INITIAL STUDY

STATE CLEARINGHOUSE NUMBER: TBD

FOOTHILL SQUARE SHOPPING CENTER RENOVATION/REDEVELOPMENT

PREPARED FOR:

CITY OF OAKLAND

APRIL 2011

PREPARED BY
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OAKLAND, CA 94606

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GENERAL PROJECT INFORMATION

1. Project Title and Reference:

   Foothill Square Shopping Center Project
   Case #: CMDV 08187 / PMW 080009 / T 08-00056
   Environmental Review Case File #: ER 0800016

2. Lead Agency Name and Address:

   City of Oakland
   Community and Economic Development Agency
   Planning Division
   250 Frank H Ogawa Plaza, Suite 3315
   Oakland, CA 94612

   Primary Report Preparers:

   Lamphier-Gregory, Inc.
   Rebecca Gorton and Scott Gregory
   1944 Embarcadero
   Oakland, CA 94606

3. Contact Person and Phone Number:

   Aubrey Rose, Planner II
   (510) 238-2071

4. Project Location:

   The Project site is located at 10700 MacArthur Boulevard and 10605 Foothill Boulevard in the City of Oakland near I-580 and 106th Avenue, three blocks north of the Oakland boundary with the City of San Leandro.

5. Project Sponsor's Name and Address:

   MacArthur Boulevard Associates
   10700 MacArthur Boulevard, Suite 200
   Oakland, CA 94605

6. General Plan Designation:

   The Project site is comprised of three (3) parcels. All have a General Plan designation of Community Commercial.

7. Zoning:

   The parcels have the following Zoning designations and land use:

Assessor's Parcel Number	Zoning Designation	Land Use
047-5594-001	C-30	Community Commercial
047-5589-001-04	C-30 (S-4)	Community Commercial
047-5589-001-07	C-30 (S-4)	Community Commercial

8. Description of Project:

   The approximately 14-acre site currently contains the Foothill Square retail and commercial mixed-use center originally constructed in the early 1960s. The Foothill Square center consists of five buildings housing 156,822 square feet of commercial space, although much of that space is underutilized at present. (See the Site Location, Figure 1 and the Existing Site Plan, Figure 2.)

   The proposed Project involves redevelopment of the site to construct a new, contemporary commercial center containing up to 200,916 square feet of retail and commercial space. The mix of commercial tenants within the center includes a 71,950 square foot Foods Co. grocery store and a 24,400 square foot Ross department store in addition to other retail, restaurant, office uses and a new gas station. Existing uses, including the DaVita Hemodialysis Clinic, an adult day health care facility, a bingo hall and a Head Start childcare center will remain on site, though relocated or reconfigured to some degree. (See the Proposed Site Plan, Figure 3.) Specifics of the proposed Project include:

- Demolition of 3 existing structures and a portion of another, for a total removal of approximately 61,500 square feet of building space, and tree removal and grading throughout the majority of the site. (See the Demolition Plan, Figure 4.)
- Relocation of existing tenants from buildings proposed for demolition.
- Retention of approximately 95,322 square feet of existing building space, with new tenant improvements as necessary to accommodate new or existing tenants.
- Construction of new buildings and additions totaling construction of approximately 105,500 square feet of building space, resulting in a net increase of 44,094 square feet. (See the Proposed Site Plan, Figure 3.)
- Development of a currently unoccupied parcel at the southern corner of 106th Avenue and Foothill Boulevard as a gas station with up to 8 fueling stations (in addition to the building space described above). Because of grading differences, this approximately 0.3 acre parcel would have separate access from the remainder of the shopping center.
- Other site improvements include parking lot repaving and striping, lighting, landscaping, signage and security features

9. Surrounding Land Uses and Setting:

The Project site is located in the Elmhurst neighborhood of Oakland, near the border of San Leandro. Retail/commercial uses dominate the MacArthur Boulevard corridor to the northwest and southeast of the Project site, with residential neighborhoods filling out the Elmhurst area. To the northeast is the I-580 freeway, a multi-lane elevated freeway separated from the Project site by Foothill Boulevard and a landscaped strip. (See the Site Location, Figure 1)

10. Requested Actions and Required Approvals:

A number of actions and approvals are required for this Project, including without limitation:

- Design Review
- Conditional Use Permits for alcohol sales, master sign program and a light vehicle gas station and service activity
- Tree Removal Permit
- Parcel Map Waiver for lot line adjustment
- Variance for amount of required parking

PURPOSE OF DOCUMENT

The purpose of this Initial Study Environmental Review Checklist (referred to throughout this document as “Initial Study” or “IS”) is to present the environmental analysis and certain supporting technical information that the City of Oakland considered leading to the decision to prepare Mitigated Negative Declaration (MND) pursuant to CEQA Guidelines Section 15162. Specifically, the project-level analysis in this Initial Study compares the potential environmental effects that may result from the proposed Project to the existing conditions, as well as the effects identified previously in the certified *2003 Central City East Redevelopment Plan EIR* prepared by the City of Oakland (referred to throughout this document as the "*2003 Redevelopment Plan EIR*" and "*2003 EIR*") and identifies any significant new impacts and/ or a substantial increase in severity of previously identified impacts. The document also identifies Standard Conditions of Approval and/or mitigation measures designed to reduce impacts to less than significant levels.

In accordance with CEQA Guidelines Section 15063, the scope of this Initial Study includes the following:

1. All phases of project planning, implementation, and operation..
2. Expert opinion supported by facts, technical studies or other substantial evidence to document its findings.

RELATIONSHIP OF PROPOSED PROJECT TO PREVIOUS ENVIRONMENTAL REVIEW

In 2003, the City of Oakland established the Central City East Redevelopment Plan area, comprised of 3,340 acres in four different planning subareas, including Eastlake/San Antonio, Fruitvale, Central East Oakland and Elmhurst. The proposed Project site is located in the Elmhurst subarea. At that time, the City also certified the *Central City East Redevelopment Plan EIR* ("*2003 EIR*"), a program EIR that characterized one large project. The *2003 EIR* prepared for the Redevelopment Plan analyzed impacts expected to occur over a 20-year period associated with growth in population and employment opportunities of approximately 1,440 net new households, approximately 3,780 net new residents and approximately 2,210 net new employment opportunities.

CEQA Guidelines Section 15168(d) allows a program EIR to be used as the basis for subsequent EIRs and Negative Declarations for later parts of the program in order to determine whether the later activity may have any significant effects. An earlier program EIR may be incorporated by reference to deal with "regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole," and allows the analysis of the subsequent environmental review to focus on a subsequent project to "permit discussion solely of new effects which had not been considered before."

The proposed Project represents a small portion of the development projected to occur under the *Redevelopment Plan* and analyzed in the *2003 EIR*. This Initial Study tiers from the analysis contained in the *2003 Central City East Redevelopment Plan EIR*, to address cumulative and program-wide issues, and focuses the analysis on the specific impacts of the proposed Project, and

This Initial Study hereby incorporates by reference the 2003 *Central City East Redevelopment Plan EIR*. The analysis in this document will tier off the earlier analysis, when appropriate, to provide relevant discussion.

Pursuant to CEQA Guidelines Section 15168(e), any public noticing of the proposed Project shall include a statement that:

- This activity is within the scope of the program approved earlier, and
- The program EIR adequately describes the activity for the purposes of CEQA

SEPARATE BASIS FOR CEQA REVIEW

The proposed Project is consistent with the land use and density assigned to the Project site by the City of Oakland *General Plan* and zoning ordinance (OMC Title 17). The policies that established these land use designations were analyzed in a previously certified EIR, the 1998 Land Use and Transportation Element EIR in addition to the 2003 Redevelopment Plan EIR.. Pursuant to CEQA Guidelines Section 15183(a), projects that are consistent with the land use designation of a zoning ordinance, community plan or general plan for which an EIR was certified "shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site." 15183(b) further defines the parameters of the scope of environmental analysis required of a project that is consistent with the land use designation of the site:

> **15183(b).** In approving a project meeting the requirements of this section, a public agency shall limit its examination of environmental effects to those which the agency determines, in an initial study or other analysis:
>
> 1. Are peculiar to the project or the parcel on which the project would be located,
> 2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent,
> 3. Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or
> 4. Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

The Project site has recognized environmental conditions related to hazardous material contamination, with completed, ongoing and proposed remediation plans. These issues are considered "peculiar" to the Project site under this section, warranting environmental review.

Additionally, traffic conditions have changed in the surrounding area since the previous environmental reviews, greenhouse gas emissions impacts have been added to the CEQA checklist, and new guidelines and thresholds of significance have been adopted by the local Air District related to air quality and greenhouse gas emissions. These issues were either not analyzed in the prior EIR, or may have greater impacts than were analyzed in the prior EIRs, warranting further environmental review.

REQUESTED ACTIONS AND REQUIRED APPROVALS

This Initial Study and Mitigated Negative declaration is intended to provide CEQA clearance for all discretionary permits and approvals required for the Project, including without limitation:

- Design Review
- Conditional Use Permits for alcohol sales, master sign program and light vehicle gas station and service activity
- Tree Removal Permit
- Parcel Map Waiver for lot line adjustment
- Variance for amount of required parking

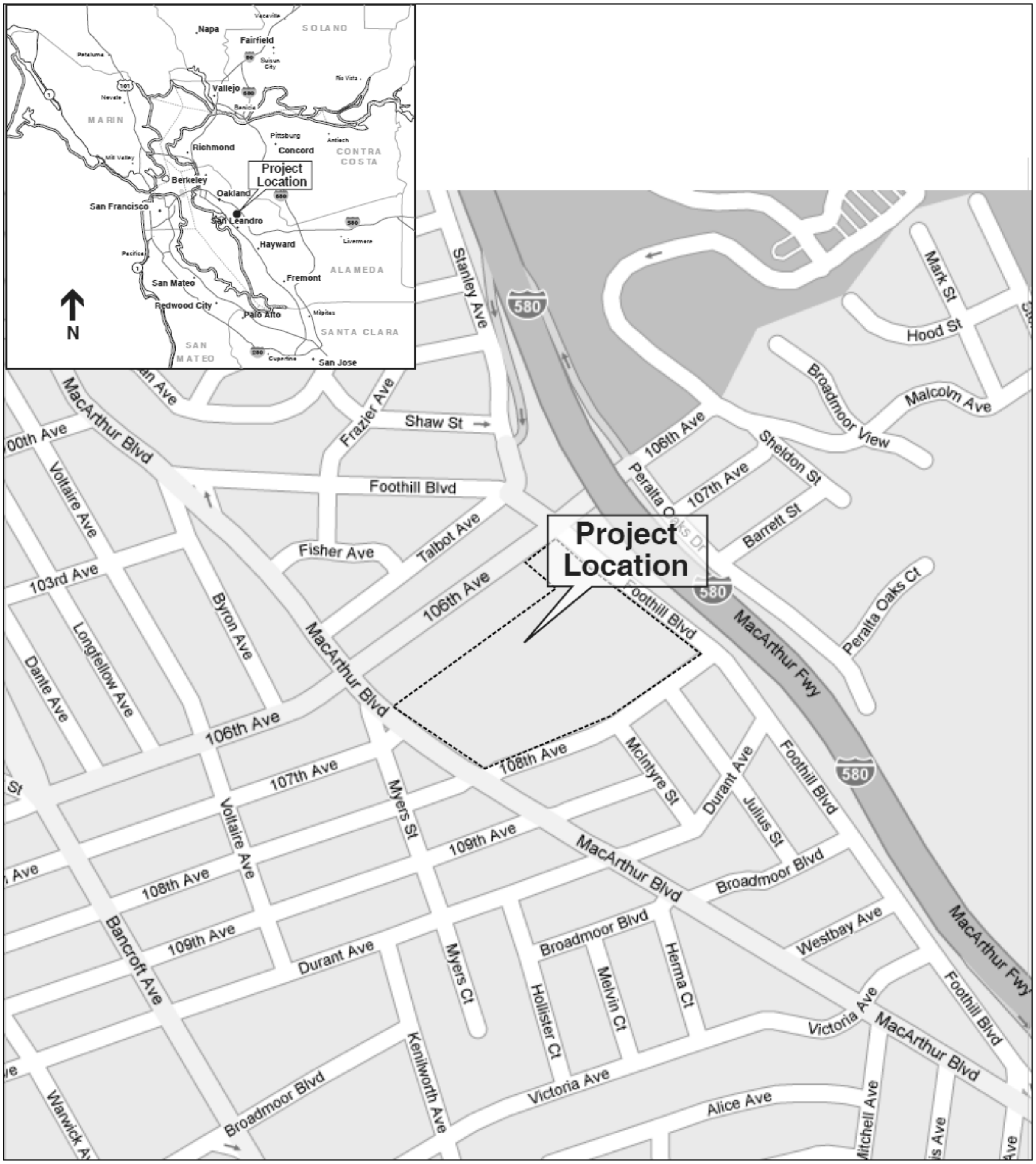

Figure 1: Project Site and Vicinity

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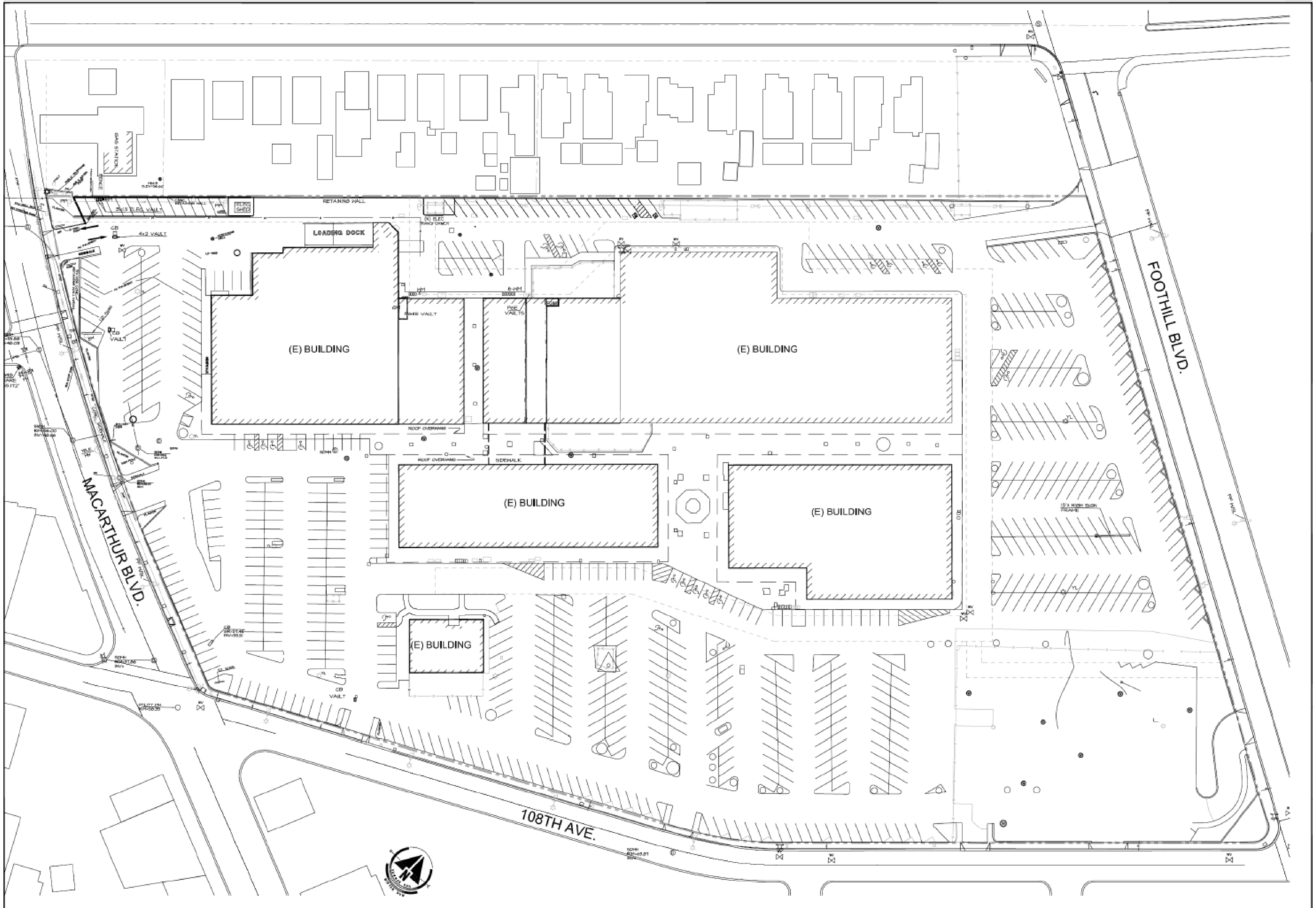

Figure 2: Existing Site Plan

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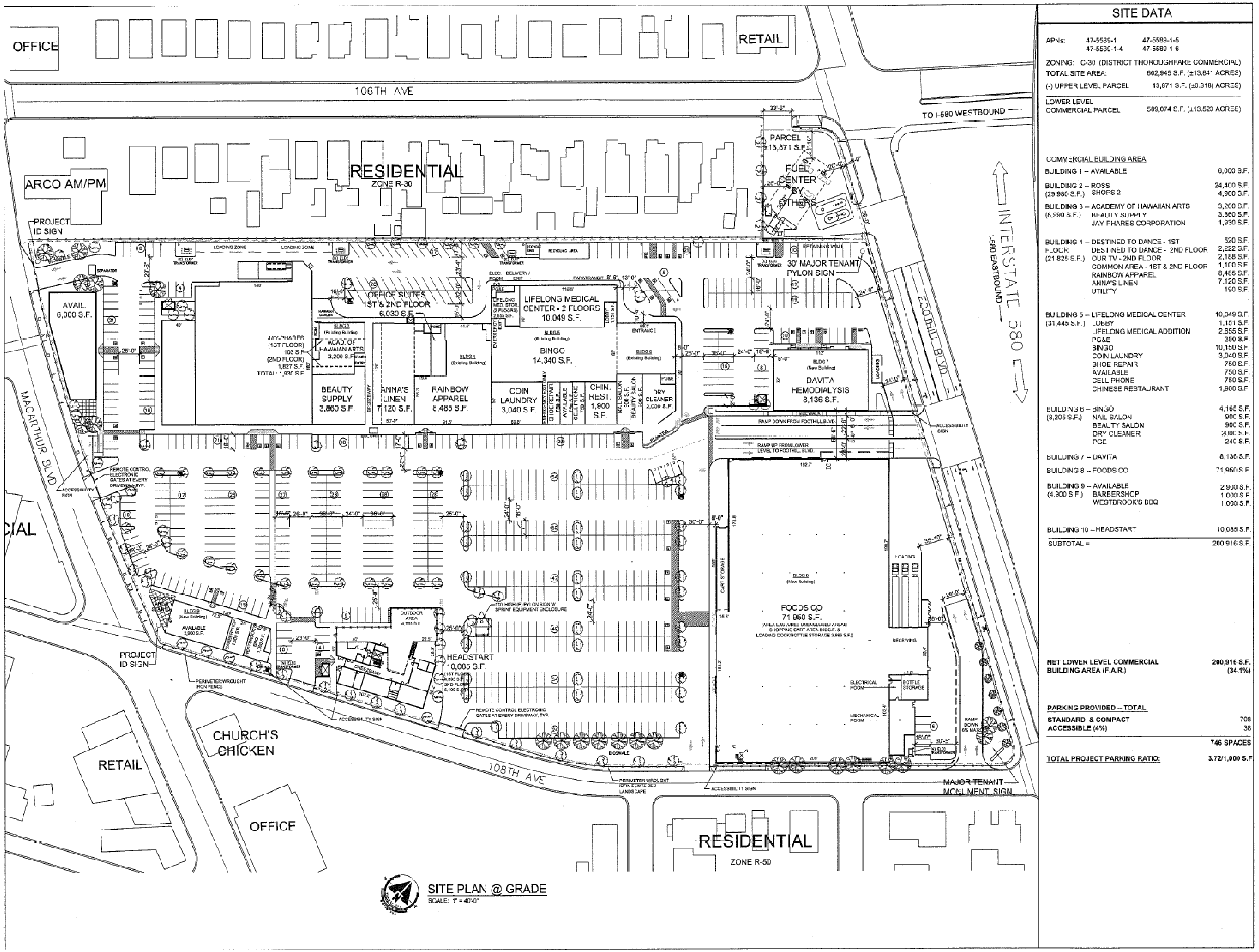

Figure 3: Proposed Site Plan

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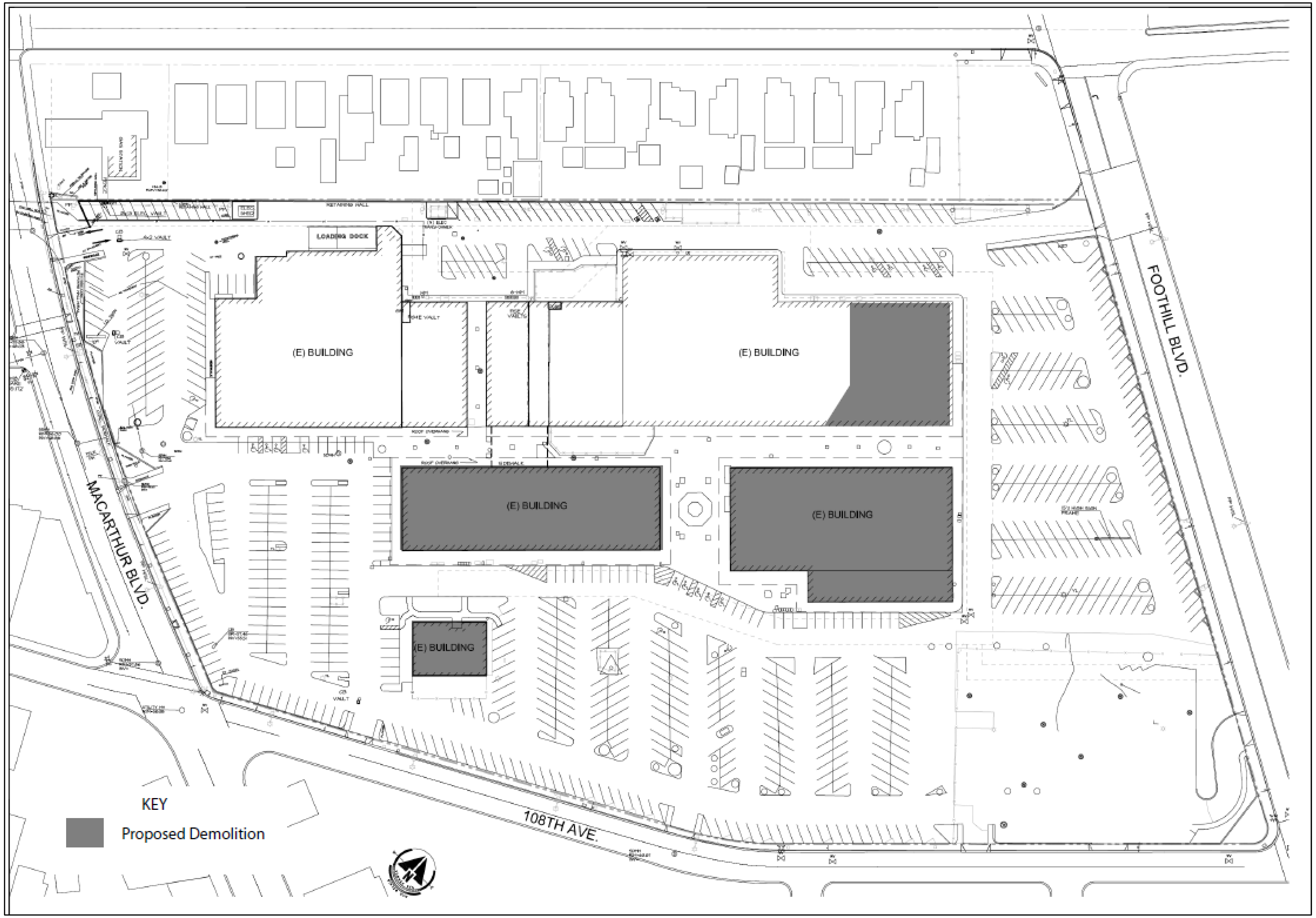

Figure 4: Demolition Plan

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors marked with a filled-in block (■) have been determined to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Unmarked factors (□) were determined to be either not significantly affected by the Project or fully mitigated through the implementation of mitigation measures or standard conditions of approval adopted by the City of Oakland and that would be applicable to the Project if approved.

□ Aesthetics	□ Hazards and Hazardous Materials	□ Population and Housing
□ Agricultural/Forestry Resources	□ Hydrology and Water Quality	□ Public Services
□ Air Quality and GHG	□ Land Use and Planning	□ Recreation
□ Biological Resources	□ Mineral Resources	□ Transportation and Circulation
□ Cultural Resources	□ Noise	□ Utilities and Service Systems
□ Geology and Soils		

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.	☑
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	☐

3/30/11

Signature Date

Eric Angstadt
Deputy Director of CEDA
Environmental Review Officer

CEQA EVALUATION

To help clarify and standardize analysis and decision-making in the environmental review process in the City of Oakland, the City has established significance criteria thresholds (which have been in general use since at least 2002) as guidance in preparing all environmental review documents (including Initial Studies and EIRs). Where possible, the City's thresholds should be used unless the location of the project or other unique factors warrants the use of different thresholds. In situations where different thresholds are proposed, justification must be provided and the City Planning and Zoning Division must approve the use of such. These established thresholds are intended to implement and supplement provisions in the CEQA Guidelines for determining the significance of environmental effects, including Sections 15064, 15064.5, 15065, 15382 and Appendix G, and form the basis of the City's Initial Study and Environmental Review Checklist.

These thresholds are to be used in conjunction with the City's Uniformly Applied Development Standards, which are incorporated into projects as conditions of approval regardless of a project's environmental determination. As applicable, the Uniformly Applied Development Standards 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.[1]

The following sections provide an evaluation of whether the Project will have any new significant effects on the environment or a substantial increase in the severity of previously identified impacts.

- If an environmental issue would not be affected by the project it is identified in the following evaluation as ***"No Impact"***.
- A ***"Less Than Significant"*** response indicates that while there may be potential for an environmental impact, features of the Project as proposed would limit the extent of this impact to a level of less than significant.
- If an environmental issue may cause a significant effect on the environment, but the Lead Agency has devised Standard Conditions of Approval that, if implemented, would reduce this impact to a less than significant level, it is identified in the following evaluation as ***"Less Than Significant with Standard Conditions of Approval"*** and these conditions are specifically identified.
- Responses that indicate that the impact of the Project would be "***Potentially Significant Unless Mitigation Incorporated***" indicate that mitigation measures, identified in the subsequent

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1 In reviewing project applications, the City determines which of the standard conditions are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approvals(s) required for the project. Depending upon the specific characteristics of the project type and/or project site, the City will determine which Development Standards apply to each project; for example, Development Standards related to creek protection permits will only be applied to projects on creekside properties.

The Development Standards incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Water 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, among others), 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 Development Standards, the City will determine whether there are feasible mitigation measures to reduce the impact to less than significant levels in the course of appropriate CEQA review (mitigated negative declarations or EIRs).

discussion, will be required as a condition of Project approval in order to effectively reduce potential Project-related environmental effects to a level below significance thresholds.

- If an environmental issue may cause a significant effect on the environment and could not be mitigated to a level of less than significant with Standard Conditions of Approval or Mitigation Measures identified in this document, it would be identified in the following evaluation as ***"Potentially Significant"*** and would need to be analyzed in a project-level EIR.

EVALUATION OF ENVIRONMENTAL IMPACTS

CEQA requires that an explanation of all answers except "No Impact" answers be provided along with this checklist, including a discussion of ways to mitigate any significant effects identified. As defined here, a significant effect is considered a substantial adverse effect.

AESTHETICS, SHADOW AND WIND

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
I. Would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway?	☐	☐	☐	☑	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☐	☑
d) Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area?	☐	☐	☑	☐	☐
e) 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)?	☐	☐	☐	☐	☑
f) 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?	☐	☐	☐	☐	☑
g) Cast a shadow that substantially impairs the beneficial use of the any public or quasi-public park, lawn, garden, or open space?	☐	☐	☐	☐	☑
h) 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 historic resources or a historical resource survey form (DPR Form 523) with a rating of 1-5?	☐	☐	☐	☐	☑
i) 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	☐	☐	☐	☐	☑

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
addressing the provision of adequate light related to appropriate uses?					
j) Create winds exceeding 36 mph for more than 1 hour during daylight hours during the year. [The wind analysis only needs to be done if the project's height is 100 feet or greater (measured to the roof) and one of the following conditions exist: a) the project is located adjacent to a substantial water body (i.e., Oakland Estuary, Lake Merritt or San Francisco Bay); or b) the project is located in Downtown.[2]]?	☐	☐	☐	☐	☑

SETTING

The Project site is located in an urban area characterized by a mixture of residential and commercial uses. MacArthur Blvd. is a commercial corridor running generally north-south in the Project vicinity and consisting primarily of small and local businesses, including numerous auto-court style motels and inns. Extending from MacArthur Blvd. to the east and west are residential neighborhoods of medium density (approximately 4,000 square foot lots). Eastward, the Oakland hills are visible, although their visibility from the Project site is limited due to the higher grade of Foothill Blvd and I-580 to the east.

The bulk of the Project site is generally flat, though lower than surrounding lots to the north and east. The grade difference east-west between MacArthur Blvd. and Foothill Blvd. has been overcome through use of retaining walls at the higher Foothill Blvd. side of the site and between the bulk of the property and the adjacent residential lots to the north along 106th Avenue. The portion of the site at the corner of Foothill Blvd and 106th Avenue matches the grade of those roadways, with a retaining wall between this corner and the remaining, lower portion of the site.

The Oakland *General Plan* Land Use and Transportation Element (LUTE) describes East Oakland as having a checkerboard of industrial, commercial and residential uses, the existence of which acts as a disincentive to owners to repair and improve their properties. Decay and neglect are found along major travel corridors and in some residential neighborhoods in this area, including in the vicinity of the Project site. The LUTE identifies MacArthur Corridor as a Regional Transit Street that needs economic development support to stimulate both commercial and residential development. The Project site is specifically called out in the LUTE as an important site for jobs and local services.[3]

SCENIC VISTAS

Would the Project:

a) Have a substantial adverse effect on a scenic vista?

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2 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.

3 City of Oakland General Plan, Land Use and Transportation Element, pp. 200-204.

The Project site is located in a developed urban area, surrounded on all sides by similar urban development. It is not located within a protected scenic vista, nor does it afford views of protected vistas. There would a ***no impact*** to scenic vistas or visual resources as a result of this Project.

SCENIC RESOURCES WITHIN A STATE SCENIC HIGHWAY

Would the Project:

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Interstate 580 is a designated State Scenic Highway corridor in the vicinity of the Project. The State Scenic Highway program describes this segment of I-580 as follows. "This recessed freeway has received several aesthetic awards for attractive landscaping."[4]

The proposed Project would not modify or encroach upon the landscaped setback between Foothill Boulevard and I-580. As a developed site in an urban area, the site does not feature historic buildings, protected trees, rock outcroppings or other scenic resources. Being a redevelopment project proposing similar uses as those that exist today, the changes to the site would not substantially change or negatively impact views from the state scenic highway. There would a ***less than significant impact*** to scenic resources within a state scenic highway corridor as a result of this Project.

