existing buildings and structures, and would not result in an increase in the amount of impermeable surface area in the Plan Area. As such, the project would have no impact on groundwater recharge or the generation of stormwater flows that would exceed the capacity of existing and planned stormwater systems. No contribution to these types of cumulative impacts to hydrology would occur as a result of the project.

Stormwater runoff from development under the CEIG could combine with runoff from past, present, and reasonably foreseeable development within the city, and result in a violation of water quality standards or discharge requirements. The cumulative effect to the potential impairment of water quality is considered a significant cumulative impact. However, all future development within the city, including the Plan Area, would be required to comply with any applicable stormwater regulations enforced by the State Water Resources Control Board and Regional Water Boards through the NPDES permitting process. These requirements have resulted in policies and regulations, including the City's SCAs for stormwater treatment measures. All of the future development within the Plan Area and the city will be subject to these rigorous controls that mandate greater levels of protection to water quality. As a result, the cumulative impact to water quality will not be significant. Additionally, compliance with the strict regulatory requirements for the protection of water quality would reduce the potential for any cumulatively considerable contribution from the future development under the CEIG to any potential cumulative impact.

Land Use and Planning

The cumulative setting considered for the land use cumulative analysis includes the City of Oakland. As analyzed in **Section 4.5.8, Land Use and Planning**, future development under the CEIG would not result in a significant land use impacts related to the physical division an established community; or conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. In addition, the city is not located in or near an area guided by a habitat conservation plan or natural community conservation plan.

Future development under the CEIG would therefore not result in any impacts related to these land use considerations, and would not contribute to similar land use impacts associated with other cumulative development.

Mineral Resources

The project would have no impact on mineral resources and would therefore not contribution to any identified cumulative impact upon these resources.

Population and Housing

The cumulative setting considered for the population and housing cumulative analysis includes the area within the City of Oakland that was evaluated when considering future growth projections. As discussed in **Section 4.5.10, Population and Housing**, it is estimated that these additional residential units could result in the increase of approximately 1,051 persons living within the Plan Area. Although this is currently in excess of population growth anticipated under existing regulations, the project includes general plan amendments. Approval of these amendments would in turn modify "projected growth" under the General Plan to a level equal with the growth projection associated with the project. Therefore, the project would not contribute to a cumulative population and housing impact.

Public Services

The cumulative setting considered for the public services cumulative analysis includes the entire City of Oakland, since the majority of the services provided are provided within the city's jurisdictional boundaries. The increased population and density resulting from future development under the CEIG, in conjunction with past, present, and reasonably foreseeable future development in the city, would result in a cumulative increase in the demand for public service facilities. 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. Increased demands would be considered a significant cumulative impact to Public Services.

As discussed in **Section 4.5.11, Public Services**, all future development within the Plan Area would be established in conformance with General Plan policies, Municipal Code regulations, measures adopted for the LUTE EIR and EPP EIR, and the all applicable City SCAs that would reduce the potential impact on services to less-than-significant levels. In addition, the CEIG is a 20-year planning document. The complete redevelopment of every parcel in the Plan Area needed to achieve the

maximum buildout under the CEIG would be highly unlikely, particularly if assumed to occur in the next two decades alone. Given that the new development allowed for under the CEIG would occur over a long period of time, public services provided to the Plan Area would have adequate time to assess when additional staff or facilities may be required as individual projects are proposed. As a result, implementation of the CEIG, together with the impact of past, present, and reasonably foreseeable future development within the city, would not result in a considerable contribution to cumulative public service impacts.

Parks and Recreation

The cumulative setting considered for the parks and recreation cumulative analysis includes the parks and recreational facilities within the entire City of Oakland. As analyzed in **Section 4.5.12, Parks and Recreation**, all new development within the city would be required to comply with General Plan policies, codes, and SCAs that ensure that all future development include adequate parklands in conformance with the city's parks-to-resident ratio. Compliance with these policies and codes would also prevent the overuse of recreational facilities such that substantial physical deterioration would not occur. Given these requirements, the potential cumulative impacts on parks and public facilities within the city would be mitigated on a site-by-site basis. No significant cumulative impacts would occur.

Utilities and Service Systems

The cumulative setting considered for the utilities cumulative analysis includes the City of Oakland and other communities within the area of applicable service providers (e.g., EBMUD, ACFCWCD). The increased population and density resulting from future development under the CEIG, in conjunction with past, present, and reasonably foreseeable future development in the city, would result in a cumulative increase in the demand for utilities and service systems. This cumulative increase is unlikely to cause the need for new or physically altered facilities or infrastructure in order to maintain acceptable service standards or performance objectives.

Infrastructure planned by EBMUD would occur in response to regional needs and regardless of the CEIG. Other infrastructure construction beyond Oakland, would be subject to its own environmental review and applicable regulations for biology, water quality, air quality, etc; these requirements would minimize environmental impacts. Nonetheless, cumulative development would trigger infrastructure expansion that could result in environmental impacts.

However, development under the CEIG would occur pursuant to General Plan policies, Municipal Code regulations, and the SCAs that would reduce the potential impact on services to less-than-significant levels. As a result, the contribution of the future development allowed for under the CEIG to potential cumulative impacts would be less than cumulatively considerable.

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5.0 ALTERNATIVES

5.1 PREFACE

California Public Resources Code Section 21002.1(a) requires that an EIR describe and evaluate alternatives to a proposed project, which in this case is the adoption of the Central Estuary Implementation Guide. CEQA Guidelines Section 15126.6[a] sets forth more detailed guidance regarding the scope of alternatives evaluation in an EIR:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the effects of the project and evaluate the comparative merits of the alternatives.*

The number and range of alternatives evaluated in an EIR is governed by a "rule of reason." The CEQA Guidelines hold that an EIR must include an adequate range of alternatives such that the lead agency can make a reasoned choice. The "rule of reason" stipulates that a lead agency can take into account many factors in defining a reasonable range of alternatives:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context) and whether the Proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the Proponent) (CEQA Guidelines Section15126.6[f][1]).*"

The CEQA Guidelines further require every EIR to include consideration of a "no project alternative" in which the proposed project does not proceed.

The CEQA Guidelines require that the EIR identifies an "environmentally superior alternative" among all alternatives evaluated. If the lead agency concludes that the alternative with the least environmental impact is the no project alternative, the lead agency must choose the environmentally superior alternative from among remaining action alternatives.

5.2 ALTERNATIVE SCREENING CRITERIA

Consistent with the CEQA Guidelines, pertinent case law, and good planning practice, the city selected alternatives in this EIR based on the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project[1];
- The extent to which the alternative would avoid or lessen any of the identified significant unavoidable environmental effects of the project, which for this project include the following:
    - Air quality: Exposure to gaseous toxic air contaminants and to odors at both plan and project levels of analysis
    - Greenhouse Gas Emissions: Significant levels of GHG emissions from both mobile and stationary sources at the project level of analysis
    - Transportation/Traffic:
        - Fifteen intersections with LOS impacts; 3 of these (marked with "*" experiencing unacceptable LOS at both morning and afternoon peak hours
            - Intersection #3 (E 12th / 22nd Ave / 23rd Ave)
            - Intersection #8 (29th Ave / E 12th St)
            - Intersection #12 (29th Ave / Ford St)
            - Intersection #13 (29th Ave / 23rd Ave / Park St),
            - Intersection #14 (Park St / Lincoln Ave / Tilden Wy,)
            - Intersection #16 (Fruitvale Ave / E 12th St)
            - Intersection #17 (Fruitvale Ave/San Leandro St/E 10th St)

[1] Project objectives are identified in **Section 3.5, Project Objectives**, of this Supplemental EIR.

- Intersection #21 (Tilden Wy / Fernside Blvd / Blanding Ave)
- *Intersection #22 (42nd Ave / International Blvd)
- Intersection #23 (High St / International Blvd)
- *Intersection #25 (High St / San Leandro St)
- Intersection #27 (High St / SB 880 off-ramp /Oakport St)
- *Intersection #28 (High St / Fernside Blvd)
- Intersection #29 (Coliseum Way/NB I-880 Off Ramp)
- Intersection #33 (23rd Ave / NB 880 on-ramp)

o Four segments of I-880 with LOS worsened significantly by the project:

- Northbound I-880 at 50th Avenue
- Northbound I-880 at 16th Avenue
- Northbound I-880 at Fruitvale Avenue
- Southbound I-880 at 16th Avenue

o Five MTS segments with LOS worsened significantly by the project:

- MTS segment #21 (High Street: I-880 to Tidewater)
- MTS segment #22 (High St: Tilden to Central)
- MTS segment #3 (International Blvd: 29th Ave to Fruitvale Ave)
- MTS segment #4 (International Blvd: Fruitvale Ave to 42nd Ave)
- MTS segment #5 (International Blvd: 42nd Ave to High St)
- MTS segment #6 (International Blvd: High St to 50th Ave)

o The introduction of additional vehicle, bicycle and pedestrian traffic to existing at-grade railroad crossings

o 140 intersections which have SU traffic impacts today, without the project, as identified in previous EIRs (see **Table 4.4-2**).

- The feasibility of the alternative, taking into account site suitability, availability of infrastructure, property control (ownership), and consistency with applicable plans and regulatory limitations;

- The extent to which an alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice, including the consideration of several alternatives that were rejected as infeasible; 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.

5.2.1 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS IN DETAIL

Based on a review of the project impacts and objectives, the city selected the following alternatives, described below in further detail.

1. No Project
2. Reduced Retail
3. Mitigated Alternative
4. Theoretical Maximum Buildout[2]
5. Maximum Infrastructure

Alternative 1 – No Project Alternative

CEQA Guidelines Section 15126.6(e)(1) states that one of the alternatives analyzed in an EIR must be the "no project" alternative. Analysis of the no project alternative must discuss existing conditions in the Plan Area, as well as what would be reasonably expected to occur in the foreseeable future if the project was not approved and development continued in accordance with existing plans and consistent with available infrastructure and community services (CEQA Guidelines Section 15126.6[e][2]). CEQA Guidelines Section 15126.6(e)(3)(a) states:

> When the project is the revision of an existing land use or regulatory plan…the 'no project' alternative will be the continuation of the existing plan…into the future. Typically this is a situation where other projects initiated under the existing plan will continue while the new plan is developed.

For the project under consideration, the "existing plan" would be the regulatory framework consisting of the Estuary Policy Plan of the City's General Plan and existing zoning regulations. These existing regulations would continue to allow for new development in the Plan Area, but at generally lower intensities/densities than without the project and without implementation of the Design Guidelines which are intended to better promote harmony among the area's diverse land uses. Notably, the "existing plan" also retains current zoning, which is set at industrial for most of the Plan Area.