VISUAL CHARACTER AND QUALITY

Would the Project:

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The Project would demolish existing structures, construct new buildings, and construct façade and tenant improvements. The Project's building design has not been finalized and would be required to undergo the City of Oakland's Design Review process to ensure compatibility with the surrounding area. Initial elevations indicate the building will generally enhance the existing visual character. City Design Review procedures and requirements will be implemented to ensure that the new buildings meet the design expectations as established under that process. Therefore, the proposed Project would have ***no impact*** with respect to degrading the visual character or quality of the site and its surroundings.

LIGHT AND GLARE

Would the Project:

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

The proposed Project would not create a new source of substantial light or glare. The City's Design Review process will ensure that exterior building materials do not cause substantial glare. The Project is generally consistent with the existing use on site and it is not anticipated that changes proposed would create substantial light or glare affecting day or nighttime views. Nevertheless, the City of

[4] California Department of Transportation, State Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

Oakland maintains the following Standard Condition of Approval to address *light and glare* that the Applicant would be required to satisfy:

City of Oakland Standard Condition of Approval

SCA 1: **Lighting Plan.** The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and prevent unnecessary glare onto adjacent properties. All lighting shall be architecturally integrated into the site.

Resulting Level of Significance

Implementation of **SCA 1**, above would ensure that the potential impact associated with light and glare would be reduced to ***less than significant with Standard Condition of Approval.***

SHADOWS

Would the Project:

e) Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors (in conflict with California Public Resources Code Section 25980-25986)?

f) 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?

g) Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space?

h) Cast shadow on a 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 Historic Resources, Local register of historical resources or a historical resource survey form (DPR Form 523) with a rating of 1-5?

The proposed Project would modify the shadows resulting from development on the site, but would not cast shadows on existing solar collectors. There are currently no buildings in the Project vicinity that utilize passive solar collectors for energy needs. Generally north of the site on 106th Avenue are residential uses that could be shadowed by the new building located to their south, as south-facing elevations in the northern hemisphere have the best potential for solar gain. However, there is no evidence to suggest any residences immediately adjacent the Project site employ solar collectors. Nevertheless, the height of the proposed structures would not result in substantial shadows on the residences to the north.

The Project site is in a densely developed urban area; there are no public or quasi-public parks, lawns, gardens or other open space within the vicinity of the site that would receive shadows from the proposed new building.

Regarding the Project's potential to cast shadows on a historic structure, there are no buildings in the Project vicinity that are listed on, or eligible for listing on, a national, state or local registry of historic resources. There would be ***no impact*** related to shadows.

EXCEPTIONS (VARIANCES) AFFECTING ADEQUATE LIGHT

Would the Project:

i) Require an exception (variance) to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses?

The Project would not require a variance regarding the provision of adequate light. There would be ***no impact*** in this regard.

WIND

Would the Project:

j) Create winds exceeding 36 mph for more than 1 hour during daylight hours during the year. [**NOTE:** 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[5].]

The existing buildings range in height from approximately 29' to 40' and the construction proposed would result in buildings consistent with that range. The proposed new building is not 100 feet or greater in height, nor located adjacent to a substantial water body or in downtown Oakland. Therefore, this criterion does not apply to the proposed Project and there would be ***no impact*** related to wind.

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5 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.

AGRICULTURAL AND FORESTRY RESOURCES

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
II. Would the project:					
a) 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 Resource Agency, to non-agricultural use?	☐	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☐	☑

The Project site is located in a densely populated urban area and is currently largely developed, with portions of the site paved with blacktop. No part of the site is zoned for or currently being used for agricultural or forestry purposes or is subject to the Williamson Act. There would be ***no impact*** to agricultural and forestry resources as a result of this Project.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
III. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑	☐
b) During project construction result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10.	☐	☐	☑	☐	☐
c) 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.	☐	☐	☐	☑	☐
d) 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.	☐	☐	☐	☑	☐
e) During either project operation or project construction expose persons by siting a new source or a new 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 greater than 0.3 micrograms per cubic meter of annual average PM2.5.	☐	☐	☑	☐	☐
f) Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people?	☐	☐	☐	☑	☐
Cumulative Impacts					
g) During either project operation or project construction expose persons by siting a new source or a new receptor to substantial levels of TACs resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) an increase of greater than 0.8 micrograms per cubic meter of annual average PM2.5.	☐	☐	☐	☑	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
Greenhouse Gas Emissions					
h) Conflict with any applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing GHG emissions.	☐	☐	☑	☐	☐
i) Produce total emissions of more than 1,100 metric tons of CO2e annually and produce emissions of more than 4.6 metric tons of CO2e per service population annually.	☐	☑	☐	☐	☐

INTRODUCTION

This section presents the results of an air quality and greenhouse gas emissions analysis performed by Lamphier-Gregory, which is included as Attachment 1.

This section also relies on analysis on construction-period health risk performed by Lamphier-Gregory and included as Attachment 2, and an operational health risk analysis performed by LSA, included as Attachment 3.

SETTING

Ambient air quality standards have been established by state and federal environmental agencies for specific air pollutants most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation. The criteria air pollutants of concern in development projects of this type include ozone precursors (NO_x and ROG), carbon monoxide (CO), and suspended particulate matter (PM_{10} and $PM_{2.5}$).

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs) under the California Clean Air Act. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. They are regulated at the local, state, and federal level. Particulate matter from diesel exhaust is the predominant TAC in urban air.

<u>State of California and Federal Air Quality Standards</u>

Both the California Air Resource Board and the U.S. Environmental Protection Agency have established ambient air quality standards for common pollutants, including ozone, CO, NO_2, PM_{10} and $PM_{2.5}$. These ambient air quality standards represent safe levels that avoid specific adverse health effects associated with each pollutant.

The California Clean Air Act of 1988, amended in 1992 (California Health and Safety Code § 39600 *et seq.*), outlines a program for areas in the State to attain the California Ambient Air Quality Standards

(CAAQS) by the earliest practical date. The California Air Resources Board (CARB) is the state air pollution control agency and is a part of the California Environmental Protection Agency. The California Clean Air Act set the same or more stringent air quality standards for all of the pollutants covered under national standards. If an area does not meet CAAQS, CARB designates the area as a nonattainment area. The San Francisco Bay Area Air Basin currently does not meet the CAAQS for ozone, PM_{10} and $PM_{2.5}$. CARB requires regions that do not meet CAAQS for ozone to submit Clean Air Plans that describe measures to attain the standard or show progress toward attainment.

<u>Bay Area Air Quality Management District</u>

Clean Air Plan

BAAQMD enforces rules and regulations regarding air pollution sources within the nine county San Francisco Bay Area Air Basin and is the primary agency preparing the regional air quality plans mandated under state and federal law.

In 1991, the BAAQMD, MTC and ABAG prepared the Bay Area 1991 Clean Air Plan (CAP). This air quality plan addresses the California Clean Air Act. Updates are developed approximately every three years. The plans were meant to demonstrate progress toward meeting the ozone CAAQS, but also include other elements. The latest update to the plan, which was adopted in September 2010, is called the Bay Area 2010 Clean Air Plan. The plan includes the following:

i) Updates the recent Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;

ii) Provide a control strategy to reduce ozone, particulate matter (PM), TACs, and greenhouse gases in a single, integrated plan;

iii) Review progress in improving air quality in recent years; and

iv) Establish emission control measures to be adopted or implemented in the 2010-2012 timeframe.

BAAQMD CEQA Guidelines

BAAQMD also prepares a document to provide guidance for lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. BAAQMD has recently revised their guidelines for analysis of impacts under CEQA and adopted new thresholds of significance in June 2010.[6]

<u>California Green Building Standards Code</u>

The Green Building Standards Code (CALGREEN), requiring all new buildings in the state to be more energy efficient and environmentally responsible, took effect on January 1, 2011. These comprehensive regulations are targeted to achieve major reductions in greenhouse gas emissions, energy consumption and water use to create a greener California.

CALGREEN will require that every new building constructed in California

- Reduce water consumption by 20 percent,
- Divert 50 percent of construction waste from landfills
- Install low pollutant-emitting materials

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6 Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, June 2010.

- Requires separate water meters for nonresidential buildings' indoor and outdoor water use
- Requires moisture-sensing irrigation systems for larger landscape projects
- Requires mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies.

City of Oakland

The City of Oakland is in the process of developing an Energy and Climate Action Plan, but this has not yet been formally adopted.

The City of Oakland adopted mandatory green building standards for private development projects on October 19, 2010 (Chapter 18.02 of the Municipal Code).

CONSISTENCY WITH AIR QUALITY PLAN / CAP

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

The proposed Project is within the *Central City East Redevelopment Plan* area and represents a part of the overall development projected by the *Redevelopment Plan*, which establishes a growth horizon of 20 years. The *Redevelopment Plan* is consistent with the City of Oakland *General Plan*, therefore, the proposed Project is also consistent with the *General Plan*. The potential impacts of the *Redevelopment Plan* were analyzed in the *2003 Redevelopment Plan EIR*, which determined that the *Redevelopment Plan* was consistent with the *Clean Air Plan* (CAP). The CAP has since been updated (September 2010), but would have also recognized this site as continuing with commercial/retail uses. Therefore, the proposed Project would not conflict with or obstruct the implementation of the applicable air quality plan.

The Project does not propose an amendment to the *General Plan*, the *Redevelopment Plan*, or any other land use plan associated with the Project site. The Project would not conflict with or obstruct the implementation of the applicable air quality plan. Therefore, there would be a ***less than significant impact***.

CONSTRUCTION-PERIOD EMISSIONS

Would the Project:

b) During project construction result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10?

Construction-period and operational emissions for criteria pollutants have been calculated using the CARB's URBEMIS2007 Version 9.2.4 model and the project specifics, as detailed in Attachment 1. This analysis was performed consistent with the current BAAQMD Guidelines. **Table 1a** presents the results of the URBEMIS emissions modeling and the respective BAAQMD thresholds.

TABLE 1A: PROJECT CRITERIA POLLUTANT EMISSIONS AND BAAQMD THRESHOLDS, CONSTRUCTION-PERIOD

	ROG	NOX	PM10 EXHAUST	PM2.5 EXHAUST	PM10 DUST	PM2.5 DUST
Construction Period						
Max. lbs/day UNMITIGATED	33.62	**60.86**	3.09	2.84	104.76	21.90
Max. lbs/day MITIGATED	33.62	52.74	2.05	1.88	104.76	21.90
BAAQMD Thresholds	54	54	82	54	Best Management Practices	
Above-threshold results are shown in **bold** Source: Lamphier-Gregory modeling of emissions using URBEMIS BAAQMD Adopted Air Quality CEQA Thresholds of Significance - June 2, 2010						

The mitigated Project includes assumed implementation of construction-period dust and emissions controls as outlined in Oakland's Standard Condition of Approval 2, discussed below.

As shown in the above table, all construction-period emissions would be below applicable thresholds except for unmitigated emissions of NOx. However, emissions of NOx would be reduced below the applicable threshold through implementation of Oakland's Construction-Related Air Pollution Controls as a Standard Condition of Approval (discussed below). This same Standard Condition of Approval would also satisfy BAAQMD's requirement to implement Best Management Practices for reduction of construction period dust.

City of Oakland Standard Condition of Approval

SCA 2: **Construction-Related Air Pollution Controls (Dust and Equipment Emissions).** During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):

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

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 particulate matter (PM) reduction compared to the most recent California Air Resources Board (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.

Resulting Level of Significance

Satisfactory compliance with the City of Oakland **SCA 2** requiring implementation of dust and equipment emission controls would ensure that air quality impacts of the Project during the construction period remain ***less than significant with Standard Conditions of Approval***.

OPERATIONAL EMISSIONS

Would the Project:

c) 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.

The methodology for the analysis is discussed under Construction-period impacts above and the results are shown in **Table 1b** below.

TABLE 1B: PROJECT CRITERIA POLLUTANT EMISSIONS AND BAAQMD THRESHOLDS, OPERATIONAL PERIOD

	ROG	**NOX**	**PM10 EXHAUST**	**PM2.5 EXHAUST**	**PM10 DUST**	**PM2.5 DUST**
Operational – Daily						
Average lbs/day UNMITIGATED	25.72	20.45	19.48	3.73	N/A	N/A
Average lbs/day MITIGATED	21.52	17.44	16.47	3.16	N/A	N/A
BAAQMD lbs/day Thresholds	54	54	82	54	N/A	N/A
Operational – Annual						
Average tons/year UNMITIGATED	4.11	3.00	3.55	0.68	N/A	N/A
Average tons/year MITIGATED	3.50	2.56	3.00	0.57	N/A	N/A
BAAQMD tons/year Thresholds	10	10	15	10	N/A	N/A
Above-threshold results are shown in **bold** Source: Lamphier-Gregory modeling of emissions using URBEMIS BAAQMD Adopted Air Quality CEQA Thresholds of Significance - June 2, 2010						

The mitigated Project includes mitigating characteristics of an urban site, such as the bus routes nearby, density of and mix of uses in the surrounding development, and reduced parking. As shown the table, all operational emissions would be below applicable BAAQMD thresholds of significance. Impacts related to operational emissions of criteria pollutants and precursors are ***less than significant***.

CARBON MONOXIDE EMISSIONS

Would the Project:

d) 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.

Pursuant to BAAQMD Guidelines, localized CO concentrations should be estimated for projects in which (1) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (2) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below grade roadways).

The project does not conflict with a congestion management program and project-generated traffic would not increase traffic volumes past threshold levels (see the Transportation/Traffic section for additional traffic information). The impact related to carbon monoxide concentrations would be ***less than significant***. This is consistent with conclusions of the *2003 Redevelopment Plan EIR,* which determined that subsequent projects within the Redevelopment Plan Area (e.g., the proposed Project) would not result in significant degradation of air quality.

COMMUNITY RISK AND HAZARD

Would the Project:

e) During either project operation or project construction expose persons by siting a new source or a new 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 greater than 0.3 micrograms per cubic meter of annual average PM2.5.

g) [Cumulative] During either project operation or project construction expose persons by siting a new source or a new receptor to substantial levels of TACs resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) an increase of greater than 0.8 micrograms per cubic meter of annual average PM2.5.

Demolition and Construction

Short term exposure to diesel particulate matter (DPM) and fine particulate matter ($PM_{2.5}$) during the construction period can pose a risk for cancer or non-cancer health concerns to nearby sensitive user, such as residents. Due to the variable nature of construction activity, the generation of TAC emissions would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations.

Methodology

The methods used in the following analysis of health risks associated with DPM from Project-related construction activities are consistent with CEQA Guidelines and BAAQMD health risk guidance, which includes by reference *Air Toxics Hot Spots Program Risk Assessment Guidelines* published by the Office of Environmental Health Hazard Assessment (OEHHA 2003). The health risk assessment includes three primary calculations, each of which are based on conservative (i.e., worst case) assumptions; 1) an estimate of construction-period DPM emission; 2) a calculation of DPM concentrations at the maximum exposed individual; and 3) an estimate of excess cancer risk and chronic health risks.

Consistent with BAAQMD recommended methodology, PM_{10} from exhaust has been used as a surrogate for DPM. The total PM_{10} exhaust emissions resulting from Project construction activity has been calculated using URBEMIS. For a full list of inputs and assumptions used in the URBEMIS model for the Project's construction period, see Attachment 1.

The estimated average annual emissions generated during construction are approximately 0.074 average yearly short tons of PM_{10}, averaged across the construction period.

The SCREEN3 air dispersion model was used to calculate the anticipated maximum 1-hour concentration of DPM at off-site sensitive receptor locations. This model conservatively assumes the worst case meteorology for assessing emission concentrations over time, and provides estimated concentrations at varying distances. The result of the SCREEN3 model for a 1-hour concentration was then scaled to derive an annual average ground-level concentration for the maximum exposed individual (MEI) modeled to occur at a distance of 193 meters (633 feet) from the site. This concentration was calculated to be 0.9087 ug/m^3 of DPM.

BAAQMD also recommends characterizing potential health effects from exposure to fine particulate matter, represented by $PM_{2.5}$ emissions. The SCREEN3 air dispersion model was again used to calculate the anticipated maximum 1-hour concentration of $PM_{2.5}$ at off-site sensitive receptor locations, as described for DPM above. The result of the SCREEN3 model was then scaled to derive an annual average ground-level concentration for the maximum exposed individual, also calculated to occur at 193 meters (633 feet) from the construction site. This concentration was calculated to be 0.0795 ug/m^3 annual average $PM_{2.5}$ concentration during the construction period.

Results

Consistent with BAAQMD's recommended methodology, OHHEA's inhalation cancer risk and inhalation chronic hazard equations were used to calculate the potential risks to sensitive receptors due to these construction-period concentrations of toxic air contaminants (DPM). The Health Risk Assessment (HRA), included as Attachment 2, found that the maximum exposed individual could be exposed to the following health risk levels:

Carcinogenic Impacts: The results of the HRA indicated that the maximum exposed inhalation cancer risk, factoring in age sensitivity of an infant, would be an inhalation cancer risk of 3.19 in 1 million, which is less than the threshold of 10 in 1 million. Therefore, the potential for carcinogenic impacts would be less than significant. Note that current models and methodologies for conducting health risk assessment consider long-term exposure periods, which do not necessarily correlate well with the temporary and highly variable nature of construction activities and this risk level could be considered very conservative.

Chronic Impacts: The results of the HRA indicate that the maximum chronic hazard index would be a chronic non-cancer inhalation index of 0.0182, which is less than the threshold of an index of 1. Therefore, the potential for chronic exposure impacts would be less than significant.

Fine Particulate Matter Exposure: The results of the HRA indicate that the maximum exposed individual could be exposed to annual average $PM_{2.5}$ concentrations of up approximately 0.0795 ug/m^3 during the construction period, which is less than the threshold of 0.3 ug/m^3. Therefore, the potential for impacts related to exposure to fine particulate matter would be less than significant.

While impacts related to construction emissions are already at a less than significant level, implementation of SCA 2 requiring construction-related air pollution controls (discussed above) would reduce DPM and fine particulate matter emissions and further reduce this impact.

Asbestos is not known to occur on the Project site; however, if it is encountered during construction activities, SCA 3 would apply. This impact related to health risk and asbestos would be considered potentially significant.

City of Oakland Standard Condition of Approval

SCA 3: **Asbestos Removal in Structures.** 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.

Resulting Level of Significance

SCA 3 requires removal of asbestos in structures in accordance with all applicable laws and regulations. Satisfactory compliance with the City of Oakland Standard Conditions of Approval listed above would ensure that health risk impacts of the Project during the construction period remain ***less than significant with Standard Conditions of Approval***.

Operation

The proposed Project is the renovation of an existing retail and commercial center. The proposed tenants of the Project include a childcare facility (Headstart) and medical facilities (DaVita Hemodialysis Clinic), which are considered sensitive uses. A gas station is also proposed on the project site, which could contribute to health risks for sensitive uses, including the adjacent residences.

The site, at its nearest point, is located approximately 150 feet (ft) from Interstate 580 (I-580), a busy thoroughfare in the San Francisco Bay region and a source of TACs from vehicle exhaust. The proposed medical and daycare facilities are approximately 500 and 800 feet from I-580, respectively.

The California Air Resources Board (CARB) has developed guidelines to be considered in the siting of new sensitive land uses to protect vulnerable populations from the adverse health impacts of traffic-related emissions. These guidelines are not regulatory nor binding on local agencies. Specifically, CARB's advisory recommendation for sensitive land uses proposed near freeways and high-traffic roads is to "[a]void siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day" However, CARB also recognizes that there is no "one size fits all" solution to land use planning, and that in addressing housing and transportation needs, the benefits of urban infill, community economic development priorities and other quality of life issues are also important and these must be considered and weighed by local decision makers when siting projects. There are currently many other sensitive uses within 500 feet of freeways throughout Oakland and other communities throughout California. A health risk assessment (HRA) was performed to characterize health risks at this specific location for the proposed Project.

<u>Methodology</u>

While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. The

HRA prepared for this analysis evaluates the health risks from the combination of toxic air contaminants (TACs) in diesel exhaust, TACs in gasoline exhaust, and PM2.5 contained in the exhaust of all vehicles from the nearby I-580 and the gas station use.

It is important to note that the emissions generated by vehicles moving along the freeway are **not** the result of the proposed Project, but rather future sensitive users at the Project site could be exposed to emissions generated by these vehicles due to the proximity of the shopping center to the existing freeway.

A Health Risk Assessment (HRA) was prepared by LSA Associates in December 2010 (included as Attachment 3). To estimate the potential cancer risk associated with exhaust from vehicles operating on the I-580 and operations of the proposed on-site gasoline station, a dispersion model was used to translate emission rates from source locations to concentrations at receptor locations of interest. Consistent with BAAQMD recommendations, this assessment was conducted using the ARB health risk model, HARP, which includes the United States Environmental Protection Agency (EPA) dispersion model ISCST3. This model provides a detailed estimate of concentrations considering site and source geometry, source strength, distance to receptor, building wake effects on plume distribution, and site-specific meteorological data. More detailed information regarding the modeling can be found in the full HRA, included as Attachment 3.

Results

Carcinogenic, Acute and Chronic Impacts:

Table 2 lists the health risk levels from exposure to the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station.

Table 2: Inhalation Health Risks from I-580 and Gas Station Traffic

Risk Category	Receptor Number	Carcinogenic Inhalation Health Risk	Chronic Inhalation Health Index	Acute Inhalation Health Index
70-Year Residential Risks	238	1.3 in 1 million	0.0008	0.000034
40-Year Worker Risks	290	0.29 in 1 million	0.0009	0.0000037
Child Risk Levels	439	0.16 in 1 million	0.0004	0.0000022
Threshold		10 in 1 million	1.0	1.0

Source: LSA Associates, Inc., December 2010.

As shown in Table 2, results of the analysis indicate that the maximally exposed individual (MEI) inhalation cancer risk associated with an adult living in a residence near the gas station for 70 years, working at the proposed development for 40 years, or for a child spending 9 years at the daycare center would all be less than the threshold of 10 in 1 million. The maximum chronic hazard index would be below the threshold of 1.0. Therefore, the potential for carcinogenic, acute or chronic exposure impacts would be ***less than significant***.

Fine Particulate Matter Exposure:

Table 3 lists the modeled concentrations of $PM_{2.5}$ from the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station.

Table 3: $PM_{2.5}$ Concentrations at Sensitive Locations

Location	Receptor Number	$PM_{2.5}$ Concentration (µg/m^3)
Residence Nearest Gas Station	238	0.0082
Health Center	290	0.0084
Daycare Center	439	0.0036

Source: LSA Associates, Inc., December 2010.
µg/m^3 = micrograms per cubic meter
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

As shown in Table 3, the peak concentration of $PM_{2.5}$ from all vehicle exhaust included in this HRA is 0.0084 µg/m^3, which is below the BAAQMD threshold of 0.3 µg/m^3. Therefore, the potential for carcinogenic, acute or chronic exposure impacts would be ***less than significant***.

Because the health risk levels were analyzed and found to be below BAAQMD threshold levels, Oakland SCAs related to exposure to air pollutants would not be applicable to this Project.

CUMULATIVE

The analysis above already considered the cumulative impact of emissions from the freeway and gas station uses. Because the surrounding are is largely developed, no nearby construction sites were identified for cumulative construction-period analysis so the project-specific conclusions remain. Similarly, consulting with BAAQMD's Stationary Source Risk and Hazard Google Earth mapping tool for Alameda County found only an off-site gas station (the Arco station at 10600 MacArthur Blvd) contributing to additional cumulative impacts. This off-site gas station has a reported carcinogenic risk level of 0.24 in a million, hazard index of 0.003 and PM2.5 concentration below reporting levels. These off-site resulting risk levels, when added to Project-specific levels above including risk from the nearby I-580 would remain below cumulative threshold levels and would therefore be ***less than significant***.

ODORS

Would the Project:

f) Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people?

For project screening purposes, the BAAQMD CEQA Guidelines provide a table listing project screening trigger levels for potential odor sources.[7] None of the uses provided in this list are proposed, nor would be permitted uses in the retail/commercial Project. For these reasons, there would be a ***less than significant*** impact in this regard.

GREENHOUSE GAS EMISSIONS

Would the Project:

i) Produce total emissions of more than 1,100 metric tons of CO2e annually and produce emissions of more than 4.6 metric tons of CO2e per service population annually.

In addition to the air pollutants discussed in the Air Quality section, other emissions may not be directly associated with adverse health effects, but are suspected of contributing to "global warming". Global warming has occurred in the past as a result of natural processes, but the term is often used now

[7] *BAAQMD CEQA Guidelines*, June 2010, p. 3-4.

to refer to the warming predicted by computer models to occur as a result of increased emissions of greenhouse gases (GHG).

The Global Warming Potential (GWP) concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to carbon dioxide (CO2), which is the most abundant GHG. CO2 has a GWP of 1, expressed as CO2 equivalent (CO2e). Other GHGs, such as methane and nitrous oxide are commonly found in the atmosphere at much lower concentrations, but with higher warming potentials, having CO2e ratings of 21 and 310, respectively. Other trace gases, such as chlorofluorocarbons and hydro chlorofluorocarbons, which are halocarbons that contain chlorine, have much greater warming potential. Fortunately these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the United States in 2008, CO2 emissions account for about 85 percent of the GHG emissions, followed by methane at about 8 percent and nitrous oxide at just under 5 percent.[8]

Senate Bill 97—Modification to the Public Resources Code

Pursuant to Senate Bill 97, the California Natural Resources Agency reviewed and adopted the amendments to the CEQA Guidelines on December 30, 2010 prepared and forwarded by the Governor's Office of Planning and Research (OPR). The Amendments became effective on March 18, 2010, including the addition of the above GHG emissions environmental topic and checklist items.

AB 32 and the Air Resource Board's Climate Change Scoping Plan

In 2006, the governor of California signed AB 32, the Global Warming Solutions Act, into legislation. The Act requires that California cap its GHG emissions at 1990 levels by 2020.

On December 11, 2008, the California Environmental Protection Agency Air Resources Board (ARB) adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of ARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce GHG emissions by 174 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO_2e under a business-as-usual scenario. The Scoping Plan also breaks down the amount of GHG emissions reductions ARB recommends for each emissions sector of the state's GHG inventory. While ARB has identified a GHG reduction target of 15 percent for local governments themselves, it has not yet determined what amount of GHG emissions reductions it recommends from local government land use decisions. However, the Scoping Plan does state that successful implementation of the plan relies on local governments' land use planning and urban growth decisions 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. ARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The measures approved by ARB must be enacted by 2012. As of April 2010, 14 ARB regulations had been approved, including all nine Discrete Early Actions, which will provide a reduction of approximately 78 MMTCO2e in 2020 (almost 50% of the goal).[9]

8 *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2008*. U.S. EPA. April 15, 2010, Table 2-1: Recent Trends in U.S. Greenhouse Gas Emissions and Sinks.

9 California Air Resource Board. April 22, 2010. *AB 32 Scoping Plan Implementation Update*. Accessed at http://www.arb.ca.gov/board/books/2010/042110/10-4-1pres.pdf .

Bay Area Air Quality Management District

The Project site falls within the San Francisco Bay Area Air Basin and therefore under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). BAAQMD provides a document titled *California Environmental Quality Act Air Quality Guidelines* ("Guidelines"), which provides guidance for consideration by lead agencies, consultants, and other parties evaluating air quality impacts in the San Francisco Bay Area Air Basin conducted pursuant to CEQA. The document includes guidance on evaluating and mitigating greenhouse gas emissions impacts.

Methodology

BAAQMD has recently updated these Guidelines in coordination with adoption of new thresholds of significance on June 2, 2010.[10],[11] This GHG analysis is consistent with the adopted thresholds and the June 2010 Guidelines and recommended methodologies.

GHG emissions from construction, plus the additional vehicles and additional area sources associated the proposed Project were also calculated using CARB's URBEMIS2007 Version 9.2.4 model and using trip generation data from the Project's traffic analysis. See Attachment 1 for details.

Project Attributes Affecting GHG Emissions

The 2010 *CEQA Guidelines* indicates that, "when calculating project GHG emissions to compare to the thresholds, the lead agency should ensure that project design features, attributes, or local development requirements are taken into consideration as part of the project as proposed, and not viewed as mitigation measures. For example, projects that are mixed-use, infill, and/or proximate to transit service and local services would have substantially lower vehicle trip rates and associated GHG emissions than what would be reflected in standard, basin-wide average URBEMIS default trip rates and emission estimates."

The Project's design features, existing plans and policies compliance, and applicable Standard Conditions of Approval required of the Project effectively reduce the amount of gross GHG emissions generated during operation. The Project site is located in an urban location within a mix of surrounding land uses including local serving retail, in a well-connected street system with transit availability. Additionally, the project proposes a reduction in the amount of required parking. These factors result in a reduction in vehicle trips and corresponding transportation-related GHG emissions as compared to the same type of development that may occur elsewhere in the outer Bay Area.

In light of these Project design features and site attributes, the GHG emissions associated the proposed Project were calculated using CARB's URBEMIS2007 Version 9.2 model, including adjustments to account for the reduction in emissions that would likely be achieved based on these unique features and attributes of the Project and its location. When calculating the adjusted (i.e. mitigated) emission levels, no reductions associated with implementation of applicable regulations were accounted for unless such were above and beyond those already considered by BAAQMD in development of the 2010 *CEQA Guidelines.*

[10] Bay Area Air Quality Management District. June 2, 2010. News Release http://www.baaqmd.gov/~/media/Files/Communications%20and%20Outreach/Publications/News%20Releases/2010/ceqa_100602.ashx .

[11] Bay Area Air Quality Management District. June 2010. *California Environmental Quality Act Air Quality Guidelines.*

Comparison of Project versus Baseline GHG Emissions

The results of the URBEMIS model outputs for the baseline condition and the Project were imported into the BAAQMD's Greenhouse Gas model (BGM Version 1.1.9). Several adjustments were made by the BGM model to these emissions after being imported from URBEMIS:

CO2 emissions are converted to metric tons and then converted to CO2e by multiplying by 100/95 (to account for the contribution of other GHGs such as CH4, N2O, and HFCs from leaking air conditioners). CO2 emissions represent more than 90 percent of the Project's contribution of GHG emissions.

CO2e transportation emissions are adjusted to account for the low carbon fuels rule (i.e., the "Pavley" regulations).

Pursuant to City of Oakland thresholds, the Project's total construction emissions (annual emissions projected over each year of the construction period) were annualized over a period of 40 years and added to the expected emissions during operation. The 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency.

As indicated in **Table 4**, the net increase in GHG emissions resulting from the proposed Project (i.e., the total Project emissions less the current baseline emissions) would exceed the 1,100 metric tons per year threshold. The majority of these increased emissions are attributable to increased vehicle emissions. Actual GHG emissions from the proposed Project could vary based on several factors such as the type and extent of energy efficiency measures ultimately incorporated into the design of the Project buildings, the type and size of appliances installed in the Project buildings, and actual vehicle trips associated with the Project.

Table 4: Estimated CO2e Emissions from the Proposed Project (Metric Tons/Year of Co2e)

	Net Increase in Emissions (Project) Unmitigated	Net Increase in Project Emissions Mitigated
Vehicle Emissions	1,839.46	1,292.18
Area Source	0.46	0.46
Electricity	1,161.31	1,161.31
Natural Gas (space and water heating)	164.46	164.46
Water and Wastewater	5.22	5.22
Solid Waste	327.83	327.83
Annualized Construction Emissions	8.02	8.02
Total CO2e Emissions	3,506.77	2,951.47
Source: Lamphier-Gregory., 2010		

As indicated in Table 4, the Project is anticipated to result in an increase of 2,951.47 metric tons per year of CO2e emissions as compared to current, or Baseline conditions. This increase in total GHG emissions associated with the Project would exceed the 1,100 metric tons per year threshold.