Alternative 2 – Reduced Retail

This alternative was developed with the intent of reducing significant project impacts while adhering to most basic project objectives. As shown in **Section 4.4, Traffic/Transportation**, the increase in allowable development results in several significant traffic impacts at a number of study intersections.

Relative to existing traffic levels, the project's contribution is small: the incremental allowable development associated with the project would generate a total of about 2,000 afternoon (P.M.) peak-hour trips. About one half of these new peak-hour trips can be attributed to the CEIG's increased allowable intensity of retail commercial development in the High Street area. These forecasted trips trigger impacts on High Street, 42nd Avenue, and at International Boulevard, among other locations. Although the increase in forecasted trips is small, existing conditions at these and other area intersections are at or near a "failing" condition in related terms of traffic level of service (LOS). The relatively incremental addition of project traffic, therefore, exacerbates the unacceptable LOS condition and causes several significant traffic impacts.

Alternative 2 considers a reduction in the allowable intensity of retail development in the High Street area as a basis for comparison against the proposed project. Specifically, Alternative 2 lessens the allowable retail intensity in the Central-East sub area by 50 percent. With such a reduction, Alternative 2 as a whole would thus result in a total of about 1,500 P.M. peak hour trips, a reduction of about 500 P.M. peak –hour trips compared to the project.

[2] CEQA does not mandate the analysis of a theoretical maximum buildout alternative, but this alternative is nevertheless provided for informational purposes.

Alternative 3 –Mitigated Alternative

Alternative 2 was formulated with the intent to balance major project objectives with the avoidance of or reduction in environmental effects. As shown in the analysis to follow, Alternative 2 would reduce some project impacts, but would not avoid such impacts, particularly those impacts related to greenhouse gas emissions and transportation. This is due to the fact that many intersections in the project vicinity are currently operating at or near unacceptable levels of service. For such intersections, the project may have a significant effect with only a seemingly nominal contribution of additional trips.

While Alternative 2 cuts the amount of allowable new retail development in the Central East area so as to achieve a reduction of about 500 P.M. peak hour trips at buildout, Alternative 3 further cuts the level of allowable development across the Plan Area such that total P.M. peak hour trips would not exceed 150 (relative to about 2000 for the proposed project). In essence, Alternative 3 would entail an 80 to 90 percent reduction in allowable growth relative to the CEIG.

For the purposes of this analysis, Alternative 3 is assumed to include about 150 residential units – and no new commercial or industrial uses.

Alternative 4 – Theoretical Maximum Buildout

The amount of reasonably foreseeable development and growth associated with adoption of the CEIG was based on a close analysis of available opportunity sites, infrastructure capacity, historic turnover rates, and the estimated demand for new development in the Central Estuary Area. This amount assumes that development and growth will occur on a subset of all parcels. This is a reasonable assumption insofar as the Plan Area is almost fully developed with very few vacant or underutilized sites. This EIR uses this increment of reasonably foreseeable growth as the basis for analysis of environmental effects of the project.

Notwithstanding, the CEIG regulations would apply broadly to all parcels within the Plan Area. Theoretically, this could result in every parcel being “built out” consistent with the CEIG regulations. In general, the CEIG’s regulations increase the allowable density/intensity on Plan Area parcels relative to existing regulations embodied in the current General Plan and zoning code.

While the CEIG is intended to both encourage and guide new development in the Central Estuary Area, the highly developed nature of the Plan Area and its disparate, largely private ownership make it highly unlikely that new development and growth

would exceed the "reasonably foreseeable" amount set forth in the Project Description.

Because the CEIG's regulations would be applicable to every parcel within the Central Estuary Area, Alternative 4 evaluates the theoretical possibility that every parcel would be built out to the new maximum level permissible under the suite of changed regulations set forth in the CEIG. **Table 5-1** indicates the amount of new development theoretically possible under the CEIG.

Alternative 5 – Maximum Infrastructure

The CEIG is comprised of a program of changes in land use regulations and a series of Design Guidelines. The CEIG would allow for an increased level of development that would exceed both 1) existing conditions and 2) the level of growth allowable under current regulations. This EIR has evaluated how the reasonably foreseeable development associated with adoption of the CEIG would result in physical environmental effects. In particular, **Section 4.4, Transportation/Traffic,** of this EIR evaluates how reasonably foreseeable development could impact transportation and traffic in and around the Plan Area. Traffic modeling in **Section 4.4, Transportation/Traffic,** has taken into account both existing and anticipated future transportation facilities. In determining future transportation facilities, the analysis included those projects approved and funded by the city or other responsible area agency. This excludes transportation improvements that are merely approved for construction but for which no or insufficient funding has been assigned and is thus not considered reasonably foreseeable. Similarly, transportation improvements still in the planning stage are considered too speculative and uncertain to anticipate within the transportation analysis.

The CEIG does not propose, include, or provide funding for any new or unique transportation improvements. This EIR is thus focused on the potential effects of the CEIG's proposed changes in land use regulations. However, the planning work undertaken in development of the CEIG identified a number of transportation improvements currently contemplated by the city or other responsible agencies. As these improvements are neither approved nor funded, they are appropriately excluded from the main body of this EIR's analysis. However, **Table 5-2** below summarizes these unapproved, unfunded transportation improvements whose potential implementation could affect the physical environment of the Plan Area. Alternative 5 thus contemplates the environmental effects likely to result from the combination of approval of the CEIG plus implementation of these improvements.

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Table 5-1 Central Estuary Area: Reasonably Foreseeable Growth under CEIG vs. Theoretical Maximum Build Out

Sub Area	Residential (dwelling units)			Live/Work (dwelling units)			Industrial (square feet)			Commercial and Office (square feet)			Parks (acres)		
	Existing	*Reasonably Foreseeable*	*Theoretical Maximum*	*Existing*	*Reasonably Foreseeable*	*Theoretical Maximum*	*Existing*	*Reasonably Foreseeable*	*Theoretical Maximum*	*Existing*	*Reasonably Foreseeable*	*Theoretical Maximum*	*Existing*	*Reasonably Foreseeable*	*Theoretical Maximum*
West	29	0	924	39	11	49	2,322,764	0	4,700,886	174,207	83,713	4,524,672	8.9	2.1	11.0
Central-West	355	391	2,576	95	20	136	593,894	-177,240	0	25,336	0	0	0.4	0.4	0.4
Central-East	59	0	467	0	0	0	1,219,699	-139,461	870,591	200,100	268,071	1,801,506	0	0	0
East	0	0	0	0	0	0	680,544	691,558	5,166,606	5,366	360,238	2,536,070	7.3	8.2	8.2
TOTALS															
Existing	***443***			***134***			***4,816,899***			***405,009***			***17.2***		
Reasonably Foreseeable		***391***			***31***			***374,857***			***712,022***			***10.7***	
Theoretical Maximum			***3,967***			***184***			***10,738,083***			***8,862,248***			

Notes: The number of "Reasonably Foreseeable" units does not include Existing units. The sum of Existing and Reasonably Foreseeable units is the total amount of units that would be allowable per land-use category under the Implementation Guide.
Source: Central Estuary Implementation Guide, 2012.

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Table 5-2 Unapproved, Unfunded Transportation Improvements Contemplated as Part of Alternative 5

Alternative 5: Unapproved, Unfunded Transportation Improvements
Fruitvale Avenue: improvements to all modes between International Boulevard and the Estuary
37th Avenue: extension through to Alameda Avenue
Alameda Avenue: reconfiguration to conform to pending changes at 42nd Avenue and High Street
"Waterfront Boulevard": creation of a continuous waterfront parkway along the Estuary from Oak Street to 66th Avenue
Tidewater Avenue: improvements for truck access to industrial areas
International Boulevard: portion of regional bus rapid transit (BRT) system[3]
Oakland Waterfront Trail Improvements (Measure DD Projects)
▪ Brooklyn Basin to Embarcadero Cove
▪ Livingston Pier
▪ Cryer Site
▪ Gallagher & Burk/Hanson Aggregate Sites
▪ Bridge Areas: Park Street Bridge, Fruitvale Avenue Bridge, High Street Bridge
High Street: improvements for all modes from International Boulevard to the Estuary
Del Monte Road: access improvements between Fruitvale shopping areas east of I-880 and Central Estuary
50th Avenue: bike/pedestrian connection under or over I-880

Source: CEIG, 2012.

5.2.2 ALTERNATIVES CONSIDERED BUT NOT EVALUATED IN DETAIL

CEQA Guidelines Section 15126.6 sets forth several requirements regarding the consideration of alternatives in an EIR. Section 15126.6(a) and related case law hold that alternatives that are not reasonable or infeasible need not be discussed at length; alternatives that do not offer substantial environmental advantages over the project can be rejected from consideration; and alternatives that do not accomplish most of the basic objectives of the project can be excluded from detailed analysis.

[3] Appendix D of this SEIR includes a brief analysis including consideration of the BRT system along International Boulevard.

Accordingly, this section briefly summarizes alternatives considered but rejected from further analysis, including the reasons for this rejection.