Efficiency-Based Threshold

The 2010 BAAQMD *Thresholds of Significance* include an efficiency-based threshold of 4.6 metric tons of CO_2e emissions per year per service population. GHG efficiency metrics can be utilized as thresholds to assess the GHG efficiency of a project on a “service population” basis (the sum of the number of jobs and the number of residents provided by a project). This method allows an assessment of whether large projects can still meet the overall reduction goals of AB 32 (i.e., 1990 GHG emissions levels by 2020) based on energy efficient design.

However, retail-only projects do not generally meet this threshold, as the customers generating the majority of trips and emissions do not count toward the service population. For instance, this project would need to generate between 284 and 371 net new employees to be below this efficiency-based threshold. As it is assumed that the project will not generate that level of new employees, the efficiency-based threshold was not further explored.

Mitigation Measure

The City addresses significant cumulative GHG emissions CEQA impacts through a “GHG Reduction Plan Mitigation Measure” that requires the applicant to prepare and implement a project-specific GHG Reduction Plan. The GHG Plan would identify a set of emissions reduction measures targeted at reducing the Project’s GHG emissions to below either of the two numeric significant thresholds (1,100 MT CO2e per year OR 4.6 MT CO2e per year), which would thereby reduce the CEQA impact to less than significant..

The following Mitigation Measure AIR-1 is identified to address the GHG Emissions impact.

MM Air-1: GHG Reduction Plan. 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 GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a “business-as-usual” scenario with no consideration of project design features, or other energy efficiencies; (b) an “adjusted” baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City’s Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements); (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions; and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Potential additional 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), 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 additional GHG reduction measures must be reviewed and approved by the City. 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 “carbon credits”). For proposed reduction measures involving the purchase of carbon credits, the City will give preference to proposed payments to the City to offset the costs associated with implementation of GHG reduction strategies identified in the draft City’s Energy and Climate Action Plan (ECAP).

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; and (3) off-site within the State of California.

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 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).

For GHG reduction measures involving the purchase of carbon credits (either to fund GHG-reducing activities identified in the ~~draft~~ ECAP or to fund non-ECAP GHG-reducing activities), evidence of the payment/purchase shall be submitted to the City for review and approval prior to completion of the subject project (or prior to completion of the project phase for phased projects).

The GHG Reduction Plan shall be considered fully attained when project emissions are less than both applicable numeric BAAQMD CEQA Thresholds, as confirmed by the City through an established monitoring program. Monitoring and reporting activities will continue at the City's discretion, as discussed below.

Compliance, Monitoring and Reporting. 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 additional GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with a Mitigation Monitoring and Reporting Program, as will be implemented through 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 City review and approval. The Annual Report shall be submitted to an independent reviewer of the City'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 actual adjusted emissions. "Actual Adjusted Emissions" shall be established 6 months after the first anniversary of the Certificate of Occupancy through preparation and approval of a baseline emissions inventory conducted at each anniversary of the Certificate of Occupancy.

If the City determines that the GHG Reduction Plan has been fully attained (i.e., project emissions are less than both applicable numeric BAAQMD CEQA Thresholds), it shall have the discretion to require Annual Reports be submitted at least every three years thereafter.

Funding. Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account to be used exclusively for preparation of Annual Reports and review and evaluation by the City, 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 and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City, 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.

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 goals, the project applicant/sponsor shall prepare a report for City review and approval, which proposes additional or revised GHG measures to achieve the GHG emissions reduction targets, 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 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 and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds)

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 and the City determines that the emissions reduction from the baseline emissions inventory conducted at each anniversary of the Certificate of Occupancy.

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.

Timeline Discretion and Summary. The City shall have the discretion to reasonably modify the timing of reporting, with reasonable notice to and opportunity to comment by the applicant, to coincide with other related monitoring and reporting (e.g., for a TDM Plan) 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's discretion

Table 5 lists GHG Reduction measures that could potentially be implemented by the proposed Project to reduce their GHG emissions to meet the requirements of MM Air-1.

Table 5: GHG Reduction Measures Identified for Potential Implementation by the Proposed Project

GHG Reduction Measure	Description	CO2e Emissions Reduction Range Estimate
CAPCOA MM D-14	Enhanced Recycling	Low
CAPCOA MM D-15	LEED Certification [a]	Moderate
CAPCOA MM D-16	Retro-Commissioning	8 percent – 10 percent
CAPCOA MM D-17	Drought-tolerant Landscaping	Low
CAPCOA MM E-1	High-Efficiency Pumps	Low
CAPCOA MM E-4	Energy Star Roof	0.5 percent – 1 percent
CAPCOA MM E-5	On-Site Renewable Energy System	1 percent – 3 percent
CAPCOA MM E-9	Low Energy Cooling	1 percent – 10 percent
CAPCOA MM E-11	Charging Facilities	Low
CAPCOA MM E-15	Electric Yard Equipment Compatibility	Low
CAPCOA MM E-17	Green Building Materials	Low
CAPCOA MM E-18	Shading Mechanisms for windows, patio and walkway overhangs	Low
CAPCOA MM E-20	Programmable Thermostats	Low
CAPCOA MM S-1	Emissions Reduction Education	Low
CAPCOA MM M-2	Offset Purchase	Up to 100 percent
BAAQMD MM 8	Free Transit Passes [b]	25 percent of transit service reduction (employee trips)
BAAQMD MM 13	Secure bike parking (at least 1 space per 20 vehicle spaces) [b]	1 percent additional mobile source reduction for employee trips with implementation of these 3 measures together
BAAQMD MM 16	Car sharing services provided [b]	
BAAQMD MM 17	Information Provided on Transportation Alternatives [b]	
BAAQMD MM 23	Increase energy efficiency beyond Title 24	Same as % improvement over Title 24.
BAAQMD MM 24	Electrically powered landscape equipment and electrical outlets	Same as % of landscape equipment emissions.
BAAQMD MM 27	Require Cool Roof Materials	34% reduction in emissions from energy used for cooling.
BAAQMD MM 33	Install Tankless heaters	35% of emissions from natural gas used for water heating
BAAQMD MM 34	Install Solar Panels on Commercial Buildings	100% of emissions from electricity usage
BAAQMD MM 39	HVAC Duct Sealing	30% reduction in emissions from energy used for cooling.
BAAQMD MM 43	Increase Roof/Ceiling Insulation	None Given
BAAQMD MM 45	Install rainwater collection systems in commercial buildings	None Given
BAAQMD MM 46	Install low water use appliances and fixtures	None Given
BAAQMD MM 47	Restrict the use of water for cleaning outdoor surfaces/ prohibit systems that apply water to non-vegetated surfaces	None Given
BAAQMD MM 48	Implement water-sensitive Urban Design Practices in New Construction	None Given
BAAQMD MM 50	Create food waste and green waste curb-side pickup service	None Given
BAAQMD MM 51	Require the Provision of storage areas for recyclables and green waste in new construction	None Given

a While LEED certification is not being proposed for the Project, the Project may be designed to meet certain standards.
b Because employee trips make up only about 2% of the total trips to a shopping center, reductions resulting from reducing the single vehicle occupancy trips of employees would be low.

Below are some examples of reductions that could be attained through implementation of the above measures in metric tons of CO2e per year. Because it is assumed such measures could reduce emissions for the shopping center below what they are today, this could result in negative net emissions in certain sectors:

- Installation of tankless water heaters would reduce emissions from use of natural gas by 20 to 50 metric tons CO2e per year.
- Increasing energy efficiency by 10% beyond Title 24 for the entire center would reduce emissions from the use of electricity and natural gas by 185.6 metric tons CO2e per year. Increasing energy efficiency by 20% beyond Title 24 would reduce emissions by 371.21 metric tons CO2e per year.
- Reducing generation of solid waste for the entire center would reduce emissions by 64.50 metric tons CO2e per year for every 10% reduction. The model assumes no reduction in solid waste generated during operation of the use due to recycling and composting programs. At the target City-wide waste reduction of 50%, this would be a reduction of 322.52 metric tons CO2e per year.
- Installation of solar panels to supply electricity could reduce emissions from the use of electricity by up to 1,660 metric tons CO2e per year.

Resulting Level of Significance

With implementation of **MM Air-1**, this cumulative GHG emissions impact would be less than significant. Although the actual emissions reduction would depend on the combination and extent of the additional measures employed, it is reasonable that potential additional measures identified in Table 5 could reduce the cumulative baseline GHG emissions associated with the Project below threshold levels and would therefore be considered ***less than significant with Mitigation***.

GREENHOUSE GAS EMISSION REDUCTION PLAN

Would the Project:

h) Conflict with any applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing GHG emissions.

An Oakland Energy and Climate Action Plan (ECAP) is being developed to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. The ECAP will identify energy and climate goals, clarify policy direction, and identify priority actions for reducing energy use and GHG emissions. On July 7, 2009, the Oakland City Council directed staff to develop the draft Oakland ECAP using a GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020 (City of Oakland, Resolution No. 82129 C.M.S., 2009). The City issued a draft ECAP for public review in April 2010, and the City Council endorsed the ECAP in February 2011 and directed that appropriate CEQA review be performed, but it has not formally adopted this ECAP at this time. The Project appears to be consistent with the ECAP, the current City Sustainability Programs and General Plan policies regarding GHG reductions.

The Project would be required to meet applicable BAAQMD threshold levels through implementation of MM Air-1, above. Because these thresholds were set to comply with reduction levels and strategies identified in AB 32, consistency with their threshold levels would be considered to be consistency with applicable plans. The impact related to conflict with a GHG reduction plan would be considered ***less than significant with Mitigation*** with implementation of MM Air-1.

BIOLOGICAL RESOURCES

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
IV. Would the project:					
a) 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?	☐	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☐	☑
e) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☐	☑
f) Fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances?	☐	☐	☑	☐	☐
g) Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources?	☐	☐	☐	☐	☑

SETTING

The Project site is located in a densely populated urban environment, surrounded largely by impervious surfaces comprised primarily of street paving and rooftops. The Project site is located within the San Leandro Creek Watershed in the City of Oakland.[12] The San Leandro Creek is approximately 4,000

[12] The Oakland Museum of California Creek and Watershed Information Source, http://www.museumca.org/creeks/1200-OMEast.html

feet from the Project site and the majority of flow to the creek from the vicinity of the Project site is through underground culverts and storm drains.

There are a total of 115 trees on the Project site, including street trees along the site's MacArthur Blvd. frontage, landscaping trees in the internal pedestrian walkway, landscaping trees in the currently landscaped parcel at the corner of 108th Ave. and Foothill Blvd., and numerous parking lot trees throughout the site and along the Project's southern boundary with 108th Avenue frontage and northern boundary with residential uses.

WILDLIFE AND PLANT SPECIES

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The proposed Project would not have a significant impact, either directly or indirectly, on any special status plant or wildlife species. The California Natural Diversity Database (CNDDB) was consulted. A comparison of the database against the USGS 7.5 minute quad within which the Project site is located indicated that there are special status species in the larger surrounding area. A table with the search results is provided in **Attachment 4**. However, the Project site is characterized by an urban setting, entirely surrounded by like development; the site and its vicinity has little or no habitat value, and would not have a substantial adverse effect, either directly or through habitat modifications on special status species, except for possibly migrating birds, discussed below.

The federal Migratory Bird Treaty Act and Fish and Game Code of California protect special-status bird species year-round, as well as their eggs and nests during the nesting season. The list of migratory birds includes almost every native bird in the United States. On-site or adjacent trees could be used by protected birds. Construction activities could adversely affect nesting birds protected by the Migratory Bird Treaty Act and/or Fish and Game Code of California.

City of Oakland Standard Conditions of Approval

The City of Oakland also provides the following Standard Condition of Approval regarding tree removal during breeding season:

SCA 4: **Tree Removal During Breeding Season.** 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.

Resulting Level of Significance

Satisfactory compliance with **SCA 4** above will reduce this potential impacts related to impacts on special status species to ***less than significant with Standard Conditions of Approval.***

RIPARIAN HABITAT / SENSITIVE NATURAL COMMUNITIES

Would the Project:

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

The Project site is located in a developed urban landscape. There are no riparian habitats or sensitive natural communities in the vicinity. As discussed above, the nearest creek to the Project site is San Leandro Creek; however, it is 4,000 feet (about 2/3 of a mile) from the Project site. Therefore there would be ***no impact*** in this regard.

WETLANDS / WATERS OF THE U.S.

Would the Project:

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no federally protected wetlands on or in the immediate vicinity of the Project site. The site is located in a densely developed urban area, the closest creek, San Leandro Creek, is approximately 4,000 feet from the Project site. The Project would not involve direct removal, filling, hydrological interruption or any other adverse effect on a federally protected wetland or Water of the U.S. and therefore would have ***no impact*** in this regard.

MOVEMENT OF SPECIES

Would the Project:

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or established wildlife corridor. The area is characterized as a densely developed urban area with the most prominent features being existing buildings and streets. There is little habitat of value on the site that would significantly support native or migratory animal species. Therefore, the Project would not interfere with any species movement and there would be ***no impact*** in this regard.

CONSERVATION PLAN

Would the Project:

e) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?

There are no conservation plans of any type that apply to the Project site. There would be ***no impact*** in this regard.

OAKLAND TREE PROTECTION ORDINANCE

Would the Project:

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

The City of Oakland provides the following factors to be considered in determining significance of this potential impact:

The number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) the protected trees to remain, with special consideration given to native trees.[13]

Protected trees include the following:

Quercus agrifolia (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on City property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed are considered to be Protected trees.

The Project site includes 110 trees, plus five (5) street trees along the Project's MacArthur Blvd. frontage. Sixty-two (62) trees on the Project site would qualify as protected trees under the City of Oakland Tree Protection Ordinance.

Oakland Planning Code section 17.158.280E2 states that "development related" tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater **and** the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area. All trees on site are less than 36 inches in diameter. For the Project site, 0.1 percent of the total lot area is 602 square feet. While the specifics of tree removal is not finalized at this point, the cumulative trunk area of all the trees on the Project site is between 100 and 200 square feet and therefore does not exceed 0.1 percent of the total lot area. Therefore, the proposed tree removal is exempt from further CEQA review, although still subject to the City's permit process.

Construction activities could have the potential for damaging trees intended to be retained. For trees to be retained, the City of Oakland maintains a Standard Condition of Approval regarding their protection during construction activities, which the Applicant would be required to meet in order to reduce potential construction-related tree impacts to a level considered less than significant.

City of Oakland Standard Conditions of Approval

The City of Oakland also provides the following Standard Conditions of Approval regarding tree removal and protection:

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[13] Oakland Planning Code section 17.158.280E2 states that "Development related" tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater **and** the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area.

SCA 5: **Tree Removal 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 6: **Tree Replacement Plantings.** 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 7: **Tree Protection During Construction.** 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.

Resulting Level of Significance

Satisfactory compliance with **SCA 5** through **SCA 7** above will reduce this potential impacts related to removal and protection of trees to ***less than significant with Standard Conditions of Approval.***

CREEK PROTECTION ORDINANCE

Would the Project:

g) Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources?

Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and 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.

The creek nearest to the Project site, San Leandro Creek, is approximately 4,000 feet from the Project site. Based on the location of San Leandro Creek with respect to the Project site, no construction or operational activities would significantly modify the natural flow of the water, deposit substantial amounts of new material into the creek, cause substantial bank erosion or instability, or adversely impact a riparian corridor. The Project would have ***no impact*** with respect to the City's Creek Protection Ordinance.

CULTURAL RESOURCES

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
V. Would the project?					
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines δ15064.5?	☐	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to δ15064.5?	☐	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐	☐

SETTING

The Project area lies within the region historically occupied by the Ohlone or Costanoan group of Native Americans. The arrival of the Spanish in the San Francisco Bay Area in 1775 led to the rapid and significant reduction in Native Americans. Lands that eventually became Oakland were part of a Spanish land grant given to Luis Maria Peralta in 1820 as a rancho. The Gold Rush brought non-native, non-Hispanic settlers beginning in the 1840s and the beginning of development in the area. The construction and extension of railroads strongly influenced the growth and development of Oakland and a railroad stop helped spawn the settlement that became Elmhurst.[14]

Foothill Square is a retail and commercial center originally developed in 1961-1962. The center is located proximate to the I-580 freeway and just three blocks north of the Oakland-San Leandro border, in the Elmhurst neighborhood of the City of Oakland. The *2003 Redevelopment Plan EIR* identified historic resources and preservation districts in the Redevelopment Area; however, none of these are in the Elmhurst area, and they are not in the vicinity of the Project site.

Additionally, the *2003 EIR* noted two recorded archaeological sites in the Redevelopment Area. However these sites were both noted to be badly destroyed and are not located near the vicinity of the Project site.

HISTORICAL RESOURCES

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5.?

[14] City of Oakland, Central City East Redevelopment Plan EIR, 2003.

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

Implementation of the Project as proposed would require demolition of existing buildings at the Project site. None of the buildings proposed for demolition are identified as "historic resources" as defined in CEQA Guidelines Section 15064.5, and impacts associated with the demolition of these structures would be regarded as ***no impact*** in relation to historic resources.

ARCHAEOLOGICAL & PALEONTOLOGICAL RESOURCES AND HUMAN REMAINS

Would the Project:

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

The Project site is currently developed and located in an urban area. The site is surrounded on all sides by similar development and located within a commercial district. There are no unique geologic features on the Project site, and due to its urban setting it is unlikely that development of the Project would cause substantial adverse changes in the significance of archaeological resources or paleontological resources or would disturb human remains. Although the probability of discovery of prehistoric or cultural resources is low, the potential for discovery exists, and any discovery that occurs without proper procedures in place would be a potentially significant impact. The *2003 Central City East Redevelopment Plan EIR* provides three mitigation measures that address the possibility that projects located in within the *Redevelopment Plan* area encounter either previously known or previously unknown subsurface cultural resources during development activities. The City has since developed Standard Conditions of Approval, listed below, that address the same possibility and replace the mitigation measures in the *2003 EIR.*

The following City of Oakland Standard Conditions of Approval address potential discovery of currently unknown prehistoric, historic or unique archaeological resources, paleontological resources and human remains.

City of Oakland Standard Conditions of Approval

SCA 8: **Archaeological Resources.**

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

SCA 10: **Paleontological Resources.** 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.

Resulting Level of Significance

SCAs 8-10 would ensure that any impacts associated with the potential discovery of currently unknown prehistoric, historic, paleontological or human remains as a result of the proposed Project are ***less than significant with Standard Conditions of Approval.***

GEOLOGY AND SOILS

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
VI. Would the project:					
a) Expose people or structures to substantial risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publications 42 and 117 and PRC δ2690 et. Seq.)?	☐	☐	☑	☐	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐	☐
iii) Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse?	☐	☐	☑	☐	☐
iv) Landslides?	☐	☐	☑	☐	☐
b) Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creek/waterways?	☐	☐	☑	☐	☐
c) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as it may be revised), creating substantial risks to life or property?	☐	☐	☑	☐	☐
d) Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property?	☐	☐	☑	☐	☐
e) Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property?	☐	☐	☑	☐	☐
f) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☐	☑

SETTING

The City of Oakland lies within the geologic region of California referred to as the Coast Ranges geomorphic province. Discontinuous northwest trending mountain ranges, ridges and intervening valleys composed of ancient seafloor rocks characterize this province. The three primary soil types in Oakland are the bay muds located along the shoreline and in the landfilled areas; the alluvium and dune-sand deposits in the flatland and lower hill areas; and the sandstone and shale fragments of the upper hill areas. The Project site is in the flatlands have been formed by thousands of years of hillside erosion, and are characterized by high corrosivity and low erosion potential. The City of Oakland lies within the San Andreas fault system. Specifically, the city straddles the Hayward fault, a branch fault of the larger system.[15]

EXPOSURE TO FAULT RUPTURE AND SEISMIC GROUND SHAKING

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42§2690 et. seq.)?

   ii) Strong seismic ground shaking?

The location of the Project site, the San Francisco Bay Area, is a seismically active region and as such could be subject to strong seismic ground shaking. The Project site is not within an Alquist-Priolo Special Studies Zone; however, the closest fault, the Hayward Fault, is between one mile and three-quarters mile northeast of the Project site. Implementation of the Project site could result in a potentially significant impact associated with the exposure to people or structures to potential adverse effects involving strong seismic ground shaking. The City maintains Standard Conditions of Approval that the Applicant would need to satisfy requiring the preparation and adherence to the recommendations of a site-specific soil investigation.

City of Oakland Standard Condition of Approval

SCA 11: **Soils Report.** A preliminary soils report for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. The soils reports shall be based, at least in part, on information obtained from on-site testing. Specifically the minimum contents of the report should include:

A. Logs of borings and/or profiles of test pits and trenches:

   a) The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to establish a soils profile suitable for the design of all the footings, foundations, and retaining structures.

   b) The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.

   c) All boring logs shall be included in the soils report.

[15] City of Oakland General Plan Safety Element, 2004

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.

Resulting Level of Significance

Verification by the City of Oakland that **SCA 11** has been met would result in reducing this potentially significant impact associated with the exposure of people or structures to potential adverse effects involving strong seismic ground shaking to ***less than significant with Standard Conditions of Approval***.

LIQUEFACTION & LANDSLIDES

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   iii) Seismic-related ground failure, including liquefaction?

   iv) Landslides?

The Oakland General Plan Safety Element does not identify the Project site as a potential liquefaction area or a potential landslide area.[16] Additionally, according to the Association of Bay Area Government's (ABAG) online interactive hazards mapping website, the Project site is located in an area with low to very low liquefaction hazard potential[17] and not within a landslide zone.[18] The City maintains a Standard Condition of Approval, listed above as **SCA 11**, requiring the preparation and adherence to the recommendations of a site-specific soils investigation. Satisfactory compliance with **SCA 11** would reduce any potentially significant impacts of the Project associated with liquefaction or landslides to ***less than significant with Standard Conditions of Approval***.

SOIL EROSION AND LOSS OF TOPSOIL

Would the Project:

b) Result in substantial soil erosion or the loss of topsoil, creating substantial risks to life, property, or creek/waterways?

The Project site is located in an urbanized area; there are no open creeks or waterways in the immediate vicinity of the Project site. Construction activities would include demolition of existing buildings on the site, which would expose soil and potentially result in soil erosion and/or the loss of topsoil. However, as discussed in the next section, Hydrology and Water Quality, the City of Oakland maintains a Standard Condition of Approval requiring a stormwater pollution prevention plan during the construction period. This condition is identified as **SCA 21** in this document. Therefore, satisfactory implementation of **SCA 21** will reduce any potential impacts resulting in soil erosion or loss of topsoil to a level considered ***less than significant with Standard Conditions of Approval***.

EXPANSIVE SOIL

Would the Project:

c) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as it may be revised), creating substantial risks to life or property?

Expansive soil is fine-grained clay that occurs naturally and is generally found in areas that historically were a flood plain or lake area, but can occur in hillside areas also. Expansive soil is subject to swelling and shrinkage, varying in proportion to the amount of moisture present in the soil. As water is initially introduced into the soil (by rainfall or watering), an expansion takes place. If dried out, the soil will contract, often leaving small fissures or cracks. Excessive drying and wetting of the soil will

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[16] City of Oakland, General Plan Safety Element, 2004, Figure 3.1: Geologic Hazards

[17] Association of Bay Area Governments, Official website, ABAG Liquefaction Maps and Information, http://www.abag.ca.gov/bayarea/eqmaps/liquefac/liquefac.html.

[18] Association of Bay Area Governments, Official website, ABAG Landslide Hazard Maps and Information, http://www.abag.ca.gov/bayarea/eqmaps/landslide/index.html

progressively deteriorate structures over the years. This excessive wetting and drying causes damage due to differential settlement within buildings and other improvements.

It is unknown whether there are expansive soils beneath the Project site at this time; however, the site is not located in a flood plain or on a hillside. Methods for addressing expansive soils typically involve directing drainage away from building foundations. The site-specific soils investigation required above as **SCA 11**, would determine whether expansive soils are present beneath the site and provide design-level recommendations for addressing them accordingly. Therefore, compliance with **SCA 11** would result in reducing the potential impact associated with expansive soils to ***less than significant with Standard Condition of Approval***.

OTHER SUBSURFACE CONDITIONS

Would the Project:

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

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

The Project site has been occupied by its existing buildings since the early-1960s, which indicates that the potential for subsurface conditions at the site, such as a well, pit, swamp, mound, tank, vault, unmarked sewer line or landfill that would create substantial risk to life or property is unlikely. In spite of this unlikelihood, the City maintains a Standard Conditions of Approval, provided in the next section as **SCAs 19** and **20**, which require the preparation of Phase I and/or Phase II reports and, if necessary, the adherence to any remediation recommendations contained therein. Satisfactory compliance with these conditions will ensure that these impacts remain ***less than significant with Standard Conditions of Approval***.

SOILS SUITABLE FOR ALTERNATIVE WASTEWATER DISPOSAL

Would the Project:

f) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Project site is currently, and would be upon completion, served by municipal sewage systems, and the use of septic systems is not anticipated. ***No impact.***

HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
VII. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐	☐
b) 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?	☐	☐	☑	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑	☐	☐
e) 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 safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☑
f) Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☐	☑
h) 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?	☐	☐	☐	☐	☑

SETTING

The Project site consists of two addresses. The existing Foothill Square Shopping Center site at 10700 MacArthur Blvd. was formerly the site of a manufacturer of tractors, trucks and motorbuses and was developed with the shopping center in the early 1960s. Over the years, tenants at this site have included a USA Petroleum gas station in the southeastern corner from 1970 through 1994 and numerous dry cleaning businesses including the current tenant, Young's Cleaners. The second address is 10605 Foothill Boulevard at the corner of 106th Ave. This site is currently structurally undeveloped land, though it had previously been developed with an Exxon/Humble Oil gas station from 1964 until 1983.[19] A Phase I Environmental Assessment was prepared for the entire Project site by AEI Consultants in June 2008.

The Project site is located in a mixed commercial and residential area of Oakland. The immediately surrounding properties consist of an ARCO gas station at the corner of 106th Ave and MacArthur Boulevard, residences to the north as well as a former gas station that is now a convenience store at 10501 Foothill Boulevard, and residences and a church to the south. Beyond Foothill Boulevard to the east is vacant land and Interstate 580 and beyond MacArthur Boulevard to the west are commercial properties including a Walgreens.[20]

PUBLIC HAZARD THROUGH ROUTINE USE

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed Project entails the construction of retail and commercial space. Project operations are not anticipated to create a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials.

The building within which the existing dry cleaning business is located is planned for demolition. Upon relocation, the tenant will be legally obligated to eliminate the use of the hazardous tetrachloroethylene (PCE) and associated equipment. Continued reporting compliance will also be required.[21]

State and federal laws require businesses that handle hazardous materials to ensure that the hazardous materials are properly handled, used, stored and disposed of; and in the event that hazardous materials are accidentally released, to prevent or reduce injury to health and the environment. The Oakland Fire Department implements the Business Plan Act for hazardous material handling locally and also enforces certain fire code regulations pertaining to hazardous materials storage. Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health Administration is responsible for developing and enforcing workplace safety standards and ensuring worker safety in the handling and use of hazardous materials.

It is possible that equipment used at the site during construction activities could utilize substances considered by regulatory bodies as hazardous, such as diesel fuel and gasoline. However, all construction activities would be required by the City's Standard Conditions of Approval to adhere to

[19] AEI Consultants, Phase I Environmental Site Assessment, 2008.

[20] Ibid

[21] Ibid

recognized Best Management Practices, which provide guidelines for the safe transport, use and disposal of materials and equipment.

SCA 12: **Hazards Best Management Practices.** 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.

Resulting Level of Significance

Implementing **SCA 12** outlined above regarding hazardous materials best management practices would ensure that the Project's impact on the potential of the Project to impact the public or the environment through the routine transport, use or disposal of hazardous materials is ***less than significant with Standard Condition of Approval.***

PUBLIC HAZARD RESULTING FROM ACCIDENTAL RELEASE OF MATERIALS

Would the Project:

b) 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?

As discussed above, Project operations are not expected to create a significant hazard through the routine transport, use or disposal of hazardous materials. It is assumed that hazardous materials would be utilized typical of the proposed uses, compliant with applicable regulations. It is also noted that state and federal laws require proper handling, use and disposal of hazardous materials. These same laws and regulations require the prevention and reduction of injury to people and the environment in the event of an accidental release. Consequently, there are no reasonably foreseeable operational upset or accidental conditions that would involve a significant release of hazardous materials into the environment.

A Phase I Environmental Site Assessment has been prepared for the Project site. Portions of the site are undergoing monitoring and remediation, as discussed under the header "Listed Hazardous Materials Site" below. The study noted that there was no record of removal of the underground storage tanks (USTs) from the former gas station site at the corner of Foothill Boulevard and 106th Ave., though a geophysical survey found no indication of remaining USTs.[22] The study noted no other concerns of underground hazards. However, unknown underground hazards would constitute an accident condition that could involve the release of hazardous materials into the environment if improperly addressed. The City of Oakland maintains Standard Conditions of Approval, provided in this document as **SCAs 19** and **20**, that require the preparation of Phase I and/or Phase II reports and, if necessary, the adherence to any remediation recommendations contained therein. Satisfactory compliance with these conditions would ensure that construction activities do not release hazardous materials into the environment by inadvertently disturbing unknown underground hazards and causing the release of hazardous materials.

There is the potential that construction activities could accidentally cause the release of hazardous materials into the environment through demolition and deconstruction of the existing buildings on the site. As discussed above, **SCA 12** requires the implementation of recognized Best Management Practices, which provide guidelines for the safe transport, use and disposal of materials and equipment, and provide protocol for addressing accidental release by construction equipment or activities. Furthermore, the City maintains additional Standard Conditions of Approval addressing the potential presence of asbestos containing material, lead-based paint, PCBs or other hazardous materials, and provides further guidance regarding removal and remediation (**SCAs 13** through **18**). These conditions would be required of the Applicant.

City of Oakland Standard Conditions of Approval

SCA 13: **Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment.** 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 14: **Lead-based Paint Remediation.** 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 15: **Other Materials Classified as Hazardous Waste.** 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.

[22] Ibid, p.19

SCA 16: **Health and Safety Plan per Assessment.** 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 17: **Best Management Practices for Soil and Groundwater Hazards.** 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 18: **Radon or Vapor Intrusion from Soil or Groundwater Sources.** 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.

Resulting Level of Significance

Implementing **SCAs 13** though **18** outlined above regarding hazardous materials would ensure that the Project's impact on a potential public hazard resulting from the accidental release of hazardous materials is ***less than significant with Standard Condition of Approval.***

HAZARDS NEAR SCHOOLS

Would the Project:

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Project site is not located within one-quarter mile of an existing or proposed school. The closest schools are located between one-third and one-half mile from the Project site, Emmaus Correspondence Schools Bible School at 401 Macarthur Blvd. and Marshall Elementary School at 3400 Malcolm Ave. Therefore, the potential impact associated with the emission or handling of hazardous substances within one-quarter mile of an existing or proposed school is considered ***less than significant***.

LISTED HAZARDOUS MATERIALS SITE

Would the Project:

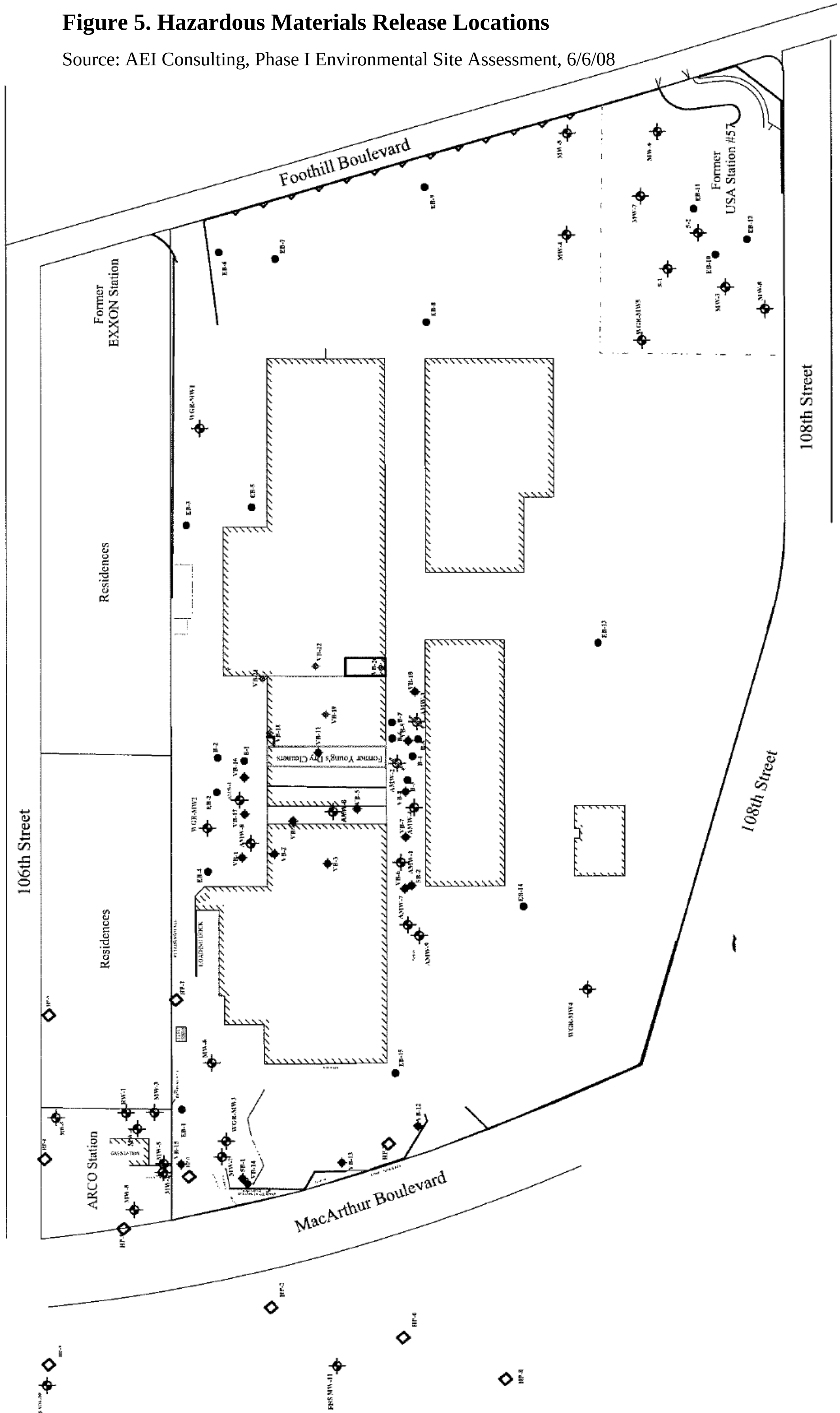
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Phase I Environmental Site Assessment report would determine whether hazardous materials exist on the site that would make it eligible for listing on a government compiled list of hazardous materials sites. According to the Phase I prepared for this Project by AEI in June 2008, the Project site is listed on a government compiled list of hazardous materials sites as a hazardous materials site, associated with releases at the former location of the Young's Cleaners (dry cleaning) and at the former USA Petroleum gas station. Additionally, contamination has been identified at the site of the former Exxon/Humble Oil gas station though this site is not currently included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. While not part of the Project site, the adjacent ARCO gas station is listed as a hazardous materials site. These four locations are discussed below and labeled on **Figure 5**.

Young's Cleaners, a dry cleaning business, operated in Unit 9 at the Foothill Square Shopping Center from approximately 1984 through 1995. Tetrachlorethylene (PCE) was found in the soil and groundwater in excess of state action levels in 1993. Monitoring wells were installed within and near the site and impacted soil was treated and removed in 1996. A follow-up evaluation concluded that residual contamination did not present a significant health threat to the users of the site and further soil removal was not warranted. A total of 13 groundwater monitoring wells associated with the former Young's Cleaners remain active and contaminant concentrations are relatively stable and consistent with historical data. Young's Cleaners has since moved to its current location within the shopping center, Unit 20-D. Extensive monitoring performed for the former site has never indicated any releases of PCE at other locations, including the current location. While other dry cleaning businesses have been located at the Project site since the 1960s, it is understood that these were predecessors to the Young's Cleaners that were located in the same location (Unit 9) and would not represent separate environmental concern. Though residual soil contaminants were not considered a threat following removal of impacted soil in 1996, soil vapor analysis between 2006 to 2008 found vapor-phase

Figure 5. Hazardous Materials Release Locations

Source: AEI Consulting, Phase I Environmental Site Assessment, 6/6/08



contaminants at a level of potential concern for indoor air quality and a vapor remediation system was recommended.[23] The vapor remediation system is anticipated to be installed with the proposed remodel and will clean up the vapors collected from the soil to the satisfaction of the BAAQMD that whatever small amount is released will not pose any sort of health risk to anyone nearby.

A USA Petroleum gas station was formerly located on the southwest corner of the Project site from 1970 to 1994 and was identified as a leaking underground storage tank (LUST) site. Subsurface investigations have been conducted since 1987 and have included the removal of USTs, sampling, excavation, and monitoring. Additional remediation was performed for the groundwater in 2004, with follow-up in 2006 and 2007.[24] At the time of writing this report, the Applicant was in the process of closing this case through the Alameda County Health Services agency based on the results of soil excavation and confirmation soil vapor sampling.[25] Based on the outcome of this process, this case will either be determined to be closed or the Applicant will need to perform additional monitoring and/or remediation.

Nearby, there are two additional listed sites. To the north, 10501 Foothill Blvd., a former gas station, was identified as a LUST site. However, the case was officially closed in 1998 and the site is not expected to represent a significant environmental concern for the Project site.[26] The adjacent ARCO station at 10600 MacArthur Blvd. has been identified as a LUST site. The original case was closed in 1999, but reopened in 2003 following a new release that appears to have impacted groundwater under the northwestern corner of the Project site. As of the June 2008 Phase I report, monitoring at that site was continuing and it was anticipated ARCO would be responsible for remediation.[27]

The currently undeveloped parcel at the corner of 106th Avenue and Foothill Boulevard was formerly the site of an Exxon/Humble Oil gas station, which ceased operation in 1983. While this site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 [28], soil boring between 2004 and 2006 discovered contamination with petroleum hydrocarbons. Soil vapor and groundwater monitoring wells were installed in 2007.

The City of Oakland maintains Standard Conditions of Approval that require the preparation of Phase I and/or Phase II reports and, if necessary, the adherence to any remediation recommendations contained therein (**SCAs 19 and 20**). These conditions would be required of the Applicant.

City of Oakland Standard Conditions of Approval

SCA 19: **Phase I and/or Phase II Reports.** 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.

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[23] Ibid, pp. 42 to 44

[24] Ibid, pp. 44 to 45

[25] Alameda County Health Services Agency, Correspondence: Landowner Notification for Case Closure Consideration for Fuel Leak Case No. RO0000232 and Geotracker Global ID T0600101808, USA Petroleum, 10700 MacArthur Boulevard, Oakland, CA 94605, December 16, 2010.

[26] AEI Consultants, Phase I Environmental Site Assessment, 2008, p.27

[27] Ibid, pp. 46 to 47

[28] Ibid, p. 48

SCA 20: **Environmental Site Assessment Reports Remediation.** 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.

To summarize the recommendations of the Phase I report:

- For PCE and related contamination at the former Young's Cleaners site: continuation of monitoring and operation of a vapor remediation system to avoid the potential for build-up of vapor in indoor areas. The emissions from this remediation system will be permitted by BAAQMD to ensure that they will not pose a risk to users of the site.
- For contamination with petroleum hydrocarbons at the former USA Petroleum gas station: continued groundwater monitoring and continuing coordination between USA Petroleum and ACHCSA on remediation and relocation of wells. (Note these recommendations could be removed/revised based upon ongoing coordination with Alameda County Health Services Agency, who are considering closing this case, as discussed above.)
- For contamination with petroleum hydrocarbons at the former Exxon/Humble Oil gas station: Per an indemnity agreement between Exxon and the current owner, Exxon is responsible for the cost of any monitoring or remediation required at that site.[29]
- For contamination with gasoline range organics (GRO), BTEX, and fuel oxygenates originating from the adjacent ARCO gas station, ARCO would be the responsible party.[30]

Resulting Level of Significance

The Applicant has already complied with **SCA 19** and the Phase I Environmental Site Assessment has been completed. The Phase I report does not indicate that a Phase II study is warranted, but does conclude that on-going monitoring and remediation activity should continue.

The continuation of remediation activity as indicated in the Phase I report will occur consistent with the requirements under **SCA 20** above and will ensure compliance with recommended remediation. The Phase I study recommends a vapor remediation system in the vicinity of the former dry cleaning release and continued monitoring on this portion of the site, continued groundwater monitoring in the area of the USA Petroleum release, continued monitoring and remediation on the former Exxon/Humble Oil site, and surveys for asbestos and lead-based paint prior to renovation or demolition.

Satisfactory compliance with **SCAs 19 and 20** would result in the determination that this impact is ***less than significant with Standard Conditions of Approval***.

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[29] Ibid, p.19

[30] Ibid, pp.27-28

PROXIMITY TO AIRPORT PLAN OR FACILITIES

Would the Project:

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?

f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?

The Project site is over 3 miles from the Oakland International Airport. It is not located near a public airport or private airstrip nor is it located within an airport plan area. There would be ***no impact*** in this regard.

EMERGENCY RESPONSE

Would the Project:

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Project is a renovation of an existing shopping center and would not impair implementation of or physically interfere with an adopted emergency response plan. Therefore, there would be ***no impact*** in this regard.

RISK ASSOCIATED WITH WILDFIRES

Would the Project:

h) 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?

Within Oakland, the Oakland hills present a risk of wildfire where residential neighborhoods are located amidst large vegetated areas. While most of the wildfires in the hills are minor and easily controllable, large fires are anticipated every 10-20 years. [31] The Project site is not located in the hills, is not within the boundary of the City's Wildfire Assessment District [32], and there are no wildlands on site or adjacent that could pose a risk of wildland fires. Therefore, there would be ***no impact*** in this regard.

[31] Oakland Wildfire Prevention Assessment District Map, http://www.oaklandnet.com/wildfirePrevention/WildfirePreventionAssessmentDistrictMap.pdf

[32] Oakland General Plan Safety Element, 2004, Figure 4.1

HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
VIII. Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☑	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☐	☑
c) Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?	☐	☐	☑	☐	☐
d) Result in substantial flooding on- or off-site?	☐	☐	☐	☑	☐
e) Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems?	☐	☐	☐	☑	☐
f) Create or contribute substantial runoff which would be an additional source of polluted runoff?	☐	☐	☑	☐	☐
g) Otherwise substantially degrade water quality?	☐	☐	☑	☐	☐
h) 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?	☐	☐	☐	☐	☑
i) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑	☐
j) Expose people or structures to a substantial risk of loss, injury or death involving flooding?	☐	☐	☐	☑	☐
k) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☐	☑
l) Substantially alter the existing drainage pattern of the site or area, including through the alteration of	☐	☐	☑	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
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?					
m) Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance intended to protect hydrologic resources?	☐	☐	☐	☐	☑

SETTING

The proposed Project is located in an urbanized area with an existing shopping center and associated infrastructure. Average annual rainfall in the area is about 22.9 inches per year[33] However, rainfall is highly variable and confined almost exclusively to the "rainy" period from early November to mid-April. Because much of the area's rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near-drought conditions.[34] The Project site slopes from northeast to southwest, with an approximately 15 foot difference in grade between the northeastern edge of the site and the southwestern edge.

The Project site does not contain any natural surface drainage features. Drainage on the site is currently conveyed to the City's storm drain system along MacArthur Boulevard, where it then travels via underground culvert into San Leandro Creek and eventually into the San Francisco Bay. The San Leandro Creek is approximately 4,000 feet from the Project site and the majority of flow to the creek in the vicinity of the Project site is through underground culverts and storm drains.[35]

DEGRADATION OF WATER QUALITY / VIOLATION OF STANDARDS

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

f) Create or contribute substantial runoff which would be an additional source of polluted runoff?

g) Otherwise substantially degrade water quality?

Degradation of water quality and violation of water quality and waste discharge standards can occur as a result of typical construction activities. These include construction activities that may 1) loosen soils and increase erosion and downstream siltation, 2) potentially intercept contaminated groundwater during dewatering, and 3) allow for accidental spill or release of construction-related chemicals that may contact surface waters. After construction, resulting increases in peak stormwater flows can also

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[33] Western Regional Climate Data Center. Oakland Museum, California NCDC 1971-2000 Monthly Normals. http://www.wrcc.dri.edu/cgi-bin/cliNORMNCDC2000.pl?caokmu, accessed March 18, 2011.

[34] BAAQMD, 1999; California Air Resources Board (CARB), 1984.

[35] The Oakland Museum of California Creek and Watershed Information Source, Creek and Watershed Map of Hayward and San Leandro, http://www.museumca.org/creeks/MapHay.html , accessed March 18, 2011.

result in violations of standards intended to reduce sediments and contaminants in the stormwater system.

The proposed Project involves the demolition of some existing structures on the Project site in order to renovate the existing shopping center including improvements to remaining buildings and construction of new buildings to replace those demolished. The Project's demolition and grading activities would not involve substantial amounts of cut and fill. Nevertheless, the Project would require a grading permit. The majority of the Project site is currently developed with buildings or paved. A notable exception is the 0.32 acre portion at the corner of 106th Ave. and Foothill Blvd. that is currently structurally undeveloped, with landscaping and a shopping center sign. This parcel, which represents approximately 2.3% of the site area, will transition almost entirely from pervious to impervious under the proposed Project. The Project will need to comply with Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) limiting the stormwater runoff from the site. The Project proposes additional landscaping in the parking lots, along building frontages, and along street frontages as well as a bioswale system along the Project's south edge to capture and provide natural first-stage treatment of stormwater. Therefore, while impervious surface area would marginally increase, post-construction runoff is not expected to exceed runoff from existing conditions.

Although post-construction runoff is not expected to exceed runoff quantities of existing conditions, both construction and post-construction activities of the Project have the potential to violate water quality standards or otherwise degrade water quality unless proper measures are taken. The City of Oakland requires implementation of the following Standard Conditions of Approval that include measures to prevent the significant degradation of water quality.

City of Oakland Standard Conditions of Approval

SCA 21: **Stormwater Pollution Prevention Plan (SWPPP).** 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 stormwater pollution prevention plan (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; Best Management Practices (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 though the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.

SCA 22: **Post-Construction Stormwater Management Plan.** 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.

The applicant shall implement the approved stormwater management plan prior to final permit inspection

SCA 23: **Maintenance Agreement for Stormwater Treatment Measures.** 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.

Resulting Level of Significance

Satisfactory compliance with **SCAs 21, 22** and **23** requiring site design measures for stormwater pollution management and source control measures to limit stormwater pollution would reduce impacts related to water quality to a level of ***less than significant with Standard Conditions of Approval***.

GROUNDWATER SUPPLIES AND REGHARGE

Would the Project:

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The Project site does not represent a major groundwater recharge source because it is surrounded by urban development and is almost entirely covered by impervious surface. The Project would have ***no impact*** on groundwater supplies, recharge or local groundwater table levels.

EROSION / SILTATION AFFECTING WATER QUALITY AND INCREASE POLLUTED RUNOFF

Would the Project:

c) Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters?

f) Create or contribute substantial runoff which would be an additional source of polluted runoff?

l) 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?

Drainage on the site is currently conveyed to the City's storm drain system along MacArthur Boulevard, where it then travels via underground culvert into San Leandro Creek and eventually into the San Francisco Bay. Although the storm drain system in the Project vicinity eventually flows into the San Leandro Creek watershed, the Project site is almost entirely covered in impervious surface and is completely surrounded by urban development; therefore, there are no creeks, streams or rivers in the immediate vicinity into which drainage from the site would directly flow.

As discussed above, the Project would be required to implement **SCAs 21, 22** and **23**, which would limit stormwater runoff or the carrying by stormwater of sediments onto adjacent lands, public streets or to creeks as a result of grading operations; therefore, the Project would not result in substantial erosion or siltation that would affect the quality of receiving waters. Therefore, the Project is not anticipated to create or contribute substantial runoff that would be an additional source of polluted runoff.

Resulting Level of Significance

Because the Project is surrounded by urban development, not in the vicinity of an open waterway, and would be required to limit stormwater runoff and implement erosion control measures to address potential erosion and sedimentation, the Project would not result in substantial erosion or siltation that would affect the quality of receiving waters through implementation of **SCAs 21, 22** and **23** above. Implementation of these SCAs would reduce this impact to ***less than significant with Standard Conditions of Approval***.

EXCEED STORM DRAINAGE CAPACITY / FLOODING

Would the Project:

d) Result in substantial flooding on- or off-site?

e) Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems?

As discussed above, the Project would not result in a substantially greater area of impervious surface on the site than under current conditions with the existing structures, and the site is surrounded by similar urban development, including a large amount of existing impervious surface. Therefore, the Project is not expected to result in substantial flooding on- or off-site or create or contribute substantial runoff such that the existing or planned capacity of the stormwater drainage system is exceeded. Nevertheless, the City of Oakland will require the Project to implement site design measures for post construction stormwater pollution management and source control measures to limit stormwater pollution. Although these measures are aimed at controlling stormwater pollution, their implementation would also reduce drainage and runoff overall. Implementing measures such as minimizing impervious surfaces and establishing vegetated buffer areas improve the quality of runoff as well as limit its discharge into the stormwater system. Furthermore, operational BMPs as required by **SCA 22** and **23** above also limit the generation and discharge of stormwater.

Therefore, because the Project is located in a developed urbanized area and is required to implement design and source control BMPs for stormwater and other runoff discharge, the Project would not result in substantial flooding on- or off-site or create or contribute substantial runoff that would exceed the capacity of existing or planned storm drain systems, this is considered a ***less than significant*** impact.

FLOOD HAZARD AREAS

Would the Project:

h) 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?

i) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

The Project site is not within a 100 or 500 year flood zone area. Therefore, there would be ***no significant*** impact related to flood hazard areas.

FLOODING

Would the Project:

j) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The Project site is not near the shore such that it would be in an area threatened by climate change-induced sea level rise or in a tsunami run-up zone. However, all or a portion of the site could be inundated by a dam failure at the Dunsmuir Reservoir, Upper San Leandro Dam, and/or the Lake Chabot Dam.[36] While dam failure could result in the sudden release of a sizable volume of water, the risk posed by dam failures is mitigated by the regulatory safeguards in place and is weighed by the extremely rare occurrence of dam failure in the United States.[37] Therefore, there would be a ***less than significant*** impact to people or structures in these regards.

SEICHE, TSUNAMI, AND MUDFLOW

Would the Project:

k) Inundation by seiche, tsunami, or mudflow?

There is no data on the local occurrence or impact of seiche, as none has ever been recorded locally. While not well understood, the only threat of large-scale damage from seiches in Oakland appears to come from downstream flooding caused by dam or reservoir failure. As discussed above, the site could be inundated by dam failure, however the likelihood of large-scale damage resulting from seiches appears to be miniscule.[38] The Project site is not located in a tsunami run-up zone[39] and is not in a landslide zone.[40] There would be ***no impact*** regarding the possibility of inundation by seiche, tsunami or mudflow.

CREEK PROTECTION ORDINANCE

Would the Project:

m) Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance intended to protect hydrologic resources?

The City of Oakland provides the following guidance on determining significance of a potential impact related to the Oakland Creek Protection Ordinance: 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?

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[36] City of Oakland General Plan, Safety Element, 2004, Figure 6.1

[37] Ibid, pp. 106 to 107

[38] Ibid, pp. 105 to 106

[39] Ibid, Figure 6.1

[40] Association of Bay Area Governments, Official website, ABAG Landslide Hazard Maps and Information, http://www.abag.ca.gov/bayarea/eqmaps/landslide/index.html

There are no creeks that flow through the Project site. The San Leandro Creek is approximately 4,000 feet from the Project site and the majority of flow to the creek in the vicinity of the Project site is through underground culverts and storm drains.[41] Based upon the analysis provided above, the Project would not fundamentally conflict with provisions of the City of Oakland Creek Protection Ordinance. There would be ***no impact***.

[41] The Oakland Museum of California Creek and Watershed Information Source, Creek and Watershed Map of Hayward and San Leandro, http://www.museumca.org/creeks/MapHay.html , accessed March 18, 2011.

LAND USE AND PLANNING

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
IX. Would the project:					
a) Physically divide an established community?	☐	☐	☐	☐	☑
b) Result in a fundamental conflict between adjacent or nearby land uses?	☐	☐	☐	☐	☑
c) Fundamentally conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment?	☐	☐	☐	☐	☑
d) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☐	☑

SETTING

The Project site is located in the Elmhurst subarea of the *Central City East Redevelopment Plan* area in the city of Oakland. The Project site has a *General Plan* designation of *Community Commercial* and is zoned *C-30: District Shopping Commercial Zone*. The portion of the site along MacArthur includes the *S-4* combining zone, which specifies that design review is required.

The *2003 Central City East Redevelopment Plan EIR* provides an analysis of the *Redevelopment Plan's* impacts on *land use and planning*, and determined that it would not result in significant environmental impacts due largely to the fact that the *Central City East Redevelopment Plan* is intended to be consistent with the Land Use and Transportation (LUTE) element of the *General Plan* and will further the implementation of specific improvement strategies identified within the LUTE.[42]

However, the *2003 Redevelopment Plan EIR* does not determine whether subsequent individual projects within the *Redevelopment Plan* area are consistent with the City's land use policies. Therefore, this section of this Initial Study analyzes the proposed Project with respect the City's land use policies.

PHYSICAL DIVISION OF COMMUNITY / LAND USE COMPATIBILITY

Would the Project:

a) Physically divide an established community?

[42] City of Oakland, *Central City East Redevelopment Plan EIR*, 2003, p.4-17.

b) Result in a fundamental conflict between adjacent or nearby land uses?

The proposed Project is located on an existing developed lot within an urbanized redevelopment area in the City of Oakland. The Project involves renovation of some existing shopping center buildings and the demolition of some existing structures in order to construct some new shopping center buildings on the site. The proposed uses are consistent with the uses in the site vicinity, which consist of neighborhood commercial establishments along MacArthur Blvd. and Foothill Blvd. that serve the nearby residential neighborhoods. The Project site has a *General Plan* designation of *Community Commercial*, which is intended to create, maintain and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers. The proposed shopping center complies with this *General Plan* designation.

Because the Project site is an existing shopping center and the Project proposes the same (a renovated shopping center), it would not physically divide an established community. Because the proposed shopping center Project would fully meet the intent of the *Community Commercial* land use designation, it would not result in a fundamental conflict between adjacent or nearby uses. Therefore, there would be ***no impact***.

PLANS, POLICIES AND ZONING

Would the Project:

c) 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?

This section discusses the proposed Project's consistency with the City of Oakland's applicable plans and major policies and regulations. Several land use plans, policies and regulations apply to the Project site. The following City of Oakland major planning documents were addressed for the analysis contained in this section:

v) *City of Oakland General Plan* (and all applicable elements)

vi) Guidelines for Determining Project Conformity with the General Plan and Zoning Regulations

vii) Central City East Redevelopment Plan

viii) City of Oakland Planning Code (OMC Title 17)

General Plan

The *General Plan*, by its comprehensive nature, contains a number of competing policies. City decision-makers must determine whether a Project is consistent with the *General Plan*. All projects must be consistent with the *General Plan*, even if the City determines that it may not be fully consistent with all specific *General Plan* policies.

Conflicts with a *General Plan* do not inherently result in a significant effect on the environment within the context of CEQA. As stated in Section 15358(b) of the CEQA Guidelines, "[e]ffects analyzed under CEQA must be related to a physical change." Section 15125(d) of the Guidelines states that EIRs shall discuss any inconsistencies between the proposed Project and applicable *General Plan*s in the Setting section of the document (not under Impacts).

Further, Appendix G of the Guidelines (Environmental Checklist Form) makes explicit the focus on *environmental* policies and plans, asking if the Project would "conflict with any applicable land use plan, policy, or regulation . . . *adopted for the purpose of avoiding or mitigating an environmental effect*" (emphasis added). Even a response in the affirmative, however, does not necessarily indicate the Project would have a significant effect, unless a physical change would occur. To the extent that physical impacts may result from such conflicts, such physical impacts are analyzed elsewhere in this Initial Study.

Regarding a project's consistency with the *General Plan* in the context of CEQA, the Oakland *General Plan* states the following:

> The *General Plan* contains many policies which may in some cases address different goals, policies and objectives and thus some policies may compete with each other. The Planning Commission and City Council, in deciding whether to approve a proposed project, must decide whether, on balance, the project is consistent (i.e., in general harmony) with the *General Plan*. The fact that a specific project does not meet all *General Plan* goals, policies and objectives does not inherently result in a significant effect on the environment within the context of the California Environmental Quality Act (CEQA). (City Council Resolution No. 79312 C.M.S.; adopted June 2005)

The following are the City of Oakland *General Plan* policies that apply to the proposed Project:

<u>Land Use and Transportation Element (LUTE)</u>

Policy T2.3 **Promoting Neighborhood Services.** Promote neighborhood-serving commercial development within one-quarter to one-half mile of established transit routes and nodes.

Policy T3.6 **Encouraging Transit.** The City should encourage and promote use of public transit in Oakland by expediting movement of and access to transit vehicles on designated "transit street" as shown on the Transportation Plan.

Policy T4.1 **Incorporating Design Features for Alternative Travel.** The City will require new development rebuilding, or retrofit to incorporate design features in their projects that encourage the use of alternative modes of transportation such as transit, bicycling, and walking.

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, include lighting, directional signs, trees, benches, and other support facilities.

Policy N1.8 **Making Compatible Development.** The height and bulk of commercial development in the *Neighborhood Mixed Use Center* and *Community Commercial* areas should be compatible with that which is allowed for residential development.

Policy I/C3.1 **Locating Commercial Business.** Commercial uses, which serve long term retail needs of regional consumers and which primarily offer durable goods, should be located in areas adjacent to the I-880 freeway or at locations visible or amenable to high volumes of vehicular traffic, and accessible by multiple modes of transportation.

Policy I/C3.3 **Clustering Activity in "Nodes".** Retail uses should be focused in "nodes" of activity, characterized by geographic clusters of concentrated commercial activity, along corridors that can be accessed through many modes of transportation.

Policy I/C3.4 **Strengthening Vitality.** The vitality of existing neighborhood mixed use and community commercial areas should be strengthened and preserved.

Pedestrian Master Plan (Part of the Land Use and Transportation Element)

PMP Policy 3.2 Promote land uses and site designs that make walking convenient and enjoyable.

Bicycle Master Plan (Part of the Land Use and Transportation Element)

BMP Policy 8 Ensure that the needs of bicyclist are considered in the design of new development and redevelopment projects.

Consistency Discussion

The proposed shopping center Project would be generally consistent with the above policies. The Project is located on a major transportation and commercial corridor, which would encourage transit ridership. The Project conforms to the Planning Code in terms of height, bulk, density and scale (discussed later in this section); would include pedestrian connections from the perimeter sidewalks to the retail buildings in an area characterized by a mix of retail, housing and office uses; and is compatible with surrounding uses in terms of height and character. The Project must undergo the City's Design Review process, which will ensure alternative travel design features and pedestrian oriented streetscape improvements are incorporated into the design.

As discussed throughout this Initial Study, the Project would not result in significant impacts to the environment in a manner that would conflict with any of the above policies intended to avoid such purpose.

The maximum floor-area-ratio (FAR) under the *General Plan Community Commercial* designation is 5.00. The Project site has a total site area of 616,816 square feet and a proposed final commercial floor area of 200,916 square feet; therefore, the proposed FAR is 0.33, well below the City's threshold.

Zoning

The Project would be consistent with the zoning designation of the site. The Project site is zoned *C-30: District Thoroughfare Commercial Zone*.

Height

The existing buildings range in height from approximately 29 feet to 40 feet. All of the proposed changes would result in building within the existing maximum height of 40 feet.

The Maximum Building Height for non-residential facilities in the *C-30* zone is 40 feet. However, the Project site abuts a residential zone, and in such cases the maximum building height is 30 feet. The Oakland Municipal Code allows increased height if the portion of the building above the maximum is set back from the minimum rear yard set back one foot horizontal for every vertical foot by which the building would exceed the maximum, in this case, 10 feet.[43] The buildings exceeding 30 feet are set

[43] OMC 17.108.010(a)

back more than 20 feet from the project boundaries; therefore, the proposed Project meets this requirement.

Parking

Parking is discussed under the traffic and transportation section.

Consistency Discussion

As discussed above, this analysis focuses on the Project's consistency with land use policies adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment. Therefore, with respect to land use policies adopted for the purpose of avoiding or mitigating an environmental effect, the Project is consistent. The Project would have ***no impact*** regarding consistency with the Planning Code.

CONSERVATION PLAN

Would the Project:

d) Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan?

The Project is located in a densely developed urban area; there is no applicable habitat conservation plan or natural community conservation plan that the Project would need to comply with and therefore ***no impact*** in this regard.

MINERAL RESOURCES

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
X. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☐	☑
b) 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?	☐	☐	☐	☐	☑

SETTING

The only identified mineral resource in the City of Oakland is Leona rhyolite, which is found in the Oakland hills between Claremont Canyon and the San Leandro border. Rhyolite is volcanic rock used as material for road base, paving, curbs, and foundation stones. There are currently no active quarries in Oakland. The Project site is not located in the hills, where Leona rhyolite is found.[44]

MINERAL RESOURCES

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) 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?

The proposed Project would not result in the loss of availability of a known or locally important mineral resource. The site is located in a densely developed urban area of Oakland and would not impact any mineral resource recovery sites; there would be ***no impact*** in this regard.