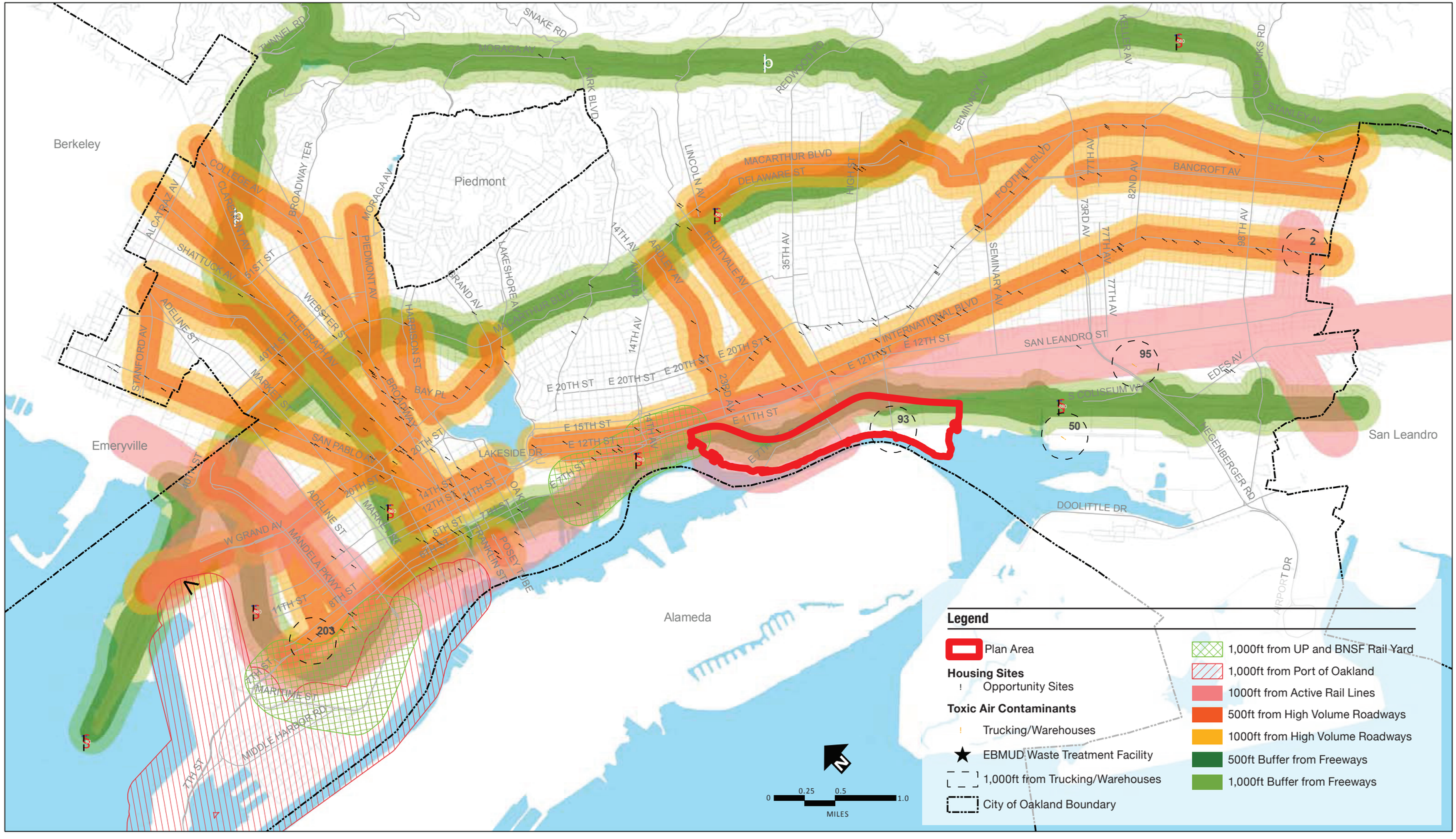
Alternative Location: This alternative would consist of increasing allowable growth in another location in the City of Oakland. The city rejected this alternative because it fails to meet the primary objectives of the project – fostering more coherent growth within the Central Estuary Area. This alternative would preserve existing land use regulations within the Central Estuary and focus new growth elsewhere. As this alternative also fails to address improvement of the Central Estuary urban fabric, the city dismissed it from further consideration.

Particulate Matter (PM) Exclusion Zone: The Housing Element EIR considered, but rejected from detailed consideration, an alternative that would have prohibited most new housing in locations within 1000 feet of railroads, freeways, and major roadways, all of which are sources of particulate matter emissions. The Housing Element EIR noted that this was considered even though plan-level impacts of particulate matter emissions were found to be less-than-significant in the Housing Element EIR. As shown in **Figure 5-1**, excerpted from Figure 3.3-2 of the Housing Element EIR, most of the Central Estuary area is within 1,000 feet of a freeway, major roadway, or railway. The only portion of the Central Estuary Area outside this 1000 foot buffer is the Tidewater Industrial Area. While this area is outside the identified mobile-source emission areas, the CEIG does not provide a housing designation for this area, owing to its existing industrial character. Consideration of a PM Exclusion Zone alternative for the CEIG project would thus entail the placement of housing on sites the CEIG has proposed remain entirely industrial/commercial in character. This alternative therefore fails to meet a key objective of the CEIG, which is to preserve and expand industrial/commercial uses in this area, and is therefore rejected from further consideration.

5.3 ANALYSIS OF ALTERNATIVES

Throughout this section a description of each alternative is followed by a discussion of impacts and how those impacts compare to those of the project.

As permitted by CEQA Guidelines Section 15126.6[d], the effects of the alternatives are discussed in less detail than those of the project. Notwithstanding, the alternatives analysis provides an adequate level of detail for the public, public agencies, and city decision-makers to evaluate the alternatives.



Sources of Particulate Emissions Figure **5-1**

Source: City of Oakland General Plan — Housing Element Update 2007 - 2014

Back of Figure 5-1 (11 x 17”)

Table 5-3 lists all impacts associated with the proposed project relative to City of Oakland CEQA thresholds. The table notes whether the project would result in significant and unavoidable (SU) impacts, impacts that are less-than-significant with mitigation (LSM), impacts that are less-than-significant, no mitigation required (LTS), or no impact (NI). For each impact or threshold, the table provides comparative impacts for each alternative.

This section describes the impacts of each alternative compared to those identified for the proposed project in terms of whether the alternative: 1)avoids the project impact; 2) is the same as the project impact; 3) is substantially greater than the project impact; or 4) is substantially less than the project impact.

5.3.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

The no project alternative would preserve existing land use regulations in the Plan Area, namely the Estuary Policy Plan of the City's General Plan, as well as all existing zoning regulations.

Existing regulations would continue to allow for new development in the Plan Area, but at different intensities/densities than without the project. The no project alternative also excludes the Design Guidelines included in the Central Estuary Implementation Guide.

Environmental impacts of Alternative 1, relative to the proposed project, are as follows:

Air Quality

Alternative 1 would, like the project, have less-than-significant impacts related to consistency with the applicable clean air plan (CAP). Alternative 1's impacts would be somewhat less than those of the project insofar as this alternative would allow for a lower level of development than the project.

In terms of exposure to odors and gaseous toxic air contaminants (TACs), Alternative 1 would, like the project, result in significant and unavoidable impacts at the plan and project level. This is because both Alternative 1 and the project would allow new residential uses near sources of odors and gaseous TACs. However, given the lower level of residential development anticipated as part of Alternative 1, the overall effect would be somewhat reduced but not avoided.

Greenhouse Gas Emissions

Both the project and Alternative 1 would foreseeably result in an increment of new development that would exceed the applicable project-level thresholds for greenhouse gas emissions, resulting in significant and unavoidable effects. However, because Alternative 1 would allow for a lesser amount of new development, the overall effect would be lessened.

Noise

Both the project and Alternative 1 would allow for new development to occur in the Plan Area and would result in additional vehicle trips in the Plan Area. Both new development and new vehicle trips would have the potential to influence noise levels in the Plan Area.

Because Alternative 1 would allow for a smaller amount of new development relative to the project, Alternative 1 would make a smaller contribution to new noise resulting from vehicle trips. Therefore, both the project and Alternative 1 would result in less-than-significant impacts with regard to new noise from mobile sources; the impacts of Alternative 1 would be incrementally lower.

Alternative 1 would retain existing industrial zoning for much of the Plan Area. Therefore, Alternative 1 would potentially have greater potential to result in new noise from operational uses. The City's SCAs and other regulations would control allowable operational noise levels under both the project and Alternative 1 such that impacts would be reduced to a less than significant level. The land use pattern allowable under Alternative 1, however, would be more likely to result in somewhat higher noise levels, making impact intensity under Alternative 1 somewhat greater than that of the project.

Transportation

As summarized above, development facilitated by the CEIG would result in numerous significant and avoidable transportation impacts – at study intersections, segments of I-880, along segments of MTS roadways, and by the introduction of additional vehicle, bicycle and pedestrian traffic at the Plan Area's many at-grade railroad crossings. As shown in Section 4.4 (Traffic and Transportation), many of these intersections and roadway segments experience so much congestion that they are projected to operate at unacceptable conditions in the future, even without the introduction of any new trips from the Plan Area. Moreover, Alternative 1 would still permit some new

development to occur in the Plan Area; this would lead to additional auto, bicycle, and pedestrian traffic at various at-grade railroad crossings. Alternative 1 would therefore result in several significant and unavoidable impacts, though the somewhat reduced level of allowable development might lessen the intensity of these impacts.

Aesthetics, Shadow, and Wind

Aesthetic impacts would be greater under the no project alternative than project, but still less-than-significant. While the project would allow for an incrementally greater level of development, the no project alternative would not include the Design Guidelines which would foster improved site planning and building design. This in turn, would contribute to improved visual character in the built environment. In terms of considerations relating to solar collection, shadow, and wind, both the project and Alternative 1 would result in less-than-significant effects assuming both would be subject to the City's SCAs and other existing policies. However, owing to the lower level of development relative to the project, Alternative 1's effects relative to solar collection, shadow, and wind would be somewhat lessened relative to the project.

Agriculture and Forest Resources

Neither the project nor Alternative 1 would result in any impact to these resources, as such resource areas/land uses do not exist in the highly urbanized Central Estuary area.

Biological Resources

Biological resource impacts of this alternative would be somewhat greater than those of the project, but likely still less-than-significant. The majority of the Plan Area is fully urbanized and has few areas containing sensitive biological resources. The project would extend and formalize "Park" land use designations over the waterfront areas most likely to harbor biological resources, thereby providing an incremental level of protection to such resource areas were they to remain under existing land use regulations.

Cultural Resources

Both the project and Alternative 1 would result in less-than-significant impacts to cultural resources. Cultural resources impacts of this alternative would be somewhat lower than those of the project insofar as the alternative would allow for a somewhat lower level of overall development and thus lessened potential to affect archaeological and architectural resources in the Plan Area.

Geology and Soils

Impacts related to geology and soils would be at similar less-than-significant levels for both the project and Alternative 1. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or the alternative would be subject to city regulations regarding seismic safety (including but not limited to the Building Code and the City's Standard Conditions of Approval), so there would be no substantial difference in impacts between the project and the alternative.

Hazards/Hazardous Materials

Hazards and hazardous materials impacts would be at less-than-significant levels for both the project and Alternative 1. Both the project and Alternative 1 would allow increments of new growth to occur in the Plan Area, all of which would be constructed in an area with known areas of contamination and subject to certain natural hazards. All new development under the project or the alternative would be subject to all pertinent regulations protecting public health and safety from such hazards. However, because of the lower level of development associated with Alternative 1, the alternative would result in a somewhat lower hazards risk relative to the project.

Hydrology/Water Quality

Hydrology and water quality impacts would be at less-than-significant levels for both the project and Alternative 1. The Plan Area is fully urbanized, composed almost entirely of impervious areas, and aside from the Estuary itself contains no wetlands or other water bodies. Both the project and the alternative would allow new construction to occur in the Plan Area, and all such development would be subject to city, state, and federal regulations intended to protect water quality. All future development in the Plan Area, whether under the project or the alternative, would be required to adhere to all such regulations. However, because of the lower level of development associated with Alternative 1, the alternative would result in a lower level of impacts to hydrology or water quality.

Land Use/Planning

While both the project and Alternative 1 would result in less-than-significant impacts in terms of community division and land use conflicts, the project offer potential beneficial land use impacts not included in the alternative. While neither the project nor the alternative would introduce any new barriers that would physically divide the Plan Area nor conflict with any habitat conservation plan, the project through the

Design Guidelines promotes better site planning and building design intended to foster more harmonious co-existence of diverse land uses. Moreover, the project is intended to resolve several inconsistencies in city land use regulations. These changes would not only better reflect on-the-ground land uses but also better signify the city's intent for future growth and development. For example, the project formalizes Park or Open Space designations for the two existing park uses in the Plan Area; portions of these uses currently have non-park land use designations and/or zoning.

Mineral Resources

As the Plan Area contains no known mineral resources, neither the project nor the alternative would result in any impacts to such resources.

Population/Housing

Neither the project nor Alternative 1 would result in any significant impacts related to population and housing. The project would indirectly lead to population growth through its proposed changes to existing land use regulations that would allow more residential uses and greater intensities of job-generating land uses than current regulations. The Plan Area as a whole contains about 700 housing units; the project would allow for the future development of about 400 more units, an increment greater than would be possible under the alternative (i.e., maintaining existing regulations). However, neither the project nor the alternative would substantially displace people or housing units. The project would foster phased redevelopment of industrial and commercial properties with mixed-use development. The alternative would preserve existing regulations for the Plan Area – which have not resulted in any substantial displacement. In fact, about 200 housing units were constructed in the Plan Area between 2000 and 2009. Overall, Alternative 1's impacts related to population and housing would be somewhat less than those of the project.

Public Services/Recreation

Both the project and Alternative 1 would result in less-than-significant impacts to public services and recreation. Demand for public services and recreational facilities would be somewhat greater under the project than the alternative due to the increased level of development (and resultant population and job increases) that would be allowable under the project compared to the alternative. However, because the absolute amounts of allowable growth are not substantial given the population of the city as a whole, neither the project nor the alternative would allow for an increment of new growth that would require construction of new public service or recreational facilities. As such, Alternative 1's effects would be somewhat less than those of the project.

Utilities and Service Systems

Although the Plan Area has several identified infrastructure deficiencies, neither the project nor Alternative 1 would result in any significant effects related to utilities or service systems. Alternative 1 would allow for a lower level of new development than the project, which would have less potential to exacerbate existing deficiencies. However, by allowing a higher level of development relative to this alternative, the project has a somewhat greater potential to attract a "critical mass" of new uses and users that could directly or indirectly help resolve existing infrastructure deficiencies.

5.3.2 ALTERNATIVE 2 – REDUCED RETAIL

Alternative 2 would reduce the allowable level of commercial/retail development in the Central-East subarea from about 268,000 square feet to about 130,000 square feet, about a 50 percent reduction in allowable intensity relative to the CEIG. This in turn would reduce vehicle trips for the project as a whole. The project would result in about 2,000 P.M. peak-hour trips; Alternative 2 would reduce this number by 500 to a total of 1,500, a 25% reduction.

Environmental impacts of Alternative 2 relative to the proposed project are as follows:

Air Quality

Alternative 2 would, like the project, have less-than-significant impacts related to consistency with the applicable clean air plan (CAP). Alternative 2's impacts would be somewhat less than those of the project insofar as this alternative would allow for a lower level of new retail development than the project.

In terms of exposure to odors and gaseous toxic air contaminants, Alternative 2 would continue to result in significant and unavoidable impacts. This is because Alternative 2, like the project, would allow a similar level of new residential uses near sources of odors and gaseous TACs.. Given this comparable level of residential development, in terms of exposure to DPM-related TACs, Alternative 2 would result in a similar less-than-significant level as the project.

Greenhouse Gas Emissions

Both the project and Alternative 2 would foreseeably result in an increment of new development that would exceed applicable project-level thresholds for greenhouse gas emissions. However, because Alternative 2 would reduce allowable development by a substantial level, in turn reducing automobile traffic by about 25%, Alternative 2's degree of impact would be less than that of the project.

Noise

Both the project and Alternative 2 would foreseeably result in an increment of new development that would add vehicle trips that increase ambient area noise levels. The project's impacts were found to be less-than-significant given the relatively small contribution of additional trips relative to existing levels of traffic. Because Alternative 2 would reduce allowable development by a substantial level, in turn reducing automobile traffic by about 25%, Alternative 2's degree of impact would be less than that of the project.

Transportation

Transportation impacts would be less significant under this alternative than the proposed project. The project as a whole contributes about 2,000 PM peak-hour trips, about half of which are generated by the proposed commercial/retail development in the Central-East subarea. These trips contribute to the significant traffic impacts identified for the project at several intersections, many of which operate at or near an unacceptable level under existing (no project) conditions.

While the project's overall contribution of trips is small relative to overall traffic levels in the area, the contribution is such that existing LOS is worsened to an extent that results in a significant and unavoidable impact. While traffic modeling of this alternative was not performed, the project traffic consultant has estimated that the alternative would have a smaller but still significant exacerbation of these impacts.

Aesthetics, Shadow, and Wind

Aesthetics and visual effects of Alternative 2 would be at a similar less-than-significant level as the project. Both the project and the alternative would allow for new development and both would institute the project's Design Guidelines intended to improve site planning considerations, which generally enhance the appearance of individual projects. Assuming that buildout of the project and this alternative would be conducted under the rubric of the CEIG's Design Guidelines, the resultant visual character and shadow/wind potential of new development would generally be similar under either scenario.

Agriculture and Forest Resources

Neither the project nor Alternative 2 would result in any impacts to these resources, as such resource areas/land uses do not exist in the highly urbanized Central Estuary area.

Biological Resources

Both the project and Alternative 2 would result in a similar level of less-than-significant impacts to biological resources. This is because the Central/East portion of the Plan Area (where the alternative and the project would differ in terms of allowable land use levels) does not contain any known significant biological resources.

Cultural Resources

Both the project and Alternative 2 would result in a similar, less-than-significant level of cultural resources impacts, insofar as the Central/East portion of the Plan Area (where the alternative and the project would differ in terms of allowable land use levels) does not contain any known significant architectural resources. Both the project and this alternative permit some new development with the potential to affect any archaeological resources that may be in the Plan Area. The reduced level of allowable commercial development would result in smaller structures, but not necessarily a substantially lower impact to unknown archaeological or paleontological resources that may be present.

Geology and Soils

The project and Alternative 2 would result in similar less-than-significant levels of impacts to geology and soils. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or the alternative would be subject to city regulations regarding seismic safety (including but not limited to the Building Code and the city's Standard Conditions of Approval). Moreover, the reduced allowable intensity of commercial development would result in less new square footage, but not necessarily a substantially lower level of impact with regard to geology and soils issues, which do not tend to vary substantially with building size but are instead dependent upon site-specific conditions. Accordingly, there would be no substantial difference in impacts between the project and the alternative in terms of the level of impact.

Hazards/Hazardous Materials

The project and Alternative 2 would result in similar less-than-significant levels of hazards and hazardous materials impacts. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed in an area with known areas of contamination and subject to certain natural hazards. All new development under the project or the alternative would be subject to all pertinent regulations protecting public health and safety from such hazards. Moreover, the reduced allowable intensity of commercial development would result in less new square footage, but not necessarily a substantially lower level of hazards/hazardous materials impact. Such impacts do not tend to vary

substantially with building size but are instead highly dependent upon site-specific conditions. With adherence to all existing regulations, there would be no substantial difference in impacts between the project and the alternative in terms of hazards/hazardous materials impacts.

Hydrology and Water Quality

Hydrology and water quality impacts would generally be at similar less-than-significant levels under the project and Alternative 2. The Plan Area is fully urbanized, composed almost entirely of impervious areas, and aside from the Estuary itself contains no wetlands or other water bodies. Both the project and the alternative would allow new construction to occur in the Plan Area as a whole, with the alternative allowing a lower level of commercial development in the Central East subarea. The Alternative's lower level of new commercial development would not foreseeably equate to lesser hydrology/water quality impacts given the urbanized, impervious character of the Central East subarea. Moreover, all new development would be subject to city, state, and federal regulations intended to protect water quality. Assuming that all future development in the Plan Area, whether under the project or the alternative, would adhere to all such regulations, there would be no substantial difference in impacts between the project and the alternative in terms of impacts to hydrology or water quality.

Land Use/Planning

The project and Alternative 2 would result in similar less-than-significant levels of land use and planning impacts. The reduction of allowable commercial development in the Central East subarea is the only substantial difference between the project and the alternative; this reduction would not materially reduce the intensity of any of the identified less-than-significant impacts.

Mineral Resources

As the Plan Area contains no known mineral resources, neither the project nor the alternative would result in any impacts to such resources.

Population and Housing

The project and the alternative would result in similar less-than-significant levels of population and housing impacts. Alternative 2 would merely reduce the level of allowable commercial development in the Central East subarea; there would be no difference between the project and Alternative 2 in the number of allowable housing units. Given strong regional demand for housing, Alternative 2's reduced commercial intensity would not foreseeably lead to any significant change in the number of new

residential units ultimately developed. Moreover, neither the project nor the alternative would substantially displace people or housing units.

Public Services and Recreation

The project's impacts relative to public services and recreational facilities would be less-than-significant; with its reduced level of allowable commercial development, Alternative 2 impacts would also be less-than-significant but at a lower level of intensity. As the absolute amounts of allowable growth are not substantial given the population of the city as a whole, neither the project nor the alternative would allow for an increment of new growth that would require construction of new public service or recreational facilities.

Utilities and Service Systems

Although the Plan Area has several identified infrastructure deficiencies, neither the project nor Alternative 2 would result in any significant effects related to utilities or service systems. Alternative 2 would permit a lower level of new development than the project, which would have less potential to exacerbate existing deficiencies.

5.3.3 ALTERNATIVE 3: MITIGATED ALTERNATIVE

Alternative 3 would reduce the allowable level of development to a level that would avoid triggering any significant traffic impacts at Plan Area intersections or roadways. Since several area intersections and roadways currently operate at or below acceptable levels, even a very small increase in traffic would lead to a significant and potentially unavoidable impact. Accordingly, Alternative 3 cuts allowable development to a level that would result in no more than 150 P.M. peak-hour trips.

Environmental impacts of Alternative 3, relative to the proposed project, are as follows:

Air Quality

Alternative 3 would, like the project, have less-than-significant impacts related to consistency with the applicable clean air plan (CAP). Alternative 3's impacts would be substantially less than those of the project insofar as this alternative would allow for a much lower level of new retail development than the project.

In terms of exposure to odors and gaseous toxic air contaminants, Alternative 3 would continue to result in significant and unavoidable impacts. This is because Alternative 3, like the project, would allow for new residential uses in the Plan Area – all of which is located in proximity to sources of TACs and odors. Even a single new

housing unit in proximity to these sources would result in a significant and unavoidable impact. These impacts could be avoided only if the alternative called for no new housing units whatsoever in the Plan Area. Alternative 3 reduces the number of residential units, but does not eliminate the significant and unavoidable impact. However, DPM-related TAC effects of Alternative 2 would be at a similar less-than-significant level as the project.