[44] City of Oakland General Plan, Open Space, Conservation, and Recreation Element, 1996, p.3-10

NOISE

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XI. Would the project:					
a) Expose persons to or generate noise levels in excess of standards established in the Oakland General Plan or applicable standards of other agencies (e.g., OSHA)?	☐	☐	☑	☐	☐
b) Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding operational noise?	☐	☐	☑	☐	☐
c) Violate the City of Oakland Noise Ordinance (Oakland Planning Section 17.120.050) regarding construction noise, except if an acoustical analysis is preformed?	☐	☐	☑	☐	☐
d) Violates the City of Oakland Noise Ordinance (Oakland Municipal Code Section 8.18.020) regarding nuisance of persistent construction-related noise?	☐	☐	☑	☐	☐
e) Create a vibration not associated with motor vehicles, trains, or temporary construction or demolition work which is perceptible without instruments by the average person at or beyond any lot line containing the vibration-causing activity, except vibration-causing activities located in the M-40 zone or in the M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code Section 17.120.060)?	☐	☐	☐	☐	☑
f) Expose persons to or generate rail-related groundborne vibration in excess of standards established by the Federal Transit Administration (FTA)?	☐	☐	☐	☐	☑
g) Generate 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)?	☐	☐	☑	☐	☐
h) Result in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
i) Conflicts with land use compatibility guidelines for all specified land uses for determination of acceptability of noise after incorporation of all applicable Standard Conditions of Approval?	☐	☐	☑	☐	☐
j) Be located within an airport land use plan and would expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☑
k) Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☑

SETTING

Noise can be thought of as sound that is intrusive, annoying or otherwise unwanted. Noise can have significant effects on physical and mental human health and well-being through interference with communication, sleep disruption, and in extreme cases, hearing loss. As in most cities, the major sources of noise are transportation activities, specifically vehicular traffic on major thoroughfares, rail operations (including the BART), and along flight paths for the airport.[45]

CONSTRUCTION IMPACTS

Would the Project:

a) Expose persons to or generate noise levels in excess of standards established in the Oakland General Plan or applicable standards of other agencies (e.g. OSHA)?

c) Violate the City of Oakland Noise Ordinance (Oakland Planning Section 17.120.050) regarding construction noise, except if an acoustical analysis is preformed?

d) Violate the City of Oakland Noise Ordinance (Oakland Municipal Code Section 8.18.020) regarding nuisance of persistent construction related noise?

Future construction on the site would generate noise and would temporarily increase noise levels at adjacent land uses. Residential land uses are located nearby that host sensitive receptors.

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily occur when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time.

[45] City of Oakland General Plan, Noise Element, 2005.

The City of Oakland has standards for construction noise levels at receiving property lines, as shown in **Table 6**, below. Additionally, 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 (see Table 2, under the operational noise discussion).

TABLE 6: City of Oakland Construction Noise Standards at Receiving Property Line, dBA[1]

Receiving Land Use	Maximum Allowable Noise Level (dBA)	
	Weekdays 7 a.m.-7 p.m.	**Weekends 9 a.m.-8 p.m.**
Less than 10 days		
Residential	80	65
Commercial, Industrial	85	70
More than 10 Days		
Residential	65	55
Commercial, Industrial	70	60

Notes: 1) If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

Construction activities generate considerable amounts of noise. Construction-related noise levels are normally highest during the demolition phase and during the construction of Project infrastructure. The demolition and infrastructure phases of construction require heavy equipment that generates the highest noise levels. Typical hourly average construction generated noise levels are about 81 dBA to 88 dBA measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). The highest maximum noise levels generated by Project construction would typically range from about 90 to 98 dBA at a distance of 50 feet from the noise source. Construction-related noise levels are normally lower during building framing, finishing, and landscaping phases. There would be variations in construction noise levels on a day-to-day basis depending on the specific activities occurring at the site. Noise levels generated by the construction of the Project would at times exceed the noise ordinance standards and the ambient noise environment at nearby sensitive land uses.

The *2003 Central City East Redevelopment Plan EIR* provides a mitigation measure that addresses construction noise for projects located in within the *Redevelopment Plan* area. The City has since developed Standard Conditions of Approval, listed below, that address the same possibility and replace the mitigation measure in the *2003 EIR*.

City of Oakland Standard Conditions of Approval

In order to reduce impacts generated by construction activities at the Project site, the following City of Oakland Standard Conditions of Approval would apply:

SCA 24: **Days/Hours of Construction Operation.** 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 25: **Noise Control.** 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) Except as provided herein, Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered 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, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

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 use other measures as determined by the City to provide equivalent noise reduction.

d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.

SCA 26: **Noise Complaint Procedures.** 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 27: **Pile Driving and Other Extreme Noise Generators.** 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. The criterion for approving the plan shall be a determination that maximum feasible noise attenuation will be achieved. 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 implementing the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:

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 implement such measure if such measures are feasible and would noticeably reduce noise impacts; and

e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

Resulting Level of Significance

The inclusion of the procedures and controls outlined in **SCAs 24** and **27** would reduce the impact from Project construction noise to levels considered ***less than significant with Standard Conditions of Approval*** in conformance with the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding construction noise.

VIBRATION

Would the Project:

e) Create a vibration not associated with motor vehicles, trains, or temporary construction or demolition work which is perceptible without instruments by the average person at or beyond any lot line containing the vibration-causing activity, except vibration-causing activities located in the M-40 zone or in the M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code Section 17.120.060)?

f) Expose persons to or generate rail-related groundborne vibration in excess of standards established by the Federal Transit Administration (FTA)?

The Project is not located near rail lines and does not propose uses that would create perceptible vibration beyond any lot line. The uses proposed are retail and commercial and would be consistent with the land use designations of the site. The *C-30* zone does not permit uses that would create perceptible vibrations. There would be ***no impact*** as a result of the Project regarding vibration.

OPERATIONAL IMPACTS

Would the Project:

a) Expose persons to or generate noise levels in excess of standards established in the Oakland General Plan or applicable standards of other agencies (e.g. OSHA)?

b) Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding operational noise?

g) Generate interior L_{dn} or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24)?

h) Result in a 5dBA permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

i) Conflict with land use compatibility guidelines for all specified land uses for determination of acceptability of noise [see Figure 6] after incorporation of all applicable Standard Conditions of Approval?

The City of Oakland has standards for operational noise levels at receiving property lines, as shown in **Table 7**, below.

TABLE 7: City of Oakland Operational Noise Standards at Receiving Property Line, dBA[1]

Receiving Land Use	Cumulative No. of Minutes in a 1-Hr Period[2]	Maximum Allowable Noise Level (dBA) Daytime 7 a.m.-10 p.m.	Maximum Allowable Noise Level (dBA) Nighttime 10 p.m.-7 a.m.
Residential and Civic[3]	20 (L_{33})	60	45
	10 ($L_{16.7}$)	65	50
	5 ($L_{8.3}$)	70	55
	1 ($L_{1.7}$)	75	60
	0 (L_{max})	80	65
		Anytime	
Commercial	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	

Notes: 1) 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.

2) L_x represents the noise level that is exceeded X percent of a given period. L_{max} is the maximum instantaneous noise level.

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

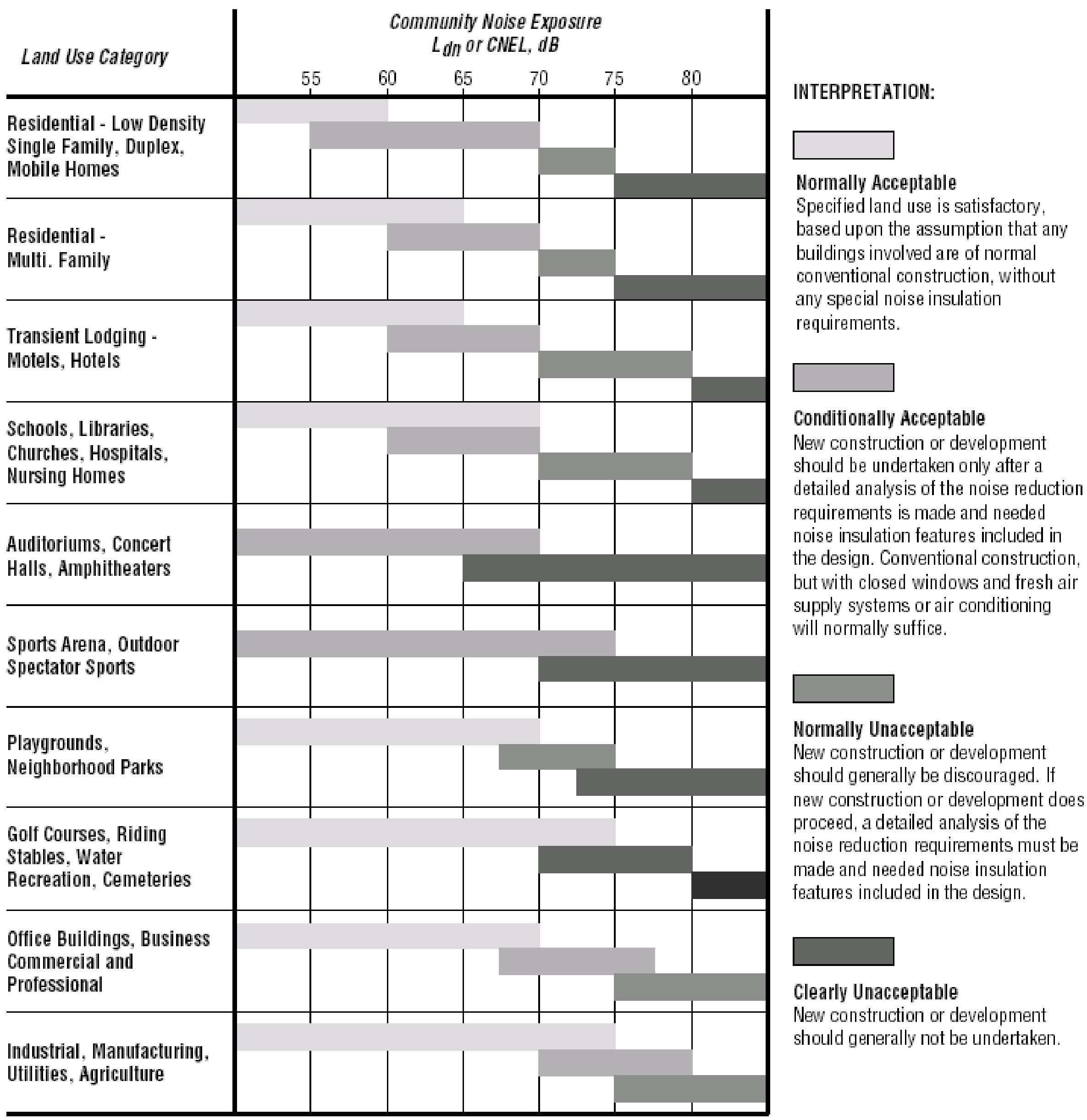
Additionally, the *Land Use* discussion in this document listed General Plan policies that would apply to the Project. The Noise Element of the General Plan provides **Policy 1** and **Action 1.1**, listed below, directing analysis to incorporate the Noise element's land use compatibility matrix in conjunction with the noise contour maps to evaluate the acceptability of proposed land uses on a given site and to identify the need for mitigation measures to achieve the desired degree of acceptability:

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.

Action 1.1 Use the noise-land use compatibility matrix (**Figure 6**) in conjunction with the noise contour maps (especially for roadway traffic) to evaluate the acceptability of residential and other proposed land uses and also the need for any mitigation or abatement measures to achieve the desired degree of acceptability.

The Project would be affected by noise from the nearby Interstate 580. According to Figure 2 of the General Plan Noise Element, Roadway Noise Contours (2020), the Project site is located within the 65 to 70 L_{dn} contour (i.e. the Project site would be subjected to background freeway noise up to 65 to 70 L_{dn}). The City of Oakland provides the compatibility matrix shown as Figure 6 to determine acceptability of noise levels. According to this matrix, noise levels in this range are considered "Normally Acceptable" to "Conditionally Acceptable". As a shopping center, the buildings would have closed windows with fresh air/air conditioning systems, which would insulate the ambient noise and ensure noise levels would be acceptable. As an existing use and one with inherent noise-insulating building features, the noise level would be considered acceptable for the proposed Project. Additionally, the Project's proposed uses would also generate acceptable noise levels, as its proposed uses are consistent with all applicable land use categories.

Figure 6: Noise-Land Use Compatibility Matrix



City of Oakland Standard Conditions of Approval

Although the Project is not expected to generate or receive noise levels that exceed the standards of the General Plan, the City of Oakland maintains the following Standard Conditions of Approval addressing interior and operational noise that the Project would need to satisfy:

SCA 28: **Interior Noise.** 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), and/or other appropriate features/measures, 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 prior to issuance of building permit. Final recommendations for sound-rated assemblies, and/or other appropriate features/measures, 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:

a) 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.

b) Prohibition of Z-duct construction.

SCA 29: **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. 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.

Resulting Level of Significance

The Project sponsor would be required to comply with the above conditions regarding interior and operational noise. Satisfactory compliance with **SCA 28** and **29** would make any potential impacts regarding exposure of people to noise levels in excess of standards established in the local *General Plan* ***less than significant with Standard Condition of Approval***.

AIRPORTS

Would the Project:

j) Be located within an airport land use plan and would expose people residing or working in the Project area to excessive noise levels?

k) Be located within the vicinity of a private airstrip, and would expose people residing or working in the Project area to excessive noise levels?

The Project site is not located within an airport land use plan or in the vicinity of a private airstrip. Therefore, there would be ***no impact*** in these regards.

POPULATION AND HOUSING

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XII. Would the project:					
a) Induce substantial population growth in a manner not contemplated in the General Plan either directly (for example by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?	☐	☐	☐	☑	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	☐	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	☐	☐	☐	☐	☑

SETTING

The Project vicinity is characterized by relatively dense single-family homes, with commercial uses in the vicinity of the Project site running along MacArthur and Foothill Boulevards. The Project site contains no existing residential population and no housing is proposed with the Project.

POPULATION INDUCEMENT REQUIRING INFRASTRUCTURE NOT PREVIOUSLY CONSIDERED

Would the Project:

a) Induce substantial population growth in a manner not contemplated in the General Plan either directly (for example by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?

The proposed Project does not include a residential component and it is consistent with the *General Plan* designation of the Project site. *General Plan* land use designations must be consistent with ABAG population projections; therefore, if a proposed Project is consistent with the *General Plan*, then it is consistent with ABAG population projections.

The site is in a developed area and is currently served by necessary infrastructure. Additional infrastructure would not be required that was not previously considered or analyzed.

As discussed, the proposed Project is a renovation and expansion of an existing shopping center and is consistent with ABAG population projections. Therefore, there would be a ***less than significant*** impact with respect to population growth, either directly or indirectly, as a result of the proposed Project.

DISPLACEMENT OF HOUSING OR PEOPLE

Would the Project:

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?

The proposed Project is the renovation of an existing shopping center and would displace neither existing housing nor people. Therefore, there would be ***no impact*** in this regard.

PUBLIC SERVICES

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XIII. Would the project :					
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:					
a) Fire protection?	☐	☐	☐	☑	☐
b) Police protection?	☐	☐	☐	☑	☐
c) Schools?	☐	☐	☐	☑	☐
d) Parks?	☐	☐	☐	☑	☐
e) Other public facilities?	☐	☐	☐	☑	☐

SETTING

The Project site is located in an urban area where public services are already provided. The *2003 Central City East Redevelopment Plan EIR* addressed the Redevelopment Plan's impacts on public services. Although mitigation measures were provided in the analysis, the responsibility for implementing them is placed upon the Redevelopment Agency; no project-level measures were included. Overall, project-level impacts on local services were determined to be less than significant.

RESULT IN NEW OR PHYSICALLY ALTERED GOVERNMENTAL FACILITIES

Would the project:

a-e) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services: fire protection, police protection, schools, parks, and/or other public facilities?

The Community Services Analysis prepared for the *Land Use and Transportation Element* of the *General Plan* stated that future in-fill development through the *General Plan* horizon year of 2015 would not be likely to impose a burden on existing public services. The Project site is located in an urban area where public services are already provided. The development of the Project site as proposed is not anticipated to require the provision of new or expanded public services or physically altered governmental facilities. The Project would have a ***less than significant*** impact on public services.

The City of Oakland would require the following Standard Conditions of Approval to ensure fire protection services are adequately accommodated

City of Oakland Standard Conditions of Approval

SCA 30: **Site Review by the Fire Services Division.** 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 31: **Fire Safety Phasing Plan.** 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.

Resulting Level of Significance

The proposed Project would not result in significant impacts to the provision of public services, as discussed above. SCAs 30 and 31 would further reduce an already ***less than significant*** impact on public services.

RECREATION

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XIV. Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☐	☑

SETTING

The Project site is located in an urban area already served by existing parks and urban open space areas. The *2003 Redevelopment Plan EIR* determined that the increase in population in the *Redevelopment Plan* area would potentially increase the demand on parks and recreation facilities in the *Redevelopment Plan* area; however, the *2003 EIR* determined that the increase in park facilities demand by projects in the *Redevelopment Plan* area would be less than significant.[46]

ACCELERATED PHYSICAL DETERIORATION OF FACILITIES

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed Project does not include a residential component so would not directly contribute to population increases and would not be expected to contribute directly to increases in demand for or use of recreational facilities. Additionally, the *2003 Redevelopment Plan EIR* determined that the projected population increase in the *Redevelopment Plan* area would result in a less than significant impact on parks and recreation facilities in the Redevelopment Plan area. For these reasons, there would be a ***less than significant impact*** on parks as a result of the Project.

EFFECT OF NEW OR EXPANDED FACILITIES

Would the Project:

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The Project does not propose or require the construction or expansion of recreational facilities. There would be ***no impact*** in this regard.

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46 City of Oakland, *Central City East Redevelopment Plan EIR*, 2003, p. 10-15.

TRANSPORTATION/TRAFFIC

XV. Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
a) 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: *					
i) At a study, signalized intersection which is located outside the Downtown area, the project would cause the level of service (LOS) to degrade to worse than LOS D (i.e., E)?	☐	☐	☐	☑	☐
ii) 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., F)?	☐	☐	☐	☐	☑
iii) 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., F)?	☐	☑	☐	☐	☐
iv) 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., F)?	☐	☑	☐	☐	☐
v) At a study, signalized intersection for all areas where the level of service is LOS F, the project would cause (a) the total intersection average vehicle delay to increase by two (2) or more seconds, or (b) an increase in average delay for any of the critical movements of four (4) seconds or more; or (c) the volume-to-capacity ("V/C") ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately)?	☐	☑	☐	☐	☐
vi) At a study, unsignalized intersection, the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant?	☐	☑	☐	☐	☐
vii) For a Congestion Management Program	☐	☐	☐	☐	☑

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
(CMP) required analysis, the project would generate 100 or more p.m. peak hour trips and cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project?					
viii) Result in substantially increased travel times for AC Transit buses?	☐	☐	☐	☑	☐
b) 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?	☐	☐	☐	☐	☑
c) Substantially increase hazards due to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☑	☐	☐	☐
d) 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?	☐	☐	☐	☐	☑
e) Fundamentally conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑	☐
f) A project's contribution to cumulative impacts is considered "considerable" (i.e., significant) when the project exceeds at least one of the thresholds listed above under a future year scenario?	☐	☑	☐	☐	☐

* These thresholds are City of Oakland-specific. The thresholds used for San Leandro intersections are as follows:

The City of San Leandro's General Plan contains LOS standards for intersection operations, whether an intersection is signalized or not. According to policy 16.02, the minimum acceptable LOS is D, with certain exceptions for pedestrian districts and where right of way cannot be acquired. However, San Leandro has no adopted level of contribution to intersections operating below acceptable service levels that would be considered a significant impact. Consistent with other previous studies in San Leandro, for this analysis it was determined that a significant impact would occur if the Project causes:

- An intersection to operate at LOS E or F; or
- An increase in the volume-to-capacity ratio of 0.05 or more for signalized intersections that operate at LOS E or F under no project conditions; or
- An increase in average delay of more than five (5) seconds on the worst approach for unsignalized intersections that operate at LOS E or F under no project conditions.

INTRODUCTION

This section utilizes information from the following report prepared for this analysis and included in full as Attachment 5:

Foothill Square Shopping Center Traffic Impact Analysis, dated December 2010, prepared for the City of Oakland by Omni-Means.

Addendum: Proposed Foothill Square Shopping Center; Administrative Draft Mitigated Negative Declaration/Traffic Impact Analysis Supplemental Information/Analysis in Coordination with Caltrans Review Letter, dated March 31, 2011, prepared for the City of Oakland by Omni-Means.

SETTING

The Project site is located just west of Interstate 580 bounded by Foothill Boulevard, MacArthur Boulevard, 106th Avenue, and 108th Avenue, just north of the boundary of the city of San Leandro. Based on discussions with City of Oakland Transportation Engineering staff and with the neighboring City of San Leandro Engineering staff, and coordination with Caltrans, the following eleven (11) intersections were chosen for evaluation as they would provide direct and indirect access to the proposed Project site:

1. Stanley Avenue/I-580 Southbound Off-Ramp (Caltrans)
2. 106th Avenue/Bancroft Avenue
3. 106th Avenue/Voltaire Avenue
4. 106th Avenue/MacArthur Boulevard
5. 106th Avenue/Foothill Boulevard
6. 106th Avenue/I-580 Northbound On-Ramp-Peralta Oaks Drive (Caltrans)
7. 108th Avenue/MacArthur Boulevard
8. 108th Avenue/Foothill Boulevard
9. Durant Avenue/MacArthur Boulevard (San Leandro)
10. Superior Avenue/Foothill Boulevard/MacArthur Boulevard (San Leandro)
11. Stanley Avenue/Foothill Boulevard (analysis for this intersection is included in the Traffic Impact Analysis Addendum, included in Attachment 5)

The Traffic Impact Analysis also analyzed the operation of all Project driveways.

If the intersection is not within City of Oakland jurisdiction, it is noted in parentheses in the above list.

Figure 6 illustrates the project vicinity and study intersection locations. These intersections were analyzed under existing conditions and for study years 2015 and 2035 (cumulative) with and without the Project traffic.

All the study intersections currently operate at LOS C or better, except intersection 10, Superior Avenue/Foothill Boulevard/MacArthur Boulevard in San Leandro, which operates at LOS F in the PM Peak Hour (LOS E in the AM Peak Hour).

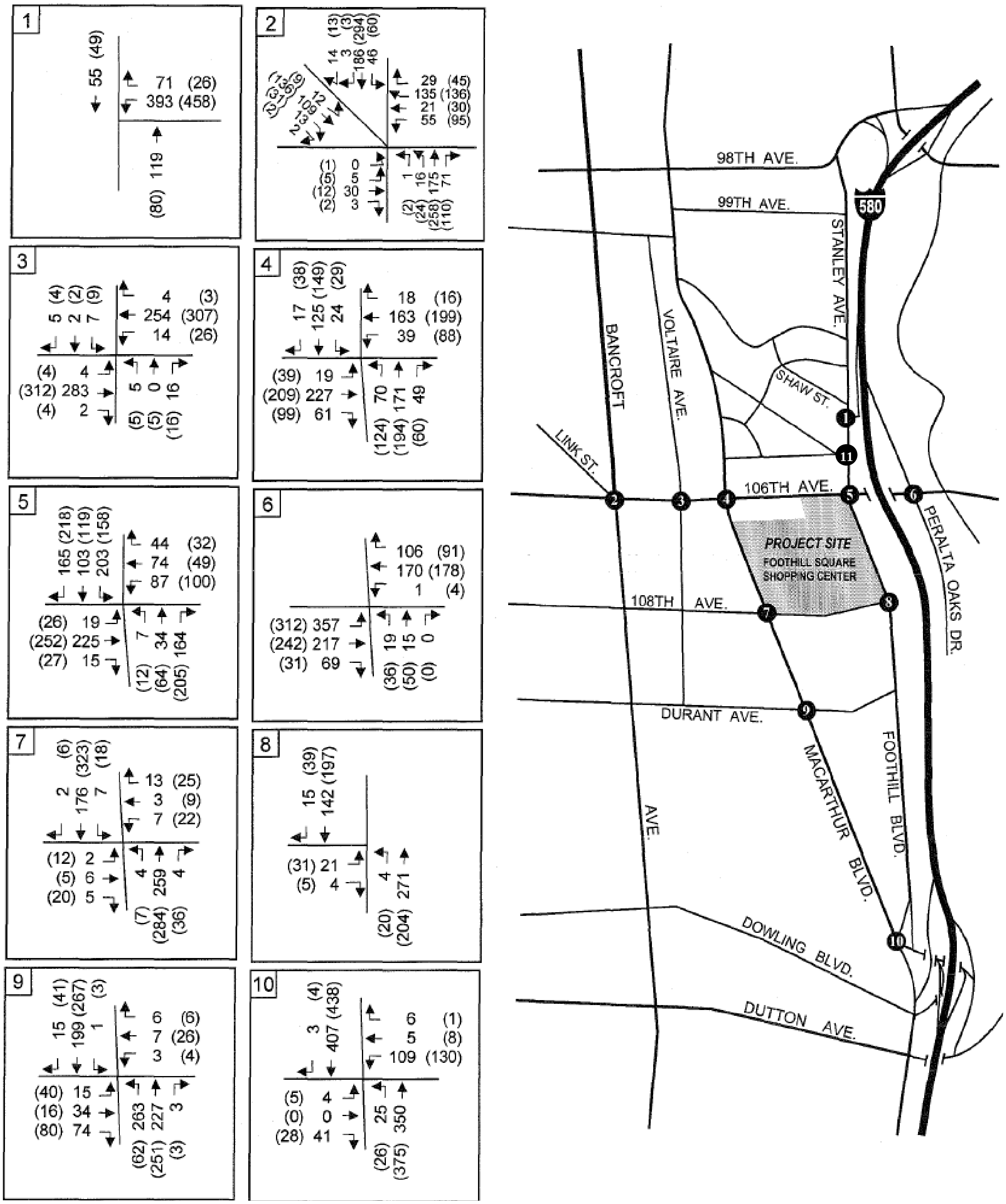

Figure 6. Study Intersections and Existing A.M. and (P.M.) Peak Hour Volumes

Source: Omni-Means, Traffic Impact Analysis (Figure 4 in Attachment 5)

Study intersection 11, Stanley Avenue/Foothill Boulevard, as shown on the map above, is included in the Traffic Impact Analysis Addendum (included in Attachment 5).

Planned Improvements

City Streetscape

The City of Oakland has been undergrounding utilities and constructing streetscape improvements along MacArthur Boulevard from the San Leandro border to the intersection with Foothill Boulevard, including the frontage along the Project site, with plans to continue streetscape improvements on MacArthur Boulevard north of Foothill Boulevard.

San Leandro

Discussions with City of San Leandro Engineering staff indicate specific improvements are planned for the Superior Avenue/Foothill Boulevard/MacArthur Avenue intersection (intersection 10 in this analysis). As part of San Leandro's MacArthur Boulevard Streetscape Plan, an analysis was conducted for this intersection that recommends (among other alternatives) installation of a modern roundabout to improve traffic flow and intersection LOS. According to City of San Leandro staff, they anticipate installation of a roundabout at this intersection, which would result in a LOS A during both the AM and PM peak hours. There is currently no funding for Phase 2 of the MacArthur Boulevard Streetscape Plan, which would include this improvement; however the City of San Leandro's Engineering and Transportation Department is currently working on identifying available funding sources and anticipates creating a specific fund for this traffic improvement plan.

Central City East Redevelopment

The *2003 Central City East Redevelopment Plan EIR* states that growth projections for the *Central City East Redevelopment Plan* area include the following:[47]

- approximately 1,440 net new households,
- an increase in population of approximately 3,780 people, and
- approximately 2,210 net new employment opportunities.

Using the Alameda County Congestion Management Agency's Countywide Transportation Model to forecast traffic conditions for the year 2025, the *2003 EIR* estimates that this projected growth and development within the *Redevelopment Plan* area would generate the following motor vehicle traffic:[48]

- 917 vehicles during the a.m. peak hour
- 1,317 vehicles during the p.m. peak hour

The *2003 EIR* provides an analysis of the *Redevelopment Plan's* impacts on the surrounding street system's load and capacity. The *2003 EIR* determined that, although new growth and development facilitated by the *Redevelopment Plan* would add traffic to the surrounding area, the amount of traffic would not result in a significant impact at any signalized intersections in the vicinity. However, the *2003 Redevelopment Plan EIR* determined that growth and development from individual projects pursuant to implementation of the *Redevelopment Plan* would add more than ten (10) vehicles to two unsignalized intersections within the *Redevelopment Plan* area where Caltrans' peak hour volume

[47] *Central City East Redevelopment Plan Draft EIR*, p. 5-13.

[48] Ibid.

traffic signal warrants would be satisfied, and recommended mitigation to be funded on a fair-share basis to reduce potential impacts at the following intersections to less than significant levels:

- Embarcadero/5th Avenue
- Embarcadero/I-880 NB Off-ramp

Although these intersections are located within the *Redevelopment Plan* area, they are over five miles from the Project site and Project traffic through these intersections would be negligible. Therefore, these intersections are not analyzed here.

As discussed above, a full project-specific Traffic Impact Analysis was performed for the proposed Project, including for existing conditions as well as future years 2015 and 2035 (cumulative). This analysis was used for the impact discussion in this section.

Project Trips

The peak hour trips generated by the existing shopping center has been established through AM and PM peak period counts at the existing center driveways. The projected trips under the proposed Project were calculated using trip research compiled by the Institute of Transportation Engineers (ITE). Because of the unique tenant mix assumed under the Project, trip generation calculations were segregated by specific tenant spaces/uses. The amount of new peak hour trips allocated to the proposed Project is represented by the difference between existing trips generated by the current center and the new trips that would be generated by the Project. Net new Project trips were calculated to be 233 AM peak hour trips, 474 PM peak hour trips, and 8,932 daily trips (see Tables 4 and 5 in Attachment 5 for detailed information).

EFFECTIVENESS OF THE CIRCULATION SYSTEM

Would the Project:

a) 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? [See items i) through vii) in the thresholds table above for specific thresholds.]

The Traffic Impact Analysis for this Project identified potentially significant impacts at the following intersections:

Impact Traf-1: Superior Avenue/Foothill Boulevard/MacArthur Boulevard (San Leandro jurisdiction). With existing plus proposed Project traffic the Superior Avenue/Foothill Boulevard/MacArthur Boulevard intersection would change from LOS E at 38.5 seconds delay to LOS E at 48.2 seconds delay during the AM peak hour and LOS F at 53.9 seconds delay to LOS F at greater than 80.0 seconds delay during the PM peak hour. This is a greater than 5 second increase in delay to a San Leandro intersection and would be considered a significant impact.

Impact Traf-2: 106th Avenue/Foothill Boulevard. Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed Project would add more than 10 vehicle trips to the

106th Avenue/Foothill Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization. This would be considered a significant impact.

All other study intersections and all Project driveways would operate within acceptable service levels and queue lengths under existing plus Project and 2015 plus Project conditions. Thus, impacts to these other intersections and driveways would be less than significant.

Mitigation Measures

MM Traf-1: The Project proponent shall contribute a fair share toward the following improvement:

- City of San Leandro's installation of a roundabout at the Superior Avenue/Foothill Boulevard/MacArthur Boulevard intersection.

Based on discussions with the City of San Leandro traffic engineering staff, San Leandro is planning to install a roundabout at this intersection as part of the second phase of its MacArthur Boulevard Improvement Plan to correct existing unacceptable levels of service. This improvement has not yet been funded; however the City of San Leandro is currently working on identifying available funding sources and creating a specific fund for this traffic improvement. The City of San Leandro traffic engineering staff intends on creating the specific fund for this traffic improvement upon receipt of the project proponent's fair share contribution. With a roundabout installed at this location, overall intersection operation is projected to improve to LOS A during the AM and PM peak hours.

The Project's proportional share towards this improvement, based on the proposed Project's PM peak hour trips at the intersection, would equate to a 9.4% overall share (105 /1,120). This contribution would be roughly proportional to the Project's impact and would be made toward an existing Improvement Plan specifically intended to mitigate this impact. With implementation of MM Traf-1, the proposed Project's impact would be reduced to less-than-significant.