Greenhouse Gas Emissions

Assuming Alternative 3 involves just 150 new residential units, it would not result in significant levels of greenhouse gas emissions. The Housing Element EIR concluded that residential developments of up to 172 units were assumed to not result in significant levels of greenhouse gas emissions. Moreover, Alternative 3 does not include any commercial or industrial uses that would have the potential to include new stationary sources of greenhouse gas emissions. Therefore, adoption of Alternative 3 would fully avoid the project's significant project-level greenhouse gas emissions impacts.

Noise

Both the project and Alternative 3 would foreseeably result in an increment of new development that would add vehicle trips that increase ambient area noise levels. The project's impacts were found to be less-than-significant given the relatively small contribution of additional trips relative to existing levels of traffic. Alternative 3 would reduce allowable development to just 150 new residential units, in turn reducing automobile traffic by a substantial percentage, to no more than 150 P.M. peak hour trips and similarly reduced levels at all other times of day. Accordingly, Alternative 3's degree of impact would be less than that of the project.

Transportation

Alternative 3 was conceived especially to avoid the significant transportation impacts triggered by the project. Alternative 3's addition of just 150 new residential units would result in a negligible contribution of new vehicle trips being added to local roadways and intersections such that no significant impacts would result. Therefore, Alternative 3 would avoid the project's significant transportation impacts.

Aesthetics, Shadow, and Wind

Aesthetics and visual effects of this alternative would be less-than-significant at a substantially lower level compared to the project. Both the project and the alternative would allow for new residential development and both would institute the project's Design Guidelines intended to improve site planning considerations, which

generally enhance the appearance of individual projects. However, in this same vein, Alternative 3 would, relative to the project, have less potential to improve area visual character through implementation of the CEIG Design Guidelines.

Agriculture and Forest Resources

Neither the project nor Alternative 3 would result in any impacts to these resources, as such resource areas/land uses do not exist in the highly urbanized Central Estuary area.

Biological Resources

Both the project and Alternative 3 would result in less-than-significant impacts to biological resources. By reducing the allowable level of development to just 150 new housing units, Alternative 3 would have less potential to impact the few intact biological resources in the Central Estuary area.

Cultural Resources

Both the project and Alternative 3 would result in less-than-significant levels of cultural resources impacts, with those of Alternative 3 substantially lower. This is due to Alternative 3 limiting the amount of new development to just 150 residential units. Relative to the project, this would be a notable lessening of the potential to adversely impact cultural resources.

Geology and Soils

The project and Alternative 3 would result in less-than-significant levels of impacts to geology and soils, with Alternative 3's impacts being less substantial due to the much lower level of allowable development. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or the alternative would be subject to city regulations regarding seismic safety (including but not limited to the Building Code and the city's Standard Conditions of Approval).

Hazards/Hazardous Materials

The project and Alternative 3 would result in less-than-significant levels of hazards and hazardous materials impacts, with Alternative 3's impacts being notably less substantial due to the lower level of allowable development. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed in an area with known areas of contamination and

subject to certain natural hazards. All new development under the project or the alternative would be subject to all pertinent regulations protecting public health and safety from such hazards. While the substantially decreased level of allowable new development would reduce potential exposure to hazardous materials relative to the project, Alternative 3 would also lead to fewer opportunities to remediate existing contaminated conditions within the Plan Area.

Hydrology and Water Quality

Hydrology and water quality impacts would be at less-than-significant levels under both the project and Alternative 3, with notably lesser degrees of intensity for Alternative 3 given the lower level of allowable development. The Plan Area is fully urbanized, composed almost entirely of impervious areas, and aside from the Estuary itself contains no wetlands or other water bodies. Moreover, all new development would be subject to city, state, and federal regulations intended to protect water quality. Assuming that all future development in the Plan Area, whether under the project or the alternative, would adhere to all such regulations, both would result in less-than-significant impacts.

Land Use/Planning

The project and Alternative 3 would each result in less-than-significant land use impacts but with such a lower level of allowable new development, Alternative 3 would have far less potential to implement the CEIG's Design Guidelines that are intended to better promote harmonious co-existence of diverse land uses. Therefore, Alternative 3 would have somewhat greater potential (still less-than-significant, however) to result in land use conflicts by doing less to change existing conditions.

Mineral Resources

As the Plan Area contains no known mineral resources, neither the project nor the alternative would result in any impacts to such resources.

Population and Housing

The project and the alternative would result in less-than-significant levels of population and housing impacts, with the impacts of Alternative 3 much lower. Alternative 3 would reduce the level of allowable to just 150 new housing units, with no new commercial or industrial development that might spur indirect growth. Moreover, the alternative would have even less potential than the project to substantially displace people or housing units.

Public Services and Recreation

The project's impacts relative to public services and recreational facilities would be less-than-significant; with its reduced level of allowable development, Alternative 3's impacts would also be less-than-significant but at a much lower level of intensity. As the absolute amounts of allowable growth are not substantial given the population of the city as a whole, neither the project nor the alternative would allow for an increment of new growth that would require construction of new public service or recreational facilities.

Utilities and Service Systems

Although the Plan Area has several identified infrastructure deficiencies, neither the project nor Alternative 3 would result in any significant effects related to utilities or service systems. Alternative 3 would permit a lower level of new development than the project, which would have less potential to exacerbate existing deficiencies.

5.3.4 ALTERNATIVE 4 – THEORETICAL MAXIMUM BUILDOUT

Alternative 4 assumes the Plan Area is built out to the maximum level of development possible under the CEIG. This would mean that every parcel, including those currently developed, eventually sees construction/expansion such that the parcel is at the maximum density/intensity permitted by the CEIG. In effect, Alternative 4 would mean that every single building in the Plan Area not currently built to the maximum allowable level (this is assumed to entail a majority of existing buildings) would either be razed and replaced with new construction or expanded to the maximum allowable level.

As shown in **Table 5-1**, this would mean a level of residential development (about 4,000 total new units) about 10 times greater than what currently exists in the Plan Area, along with substantial increases in the intensity of commercial and industrial development. Given that the majority of land within the Plan Area is currently developed below the density/intensity permitted by the CEIG with a wide variety of existing uses that are likely to remain well into the future, the likelihood of "maximum buildout" occurring is considered so highly unlikely as to be theoretical.

Because Alternative 4 would allow an increment of growth substantially greater than the project, Alternative 4 can be assumed to result in significantly more intense environmental effects for every environmental topic considered. All of the project's significant and unavoidable impacts would be substantially increased in intensity by Alternative 4. Moreover, as shown in **Table 5-3**, Alternative 4 would be likely to

create significant impacts in numerous environmental topic areas where the project would result in less-than-significant impacts. For example, Alternative 4 would result in 4,000 new housing units – this would significantly induce population growth in a manner not contemplated by the General Plan. In addition, a new population of this magnitude would foreseeably result in significant impacts to public services, recreation, and utilities, among other areas.

5.3.5 ALTERNATIVE 5 – MAXIMUM INFRASTRUCTURE

Alternative 5 considers the possibility that the city and other appropriate lead agencies construct and open for operation the full program of transportation improvements outlined in **Table 5-2** above. The transportation improvements consist of a mixture of roadway/intersection capacity expansions, transit improvements, and pedestrian/bicycle enhancements.

These improvements could indirectly influence the amount and timing of growth reasonably foreseeable to occur in the Plan Area. In computing the amount of reasonably foreseeable development associated with the project, the city took into consideration the state of existing transportation infrastructure. Generally speaking, existing transportation facilities in and around the Plan Area operate with service deficiencies. A program of improvements, as contemplated by this alternative, would likely result in making the Plan Area more attractive for prospective redevelopment under the CEIG.

Environmental impacts of Alternative 5 relative to the proposed project are as follows:

Air Quality

Alternative 5 would, like the project, have less-than-significant impacts related to consistency with the applicable clean air plan (CAP). Alternative 5's potential to increase vehicle miles traveled is uncertain: with similar levels of allowable land uses, the project and the alternative would theoretically generate comparable levels of new traffic in the Plan Area. It is unclear whether Alternative 5's roadway improvements would increase VMT to a degree that such that the Alternative would be inconsistent with the CAP (and therefore result in a significant impact) but it is reasonably foreseeable that the mobility improvements of Alternative 5 would result in some additional level of travel through and around the Plan Area.

In terms of exposure to odors and gaseous TACs, both Alternative 5 and the project would result in significant and unavoidable impacts. This is because Alternative 5, like the project, would allow for new residential uses in the Plan Area – the entirety of

which is located in proximity to sources of odors and/or gaseous TACs. By implementing so many roadway improvements, Alternative 5 could increase vehicle traffic and thus also increase sources of DPM-based TACs. However, adherence to pertinent SCAs can reduce the health risks associated with DPM-based TACs to a less-than-significant level.

Greenhouse Gas Emissions

Both the project and Alternative 5 would foreseeably result in an increment of new development that would exceed applicable project-level thresholds for greenhouse gas emissions to a significant and unavoidable extent. However, because Alternative 5 would introduce roadway improvements that have some potential to increase vehicle miles traveled relative to the project, Alternative 5's degree of impact would be greater than that of the project.

Noise

The project and Alternative 5 would each allow for an identical amount of new land use development to occur in the Plan Area. However, Alternative 5's program of mobility improvements has somewhat greater potential to increase vehicle traffic in and around the plan area, potentially result in greater ambient noise. A doubling of noise-making activity (such as traffic) is generally required in order to result in a noise level increase that would be considered significant under CEQA. It is not reasonably foreseeable to conclude that the program of transportation improvements would alone have this doubling effect on Plan Area traffic, given the relatively few improvements and the inclusion of bicycle and pedestrian improvements, which would not generate substantial operational noise. Construction of Alternative 5's transportation improvements would result in somewhat more construction noise than that of the project, but with adherence to the City's SCAs and other regulations, Alternative 5 would not be expected to result in any significant noise impacts. Therefore, both the project and Alternative 5 would result in less-than-significant noise impacts.

Transportation

Transportation impacts in Alternative 5 would have a reasonable potential to increase VMT, in turn contributing to more traffic on Plan Area roadways and worsening the significant effects of the project. However, this alternative would improve conditions for pedestrian, bicycle, and transit movement throughout the Plan Area. The program of improvements would also alleviate some unacceptable intersection and segment operation conditions in several locations.

Aesthetics, Shadow, and Wind

Aesthetics and shadow/wind effects of Alternative 5 and the project would lead to a similar end state outcome in terms of land use modifications; all effects would be less-than-significant. However, Alternative 5 has the potential to result in more beneficial visual effects than the project due to several roadway improvements that would be expected to improve visual conditions of public right of way areas in and around the Plan Area.

Agriculture and Forest Resources

Neither the project nor Alternative 5 would result in any impacts to these resources, as such resource areas/land uses do not exist in the highly urbanized Central Estuary area.

Biological Resources

Both the project and Alternative 5 would result in less-than-significant impacts to biological resources. This is because each has a similar program of land use development in an area without substantial quantities of significant biological resources. However, the additional infrastructure improvements associated with Alternative 5 would increase the level of biological resources effects as a greater amount of land within the Plan Area would be modified. Biological resources in the Plan Area are limited to locations along the immediate Estuary waterfront, where no substantial adverse change in land uses is contemplated. However, Alternative 5 includes creation of a "Waterfront Boulevard," the construction of which could result in impacts to estuarine resources, but also potentially lead to preservation and enhancement of other area biological resources.

Cultural Resources

Alternative 5 would require the reconstruction of numerous roadways in and around the Plan Area. Given its waterfront location, the Plan Area is expected to include previously unrecorded archaeological resources. The reconstruction of Plan Area streets would thus have a greater potential than the project to affect such resources, insofar as the project's effects on archaeological resources would be limited to discrete parcels and not public right-of-way areas. However, similar to the project, these impacts would be expected to be at a less-than-significant level, as the City's SCAs would lessen impacts to unknown resources.

Geology and Soils

Impacts related to geology and soils would be at similar less-than-significant levels for the project and Alternative 5. Both the project and the alternative would allow increments of new growth to occur in the Plan Area, all of which would be constructed amidst similar existing geologic and soils conditions. All new development under the project or the alternative would be subject to city regulations regarding seismic safety (including but not limited to the Building Code and the city's Standard Conditions of Approval).

Hazards and Hazardous Materials

Both Alternative 5 and the project would be expected to result in less-than-significant impacts regarding hazards/hazardous materials. Both the project and the Alternative include a program of new allowable land use within an area known to have numerous contaminated sites. With adherence to the City's SCAs and other regulations, these impacts are rendered less-than-significant. Alternative 5 would also include a program of roadway improvements. Given what is known about contamination in the Plan Area, it is reasonable to assume that Plan Area roadways contain similar levels of contamination. However, roadway improvement projects would be subject to the same SCAs and other regulations governing land development. Therefore, Alternative 5's impacts would be somewhat greater in intensity than those of the project.

Hydrology and Water Quality

Hydrology and water quality impacts in Alternative 5 would have greater potential benefits than the project; both would nonetheless be deemed less-than-significant in terms of CEQA impacts.

Alternative 5 would require extensive improvements to public rights-of-way in and around the Plan Area. Adherence to current city and regional standards would most likely mean that these rights-of-way would include improved stormwater drainage facilities and generally improved water quality in and around the Plan Area.

Land Use and Planning

Land use and planning impacts in Alternative 5 would be expected to result in generally similar land use and planning effects of as the project. Some of the transportation investments included in Alternative 5 could influence interest in developing particular sites, focusing development in certain locations while de-emphasizing it in other places. As a result, Alternative 5 could have a somewhat different pattern and/or timing of new land uses in the Plan Area relative to the project.

Mineral Resources

As the Plan Area contains no known mineral resources, neither the project nor Alternative 5 would result in any impacts to such resources.

Population and Housing

The overall program of land use development would be the same under the project and Alternative 5. While Alternative 5 would also include mobility improvements, these projects would occur within public rights-of-way and would not result in the displacement of people or of housing. Therefore, Alternative 5, like the project, would result in less-than-significant impacts to population and housing.

Public Services and Recreation

The overall program of land use development would be the same under the project and Alternative 5. Therefore, both the project and Alternative 5 would create the same level of new users/new demand for public services and recreational facilities. However, the mobility improvements in Alternative 5 would introduce a "Waterfront Boulevard" that could serve in part as a new recreational resource. In sum, the project and Alternative 5 would result in similar less-than-significant impacts to public services, but Alternative 5 would also have beneficial impacts to recreational resources that would not occur with the project.

Utilities and Service Systems

The service population of the Plan Area would be the same, therein resulting in similar new demands on utilities in the Plan Area. Alternative 5's mobility improvements would likely trigger the opportunity for improvements to public infrastructure, such as water, sewer, and storm drain systems in public rights-of-way. While both the project and Alternative 5 would result in less-than-significant impacts to utilities and service systems, Alternative 5 presents the opportunities for beneficial impacts not part of the project.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the Environmentally Superior Alternative among the alternatives to the project. The Environmentally Superior Alternative is the alternative that would avoid or substantially lessen, to the greatest extent, the environmental impacts associated with the project. Additionally, if the No Build alternative is determined to be the Environmentally Superior Alternative, CEQA requires that the EIR identify an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)).

The identification of the Environmentally Superior Alternative results from a comparison of the impacts associated with each alternative, as summarized in **Table 5-3**. Based on a thorough comparison of all five alternatives, Alternative 3 (the Mitigated Alternative) is considered environmentally superior because it would avoid significant transportation and greenhouse gas effects associated with the project. Alternative 3 would also reduce the severity of other project impacts in several other environmental topic areas, as demonstrated in **Table 5-3**.

Table 5-3 Summary Comparison of Impacts: Project and Alternatives

Summary Comparison of Impacts: Project and Alternatives						
Impact	**Proposed Project**	**No Project Alternative**	**Reduced Retail Alternative**	**Mitigated Alternative**	**Theoretical Maximum Buildout**	**Maximum Infrastructure**
Air Quality						
Impact AQ-1: Development facilitated by the proposed project would not fundamentally conflict with the Bay Area 2010 CAP because the projected rate of increase in vehicle miles travelled and vehicle trips would be less than the projected rate of increase in population.	LTS	LTS ↓	LTS ↓	LTS ↓	SU ↑	LTS ↑
Impact AQ-2: Development facilitated by the proposed project would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement transportation control measures contained in the CAP.	LTS	LTS ↓	LTS ↓	LTS ↓	SU ↑	LTS ↑
Impact AQ-3: Development facilitated by the proposed project could include residential developments that expose occupants to substantial health risks from toxic air contaminants (TACs) from sources including both diesel particulate matter (DPM) and gaseous emissions. While compliance with the City's Standard Conditions of Approval would entail the preparation of site-specific health risk assessments which would reduce DPM exposure to a less-than-significant level, there is no certainty that SCA adherence could reduce risk from gaseous TACs to a less-than-significant level.	SU	SU ↓	SU ↓	SU ↓	SU ↑	SU ↑
Impact AQ-4: Development facilitated by the proposed project could expose a substantial number of people to objectionable odors.	SU	SU ↓	SU ≈	SU ↓	SU ↑	SU ≈

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Greenhouse Gas Emissions/Global Climate Change						
Impact GHG-1: Development facilitated by the proposed project would allow for the construction and operation of land uses that would produce greenhouse gas emissions from multiple sources, including stationary sources. . The expected level of emissions is expected to exceed three of the four relevant thresholds (1,100 annual tons of MTCO2e; 4.6 MTCO2e annually per service population from non-stationary sources; more than 10,000 annual MTCO2e from new stationary sources) but will be below the plan level threshold of 6.6 MTCOC2e annually per service population for non-stationary sources. Development facilitated by the proposed project would thus be expected to generate greenhouse gas emissions at levels that would result in a cumulatively considerable contribution to a significant adverse cumulative impact on the environment. (S)	SU	SU ↓	SU ↓	LTS	SU ↑	SU ↑
Impact GHG-2: The proposed project would not fundamentally conflict with a plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	SU ↑	LTS
Noise						
Impact NO-1 Development facilitated by the CEIG would potentially increase construction noise at sensitive receptors located near construction sites. Compliance with the city's Standard Conditions of Approval would reduce these impacts to a less-than-significant level. (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑
Impact NO-2: Construction of development facilitated by the CEIG could generate noise at levels in excess of City of Oakland nuisance standards for persistent construction-related noise. (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact NO-3 Development facilitated by the CEIG could generate noise levels in excess of standards established in the city's Noise Ordinance for operational noise.(LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈
Impact NO-4:) Development facilitated by the CEIG could potentially increase ambient noise levels, but by less than a 5 dBA permanent increase. (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑
Impact NO-5: Future development under the CEIG would generate additional noise associated with increased traffic volumes and everyday operational activities that could potentially increase the noise environment at the MLKRS (Location L-8A,B) by more than 3 dBA. : Development facilitated by the CEIG could expose persons to interior noise levels that exceed State building code requirements (45 dBA L_{dn}**).** (LTS)	LSM	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑
Impact NO-6 Development facilitated by the CEIG be exposed to noise levels in conflict with the land use compatibility guidelines of the Oakland General Plan. (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑
Impact NO-77 Development facilitated by the CEIG may expose persons to or generate noise levels in excess of applicable occupational noise standards established by Cal-OSHA and the City's Planning Code. (LTS)	LTS	LTS ↑	LTS ↓	LTS ↓	SU	LTS ↑
Impact NO-8 Construction of the development facilitated by the CEIG may expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA). (LTS)	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑
Impact NO-9: Development facilitated by the CEIG would not be located within an airport land use plan and would not expose people residing or working in the Plan Area to excessive noise levels associated with airport (NI)s	NI	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ↑

Table Key:

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact NO-10: The Plan Area is not located within the vicinity of a private airstrip. Therefore, no noise impacts from private airstrip activity would occur. (NI)	NI	NI	NI	NI	NI	NI
Transportation						
Impact TRAN-1: : Under Existing plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #10 (E 9th St / E 8th St / NB 880 off-ramp, unsignalized all-way stop control) from LOS F with 80 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a significant impact under CEQA threshold #6.	LTS	LTS ↓	LTS ↓	LTS ↓	SU↑	LTS↑
Impact TRAN-2: Under Existing plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #26 (High St / Coliseum Wy, signalized) from LOS C with 30 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). This is considered a significant impact under CEQA threshold #1.	LTS	LTS ↓	LTS ↓	LTS ↓	SU↑	LTS↓
Impact TRAN-3: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #29 (Coliseum Wy / NB 880 off-ramp, unsignalized side-street stop control) from LOS D with 25 seconds of delay (AM) and 28 seconds of delay (PM) to LOS F with 122 seconds of delay (PM) and 69 seconds of delay (PM). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-4: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #1 (Embarcadero / 16th Avenue, unsignalized side-street stop control) from LOS E with 49 seconds of delay (No Project) to LOS F with 51 seconds of delay (plus Project). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.	LTS	LTS ↓	LTS ↓	LTS ↓	SU↑	LTS↑
Impact TRAN-5: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #3 (E 12th / 22nd Ave / 23rd Ave, signalized) from LOS E with 69 seconds of delay (No Project) to LOS E with 70 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left and westbound left) to degrade by more than six seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #4.	SU	SU↓	SU	LTS ↓	SU↑	SU↑
Impact TRAN-6: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #18 (Fruitvale Ave / E 9th St, signalized) from LOS D with 43 seconds of delay (No Project) to LOS E with 58 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.	LTS	LTS ↓	LTS ↓	LTS ↓	SU↑	LTS↑