With installation of this improvement, impacts would be reduced to less than significant levels at this intersection for year 2015 and 2035 (cumulative).

MM Traf-2: The Project proponent shall coordinate with the City of Oakland to fund and implement the following improvement:

- Install a new traffic signal at the 106th Avenue/Foothill Boulevard intersection.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) 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 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 actuation (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 and communication to City Traffic Management Center 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.

The project sponsor shall fund, prepare, and install the approved plans and improvements.

With a signal installed at this location, the intersection will operate at LOS C at 24.6 seconds delay during the AM peak hour and LOS C at 33.6 seconds delay during the PM peak hour.

With installation of this improvement, impacts would be reduced to less than significant levels at this intersection for year 2015 and 2035 (cumulative).

Resulting Level of Significance

MM Traf-1 requires a fair share cost contribution toward planned improvements to the Superior Avenue/Foothill Boulevard/MacArthur Boulevard intersection in San Leandro and MM Traf-2 requires installation of a signal at 106th Avenue/Foothill Boulevard intersection in Oakland. Implementation of these mitigation measures would reduce potentially significant project-level impacts to a level considered ***less than significant with mitigation***.

AIR TRAFFIC PATTERNS

Would the Project:

b) 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?

The proposed Project does not include structures or uses that would affect air traffic patterns, nor is an airport located in proximity to the Project site. Therefore, the proposed Project would not result in substantial safety risks related air traffic. There would be ***no impact*** to air traffic patterns as a result of the proposed Project.

CIRCULATION HAZARDS

Would the Project:

c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project site would be served by six primary driveways with two on MacArthur Boulevard, three on 108th Avenue, and one on Foothill Boulevard. As shown in the proposed Project site plan (see Figure 3) vehicle access along MacArthur Boulevard would be largely unchanged from current conditions. Along MacArthur Boulevard, the south driveway would be located approximately 220 feet north of 108th Avenue, and the northern driveway would be located approximately 190 feet south of 106th Avenue. Both of these driveways would have one inbound and one outbound travel lane and would be accessed by an existing two-way-left-turn-lane on MacArthur Boulevard.

108th Avenue would have three proposed Project driveways and one (1) auxiliary truck access driveway. Extending east from MacArthur Boulevard, the first Project driveway would be located approximately 180 feet east of MacArthur Avenue. The second (middle) driveway off 108th Avenue would be located approximately 380 feet east of MacArthur Avenue, west of McIntyre Street. The third or eastern-most driveway off 108th Avenue would be located approximately 70 feet east of McIntyre Street. All three Project driveways located off of 108th Avenue would be 30 feet in width with wide inbound and outbound travel lanes. An additional auxiliary truck access driveway on 108th Avenue would be located 50-60 feet west of Foothill Boulevard. This driveway would only serve truck access. The proposed truck access driveway is not anticipated to cause significant vehicle/truck conflicts on 108th Avenue because it would be limited to deliveries and because there is relatively light traffic volumes on 108th Avenue. The overall intersection LOS at the 108th Avenue/Foothill Boulevard intersection is projected to be LOS B during both the AM and PM peak hours.

The proposed Project driveway off Foothill Boulevard would serve as one of the main access points to/from the site. Located approximately mid-block between 106th and 108th Avenues (approximately 430 feet north of 108th Avenue), the Foothill Boulevard driveway would be approximately 58-feet in width with two inbound lanes and two outbound lanes with a divided median. This driveway would have a slight downgrade (no more than 6%) into the Project site.

In addition to the six primary driveways serving the Project site, there would also be two driveways serving the proposed gas service station located on the southwest quadrant of the 106th Avenue/Foothill Boulevard intersection. One driveway would be located off Foothill Boulevard approximately 120 feet south of 106th Avenue. The second driveway would be located on 106th Avenue approximately 50 feet west of Foothill Boulevard.

Impact Traf-3: Vehicular Conflicts 106th Avenue Driveway. The proposed driveway on 106th Avenue serving the gas service station component of the Project would be located only 50-feet from the 106th Avenue/Foothill Boulevard intersection. Vehicles turning left from 106th Avenue into the site or vehicles turning left (outbound) from the site would interfere with vehicle progression/intersection operations on 106th Avenue would be considered a significant impact.

Commercial driveways should typically have a minimum distance of 100-150 feet of separation from major intersections based on engineering judgment and efficient vehicle ingress/egress, though such a distance is not possible with the constraints of the gas station parcel.

Pedestrian access and circulation would be adequate for the site with new pedestrian sidewalks constructed/rehabilitated along the Project site's entire west, south, and east frontages. In addition, a pedestrian sidewalk would be constructed along the main Foothill Boulevard driveway's east-west internal drive aisle (on its north side) with existing pedestrian sidewalks that extend through the site to MacArthur Boulevard. New pedestrian sidewalks would be constructed around all new and existing buildings within the site.

Pedestrian crosswalks are proposed at the main internal drive aisle intersections of main Foothill Boulevard east-west driveway and the eastern-most 108th Avenue access driveway.

Impact Traf-4: Pedestrian Access and Safety. There are no north-south pedestrian crosswalks linking the main parking fields to the south serving new retail uses along the proposed Project's northern area. In addition, there are currently no north-south pedestrian crosswalks at the 108th Avenue/MacArthur Boulevard intersection even though there are currently pedestrian crossings occurring in this direction. With the proposed Project, pedestrian crossings at this and other intersections immediately adjacent to the site would increase proportionately and without adequate crosswalks for safety this would be considered a significant impact.

Additionally, disruptions in traffic could be caused by construction activities that could cause congestion with truck and construction vehicle deliveries to the site or cause partial shut-downs with work on the roadway frontage or affect parking demand through parking for construction workers. The potential for disruption/hazards caused by construction period traffic and parking is considered a less than significant impact with implementation of Standard Condition of Approval 32.

Standard Conditions of Approval

SCA 32: Construction Management Plan. 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 Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. 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. Planning and Zoning 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.

f) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces.

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.

Project Mitigation Measures

MM Traf-3: The proposed driveway on 106th Avenue serving the gas service station component of the Project shall be limited to right-turns-only for inbound/outbound vehicles.

MM Traf-4a: The applicant shall provide a north-south internal pedestrian link between parking fields located in the south of the Project site to new retail uses in the north.

This pedestrian crossing could be located in front of the planned Ross Store and/or Rainbow Apparel Store uses. The applicant shall submit a pedestrian crossing plan for City review and approval and implement the approved plan.

MM Traf-4b: The applicant shall work with the City to fund and install new pedestrian crosswalks across 108th Avenue both east and west of MacArthur Boulevard to provide a pedestrian link to neighborhoods south of the Project site. The applicant shall submit a pedestrian crossing plan for City review and approval and implement the approved plan.

MM Traf-4c: The applicant shall work with the City to fund and install new pedestrian crosswalks across 108th Avenue at Julius Street (west side), east of the main 108th Avenue driveway. The pedestrian crosswalk shall have a bulb-out from the south side of 108th Avenue to reduce pedestrian crossing distance, increase visibility, and encourage slower traffic speeds. The applicant shall submit a pedestrian crossing plan for City review and approval and implement the approved plan.

Resulting Level of Significance

With MM Traf-3 limiting turning movements from the driveway close to the 106th Avenue and Foothill Boulevard intersection and MMs Traf-4a, Traf-4b and Traf-4c providing for safe pedestrian circulation to and across the site, operational impacts related to vehicle and pedestrian circulation hazards would be reduced to a level considered ***less than significant with mitigation***.

EMERGENCY ACCESS

Would the Project:

d) 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?

The Project site is located in an urban commercial district. The proposed site plan is similar to the existing plan in site access and design. The site is located on the corners of MacArthur Blvd. and 108th Ave., Foothill Blvd. and 108th Ave. and Foothill Blvd. and 106th Ave. and would have at least one access point on each of these roadways. Because it is located on a corner lot, the Project would feature multiple emergency access routes. Therefore, there would be ***no impact*** with respect to emergency access.

ALTERNATIVE TRANSPORTATION AND TRANSIT

Would the Project:

a) viii) Result in substantially increased travel times for AC Transit buses?

e) Fundamentally conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

AC Transit uses the Foothill Square shopping center as a transit node with multiple bus lines converging and terminating at the center, including lines 45, 57, 75, NL, and NX3. Currently, all bus lines stopping (laying over) at the center use MacArthur Boulevard between 107th Avenue and 108th Avenue. With proposed Project construction, AC Transit would move its layover area to Foothill Boulevard between the Project's main driveway on Foothill Boulevard and located just before the 108th Avenue intersection. Buses would drop-off passengers on Foothill Boulevard near the proposed main driveway and then pull forward to their layover area prior to 108th Avenue. After the layover period, the buses would turn west onto 108th Avenue and proceed to their pick-up stop. The buses would pick up passengers along 108th Avenue so that they would not need to circle back around the block to the bus stop on Foothill Boulevard.

The Project would provide improvements to bus service in the area, to the on- and off-site pedestrian facilities, and also the potential for increased use of underutilized transit opportunities. It would not negatively impact alternative transportation or transit opportunities at the site or contribute to transit crowding, delay or fare gate delay. Therefore, the Project's potential impact with respect to increased travel times or conflicts with adopted transportation policies and increased transit usage is ***less than significant***.

Although not a CEQA-related impact, the following conditions of approval are recommended to ensure appropriate coordination of bus service and potential relocation of bus stops and facilities:

Recommended Condition A: Construction-Period Transit Coordination. As part of the City of Oakland's Standard Conditions of Approval, the Project will be required to prepare and implement a Construction Traffic and Parking Control Plan to reduce construction impacts on traffic and transit conditions. The construction-period traffic and parking management strategy should require the Project sponsor to coordinate with AC Transit and the City of Oakland Public Works Department Traffic Services Division to identify appropriate temporary locations for all bus stops affected by Project construction. The Project sponsor shall implement all steps necessary to establish temporary bus stops, including replacing bus shelters that will be removed during the construction period, to a location mutually agreed upon by the City of Oakland and AC Transit.

Recommended Condition B: Bus Stop/Bus Layover Relocation Coordination. The Project sponsor shall work closely with AC Transit and the City of Oakland to coordinate possible relocation of the existing bus stop and layover site along MacArthur Boulevard. If relocation to Foothill Boulevard is determined to be desirable/necessary, the new location must be approved by the City of Oakland Public Works Department Traffic Services Division and AC Transit.

CUMULATIVE IMPACTS

f) A project's contribution to cumulative impacts is considered "considerable" (i.e., significant) when the project exceeds at least one of the intersection-related thresholds listed above under a future year scenario.

The Traffic Impact Analysis assessed cumulative traffic conditions under a Year 2035 scenario. Under cumulative 2035 baseline conditions (i.e. without the Project), all study intersections would operate at acceptable levels except Durant Avenue/MacArthur Boulevard, which would operate at LOS E at 42.9 seconds of delay during the AM peak hour. Additionally, two currently stop controlled intersections, 106th Avenue/Foothill Boulevard and Stanley Boulevard/Shaw Street/I-580 Eastbound off-ramp, would meet signal warrants under baseline cumulative (2035) conditions.

Assuming installation of a roundabout at Superior Avenue/Foothill Boulevard/MacArthur Boulevard as required by MM Traf-1, there would be no further impact to this intersection under the cumulative 2035 scenario. Similarly, assuming installation of a traffic signal at 106th Avenue/Foothill Boulevard as required by MM Traf-2, there would be no further impact to this intersection under the cumulative 2035 scenario.

With the addition of Project traffic to the cumulative 2035 scenario, the proposed Project would contribute a cumulatively considerable amount of traffic to impacts at the following intersections:

Impact Traf-5: Stanley Avenue/Shaw Street/I-580 EB Off-ramp. This intersection in Caltrans jurisdiction would change from LOS C (24.6 seconds delay) to LOS E (49.7 seconds delay) during the PM peak hour with addition of Project traffic to the cumulative 2035 baseline.

Impact Traf-6: Durant Avenue/MacArthur Boulevard. This intersection in San Leandro would change from LOS E (42.9 seconds delay) to LOS F (49.6 seconds delay) during the AM peak hour with addition of Project traffic to the cumulative 2035 baseline.

There would be no other cumulatively considerable impacts under the 2035 cumulative scenario.

Project Mitigation Measures

MM Traf-5: The Project proponent has agreed to fund and work with Caltrans to implement the following improvement:

- Installation of a new traffic signal at the Stanley Avenue/Shaw Street/I-580 EB Off-ramp intersection. The applicant shall apply for an encroachment permit for work in the State ROW for the installation of the proposed signal. As part of the encroachment permit, additional operational improvements for the intersection signalization may be required by Caltrans to address any potential queuing back up on the freeway mainline, which may include but is not limited to installation of off-ramp queue detector loops, synchronizing signals, and increasing the length of the left-turn pockets.

With a signal installed at this location, the intersection would operate at LOS A (7.8 seconds delay) during the AM peak hour and LOS B (15.60 seconds delay) during the PM peak hour.

MM Traf-6: The Project proponent has agreed to fund and work with San Leandro to implement the following improvement:

- San Leandro’s installation of an all-way-stop-control to improve vehicle delays and pedestrian safety at the Durant Avenue/MacArthur Boulevard intersection. The project applicant shall provide funds in the full amount of the improvement costs paid into the City of San Leandro’s Development Fees for Street Improvement Fund.

With this recommended circulation improvement, overall intersection operation would improve to LOS D (31.6 seconds delay) during the AM peak hour and LOS C (16.2 seconds delay) during the PM peak hour.

Resulting Level of Significance

The Project proponent has agreed to fund and work with the appropriate agencies to implement improvements to the Stanley Boulevard/Shaw Street/I-580 EB Off-ramp intersection in Caltrans jurisdiction (MM Traf-5) and the Durant Avenue/MacArthur Boulevard intersection in San Leandro (MM Traf-6). With implementation of these improvements, the Project’s impacts will be reduced to a level considered ***less than significant with mitigation***.

NON-CEQA EVALUATION OF INCREASES IN TRAFFIC ON RESIDENTAIL STREETS (OPERATING WITHIN CAPACITY)

The Traffic Impact Analysis analyzed the relative increase in traffic on 108th Avenue, which is a residential collector street south of the Project site and therefore more sensitive to increases in traffic volumes than non-residential or higher-volume streets. The Project would essentially double PM peak hour trips on this roadway from approximately 100 to 200 trips. This level of traffic is well within the capacity of this roadway and does not trigger any capacity-related thresholds.

However, the increased traffic on 108th Avenue from proposed Project uses would be noticed by neighbors living immediately to the south along 108th Avenue. Unlike the quantitative volume-to-capacity ratio and intersection LOS approach used to evaluate operational impacts on the road system, the evaluation of neighborhood quality impacts from Project-related traffic increases can be tenuous to quantify. Traffic flow characteristics on residential streets do not necessarily lend themselves to conventional quantitative analysis because the issues of concern relate to move qualitative criteria such as noise, pedestrian safety, and conflicts between through-traffic and driveway access. There has been little research conducted on this topic, and there is not a generally established guideline that considers these factors relative to traffic volumes on residential streets and the City of Oakland does not have a threshold of significance against which to compare this increased volume.

The proposed site plan already includes major access points along the main roadways of Foothill Boulevard and MacArthur Boulevard that will help to minimize the amount of traffic using the secondary 108th Avenue access points. Additionally, pedestrian improvements including crosswalks and pedestrian bulb-outs will help preserve the perception of safety and pedestrian focus along 108th Avenue. With the proposed site plan and improvements to the pedestrian environment on 108th Avenue, we can conclude that there would be no significant secondary environmental impacts related to increased traffic within the capacity of a residential roadway.

NON-CEQA EVALUATION OF PARKING SUPPLY

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.[49] Similarly, the December 2009 amendments to the State CEQA Guidelines (which were 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 additional 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.

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

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[49] *San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco* (2002) 102 Cal.App.4th 656.

other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed Project are considered less than significant.

This environmental analysis evaluates if the Project's estimated parking demand (both project-generated and project-displaced) would be met by the Project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the Project site. Project-displaced parking results from the Project's removal of standard on-street parking, City or Agency owned/controlled parking and/or legally required off-street parking (non-open-to-the-public parking which is legally required).

Discussion of Project Parking Provisions

The proposed Project would supply 753 total parking spaces for all existing and proposed uses based on the most recent Project site plan. These parking spaces would generally be found in the parking lot in the southern half of the site and would be accessed by proposed driveways located on MacArthur Boulevard, 108th Avenue, and Foothill Boulevard. In addition, there would also be vehicle parking spaces located along the northern portion of the site (behind existing and proposed retail/medical/group assembly buildings) and these spaces would primarily serve the needs of the adjacent uses and/or employees.

Based on parking requirements outlined in the Oakland Planning Code, which calculates parking requirements separately for each type of use, the proposed Project would require a total of 859 parking spaces. The proposed parking supply totals 753 spaces, representing an 86 space deficit compared to Code-calculated parking requirements. This Code calculation does not reflect that different on-site uses would not necessarily have the same peak parking demand periods.

There are well-documented analyses of hour-by-hour parking demands for various types of land uses. These analyses indicate that peak parking demand periods for individual commercial uses do not necessarily overlap. For example, while one land use might have a peak mid-day demand, another land use in the same development could have a peak evening demand. Without an overlap in peak demand, both land uses could "share" the available parking spaces.

Also, research conducted by the Institute of Transportation Engineers (ITE) indicates that in larger multi-use developments, there is a measurable interaction between various on-site uses. For example, a retail customer in a regional shopping center might also patronize a restaurant within that same center. Similarly, a retail customer could also patronize a bank within the same center. The ITE research suggests that for 15% of restaurant customers, the restaurant is a secondary trip purpose. This same research indicates that for 17% of bank customers, the bank is a secondary trip purpose.

Of particular relevance to the Project is the large demand associated with the group assembly uses. On weekdays, the bingo program begins at 7:00 PM and at that time, parking demand by other retail tenants would be substantially reduced. Thus, the retail and bingo uses could share parking.

An alternative parking calculation has been prepared using parking ratios recommended by the ULI to conclude that Project would generate a peak period demand for only 734 parking spaces. These ratios essentially include the fact that various tenants within a shopping center would share the overall parking. This alternative calculation indicates that the Project's 753 spaces would meet the shared parking demand of the various on-site uses.

This analysis is also conservative in that no transit usage has been factored in to account for reduced demand for parking despite the site being served by multiple bus lines.

While the proposed Project applicant will need to obtain approval for a parking variance for less than the code required parking spaces as part of overall proposed Project approvals, we can conclude from this analysis that there would be no significant secondary environmental impacts related to inadequate parking supply.

NON-CEQA EVALUATION OF TRANSIT RIDERSHIP

Per the City of Oakland's non-CEQA analysis guidelines, the Traffic Impact Analysis evaluated the Project's potential to:

- Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period;
- Increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains;
- Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute; and

The affects of the proposed Project have been evaluated on AC Transit operations in the immediate study area serving the site. Specifically, existing transit use counts for all lines serving the existing center (45,57, 75, NL, and NX3) indicate that current ridership is well within capacity and all buses have excess capacity. Transit use to/from the center is low with just one rider in the AM peak period and seven riders in the PM peak hour. For this reason, proposed Project trip generation calculated for the new shopping center assumes no transit mode splits. It is likely that with a re-developed shopping center/proposed Project, transit ridership to/from the center would increase and potentially reduce the number of drive alone trips to the center. However, even if transit use made up 5% (conservative estimate) of the proposed Project's total trip generation, there would still be excess capacity on all bus lines serving the Foothill Square shopping center. Therefore, we can conclude that there would be no significant secondary environmental impacts related to increased transit ridership.

UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XVI. Would the project:					
a) Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board?	☐	☐	☑	☐	☐
b) Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects?	☐	☐	☑	☐	☐
c) 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?	☐	☐	☐	☑	☐
d) 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?	☐	☐	☑	☐	☐
e) 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?	☐	☐	☑	☐	☐
f) Violate applicable federal, state, and local statutes and regulations related to solid waste?	☐	☐	☑	☐	☐
g) Violate applicable federal, state and local statutes and regulations relating to energy standards?	☐	☐	☐	☑	☐
h) 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?	☐	☐	☐	☑	☐

SETTING

As more fully discussed under each item below, for the Project site, the City of Oakland provides sewage collection services, East Bay Municipal Utilities District (EBMUD) supplies water and provides wastewater treatment, Waste Management of Alameda County provides solid waste disposal service and PG&E provides gas and electric.

WASTEWATER COLLECTION, TREATMENT, DISPOSAL

Would the Project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

d) 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?

The City of Oakland provides sewage collection services to the Project site. Oakland's sewage collection system discharges to EBMUD's sewer interceptor system. Wastewater flows within EBMUD's service area are collected at EBMUD's wastewater treatment plant in Oakland, located near the east end of the San Francisco-Oakland Bay Bridge. The wastewater treatment plant provides primary and secondary wastewater treatment. Treated effluent is then disinfected, dechlorinated, and discharged one mile off the East Bay shore through a deep-water outfall into San Francisco Bay.[50]

EBMUD provides secondary treatment for a maximum flow of 168 million gallons per day (MGD). Primary treatment can be provided for up to 320 MGD. Storage basins provide plant capacity for a short-term hydraulic peak of 415 MGD. The average annual flow is currently 80 MGD. [51]

The *2003 Redevelopment Plan EIR*, provides an analysis of the impacts on wastewater treatment and disposal from projected growth in the Redevelopment Plan area and determined that it would be less than significant. EBMUD's projections for future flows and its corresponding design for wastewater treatment plant capacity are based on assumptions about the amount of development that would take place within the service area. In areas considered to be fully developed, such as the Redevelopment Plan area, within which the proposed Project is located, EBMUD has assumed a 20 percent increase in sanitary sewer flow to account for infill development and intensification. The *Redevelopment Plan* estimates employment growth is expected to increase at a rate of about a 15 percent increase in employment over existing (2003) conditions. The projected increase in households and employment opportunities within the *Redevelopment Plan* area are well below the limits of what EBMUD assumed and would not require the construction of new or the expansion of existing wastewater treatment facilities, nor would it result in a determination by EBMUD that it has inadequate capacity to serve the projected future demand.[52]

The proposed Project represents an increment of the growth and development analyzed in the *2003 Redevelopment Plan EIR*, and would not require the construction of new or the expansion of existing wastewater treatment facilities, nor would it result in a determination by EBMUD that it has inadequate

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[50] East Bay Municipal Utility District, official webpage, www.ebmud.com, accessed March 21, 2011.

[51] Ibid.

[52] City of Oakland, *Central City East Redevelopment Plan Draft EIR* (2003), p. 9-1.

capacity to serve the projected future demand. However, the *2003 EIR* provides a mitigation measure that requires projects pursuant to or in furtherance of the *Redevelopment Plan* to obtain confirmation of the availability of adequate stormwater and sanitary sewer capacity. The City has subsequently developed a Standard Condition of Approval, listed below, requiring confirmation of sewer capacity and payment of sanitary sewer infrastructure fees and installation fees, which replaces the corresponding mitigation measure from the *2003 EIR*.

City of Oakland Standard Condition of Approval

The City of Oakland maintains the following Standard Condition of Approval that the Applicant would be required to satisfy:

SCA 33: **Stormwater and Sewer.** 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.

Resulting Level of Significance

The projected increase in employment opportunities analyzed in the *2003 Redevelopment Plan EIR* does not exceed EBMUD's projected increase in sanitary sewer flow in this area. Since the proposed Project represents an increment of the projected growth analyzed in the *2003 EIR*, it would not require the construction of new or the expansion of existing wastewater treatment facilities, nor would it result in a determination by EBMUD that it has inadequate capacity to serve the projected future demand. Finally, the Applicant would be required to satisfy **SCA 33** above with respect to stormwater and sanitary sewer system capacity and state of repair. **SCA 33** replaces MM 9.2A from the *2003 Redevelopment Plan EIR*. For these reasons, the proposed Project's impact with respect to wastewater treatment requirements of the RWQCB or wastewater treatment capacity would be ***less than significant with Standard Condition of Approval.***

STORM DRAINAGE FACILITIES

Would the Project:

b) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The proposed Project's potential to impact water quality from storm water runoff is discussed above under *hydrology and water quality*. As discussed, the proposed Project would marginally increase the amount of impervious surfaces on-site, but would not be expected to increase the amount of runoff or exceed the capacity of existing stormwater system. The Project would be required to satisfy **SCA 33** above requiring confirmation of stormwater capacity and payment of stormwater infrastructure and installation fees. Doing so would result in a ***less than significant impact with Standard Condition of Approval*** regarding storm drainage facilities.

WATER DISTRIBUTION AND SUPPLY

Would the Project:

c) 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?

The East Bay Municipal Utility District (EBMUD) supplies water to approximately 1.3 million people in Alameda and Contra Costa Counties. Most of EBMUD's water comes from the 577-square-mile Mokelumne River watershed. Water is collected at the Pardee Reservoir in Amador County and distributed to the nearby Camanche Reservoir, and the Mokelumne Aqueducts, which carry water to the East Bay. EBMUD maintains reservoirs within its East Bay service area that include the Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro reservoirs.[53]

In October 1993, EBMUD adopted a long-term Water Supply Management Program (WSMP) that serves as a planning guide for the supply of reliable high-quality water to the EBMUD service area through year 2020. The WSMP states that during severe droughts, EBMUD would not be able to meet its customers' needs for water with it existing water sources, without imposing extreme rationing measures. This situation will continue until a supplemental water supply project provides dependable supplies for existing and future customers within EBMUD's service boundary.

According to the EBMUD's Urban Water Management Plan 2005, customer demand was approximately 222 million gallons of water per day in 2005. (This is the most current version of this plan. An updated plan was being drafted but was not yet available when this report was written.) EBMUD forecasts that customers within the supply area would demand about 281 million gallons per day by 2030. With implementation of conservation techniques and use of recycled water, water demand would be expected to be reduced to 232 mgd. However, if the District experiences a series of dry years, there could be deficiencies of up to 56%.[54]

The *2003 Redevelopment Plan EIR*, determined that growth and development within the *Redevelopment Plan* area is conservatively estimated to be approximately 0.54 million gallons per day (MGD).[55] The increase in water demand from projected development within the *Redevelopment Plan* area represents less than one percent of the projected increase in water demand throughout the EBMUD service area.

The Applicant would be required to contact EBMUD's New Business Office and request a water service estimate to determine costs and conditions for providing additional water service to the proposed Project. The Project would also be required to incorporate water-saving strategies into the design of the Project, pursuant to Chapter 7, Article 10 of the Oakland Municipal Code. Because the Project represents only a fraction of the projected increase in water demand in the *Redevelopment Plan* area, its impact on water distribution and supply would be ***less than significant***.

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[53] East Bay Municipal Utility District, official webpage, www.ebmud.com, accessed March 21, 2011.

[54] Ibid.

[55] City of Oakland, *Central City East Redevelopment Plan EIR*, 2003, p. 9-7.

SOLID WASTE MANAGEMENT

Would the Project:

e) 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?

f) Violate applicable federal, state, and local statutes and regulations related to solid waste?

Waste Management of Alameda County provides solid waste disposal service to the Project site. In 2009, the City of Oakland disposed of approximately 306,840 tons of solid waste. The average annual per capita disposal rate for 2009 was 9.9 pounds per employee per day. This has been reduced from a target of 15.3 pounds per day with previous years 2008 and 2007 at 10 and 12.4 pounds per day respectively. [56] Trash is collected and brought to the Davis Street Transfer Station in San Leandro before the vast majority of the waste is ultimately disposed at the Altamont Landfill in Livermore.

The Altamont Landfill is a fully licensed and permitted facility and has a total estimated capacity of 62 million cubic yards of solid waste, of which 16.3 million cubic yards had been filled as of March 2003 (the latest available data). The landfill has remaining capacity to last until the anticipated closure date of 2029. The Altamont Landfill is permitted to receive up to a maximum of approximately 11,150 tons of solid waste per day. [57]

The Alameda County Department of Health Services is certified by the California Integrated Waste Management Board, as the Local Enforcement Agency (LEA) for solid waste in Alameda County. The LEA has the primary responsibility for ensuring the correct operation and closure of solid waste facilities in the state. It also has the responsibility for guaranteeing the proper storage and transportation of solid wastes.

Assembly Bill 939 (AB 939), enacted in 1989, requires each city's and county's Resource Reduction and Recycling Element to include an implementation schedule to divert 25 percent of its solid waste from landfill disposal by January 1, 1995, through source reduction, recycling, and composting activities, followed by an increase to a 50 percent reduction to the waste stream by January 1, 2000. The total annual waste diversion for the City of Oakland in 2006 was approximately 59 percent.[58] With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates were measured beginning with reporting year 2007.

The solid waste analysis in the *2003 Redevelopment Plan EIR* notes that implementation of the *Redevelopment Plan* would result in an increase in population and employment in the Redevelopment Plan area, which would increase the demand for solid waste services. Moreover, *Redevelopment Plan* activity would likely result in the removal of existing structures, which would generate construction/demolition waste including concrete, asphalt and wood products, as well as certain wastes requiring special handling such as asbestos and lead paint. However, the *2003 EIR* determined that the

[56] California Integrated Waste Management Board, Planning Annual Report Information System (P.A.R.I.S.), Jurisdiction Waste Diversion Program and Diversion Rate Summary, http://www.ciwmb.ca.gov/Profiles/Juris/, accessed March 21, 2011.

[57] California Integrated Waste Management Board, Solid Waste Information System, http://www.ciwmb.ca.gov/swis/, accessed March 21, 2011.

[58] California Integrated Waste Management Board, Planning Annual Report Information System (P.A.R.I.S.), Jurisdiction Waste Diversion Program and Diversion Rate Summary, http://www.ciwmb.ca.gov/Profiles/Juris/, accessed March 21, 2011.

Altamont landfill would be capable of accommodating the additional volume of solid waste provided the City continues to implement programs included in its Source Reduction and Recycling Element.

The proposed Project, as a portion of the development analyzed in the *2003 Redevelopment Plan EIR*, will not require or result in the construction of landfill facilities or the expansion of existing facilities or violate applicable federal, state or local statutes and regulations related to solid waste. Additionally, the Project would need to comply with applicable City of Oakland waste reduction and recycling ordinances, as outlined in **SCA 34**.

City of Oakland Standard Condition of Approval

The City of Oakland maintains the following Standard Condition of Approval for development projects, the implementation of which ensures that the City meets waste reduction requirements.

SCA 34: **Waste Reduction and Recycling.** The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

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 in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

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 Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

Resulting Level of Significance

Satisfactory implementation of **SCA 34**, above, will ensure that any Project impacts associated with waste disposal would be ***less than significant with Standard Condition of Approval***.

ENERGY

Would the Project:

g) Violate applicable federal, state and local statutes and regulations relating to energy standards?

h) 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 provider's 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?

Although the proposed Project would increase the square footage of building space on site, the existing energy system is expected to have capacity to serve the Project. The Applicant will have to finance any improvements and extensions required to accommodate the Project, which would be determined in the consultation with PG&E prior to installation. New buildings will need to comply with the state's new Green Building Standards code, which requires energy efficiency in all new buildings (discussed in more detail under the Air Quality and Greenhouse Gas Emissions section). The proposed Project would not violate applicable federal, state and local statutes and regulations relating to energy standards or exceed PG&E's service capacity. The Project's energy impacts would be ***less than significant***.

MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less than Significant with Standard Conditions of Approval	Less than Significant	No Impact
XVII. Does the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☑	☐	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☐	☑

OVERALL EFFECTS

Does the project:

a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

This Initial Study does not indicate that there are any biology, hydrology or water quality impacts associated with the proposed Project. There is no evidence to indicate that there are any fish or wildlife populations that would be significantly affected by the proposed Project. Implementation of the Project would not threaten to eliminate a plant or animal, nor reduce the number nor restrict the range of a rare or endangered plant or animal species. There are no historic or prehistoric resources on site. The Project would have a ***less than significant*** impact in this respect.

CUMULATIVE EFFECTS

Does the project:

b) have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)?

Issue areas that typically have the potential to result in cumulatively considerable impacts include Air Quality/GHG, Biological Resources, Land Use, Population (and corresponding impacts to Housing, Public Services, and Utilities and Services), and Transportation and Traffic.

Regarding Air Quality, BAAQMD's thresholds, which were used in the Air Quality and GHG section are based on cumulative contribution and no additional cumulative analysis is necessary. Regarding Land Use, the Project site is in an urbanized area, surrounded by like development, and would therefore be considered infill. Regarding Population (and associated issue areas), the proposed Project would be consistent with the *General Plan*, ABAG population projections and the *Central City East Redevelopment Plan*; therefore, population growth as a result of this Project would not be cumulatively considerable. Consequently, there would be no cumulatively considerable impacts to population associated issue areas such as Housing, Public Services or Utilities and Services.

The Transportation and Traffic section already includes thresholds for and discussion of cumulative impacts, with mitigation measures to reduce impacts to less than significant levels.

Therefore, for the reasons discussed above, cumulatively considerable impacts as a result of this Project would be ***less than significant with mitigation***.

EFFECT ON HUMAN BEINGS

Does the project:

c) have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

There would be no environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. There would be ***no impact***.

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ATTACHMENT 1

AIR QUALITY AND GHG MODELING

Summary Results

Project Name: FoothillSquare
Project and Baseline Years: 2012 2010

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	1,839.46	1,292.18
Area Source:	0.46	0.46
Electricity:	1,161.31	1,161.31
Natural Gas:	164.46	164.46
Water & Wastewater:	5.22	5.22
Solid Waste:	327.83	327.83
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total:	3,498.75	2,951.47

Baseline is currently: **ON**
Baseline Project Name: Foothill Square Baseline
Go to Settings Tab to Turn Off Baseline

Detailed Results

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				1,817.30	78.87%
Area Source:	0.23	0.00	0.00	0.23	0.01%
Electricity:	283.71	0.00	0.00	284.17	12.33%
Natural Gas:	17.94	0.00	0.00	17.99	0.78%
Water & Wastewater:	3.66	0.00	0.00	3.67	0.16%
Solid Waste:	1.32	8.54	N/A	180.75	7.84%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				2,304.10	100.00%

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				3,656.75	63.02%
Area Source:	0.69	0.00	0.00	0.69	0.01%
Electricity:	1,443.17	0.01	0.01	1,445.48	24.91%
Natural Gas:	181.98	0.02	0.00	182.45	3.14%
Water & Wastewater:	8.88	0.00	0.00	8.89	0.15%
Solid Waste:	3.72	24.04	N/A	508.59	8.76%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total:				5,802.85	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.
After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air conditioners]).
Finally, CO2e is adjusted to account for th low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation**:				3,109.47	56.26%
Area Source:	0.69	0.00	0.00	0.69	0.01%
Electricity:	1,443.17	0.01	0.01	1,445.48	26.15%
Natural Gas:	181.98	0.02	0.00	182.45	3.30%
Water & Wastewater:	8.88	0.00	0.00	8.89	0.16%
Solid Waste:	3.72	24.04	N/A	508.59	9.20%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total:				5,527.42	100.00%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Baseline.urb924

Project Name: Foothill Square Baseline

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82
TOTALS (lbs/day, mitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82
Percent Reduction	0.00	0.00	0.00	########	############	############	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50
TOTALS (lbs/day, mitigated)	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91
Percent Reduction	7.02	7.08	7.05	0.00	7.04	7.30	7.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	15.64	22.07	153.18	0.09	19.04	3.70	10,220.32
TOTALS (lbs/day, mitigated)	14.57	20.55	142.42	0.09	17.70	3.43	9,550.73
Percent Reduction	6.84	6.89	7.02	0.00	7.04	7.30	6.55

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.59	0.50	0.00	0.00	0.00	712.82
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.36						
TOTALS (lbs/day, unmitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.59	0.50	0.00	0.00	0.00	712.82
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.36						
TOTALS (lbs/day, mitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50
TOTALS (lbs/day, unmitigated)	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91
TOTALS (lbs/day, mitigated)	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91

######################

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		38.02	1000 sq ft	61.45	2,336.33	11,028.48
					2,336.33	11,028.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	1.3	98.3	0.4
Light Truck < 3750 lbs	12.4	2.4	95.2	2.4
Light Truck 3751-5750 lbs	19.7	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	98.4	1.6
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	69.0	31.0	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Regnl shop. center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Project.urb924

Project Name: FoothillSquare

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	33.62	60.54	41.85	0.04	104.76	3.09	107.44	21.90	2.84	24.36	8,353.81
2011 TOTALS (lbs/day mitigated)	33.62	52.74	41.85	0.04	104.76	2.05	106.68	21.90	1.88	23.66	8,353.81
2012 TOTALS (lbs/day unmitigated)	12.51	60.86	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
2012 TOTALS (lbs/day mitigated)	12.51	52.08	30.55	0.03	72.52	1.79	74.31	15.16	1.65	16.81	7,717.41

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15
TOTALS (lbs/day, mitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15
Percent Reduction	0.00	0.00	0.00	#######	############	############	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	40.34	41.02	371.24	0.19	38.52	7.43	19,711.20
TOTALS (lbs/day, mitigated)	37.30	37.93	343.28	0.18	35.61	6.87	18,226.54
Percent Reduction	7.54	7.53	7.53	5.26	7.55	7.54	7.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	41.36	42.52	372.50	0.19	38.52	7.43	21,515.35
TOTALS (lbs/day, mitigated)	38.32	39.43	344.54	0.18	35.61	6.87	20,030.69
Percent Reduction	7.35	7.27	7.51	5.26	7.55	7.54	6.90

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 2/11/2011-2/22/2011 Active Days: 8	1.80	18.42	9.25	0.02	13.40	0.95	14.35	2.80	0.88	3.67	2,577.07
Demolition 02/11/2011-02/22/2011	1.80	18.42	9.25	0.02	13.40	0.95	14.35	2.80	0.88	3.67	2,577.07
Fugitive Dust	0.00	0.00	0.00	0.00	13.33	0.00	13.33	2.77	0.00	2.77	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.71	11.14	3.60	0.02	0.06	0.40	0.47	0.02	0.37	0.39	1,774.80
Demo Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 2/23/2011-3/15/2011 Active Days: 15	5.70	59.06	27.01	0.04	104.76	2.68	**107.44**	**21.90**	2.46	**24.36**	7,495.29
Mass Grading 02/23/2011-03/15/2011	5.70	59.06	27.01	0.04	104.76	2.68	107.44	21.90	2.46	24.36	7,495.29
Mass Grading Dust	0.00	0.00	0.00	0.00	104.60	0.00	104.60	21.84	0.00	21.84	0.00
Mass Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Mass Grading On Road Diesel	1.74	27.38	8.85	0.04	0.15	0.99	1.14	0.05	0.91	0.96	4,360.35
Mass Grading Worker Trips	0.04	0.07	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.47
Time Slice 3/16/2011-3/22/2011 Active Days: 5	3.95	31.68	18.16	0.00	104.61	1.69	106.29	21.85	1.55	23.40	3,134.95
Fine Grading 03/16/2011-03/22/2011	3.95	31.68	18.16	0.00	104.61	1.69	106.29	21.85	1.55	23.40	3,134.95
Fine Grading Dust	0.00	0.00	0.00	0.00	104.60	0.00	104.60	21.84	0.00	21.84	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.07	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.47
Time Slice 3/23/2011-3/25/2011 Active Days: 3	4.76	18.04	12.11	0.01	0.03	1.43	1.46	0.01	1.32	1.32	1,917.40
Asphalt 03/23/2011-03/25/2011	4.76	18.04	12.11	0.01	0.03	1.43	1.46	0.01	1.32	1.32	1,917.40
Paving Off-Gas	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	15.15	9.07	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,272.04
Paving On Road Diesel	0.18	2.77	0.90	0.00	0.02	0.10	0.12	0.01	0.09	0.10	441.41
Paving Worker Trips	0.07	0.12	2.14	0.00	0.01	0.01	0.02	0.00	0.00	0.01	203.95

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Time Slice 3/28/2011-3/31/2011 Active Days: 4	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Time Slice 4/1/2011-8/12/2011 Active Days: 96	27.41	16.82	22.29	0.01	0.06	1.18	1.24	0.02	1.09	1.11	2,784.57
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 8/15/2011-8/19/2011 Active Days: 5	29.38	37.80	32.37	0.03	16.52	2.23	18.75	3.46	2.05	5.50	5,768.44
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Demolition 08/15/2011-08/19/2011	1.96	20.98	10.08	0.02	16.47	1.05	17.51	3.44	0.96	4.40	2,983.87
Fugitive Dust	0.00	0.00	0.00	0.00	16.39	0.00	16.39	3.41	0.00	3.41	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.87	13.70	4.43	0.02	0.08	0.50	0.57	0.03	0.46	0.48	2,181.59
Demo Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 8/22/2011-9/2/2011 Active Days: 10	31.56	60.54	**41.85**	**0.04**	85.17	**3.09**	88.26	17.81	**2.84**	20.65	**8,353.81**
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Mass Grading 08/22/2011-09/02/2011	4.15	43.72	19.56	0.03	85.12	1.91	87.02	17.79	1.75	19.54	5,569.24
Mass Grading Dust	0.00	0.00	0.00	0.00	85.00	0.00	85.00	17.75	0.00	17.75	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	1.29	20.22	6.53	0.03	0.11	0.73	0.84	0.04	0.67	0.71	3,219.95
Mass Grading Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 9/5/2011-9/9/2011 Active Days: 5	30.28	40.32	35.32	0.01	85.06	2.36	87.42	17.77	2.17	19.94	5,133.86
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Fine Grading 09/05/2011-09/09/2011	2.86	23.50	13.03	0.00	85.00	1.17	86.18	17.75	1.08	18.83	2,349.29
Fine Grading Dust	0.00	0.00	0.00	0.00	85.00	0.00	85.00	17.75	0.00	17.75	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 9/12/2011-9/15/2011 Active Days: 4	**33.62**	35.86	34.14	0.02	0.09	2.60	2.69	0.03	2.38	2.42	4,877.75
Asphalt 09/12/2011-09/15/2011	6.21	19.04	11.85	0.01	0.04	1.41	1.45	0.01	1.30	1.31	2,093.18
Paving Off-Gas	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.30	4.76	1.54	0.01	0.03	0.17	0.20	0.01	0.16	0.17	757.31
Paving Worker Trips	0.07	0.12	2.14	0.00	0.01	0.01	0.02	0.00	0.00	0.01	203.95
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20

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Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 9/16/2011-10/14/2011 Active Days: 21	27.41	16.82	22.29	0.01	0.06	1.18	1.24	0.02	1.09	1.11	2,784.57
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 2/1/2012-2/3/2012 Active Days: 3	1.47	13.76	7.76	0.01	9.39	0.75	10.13	1.96	0.69	2.64	2,045.37
Demolition 02/01/2012-02/03/2012	1.47	13.76	7.76	0.01	9.39	0.75	10.13	1.96	0.69	2.64	2,045.37
Fugitive Dust	0.00	0.00	0.00	0.00	9.34	0.00	9.34	1.94	0.00	1.94	0.00
Demo Off Road Diesel	0.98	6.77	4.49	0.00	0.00	0.49	0.49	0.00	0.45	0.45	700.30
Demo On Road Diesel	0.46	6.94	2.28	0.01	0.04	0.25	0.29	0.01	0.23	0.24	1,243.03
Demo Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 2/6/2012-2/6/2012 Active Days: 1	6.56	**60.86**	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
Fine Grading 02/06/2012-02/06/2012	2.72	22.00	12.50	0.00	3.20	1.07	4.28	0.67	0.99	1.66	2,349.35
Fine Grading Dust	0.00	0.00	0.00	0.00	3.20	0.00	3.20	0.67	0.00	0.67	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Mass Grading 02/06/2012-02/06/2012	3.83	38.86	18.05	0.03	69.31	1.68	70.99	14.49	1.55	16.03	5,368.05
Mass Grading Dust	0.00	0.00	0.00	0.00	69.20	0.00	69.20	14.45	0.00	14.45	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	1.11	16.86	5.55	0.03	0.11	0.61	0.71	0.03	0.56	0.59	3,018.70
Mass Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 2/7/2012-2/7/2012 Active Days: 1	12.51	27.31	15.90	0.02	0.08	1.81	1.89	0.03	1.66	1.69	3,614.47
Asphalt 02/07/2012-02/07/2012	12.51	27.31	15.90	0.02	0.08	1.81	1.89	0.03	1.66	1.69	3,614.47
Paving Off-Gas	9.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.72	10.98	3.61	0.02	0.07	0.39	0.46	0.02	0.36	0.39	1,966.45
Paving Worker Trips	0.07	0.12	2.22	0.00	0.01	0.01	0.02	0.00	0.00	0.01	229.58
Time Slice 3/15/2012-3/15/2012 Active Days: 1	5.44	44.00	25.00	0.00	72.41	2.15	74.56	15.12	1.98	17.10	4,698.71
Fine Grading 03/15/2012-03/15/2012	2.72	22.00	12.50	0.00	69.20	1.07	70.28	14.45	0.99	15.44	2,349.35
Fine Grading Dust	0.00	0.00	0.00	0.00	69.20	0.00	69.20	14.45	0.00	14.45	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Mass Grading 03/15/2012-03/15/2012	2.72	22.00	12.50	0.00	3.20	1.07	4.28	0.67	0.99	1.66	2,349.35
Mass Grading Dust	0.00	0.00	0.00	0.00	3.20	0.00	3.20	0.67	0.00	0.67	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 3/16/2012-3/16/2012 Active Days: 1	2.23	11.24	8.74	0.00	0.01	0.93	0.95	0.00	0.86	0.86	1,248.72
Asphalt 03/16/2012-03/16/2012	2.23	11.24	8.74	0.00	0.01	0.93	0.95	0.00	0.86	0.86	1,248.72
Paving Off-Gas	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.91	0.91	0.00	0.84	0.84	979.23
Paving On Road Diesel	0.03	0.51	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	90.93
Paving Worker Trips	0.05	0.09	1.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.56

Phase Assumptions

Phase: Demolition 2/11/2011 - 2/22/2011 - Phase I Demolition

Building Volume Total (cubic feet): 253500

Building Volume Daily (cubic feet): 31740

On Road Truck Travel (VMT): 440.83

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

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1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 8/15/2011 - 8/19/2011 - Phase II Demolition
Building Volume Total (cubic feet): 191535
Building Volume Daily (cubic feet): 39015
On Road Truck Travel (VMT): 541.88
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 2/1/2012 - 2/3/2012 - Phase III Demolition
Building Volume Total (cubic feet): 43740
Building Volume Daily (cubic feet): 22230
On Road Truck Travel (VMT): 308.75
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 3/16/2011 - 3/22/2011 - Phase I Fine Grading
Total Acres Disturbed: 5.23
Maximum Daily Acreage Disturbed: 5.23
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 9/5/2011 - 9/9/2011 - Phase II Fine Grading
Total Acres Disturbed: 4.25
Maximum Daily Acreage Disturbed: 4.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 2/6/2012 - 2/6/2012 - Phase III Fine Grading
Total Acres Disturbed: 0.16
Maximum Daily Acreage Disturbed: 0.16
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 3/15/2012 - 3/15/2012 - Gas Station Fine Grading
Total Acres Disturbed: 13.84
Maximum Daily Acreage Disturbed: 3.46
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/23/2011 - 3/15/2011 - Phase I Grading
Total Acres Disturbed: 5.23
Maximum Daily Acreage Disturbed: 5.23
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 1083.04

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Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 8/22/2011 - 9/2/2011 - Phase II Grading

Total Acres Disturbed: 4.25

Maximum Daily Acreage Disturbed: 4.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 799.79

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/6/2012 - 2/6/2012 - Phase III Grading

Total Acres Disturbed: 13.84

Maximum Daily Acreage Disturbed: 3.46

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 749.8

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/15/2012 - 3/15/2012 - Gas Station Site Grading

Total Acres Disturbed: 0.16

Maximum Daily Acreage Disturbed: 0.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/23/2011 - 3/25/2011 - Phase I Paving

Acres to be Paved: 2.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 9/12/2011 - 9/15/2011 - Phase II Paving

Acres to be Paved: 5.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Paving 2/7/2012 - 2/7/2012 - Phase III Paving

Acres to be Paved: 3.46

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 3/16/2012 - 3/16/2012 - Gas Station Paving

Acres to be Paved: 0.16

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Phase: Building Construction 3/28/2011 - 10/14/2011 - Phase I Building Construciton
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2011 - 10/14/2011 - Phase I Coating
Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250
Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.50	1.26	0.00	0.00	0.00	1,804.15
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.91						
TOTALS (lbs/day, unmitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	11.00	12.11	106.02	0.06	11.98	2.31	6,061.08
Supermarket	24.98	25.47	230.24	0.12	23.97	4.62	12,261.01
Gasoline/service station	4.36	3.44	34.98	0.01	2.57	0.50	1,389.11
TOTALS (lbs/day, unmitigated)	40.34	41.02	371.24	0.19	38.52	7.43	19,711.20

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	10.17	11.20	98.04	0.06	11.08	2.13	5,604.56
Supermarket	23.10	23.55	212.90	0.11	22.16	4.28	11,337.50
Gasoline/service station	4.03	3.18	32.34	0.01	2.37	0.46	1,284.48
TOTALS (lbs/day, mitigated)	37.30	37.93	343.28	0.18	35.61	6.87	18,226.54

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 1.38%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 2240.

The employment for the study area (within a 1/2 mile radius of the project) is 750.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

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Percent Reduction in Trips is 0.8%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 30

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 20

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3.35%

Inputs Selected:

The Number of Intersections per Square Mile is 380

The Percent of Streets with Sidewalks on One Side is 5%

The Percent of Streets with Sidewalks on Both Sides is 80%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 0%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		35.77	1000 sq ft	82.58	2,953.89	6,955.84
Supermarket		96.82	1000 sq ft	71.95	6,966.20	13,907.53
Gasoline/service station		168.50	pumps	8.00	1,348.00	1,483.45
					11,268.09	22,346.82

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.7	99.1	0.2
Light Truck < 3750 lbs	12.8	1.6	95.3	3.1
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.2	59.4	40.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	3.5	3.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Regnl shop. center				2.0	1.0	97.0
Supermarket				2.0	1.0	97.0
Gasoline/service station				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.35 miles to 3.5 miles

Commercial-based customer urban trip length changed from 7.35 miles to 3.5 miles

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

Calculated Net Change, Project from Baseline

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	33.62	60.54	41.85	0.04	104.76	3.09	107.44	21.90	2.84	24.36	8,353.81
2011 TOTALS (lbs/day mitigated)	33.62	52.74	41.85	0.04	104.76	2.05	106.68	21.90	1.88	23.66	8,353.81
2012 TOTALS (lbs/day unmitigated)	12.51	60.86	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
2012 TOTALS (lbs/day mitigated)	12.51	52.08	30.55	0.03	72.52	1.79	74.31	15.16	1.65	16.81	7,717.41

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.62	0.91	0.76	0.00	0.00	0.00	1,091.33
TOTALS (lbs/day, mitigated)	0.62	0.91	0.76	0.00	0.00	0.00	1,091.33

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	25.10	19.54	218.56	0.10	19.48	3.73	10,203.70
TOTALS (lbs/day, mitigated)	22.73	17.97	201.36	0.09	17.91	3.44	9,388.63
TOTALS (lbs/day, mitigated, with additional 8.04% reduction for reduced parking)	20.90	16.53	185.17	0.08	16.47	3.16	8,633.78

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	25.72	20.45	219.32	0.10	19.48	3.73	11,295.03
TOTALS (lbs/day, mitigated)	21.52	17.44	185.93	0.08	16.47	3.16	9,725.11

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Baseline.urb924

Project Name: Foothill Square Baseline

Project Location: Alameda County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34
TOTALS (tons/year, mitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34
Percent Reduction	0.00	0.00	0.00	########	############	############	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48
TOTALS (tons/year, mitigated)	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07
Percent Reduction	6.61	7.07	7.04	0.00	7.18	5.97	7.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.51	3.22	25.64	0.02	3.48	0.67	2,038.82
TOTALS (tons/year, mitigated)	2.35	3.00	23.85	0.02	3.23	0.63	1,904.41
Percent Reduction	6.37	6.83	6.98	0.00	7.18	5.97	6.59

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	130.09
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.07						
TOTALS (tons/year, unmitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	130.09
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.07						
TOTALS (tons/year, mitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48
TOTALS (tons/year, unmitigated)	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07
TOTALS (tons/year, mitigated)	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07

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Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		38.02	1000 sq ft	61.45	2,336.33	11,028.48
					2,336.33	11,028.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	1.3	98.3	0.4
Light Truck < 3750 lbs	12.4	2.4	95.2	2.4
Light Truck 3751-5750 lbs	19.7	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	98.4	1.6
Lite-Heavy Truck 8501-10,000 lbs	0.8	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	69.0	31.0	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Regnl shop. center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Project.urb924

Project Name: FoothillSquare

Project Location: Bay Area Air District

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
2011 TOTALS (tons/year mitigated)	2.05	1.87	2.10	0.00	1.78	0.08	1.87	0.37	0.07	0.45	324.43
Percent Reduction	0.00	15.62	0.00	0.00	-0.00	38.99	2.72	0.00	39.07	9.68	0.00
2012 TOTALS (tons/year unmitigated)	0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
2012 TOTALS (tons/year mitigated)	0.02	0.08	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Percent Reduction	0.00	14.61	0.00	0.00	0.00	36.82	1.99	0.00	36.83	7.40	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02
TOTALS (tons/year, mitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02
Percent Reduction	0.00	0.00	0.00	#######	############	############	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.40	5.94	56.68	0.03	7.03	1.35	3,954.78
TOTALS (tons/year, mitigated)	5.93	5.49	52.41	0.03	6.49	1.25	3,656.91
Percent Reduction	7.34	7.58	7.53	0.00	7.68	7.41	7.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	6.62	6.22	57.33	0.03	7.03	1.35	4,284.80
TOTALS (tons/year, mitigated)	6.15	5.77	53.06	0.03	6.49	1.25	3,986.93
Percent Reduction	7.10	7.23	7.45	0.00	7.68	7.41	6.95

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
Demolition 02/11/2011-02/22/2011	0.01	0.07	0.04	0.00	0.05	0.00	0.06	0.01	0.00	0.01	10.31
Fugitive Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.80
Demo On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.10
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Mass Grading 02/23/2011-03/15/2011	0.04	0.44	0.20	0.00	0.79	0.02	0.81	0.16	0.02	0.18	56.21
Mass Grading Dust	0.00	0.00	0.00	0.00	0.78	0.00	0.78	0.16	0.00	0.16	0.00
Mass Grading Off Road Diesel	0.03	0.24	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	22.56
Mass Grading On Road Diesel	0.01	0.21	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	32.70
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
Fine Grading 03/16/2011-03/22/2011	0.01	0.08	0.05	0.00	0.26	0.00	0.27	0.05	0.00	0.06	7.84
Fine Grading Dust	0.00	0.00	0.00	0.00	0.26	0.00	0.26	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.01	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.52
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
Asphalt 03/23/2011-03/25/2011	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.88
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Building 03/28/2011-10/14/2011	0.27	1.22	1.59	0.00	0.00	0.09	0.09	0.00	0.08	0.08	199.84

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Building Off Road Diesel	0.25	1.14	0.79	0.00	0.00	0.08	0.08	0.00	0.08	0.08	117.54
Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.71
Building Worker Trips	0.02	0.04	0.77	0.00	0.00	0.00	0.01	0.00	0.00	0.00	73.59
Coating 04/01/2011-10/14/2011	1.67	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98
Architectural Coating	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98
Demolition 08/15/2011-08/19/2011	0.00	0.05	0.03	0.00	0.04	0.00	0.04	0.01	0.00	0.01	7.46
Fugitive Dust	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75
Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.45
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Mass Grading 08/22/2011-09/02/2011	0.02	0.22	0.10	0.00	0.43	0.01	0.44	0.09	0.01	0.10	27.85
Mass Grading Dust	0.00	0.00	0.00	0.00	0.43	0.00	0.43	0.09	0.00	0.09	0.00
Mass Grading Off Road Diesel	0.01	0.12	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	11.24
Mass Grading On Road Diesel	0.01	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.10
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
Fine Grading 09/05/2011-09/09/2011	0.01	0.06	0.03	0.00	0.21	0.00	0.22	0.04	0.00	0.05	5.87
Fine Grading Dust	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.04	0.00	0.04	0.00
Fine Grading Off Road Diesel	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Asphalt 09/12/2011-09/15/2011	0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.19
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
2012	0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Demolition 02/01/2012-02/03/2012	0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	3.07
Fugitive Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Fine Grading 02/06/2012-02/06/2012	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Mass Grading 02/06/2012-02/06/2012	0.00	0.02	0.01	0.00	0.03	0.00	0.04	0.01	0.00	0.01	2.68
Mass Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Mass Grading On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Asphalt 02/07/2012-02/07/2012	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Fine Grading 03/15/2012-03/15/2012	0.00	0.01	0.01	0.00	0.03	0.00	0.04	0.01	0.00	0.01	1.17
Fine Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Mass Grading 03/15/2012-03/15/2012	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Asphalt 03/16/2012-03/16/2012	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49

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Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09

Phase Assumptions

Phase: Demolition 2/11/2011 - 2/22/2011 - Phase I Demolition
Building Volume Total (cubic feet): 253500
Building Volume Daily (cubic feet): 31740
On Road Truck Travel (VMT): 440.83
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 8/15/2011 - 8/19/2011 - Phase II Demolition
Building Volume Total (cubic feet): 191535
Building Volume Daily (cubic feet): 39015
On Road Truck Travel (VMT): 541.88
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 2/1/2012 - 2/3/2012 - Phase III Demolition
Building Volume Total (cubic feet): 43740
Building Volume Daily (cubic feet): 22230
On Road Truck Travel (VMT): 308.75
Off-Road Equipment:
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 3/16/2011 - 3/22/2011 - Phase I Fine Grading
Total Acres Disturbed: 5.23
Maximum Daily Acreage Disturbed: 5.23
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 9/5/2011 - 9/9/2011 - Phase II Fine Grading
Total Acres Disturbed: 4.25
Maximum Daily Acreage Disturbed: 4.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 2/6/2012 - 2/6/2012 - Phase III Fine Grading
Total Acres Disturbed: 0.16
Maximum Daily Acreage Disturbed: 0.16
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 3/15/2012 - 3/15/2012 - Gas Station Fine Grading
Total Acres Disturbed: 13.84
Maximum Daily Acreage Disturbed: 3.46
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

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1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/23/2011 - 3/15/2011 - Phase I Grading
Total Acres Disturbed: 5.23
Maximum Daily Acreage Disturbed: 5.23
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 1083.04
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 8/22/2011 - 9/2/2011 - Phase II Grading
Total Acres Disturbed: 4.25
Maximum Daily Acreage Disturbed: 4.25
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 799.79
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/6/2012 - 2/6/2012 - Phase III Grading
Total Acres Disturbed: 13.84
Maximum Daily Acreage Disturbed: 3.46
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 749.8
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/15/2012 - 3/15/2012 - Gas Station Site Grading
Total Acres Disturbed: 0.16
Maximum Daily Acreage Disturbed: 0.16
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/23/2011 - 3/25/2011 - Phase I Paving
Acres to be Paved: 2.33
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 9/12/2011 - 9/15/2011 - Phase II Paving
Acres to be Paved: 5.33
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Paving 2/7/2012 - 2/7/2012 - Phase III Paving
Acres to be Paved: 3.46
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

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1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 3/16/2012 - 3/16/2012 - Gas Station Paving

Acres to be Paved: 0.16

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/28/2011 - 10/14/2011 - Phase I Building Construciton

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2011 - 10/14/2011 - Phase I Coating

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.27	0.23	0.00	0.00	0.00	329.26
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.03	0.01	0.42	0.00	0.00	0.00	0.76
Consumer Products	0.00						
Architectural Coatings	0.17						
TOTALS (tons/year, unmitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	1.80	1.75	16.50	0.01	2.19	0.42	1,217.42
Supermarket	3.93	3.69	35.18	0.02	4.37	0.84	2,460.12
Gasoline/service station	0.67	0.50	5.00	0.00	0.47	0.09	277.24
TOTALS (tons/year, unmitigated)	6.40	5.94	56.68	0.03	7.03	1.35	3,954.78

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Regnl shop. center	1.67	1.62	15.25	0.01	2.02	0.39	1,125.73
Supermarket	3.64	3.41	32.53	0.02	4.04	0.78	2,274.82
Gasoline/service station	0.62	0.46	4.63	0.00	0.43	0.08	256.36
TOTALS (tons/year, mitigated)	5.93	5.49	52.41	0.03	6.49	1.25	3,656.91

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 1.38%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the

number of residential units included in the project are 2240.

The employment for the study area (within a 1/2 mile radius of the project) is 750.

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Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.8%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 30

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 20

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3.35%

Inputs Selected:

The Number of Intersections per Square Mile is 380

The Percent of Streets with Sidewalks on One Side is 5%

The Percent of Streets with Sidewalks on Both Sides is 80%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 0%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		35.77	1000 sq ft	82.58	2,953.89	6,955.84
Supermarket		96.82	1000 sq ft	71.95	6,966.20	13,907.53
Gasoline/service station		168.50	pumps	8.00	1,348.00	1,483.45
					11,268.09	22,346.82

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.7	99.1	0.2
Light Truck < 3750 lbs	12.8	1.6	95.3	3.1
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.4	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.2	59.4	40.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	3.5	3.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

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Regnl shop. center	2.0	1.0	97.0
Supermarket	2.0	1.0	97.0
Gasoline/service station	2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.35 miles to 3.5 miles

Commercial-based customer urban trip length changed from 7.35 miles to 3.5 miles

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

Calculated Net Change, Project from Baseline

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
2011 TOTALS (tons/year mitigated)	2.05	1.87	2.10	0.00	1.78	0.08	1.87	0.37	0.07	0.45	324.43
Percent Reduction	0.00	15.62	0.00	0.00	-0.00	38.99	2.72	0.00	39.07	9.68	0.00
2012 TOTALS (tons/year unmitigated)	0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
2012 TOTALS (tons/year mitigated)	0.02	0.08	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Percent Reduction	0.00	14.61	0.00	0.00	0.00	36.82	1.99	0.00	36.83	7.40	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.13	0.17	0.42	0.00	0.00	0.00	199.68
TOTALS (tons/year, mitigated)	0.13	0.17	0.42	0.00	0.00	0.00	199.68

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.98	2.83	31.27	0.01	3.55	0.68	2,046.30
TOTALS (tons/year, mitigated)	3.67	2.60	28.79	0.01	3.26	0.62	1,882.84
TOTALS (tons/year, mitigated, with addtl 8.04% reduction for reduced parking)	3.37	2.39	26.48	0.01	3.00	0.57	1,731.46

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	4.11	3.00	31.69	0.01	3.55	0.68	2,245.98
TOTALS (tons/year, mitigated)	3.50	2.56	26.90	0.01	3.00	0.57	1,931.14

MEMORANDUM

To:	Lamphier-Gregory	**Date:**	March 29, 2011
Attn:	Ms. Rebecca Gorton	**Project:**	Foothill Square 2
From:	Peter Galloway		Shopping Center Project
Re:	AVMT Trip Calculations	**Job No.:**	35-4365-01
		File No.:	C1448MEM007.doc
CC:			

Rebecca,

The following calculations represent our best estimate of average vehicle miles traveled (AVMT) for the proposed Foothill Square Shopping Center project in the City of Oakland. AVMT calculations are based on a weighted average of the project applicant's market information regarding market share/demographic within a 5-mile radius and overall project trip distribution. The project applicant has indicated that Foods Co developments (including the proposed gas station) typically draw on patrons within a 5-mile radius of the site and this would apply to the calculated AVMT below:[1]

Distribution/Miles	Weighted Average
24% to/from I-580 north/south within 5 miles:	120
18% to/from MacArthur Blvd. north within 2 miles:	36
18% to/from Stanley Ave. north within 1.6 miles:	28.8
4% to/from 106th Ave. east within 0.20 miles:	0.8
20% to/from 106th Ave. west within 1.0 miles:	20
16% to/from MacArthur Ave. south within 1.1 miles:	17.6
AVMT:	223.2/100 = 2.23 miles

As shown above, the AVMT would equal 2.23 miles based on overall vehicle distribution and specific mileage increments for each route.