Table Key:

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-7: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #22 (42nd Ave / International Blvd, signalized) from LOS E with 73 seconds of delay (No Project) to LOS F with 85 seconds of delay (plus Project). The increase in delay of 12 seconds is considered a *significant impact* under CEQA threshold 3.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-8: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS C with 22 seconds of delay (No Project) to LOS E with 56 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-9: Under Interim Year 2020 and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS D with 52 seconds of delay (No Project) to LOS E with 68 seconds of delay (plus Project). This is considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-10: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #8 (29th Ave / E 12th St, signalized) from LOS E with 58 seconds of delay (No Project) to LOS E with 59 seconds of delay (plus Project). The project traffic would cause the average delay at two critical movements (northbound left from E 12th to 29th and westbound left from 29th to E 12th) to degrade by more than six seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #4.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

Table Key:

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-11: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #12 (29th Ave / Ford St, signalized with the 29th/23rd Overcrossing Project) from LOS D with 44 seconds of delay (No Project) to LOS E with 61 seconds of delay (plus Project). This is considered a *significant impact* under CEQA threshold #1.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-12: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #13 (29th Ave / 23rd Ave / Park St, unsignalized side-street stop control). The project would add greater than 10 vehicle trips at this intersection and it meets Caltrans peak hour traffic signal warrant (California MUTCD Warrant 3). This is considered a *significant impact* under CEQA threshold #6.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-13: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #14 (Park St / Lincoln Ave / Tilden Wy, signalized) from LOS F with 104 seconds of delay (No Project) to LOS F with 109 seconds of delay (plus Project). These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-14: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM and PM peak hour LOS at intersection #16 (Fruitvale Ave / E 12th St, signalized) from LOS E with 60 seconds of delay (AM, No Project) and 68 seconds (PM, No Project) to LOS E with 68 seconds of delay (AM, plus Project) and 73 seconds of delay (PM, plus Project). In both the AM and PM, the project traffic would cause the average delay at the intersection to degrade by more than four seconds over the No Project condition. This is considered a *significant impact* under CEQA threshold #3.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-15: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM peak hour LOS F condition at intersection #17 (Fruitvale Ave / San Leandro St / E 10th St, signalized). The principle cause for the delay is the left-turn movement from westbound Fruitvale to southbound San Leandro. The intersection's v/c ratio would increase by 0.04, which is considered a *significant impact* under CEQA threshold #5.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-16: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour LOS at intersection #21 (Tilden Wy / Fernside Blvd / Blanding Ave, signalized) from LOS E with 71 seconds of delay (No Project) to LOS E with 75 seconds of delay (plus Project). These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-17: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the AM and PM peak hour LOS F condition at intersection #22 (42nd Ave / International Blvd, signalized). The intersection's v/c ratio increases by over 0.05 in the PM, which is considered a *significant impact* under CEQA threshold #5.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-18: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #23 (High St / International Blvd, signalized) from LOS D with 44 seconds of delay (No Project) to LOS E with 69 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS E to F. Both of these conditions are considered a *significant impact* under CEQA thresholds #1 (AM) and #3 (PM).	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-19: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #25 (High St / San Leandro St, signalized) from LOS E to F. In the PM peak hour, project traffic would exacerbate a LOS F condition by causing the v/c ratio to increase by 0.20. These conditions are considered a *significant impact* under CEQA thresholds #1 and #3.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-20: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #27 (High St / SB 880 off-ramp / Oakport St, signalized plus additional improvements constructed with the 42nd Avenue / High Street Access Project) from LOS C with 44 seconds of delay (No Project) to LOS E with 80 seconds of delay (plus Project). In the PM peak hour, project traffic would degrade the LOS from LOS B to E. These conditions are considered a *significant impact* under CEQA threshold #1.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-21: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour LOS at intersection #28 (High St / Fernside Blvd, signalized) from LOS E with 80 seconds of delay (No Project) to LOS F with 94 seconds of delay (plus Project). In the PM peak hour, project traffic would cause LOS to degrade from LOS D to E. These conditions are considered a *significant impact* under the City of Alameda's CEQA traffic thresholds.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-22: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the PM peak hour LOS F condition at intersection #33 (23rd Ave / NB 880 on-ramp, new signalized intersection with the 29th/23rd Overcrossing Project). The v/c ratio increases by 0.01, which is considered a *significant impact* under CEQA threshold #5.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-23: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 50th Avenue. This is considered a *significant impact* under CEQA threshold #7.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-24: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Avenue. This is considered a *significant impact* under CEQA threshold #7.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-25: Under Interim Year 2020 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a *significant impact* under CEQA threshold #7.	LTS	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-26: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E to F on southbound I-880 at 16th Avenue. This is considered a *significant impact* under CEQA threshold #7.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-27: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at 16th Ave. This is considered a significant impact under CEQA threshold #7.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-28: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS E to F on northbound I-880 at Fruitvale Avenue. This is considered a *significant impact* under CEQA threshold #7.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-29: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the PM peak hour roadway segment LOS from LOS D or better to F on MTS segment #21 (High Street: I-880 to Tidewater). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-30: Under Existing, Interim Year 2020, and Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS D or better to F on MTS segment #22 (High St: Tilden to Central). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-31: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would degrade the AM peak hour roadway segment LOS from LOS E or better to F on MTS segment #3 (International Blvd: 29th Ave to Fruitvale Ave). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-32: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #4 (International Blvd: Fruitvale Ave to 42nd Ave). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-33: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM peak hour on MTS segment #5 (International Blvd: 42nd Ave to High St). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-34: Under Cumulative Year 2035 plus Project conditions, project-related vehicle traffic would exacerbate the LOS F condition during the AM and PM peak hour on MTS segment #6 (International Blvd: High St to 50th Ave). This is considered a *significant impact* under CEQA threshold #8.	SU	SU↓	SU↓	LTS ↓	SU↑	SU↑
Impact TRAN-35: The traffic analysis indicates that the project would result in a degradation of LOS at several intersections and roadway segments. The degradation of intersection operations at these locations, particularly along International Boulevard at High Street and 42nd Avenue, would result in an increase in AC Transit travel times for routes traveling along International Boulevard.	LTS	LTS ↓	LTS ↓	LTS ↓	SU↑	LTS≈

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-36: Traffic safety was evaluated by analyzing five years of collision data obtained from the California Highway Patrol's (CHP) Statewide Integrated Traffic Records System (SWITRS). The SWITRS collision data contains a record of all motor vehicle collisions. For each record, information on the type of collision (vehicle / vehicle, vehicle / pedestrian, or vehicle / bicycle) is provided. The location of the collision is also provided. This allows for the data to be sorted by collision type and geocoded to a location on the roadway network. The geocoded collision data were used to develop a list of collision "hot-spots" throughout the study area. At these "hot spots", city staff can identify geometric and design deficiencies, which can eventually lead to safety improvement recommendations.	NI	NI	NI	NI	SU	LTS↑
Impact TRAN-37: The project has the potential to introduce additional vehicle, bicycle and pedestrian traffic to existing at-grade railroad crossings thereby potentially contributing to safety issues along railroad corridors. For example vehicle traffic generated by new development may potentially cause vehicle queuing at intersections resulting in traffic backing up onto at-grade railroad crossings, possibly resulting in train/automobile/pedestrian collisions and potentially causing injuries and/or fatalities. A substantial increase in traffic generated by development could substantially increase hazards that occur between incompatible uses (i.e. motor vehicles and trains, or pedestrians and trains) and would constitute a significant impact.	SU	SU↓	SU↓	SU↓	SU↑	SU↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Impact TRAN-38: Activities related to the construction of various elements of the Project, particularly the retail and commercial uses in the Central-East and East sub-areas, could lead to temporary congestion. Construction requires the delivery of building materials, sometimes the import or export of earth fill materials, as well as travel by construction workers on a daily basis to and from the sites, potentially disrupting local traffic flow depending on the specific construction site.	LTS	LTS≈	LTS≈	LTS≈	LTS↑	LTS↑
Aesthetics						
Would the project have a substantial adverse effect on a public scenic vista?	LTS	LTS ↑	LTS ↓	LTS ↓	LTS ↑	LTS ≈
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway?	NI	NI	NI	NI	NI	NI
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	LTS	LTS ↑	LTS ↓	NI	LTS ↑	LTS ≈
Would the project create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area?	LTS	LTS ≈	LTS ↓	NI	LTS ↑	LTS ≈
Would the project 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)?	LTS	LTS ≈	LTS ↓	NI	LTS ↑	LTS ≈
Would the project 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?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈
Would the project 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?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↓ (All existing historic residences would be torn down)	LTS ≈
Would the project 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?	NI	NI	NI	NI	SU	NI
Would the project create winds that exceed 36 mph for more than one hour during daylight hours during the year?	NI	NI	NI	NI	SU	NI
Agriculture and Forest Resources						
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	NI	NI	NI	NI	NI	NI
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	NI	NI	NI	NI	NI	NI

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	NI	NI	NI	NI	NI	NI
Would the project result in the loss of forest land or conversion of forest land to non-forest use?	NI	NI	NI	NI	NI	NI
Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	NI	NI	NI	NI	NI	NI
Biological Resources						
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	LTS ↑	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	NI	NI	NI	LTS ↑	LTS ↑
Would the project have a substantial adverse effect on federally protected wetlands (as defined by section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means?	LTS	NI	NI	NI	SU	LTS ↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	NI	NI	NI	NI	NI	NI
Would the project fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	NI	NI	NI	NI	NI	NI
Would the project fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project fundamentally conflict with the City of Oakland Creek Protection Ordinance (Chapter 13.16) intended to protect biological resources?	NI	NI	NI	NI	NI	NI
Cultural and Historic Resources						
Would the project cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines section 15064.5? Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be "materially impaired?" The significance of a historical resource is "materially impaired" when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California	LTS	LTS ↓	LTS ≈	LTS ↓	SU	LTS ↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Continued						
Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5).						
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project disturb any human remains, including those interred outside of formal cemeteries?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Geology and Soils						
Would the project 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 issues by the State Geologist for the area based on other substantial evidence of a known fault; Strong seismic ground shaking; Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, or collapse; and Landslides?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project be located on expansive soil, as defined in section 1802.3.2 of the California Building Code (2007, as it may be revised), creating substantial risks to life or property?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property?	LTS	NI	NI	NI	NI	NI
Would the project 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?	LTS	NI	NI	NI	NI	NI
Would the project 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?	NI	NI	NI	NI	NI	NI
Hazards and Hazardous Materials						
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project 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?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project create a significant hazard to the public through the storage or use of acutely hazardous materials near sensitive receptors?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (i.e., the "Cortese List") and, as a result, would create a significant hazard to the public or the environment?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions?	LTS	LTS ≈	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a significant safety hazard for people residing or working in the project area?	NI	NI	NI	NI	NI	NI
Would the project be located within the vicinity of a private airstrip, and would result in a significant safety hazard for people residing or working in the project area?	NI	NI	NI	NI	NI	NI
Would the project fundamentally impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LTS	LTS ≈	LTS	LTS ↓	LTS ↑	LTS ↓
Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	NI	NI	NI	NI	NI	NI
Hydrology and Water Quality						
Would the project violate any water quality standards or waste discharge requirements?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted)?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project result in substantial flooding on- or off-site?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project create or contribute substantial runoff which would be an additional source of polluted runoff?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project otherwise substantially degrade water quality?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project 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?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project expose people or structures to a substantial risk of loss, injury, or death involving flooding?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈

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Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project expose people or structures to a substantial risk of loss, injury, or death as a result of inundation by seiche, tsunami, or mudflow?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or 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-site?	LTS	LTS ↓	LTS ≈	LTS ↓	LTS ↑	LTS ≈
Would the project fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources?	LTS	NI	NI	NI	NI	NI
Land Use Planning						
Would the project physically divide an established community?	NI	LTS	LTS ≈	LTS ↓	LTS ↑	LTS ↑
Would the project result in a fundamental conflict between adjacent or nearby land uses?	LTS	LTS ↑	LTS ≈	LTS ↑	LTS ↑	LTS ↑
Would the project fundamentally conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment?	LTS	LTS ↑	LTS ≈	LTS ≈	LTS ↑	LTS ↑
Would the project fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	NI	NI	NI	NI	NI	NI

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Mineral Resources						
Would the project result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state?	NI	NI	NI	NI	NI	NI
Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan; specific plan, or other land use plan?	NI	NI	NI	NI	NI	NI
Population and Housing						
Would the project 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 extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?	LTS	LTS ↓	LTS ≈	LTS ↓	SU	LTS ≈
Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	LTS	LTS ↓	LTS ≈	LTS ↓	SU	LTS ≈
Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	LTS	LTS ↓	LTS ≈	LTS ↓	SU	LTS ≈
Public Services						
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Continued						
to maintain acceptable service ratios, response times, or other physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following publics service: Fire protection, Police protection, School, or; Other public facilities?						
Recreation						
Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈
Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment?	LTS	LTS ≈	LTS ≈	LTS ≈	SU	LTS ≈
Utilities and Service Systems						
Would the project exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board?	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈
Would the project require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects?	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ↑
Would the project 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?	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

Summary Comparison of Impacts: Project and Alternatives

Impact	Proposed Project	No Project Alternative	Reduced Retail Alternative	Mitigated Alternative	Theoretical Maximum Buildout	Maximum Infrastructure
Would the project 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?	LTS	LTS ↓	LTS ↓	LTS ↓	SU	LTS ≈
Would the project 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?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈
Would the project violate applicable federal, state, and local statutes and regulations related to solid waste?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈
Would the project violate applicable federal, state and local statutes and regulations relating to energy standards?	NI	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈
Would the project result in a determination by the energy 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 energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects?	LTS	LTS ↓	LTS ↓	LTS ↓	LTS ↑	LTS ≈

Table Key:

LTS: Less than Significant; **LSM**: Less than Significant after mitigation; **SU:** Significant and Unavoidable; **NI:** No Impact; ↓: Lesser; ↑: Greater; ≈: Similar

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6.0 OTHER CEQA REQUIRED DISCUSSIONS

As required by the California Environmental Quality Act (CEQA), this chapter provides a discussion of effects not found to be significant, unavoidable significant impacts, significant irreversible environmental changes, and the potential for the project to result in growth inducement.

6.1 EFFECTS NOT FOUND TO BE SIGNIFICANT

CEQA requires a brief discussion of the potential effects of a project that have been determined not to be significant and, therefore, not evaluated in detail in the EIR. **Section 4.5, Other Resources**, of this EIR includes a discussion of all environmental resources that would not be significantly affected by the project. These resource areas include aesthetics, agriculture and forest resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, population and housing, public services, parks and recreation, and utilities.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Section 15126.2(b) requires that an EIR disclose all significant impacts including those that cannot be mitigated to a less-than-significant level, where no feasible mitigation measures exist to further reduce these impacts. Throughout this EIR, mitigation measures have been identified that would reduce all of the potential environmental impacts of the project to a less-than-significant level, with the exceptions of impacts to:

- Air quality (exposure to odors and gaseous TACs at both plan and project-levels of analysis)
- Greenhouse gas emissions (per applicable project-level thresholds for both mobile and stationary sources)
- Transportation (impacts to several intersections; freeway and roadway segments; the addition of new traffic across existing at-grade railroad crossings; and 140 intersections which have SU traffic impacts today, without the project, as identified in previous EIRs (see **Table 4.4-2**)).

CEQA Section 15092 prohibits lead agencies from approving a project unless the agency has "eliminated or substantially lessened all significant effects on the environment where feasible." Lead agencies have a duty to mitigate significant environmental impacts to the extent possible when mitigations are feasible, even if the mitigations will not reduce impacts to a less-than-significant level and the agency intends to adopt a Statement of Overriding Considerations.

Because of the significant and unavoidable impacts identified in this SEIR, approval of the proposed CEIG would require the City to adopt a Statement of Overriding Considerations, indicating that the City is aware of the significant environmental consequences, and believes that certain economic, social, technical, or other benefits of approving the proposed project outweigh its significant environmental impacts.

6.3 SIGNIFICANT IRREVERSABLE CHANGES

CEQA Guidelines section 15126.2(c) requires that the EIR discuss "significant irreversible environmental changes which would be caused by the proposed project should it be implemented." Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- The project would involve a large commitment of nonrenewable resources; or
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

6.3.1 CHANGES WHICH WOULD COMMIT FUTURE GENERATIONS TO SIMILAR USES

The project is located in an urban area and is completely developed with existing buildings and infrastructure. Future development within the Plan Area would consist of infill and redevelopment of existing buildings and structures, and would not result in significant changes in the overall land use pattern of the Plan Area. One of the main objectives of the CEIG is to ensure that the current eclectic mix of residential, commercial, and industrial uses within the Plan Area can be retained and enhanced. The project would therefore not result in land use changes which would commit future generations to development that is not already present within the Plan Area.

6.3.2 IRREVERSIBLE CHANGES FROM ENVIRONMENTAL ACCIDENTS

Existing and future commercial or industrial development projects in the Plan Area would regularly transport, use, or dispose of hazardous materials; and hazardous materials could be accidently released into the environment during these activities. Accidents, such as the release of hazardous materials, may trigger irreversible environmental damage. In most circumstances, the potential risks posed by hazardous materials use and storage are primarily local and, therefore, limited to the immediate vicinity of such use. Moreover, the transport, use, and disposal of hazardous materials are heavily regulated. Compliance with existing federal, State, and local laws and regulations that are administered and enforced by the City would reduce risks associated with the routine use, storage, and transportation of hazardous materials in connection to acceptable levels, and would ensure that no significant irreversible changes from accidental releases would occur.

6.3.3 COMMITMENT/CONSUMPTION OF NON-RENEWABLE RESOURCES

Implementation of the CEIG could result in the long-term commitment of various resources to urban development. While the CEIG itself would not directly entitle or result in any new development, it is reasonably foreseeable that the CEIG, which would become the blueprint for growth and development in the Plan Area over the next twenty years, could allow development that results in such significant irreversible impacts as: the increased generation of pollutants, and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as water resources during construction. Ongoing operations associated with allowable future uses on land designated for development could also consume fossil fuels, water, natural gas, and electrical energy. These unavoidable consequences of allowing for new urban growth are described in the appropriate sections of **Chapter 4.0, Environmental Analysis,** of this Draft Supplemental EIR.

Resources that could be permanently and continually consumed by implementation of the CEIG include water, electricity, natural gas, and fossil fuels; however, development allowed under the CEIG would not necessarily result in the inefficient or wasteful use of resources. Compliance with all applicable building codes, as well as existing General Plan policies, SCAs, standard conservation features, and current City programs would ensure that natural resources are conserved to the maximum extent possible. It is possible that new technologies or systems will emerge, or become more cost-effective or user-friendly, to further reduce the reliance upon

non-renewable natural resources. Nonetheless, future construction activities related to implementation of the CEIG could result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

6.4 GROWTH INDUCEMENT

CEQA Guidelines Section 15126.2(d) requires that an EIR discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth. Although growth inducement itself is not considered an environmental effect, it could potentially lead to environmental effects.

The CEIG project includes amendments to the General Plan. As a whole, the purpose of any General Plan is to guide growth and development in a manner consistent with the community's vision. The CEIG project contributes to the framework of goals, policies, programs, and guidelines that collectively serve as the "blueprint" for future development of the Plan Area.

The vision for the CEIG project is the product of an extensive community outreach process. This process contributed directly to the types and level of foreseeable growth set forth in the CEIG's general plan and zoning amendments. In other words, the CEIG project is specifically intended to foster both population and employment growth in the Plan Area, through a mixture of changes to land use regulations and Design Guidelines.

As noted in **Chapter 3.0, Project Description**, as well as throughout this document, the CEIG project would allow for the future construction of up to about 391 additional residential units, plus up to 31 live-work units. Collectively, these could increase the population of the Plan Area by nearly 100% over its existing population as of 2010. Moreover, the CEIG would allow for an increase in commercial and industrial square footage with the potential to generate about 1000 new jobs, representing about a 20 percent increase over the number of jobs existing in the Plan Area.

7.0 REPORT PREPARATION

Table 7-1 presents the organizations and individuals involved in the preparation of this draft EIR.

Table 7-1 List of Preparers of the Supplemental Draft EIR

Preparer	Topic/Role	Contact
City of Oakland	Lead Agency	Alicia Parker
Circlepoint	General EIR Preparation	John Cook, AICP Jennifer Gallerani, LEED-AP
Aspen Environmental	Air quality and greenhouse gas analysis and section preparation	Brewster Birdsall
ARUP	Transportation analysis and section preparation	Michael Iswalt
Wilson Ihrig & Associates	Noise and vibration analysis and section preparation	Deborah Jue
Pacific Biology	Biological Resources background analysis	Joshua Phillips
JRP Historical Consulting	Historic Architecture background analysis	Meta Bunse
Ninyo & Moore	Geology and soils hazards and hazardous materials background analysis	Kris Nelson
Pacific Legacy	Archaeological resources background analysis	John Holson
Geografika	GIS/graphical Consultation	Megan Gosch

Source: Circlepoint, 2012.

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