[1] Mr. Terry Todd, Associate Principal, Perkowitz + Ruth, Personal communication, Foods Co marketing demographics, September 2010.

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Emissions Analysis Assumptions

Foothill Square Shopping Center Project

This document presents input assumptions for the emissions analysis (air/GHG) performed by Lamphier-Gregory for the proposed Foothill Square Shopping Center redevelopment project in the City of Oakland.

The existing Foothill Square center consists of five buildings housing 156,822 square feet of commercial space.

The proposed project will be a total of 200,916 square feet and will incorporate many of the existing uses (some through relocation on site), including a medical clinic, a bingo venue, a pre-school and specialty retail stores. As described by the applicant, the project will be constructed in phases as follows:

Phase I, beginning as early as 2/1/11

Demolition: A total of 31,850 square feet of building space will be demolished over 8 days, including building 7 and a portion of building 6.

Grading: A total of 227,800 square feet of the site will be graded over 20 days, including the eastern portion of the site where the FoodsCo and new Davita Clinic buildings are proposed as well as the pads for the three freestanding buildings along MacArthur Boulevard and 108th Avenue.

Paving: 101,434 square feet will be paved over 2.5 days.

Construction: Buildings 1, 7, 8, 9 and 10 will be constructed along with improvements to existing buildings 2, 3, 4, 5, and 6 totaling construction of 105,544 square feet over a 7.5 month period.

Phase II, beginning as early as 8/15/2011

Demolition: A total of 23,600 square feet of building space will be demolished over 5 days, including buildings 8 and 9.

Grading: A total of 185,000 square feet of the site will be graded over 15 days, including the entire main shared parking area.

Paving: 232,000 square feet will be paved over 4 days.

Phase III, occurring as early as 2/1/2012, following a 4+ month lag between opening of the new Davita Clinic (constructed in Phase I) and this demolition of the former Clinic.

Demolition: A total of 6,000 square feet of building space will be demolished over 2 days, including the former Davita Clinic location in building 6.

Grading: A total of 6,850 square feet of the site will be graded over 0.5 days, including the entire main shared parking area.

Paving: 6,850 square feet will be paved over 0.5 days.

Future Phase

Gas Station site preparation and construction has been assumed to occur as early as March 2012.

Trips

The following information was obtained from the preparers of the Traffic Impact Study, Omni-Means.

The average trip length for the FoodsCo trips is 2.23 miles. The weighted average, using this trip length for the FoodsCo and the gas station and the model default for other uses, is 3.5 miles for the proposed project.

The daily trip generation for the resultant center is as follows:

Discount Supermarket (Foods Co): 6,966

Department Store (Ross): 558

Apparel Store (Rainbow): 194

Specialty Retail: 2,202

Gas Station: 1,348

Total: 11,268 gross daily trips

Less Existing Specialty Retail to be removed: 2,336

Total Net New Daily Trips: 8,932

Note that existing uses to remain (even if relocated) are not factored into the above trip generation as there would be no net change from these uses.

Methodology

Construction-period and operational emissions for criteria pollutants were calculated using CARB's URBEMIS2007 Version 9.2.4 model and the project specifics and trip information as detailed above. Where specific information was not available, model defaults were used instead.

ATTACHMENT 2

CONSTRUCTION-PERIOD HEALTH RISK ASSESSMENT

Construction-Period Health Risk Assessment
Calculations for Diesel Particulate Matter (DPM) Cancer Risk,
DPM Non-Cancer Hazard and PM 2.5 Exposure

Foothill Square Shopping Center Project

CANCER RISK:

1. URBEMIS Output

Specifics of construction phases were entered into URBEMIS. Default assumptions regarding construction equipment were used, with the following exceptions:

- Mitigation was included to account for implementation of required Oakland's Construction Measures per BAAQMD guidelines, reducing PM emissions from off-street construction equipment by 45%.

Total emissions (all years) was added together and divided by the total construction period in years (0.08 + 0.00 = 0.08 / 1.08 years = 0.074 average yearly short tons as the average yearly emissions rate.

2. Screen3

The average yearly emissions rate was converted to micro-grams/second/square meter (using a conversion factor of 1 short ton per year = 0.0287475637 g/s) then dividing by the project area (616816 square feet = 57,304 m^2). This emission rate, calculated at 3.7161E-08 g/s/m^2 was entered into Screen3 with these other parameters:

- Source type: area
- Urban dispersion coefficient
- Source release height: 3 meters
- Search through range of wind conditions: yes
- Simple terrain – flat
- Automated distances
- Full meteorology

This resulted in a maximum 1-hour concentration of 0.9087 ug/m^3, which would occur at a distance of 193 meters.

3. Scaling to Annual

GLC = (X1-hour) (Scalar)

Where GLC is the annual average ground level concentration.

The maximum 1-hour concentration from the Screen3 output was then multiplied by the BAAQMD recommended hourly to annual Scalar of 0.1 for the following:

GLC = (0.9087 ug/m3) (0.1)

Ground Level Concentration = 0.0909 ug/m3

4. Calculate Risk

This GLC was used as the concentration in air ("C air") for calculation of inhalation dose as follows:

Inhalation Dose = (C air*DBR*A*EF*ED*1x10^{-6})/AT

DBR = daily breathing rate = 302

A = inhalation absorption rate for DPM = 1

EF = Exposure frequency = 250 days/yr (assuming 5 days a week for 50 weeks for the entire year)

ED = Exposure duration = 1.08 years (full construction period)

AT = Averaging time = 25,550 (for a 70 year cancer risk)

Inhalation Dose = (0.0909) (302) (1) (250) (1.08) (10^-6) / 25550

Inhalation Dose = 2.900E-7

And from there calculated the Inhalation Cancer Risk:

Inhalation Cancer Potency factor (for DPM) = 1.1

Inhalation Cancer Risk per million = (Inhalation Dose)*Inhalation Cancer Potency factor*10^6

Inhalation Cancer Risk per million = (2.900E-7)*1.1*10^6

Inhalation Cancer Risk per million (adult) = 0.319 - compared to Threshold of 10.0

Because an infant could be exposed during the construction, an age sensitivity factor of 10 is used.

Inhalation Cancer Risk * ASF = risk adjusted for age sensitivity

0.319*10 = 3.19

Inhalation Cancer Risk per million (infant) = 3.19 compared to Threshold of 10

FOR CHRONIC NON-HAZARD:

Hazard Quotient = C air/REL

REL = DPM inhalation non-cancer chronic (long-term) reference exposure level = 5 ug/m^3

Hazard Quotient = 0.0909/ 5.0

Hazard Quotient = 0.0182 compared to Threshold of 1

FOR PM2.5

The total PM2.5 emissions from URBEMIS (all years added together) were summed then divided by the total construction period in years.

Total emissions (all years) was added together and divided by the total construction period in years (0.07 + 0.00 = 0.07 / 1.08 years = 0.065 average yearly short tons as the average yearly emissions rate.

The average yearly emissions rate was converted to micro-grams/second/square meter (using a conversion factor of 1 short ton per year = 0.0287475637 g/s) then dividing by the project area as above. This emission rate, calculated at 3.2515E-08 g/s/m^2 was entered into Screen3 with the same parameters as for PM10 above and scaled to an annual average.

<u>Annual Average PM2.5 concentration of 0.0795 ug/m^3 compared to the threshold of 0.3 ug/m^3</u>

PM10		
URBEMIS Output		
mitigated y1	0.08	
mitigated y2	0	
total PM10	0.08	
Project period	1.08	
Averaged yearly short tons	0.074074074	
conversion short ton per year to g/s	0.028747564	
Averaged Yearly Emission Rate	0.002129449	g/s
Project Area sq ft	616816	
conversion sq ft to sq meters	0.09290304	
project area m2	57304.08152	
emission rate	3.7161E-08	g/s/m2
X1-hr	0.9087	ug/m3
Scalar	0.1	
GLC	0.09087	ug/m3
Cair	0.09087	
DBR	302	
A	1	
EF	250	
ED	1.08	
AT	25550	
Inhalation Cancer Potency Factor for PM10	1.1	
	0.000001	
Inhalation dose	2.90002E-07	
Inhalation cancer risk	0.319001714	
ASF	10	
Risk with ASF	3.190017135	
REL	5	
Hazard Quotient	0.018174	

PM2.5		
URBEMIS Output		
mitigated y1	0.07	
mitigated y2	0	
total PM2.5	0.07	
Project period	1.08	
Averaged yearly short tons	0.064814815	
conversion short ton per year to g/s	0.028747564	
Averaged Yearly Emission Rate	0.001863268	g/s
Project Area sq ft	616816	
conversion sq ft to sq meters	0.09290304	
project area m2	57304.08152	
emission rate	3.2515E-08	g/s/m2
X1-hr	0.7951	ug/m3
Scalar	0.1	
GLC	0.07951	ug/m3

ATTACHMENT 3

OPERATIONAL HEALTH RISK ASSESSMENT

HEALTH RISK ASSESSMENT
FOOTHILL SQUARE REDEVELOPMENT
OAKLAND, CALIFORNIA

LSA Associates, Inc. has completed a health risk assessment (HRA) for the proposed Foothill Square Redevelopment located at 10700 MacArthur Boulevard in the City of Oakland. The analysis considered specific meteorological conditions on the project site and the proximity of the project site to the adjacent freeway to determine the potential risk to future users (including daycare children and medical facility patients) of the project site from emissions generated on the freeway. Additionally, potential risk to existing residents from the proposed gas station on the south corner of Foothill Boulevard and 106th Avenue was considered. Land uses in the vicinity of the project were also evaluated as potential sources of toxic emissions; however, no additional sources were found.

Between 1984 and 1995, Young's Cleaners, a dry-cleaning business, operated in one of the units of the Foothill Square shopping center, located at the southwestern end of the northern building. A release of perchloroethylene (PCE) was discovered as part of an off-site investigation, which was later traced to Young's Cleaners. Site investigations started in August 1988, and soil and groundwater samples confirmed the presence of petroleum hydrocarbons in the northwest corner of the site, presumably from the gas station on that corner of the site. The presence of pesticides and polychlorinated biphenyls (PCBs) is likely associated with the former use of Foothill Square property by Fageol Motors Company/Peterbilt Motors Company. In a *Supplemental Soil Vapor Investigation Report* (June 25, 2008), AEI Consultants documented results from seven shallow soil vapor borings in the specific locations requested by the Alameda County Health Care Services (ACHCS). While it is unlikely that any of these chemicals are getting through the cement and asphalt cover, a soil vapor collection and treatment system has been operating on site since 2008 to insure that none of the identified chemical vapors are released to the air. Therefore, there will be no emissions from the remaining soil contamination that need to be included in this HRA.

Results of the analysis concluded that the cancer risk from the combination of Interstate 580 (I-580) traffic and gas station traffic to both future users of the project site and existing residents near the site would not exceed the significance criterion for toxic air contaminants, assuming outdoor exposure as established by the Bay Area Air Quality Management District (BAAQMD). Levels of particulate matter less than 2.5 microns in size ($PM_{2.5}$) at all locations of interest are also below the BAAQMD threshold.

The following discussion provides the technical background information used to determine the health risk to future users of the project site.

GENERAL HEALTH RISKS OF TOXICS

Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the body are affected. One major way these substances enter the body is through inhalation of either gases or particulates. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. This HRA evaluates the health risks from the combination of toxic air contaminants (TACs) in diesel exhaust, TACs in gasoline exhaust, and $PM_{2.5}$ contained in the exhaust of all vehicles. California's Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel particulate matter (DPM) poses the highest cancer risk of any TACs it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants, which, when fully implemented, will result in an 85 percent reduction by 2020 (compared to 2000 levels). Similarly, improvements have been made to significantly reduce TAC emissions from gasoline-powered vehicles. These improvements are anticipated to continue into the foreseeable future.

For health risk analyses, OEHHA recommends[1] that a 9-year exposure duration be used to represent potential impacts to children, a 40-year exposure duration be used to represent potential impacts to workers (including daycare staff), and a 70-year exposure duration be used to represent potential impacts to residents. The parameters used for the 9-year exposure scenario are for the first 9 years of life and thus are protective of children. Children, for physiological as well as behavioral reasons, have higher intake rates on a per-kilogram body weight basis and thus receive a higher dose from contaminated air than adults. Therefore, the daily point estimate (e.g., inhalation rate) for the 9-year exposure duration is higher than for adult exposure durations.

There are currently no federal project-level requirements for air toxics analysis, and the California Environmental Quality Act (CEQA) simply requires a consideration of the risks from toxics. The BAAQMD regulates new sources of air toxics through Regulation 2, Rule 5: *New Source Review of Toxic Air Contaminants*. This rule does not specifically apply to the proposed project because the proposed project would not be a source of toxic emissions. The BAAQMD has also established a maximum threshold for projects that have the potential to expose sensitive receptors or the general public to substantial levels of TACs. The BAAQMD thresholds of significance for TACs are: (1) probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in 1 million; or (2) ground-level concentrations of noncarcinogenic TACs result in a Hazard Index greater than 1 for the MEI. The concentration of $PM_{2.5}$ must not exceed 0.3 micrograms per cubic meter ($\mu g/m^3$).

ANALYSIS OF SITE SPECIFIC TOXICS

According to the California Air Resources Board (ARB),[2] when conducting an HRA, the surrogate for whole diesel exhaust is DPM and it is used as the basis for the potential risk calculations. Additionally, it is assumed that the emissions of DPM can be represented by the emissions of particulate matter less than 10 microns in size (PM_{10}) from diesel equipment. When conducting an HRA, the potential cancer risk from inhalation exposure to DPM will outweigh the potential noncancer health impacts. Therefore, inhalation cancer risk is required for every HRA. When comparing whole diesel exhaust to speciated diesel exhaust (e.g., polynuclear aromatic hydrocarbons,

[1] Office of Environmental Health Hazard Assessment. 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines.* August.

[2] California Air Resources Board. 2005. http://www.arb.ca.gov/toxics/harp/docs/userguide/appendixK.pdf.

metals), potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multipathway cancer risk from the speciated components. For this reason, there will be few situations where an analysis of multipathway risk is necessary.[1]

To estimate the potential cancer risk associated with exhaust from vehicles operating on the I-580 and operations of the proposed on-site gasoline station, a dispersion model was used to translate emission rates from source locations to concentrations at receptor locations of interest. Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. This assessment was conducted using the ARB health risk model, HARP, which includes the United States Environmental Protection Agency (EPA) dispersion model ISCST3. This model provides a detailed estimate of concentrations considering site and source geometry, source strength, distance to receptor, building wake effects on plume distribution, and site-specific meteorological data.

EMISSION ESTIMATES

This HRA was conducted as recommended in the OEHHA Guidelines, by the ARB[2] and by the BAAQMD[3]. It consists of several steps including: determine the PM_{10}, reactive organic gases (ROGs) (also called volatile organic compounds [VOCs]), and $PM_{2.5}$ emissions factors, emissions rates, and concentrations at locations of interest, translating these concentrations into health risk values, comparing the health risk values to thresholds, and determining significance.

Emission factors for vehicle emissions were estimated using the ARB's EMFAC2007, which includes assumptions of technological and regulatory changes that will reduce emission rates over time. The HARP model only allows for a single emission rate for the entire long-term health risk evaluation period. This HRA evaluates three exposure periods, 9 years, 40 years and 70 years. While emissions rates for the mid-point in each period could be used, that would underestimate emissions for the earlier part of each. Thus, to be conservative, this HRA used emissions rates for the year 2014 for all three exposure periods.

The California Department of Transportation (Caltrans) annual traffic data were used to model the emissions from the I-580 freeway. The total annual average daily traffic (AADT) along I-580 averaged over the last 5 years is 146,400 (northbound and southbound combined) of which 2,358 are light-duty trucks (LDT), 597 are medium-duty trucks (MDT) and 5,787 are heavy-duty trucks (HDT). For purposes of this analysis, all vehicle exhaust was modeled as volume sources located along I-580. These extend approximately 0.25 mile from the edge of the proposed project site in both directions. The PM_{10}, ROGs, and $PM_{2.5}$ emission rates used in the analysis were determined based on the vehicle distribution by type identified in Caltrans traffic data for I-580.[4]

1 Office of Environmental Health Hazard Assessment. 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Appendix D, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Vehicles, Section B.* August.

2 California Air Resources Board. 2005. *HARP Model Documentation, Appendix K, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Engines*. February.

3 Bay Area Air Quality Management District. 2010. *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May.

4 California Department of Transportation website: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/, accessed on December 2, 2010.

Table A indicates the derivation of the emission rates by the total AADT and the average speed. The classification of the total AADT into four vehicle-type categories and the corresponding total emissions for that volume of vehicles at the average speed are also shown in Table A. For the purpose of this assessment, it is assumed that the traffic volumes are constant for the entire exposure period. Sixty miles per hour (mph) was used as it results in the highest emissions rates for speeds above 30 mph. Gasoline-vehicle exhaust speciation data from the ARB were used to determine the emission rates of the TACs within the ROG emissions. Emission factors are shown in Table B.

Table A: Emission Rates

	AADT by Vehicle Category				**Number of Sources**	**Emission Rates Per Source**		
I-580	**LDA**	**LDT**	**MDT**	**HDT**		**g/sec**	**lbs/hr**	**lbs/yr**
Total AADT 146,400	137,365	2,358	890	5,787				
	% of Vehicles That Are Diesel-Powered							
	0%	20.0%	70.0%	87.5%				
	Diesel Exhaust PM_{10} Emissions at 60 mph (g/sec)							
	0	3.02E-06	4.49E-06	5.00E-04	17	3.0E-05	2.4E-04	2.08
Average Speed 60 mph	% of Vehicles That Are Gasoline-Powered							
	100%	80.0%	30.0%	12.5%				
	Gasoline Exhaust ROG Emissions at 60 mph (g/sec)							
	2.75E-03	6.41E-05	8.54E-06	1.10E-04		1.7E-04	1.4E-03	12.0
	Diesel & Gas $PM_{2.5}$ Emissions at 60 mph (g/sec)							
	3.85E-04	1.41E-05	6.05E-06	5.25E-04		5.5E-05		
Gas Station Traffic								
Total AADT 1,348	**LDA**	**LDT**	**MDT**	**HDT**				
	1,192	21	105	30				
	Diesel Exhaust PM_{10} Emissions at 20 mph (g/sec)							
	0	5.54E-08	1.12E-06	3.23E-06	11	4.0E-07	3.2E-06	0.03
Average Speed 20 mph	**Gasoline Exhaust ROG Emissions at 20 mph (g/sec)**							
	4.48E-05	1.04E-06	2.10E-06	1.21E-06		4.5E-06	3.5E-05	0.3
	Diesel & Gas $PM_{2.5}$ Emissions at 20 mph (g/sec)							
	7.15E-06	2.52E-07	1.51E-06	3.40E-06		1.1E-06		

Source: LSA Associates, Inc., December 2010.
AADT = Annual Average Daily Traffic
g/sec = grams per second
HDT = heavy-duty trucks
I-580 = Interstate 580
lbs/hr = pounds per hour
lbs/yr = pounds per year
LDA = light-duty automobiles
LDT = light-duty trucks
MDT = medium-duty trucks
mph = miles per hour
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROG = reactive organic gases

Table B: Gasoline Exhaust Speciation and Emissions Rates per Source

CAS Number	Chemical Name	Weight Fraction	I-580 Emissions Rates		Gas Station Traffic Emissions Rates	
			lbs/hr	lbs/yr	lbs/hr	lbs/yr
106990	1,3-butadiene	0.0055	7.5E-06	6.6E-02	6.7E-09	5.9E-05
71432	benzene	0.02636	3.6E-05	3.2E-01	1.0E-08	9.0E-05
100414	ethylbenzene	0.01072	1.5E-05	1.3E-01	6.2E-08	5.4E-04
91203	naphthalene	0.00048	6.6E-07	5.8E-03	6.7E-09	5.9E-05
115071	propylene	0.03128	4.3E-05	3.8E-01	3.5E-07	3.1E-03
100425	styrene	0.00126	1.7E-06	1.5E-02	4.5E-08	3.9E-04
108883	toluene	0.0588	8.0E-05	7.1E-01	3.5E-09	3.1E-05
95476	m & p-xylene	0.0364	5.0E-05	4.4E-01	3.5E-09	3.1E-05

Source: ARB, October 2008, LSA Associates, Inc., December 2010.
CAS = Chemical Abstracts Service
I-580 = Interstate 580
lbs/hr = pounds per hour
lbs/yr = pounds per year

Modeled receptors were placed in a general grid extending in all directions to characterize the risk-level isopleths. Meteorological data obtained from the BAAQMD[1] for the Oakland Airport were used to represent the conditions at the project site. Attachment A includes the ISCST3 output file showing all model inputs and important outputs. The HARP model output listing the modeled health risks for all receptors can also be found in Attachment A.

Table C lists the modeled concentrations of $PM_{2.5}$ from the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station.

Table C: $PM_{2.5}$ Concentrations at Sensitive Locations

Location	Receptor Number	$PM_{2.5}$ Concentration (µg/m^3)
Residence Nearest Gas Station	238	0.0082
Health Center	290	0.0084
Daycare Center	439	0.0036

Source: LSA Associates, Inc., December 2010.
µg/m^3 = micrograms per cubic meter
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

As shown in Table C, the peak concentration of $PM_{2.5}$ from all vehicle exhaust included in this HRA is 0.11 µg/m^3, which is below the BAAQMD threshold of 0.3 µg/m^3.

ACUTE EMISSION IMPACTS

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies

[1] Bay Area Air Quality Management District personal communication with James F. Cordova, Research and Modeling Section, December 1, 2010.

with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (ARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute noncancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term noncancer health risk guidance value for respiratory effects. The TACs within gasoline vehicle exhaust do have recognized short-term acute health effects. The current science of HRAs does not distinguish between children and adult acute risks; the one acute risk level reported is protective of both children and adults.

Table D lists the health risk levels from exposure to the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station. For existing residents nearby and future users of the project site, the maximum acute hazard index would be below the threshold of 1.0. Therefore, the potential for short-term acute exposure will be less than significant.

Table D: Inhalation Health Risks from I-580 and Gas Station Traffic

Risk Category	Receptor Number	Carcinogenic Inhalation Health Risk	Chronic Inhalation Health Index	Acute Inhalation Health Index
70-Year Residential Risks	238	1.3 in 1 million	0.0008	3.4×10^{-5}
40-Year Worker Risks	290	0.29 in 1 million	0.0009	3.7×10^{-6}
Child Risk Levels	439	0.16 in 1 million	0.0004	2.2×10^{-6}
Threshold		10 in 1 million	1.0	1.0

Source: LSA Associates, Inc., December 2010.

CARCINOGENIC AND CHRONIC IMPACTS

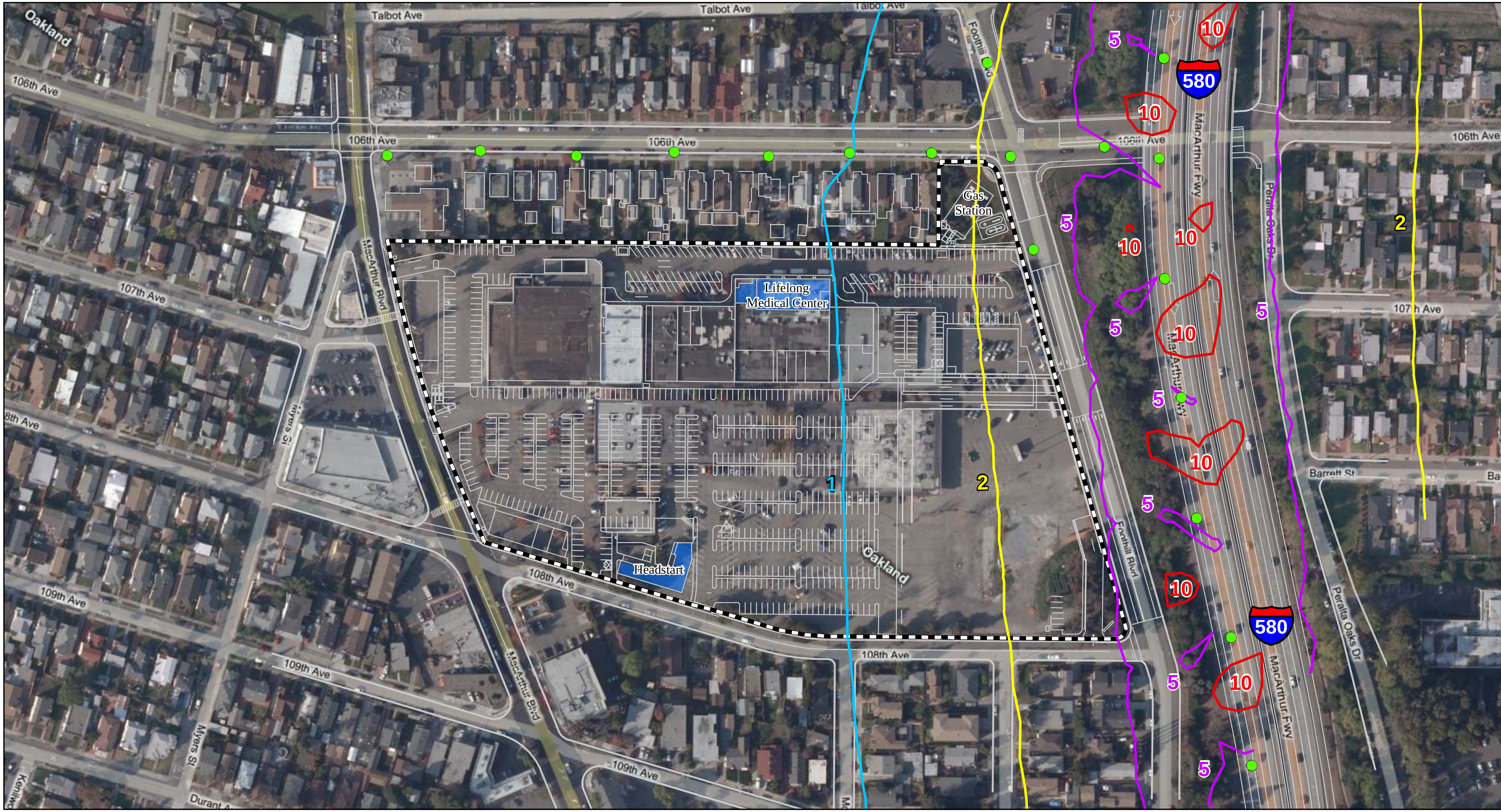
The results for carcinogenic and chronic impacts are also shown in Table D. Results of the analysis indicate that the MEI inhalation cancer risk associated with an adult living in a residence near the gas station for 70 years, working at the proposed development for 40 years, or for a child spending 9 years at the daycare center would all be less than the threshold of 10 in 1 million. As for acute risks, the current science of HRAs does not distinguish between children and adult chronic risks; the one chronic risk level reported is protective of both children and adults. The maximum chronic hazard index would be below the threshold of 1.0.

CONCLUSIONS

As shown in Table D, the analysis indicates that the cancer risk to both future users of the project site and existing residents near the site from the combination of I-580 traffic and gas station traffic would not exceed the significance criterion for toxic air contaminants assuming outdoor exposure as established by the BAAQMD. Table C shows that levels of $PM_{2.5}$ at all locations of interest are also below the BAAQMD threshold.

Historically, the BAAQMD has used the criterion of 10 in 1 million to determine the risk for point sources such as emissions from industrial facilities. The BAAQMD has the authority to regulate point source emissions, but not mobile source emissions such as vehicles on roadways. The exposure risk indicated in Table D only includes exposure to emissions from freeway traffic near the project site and vehicle traffic using the proposed gas station. The HRA results indicate an exposure to risk that would not exceed the BAAQMD criterion for cancer or acute health risks; therefore, it is unlikely that either existing residents or future users of the project site would be exposed to a health risk that would be substantially greater than the average Californian would experience. (The average ambient air in the San Francisco Bay area has a 602 in 1 million health risk[1].)

[1] Bay Area Air Quality Management District. 2004. *Toxic Air Contaminant Control Program, Annual Report 2002*. June.



LSA

LEGEND

Project Location

Sensitive Use Areas

Modeling Emission Sources

Carcinogenic Risk Level - 1 in 1 Million

Carcinogenic Risk Level - 2 in 2 Million

Carcinogenic Risk Level - 5 in 5 Million

Carcinogenic Risk Level - 10 in 10 Million

0 75 150

FEET

SOURCE: Bing (2009)

I:\LRY0802\GIS\Modeling.mxd (12/9/2010)

FIGURE 3

Foothill Square Redevelopment

Carcinogenic Risk Levels -
70-Year Exposure

ATTACHMENT A

MODELING WORKSHEETS

```
**MODELOPTs:
CONC                         URBAN  ELEV          DFAULT
```

```
                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses URBAN Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for URBAN/Non-SO2

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    28 Source(s);     28 Source Group(s); and     625 Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =    10.00 ;    Decay Coef. =    0.000     ;    Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =     1.6 MB of RAM.

**Input Runstream File:          P:\LRY1002\HRA\FTHILLSQ.INP
**Output Print File:             P:\LRY1002\HRA\FTHILLSQ.OUT
**Detailed Error/Message File:   P:\LRY1002\HRA\FTHILLSQ.ERR
```

CONC URBAN ELEV DFAULT

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
580_01	0	0.10000E+01	574883.9	4178086.8	40.5	1.52	9.02	0.21	
580_02	0	0.10000E+01	574901.9	4178038.8	37.6	1.52	9.02	0.21	
580_03	0	0.10000E+01	574923.0	4177991.0	32.8	1.52	9.02	0.21	
580_04	0	0.10000E+01	574941.0	4177943.0	29.7	1.52	9.02	0.21	
580_05	0	0.10000E+01	574961.1	4177901.5	28.0	1.52	9.02	0.21	
580_06	0	0.10000E+01	574988.3	4177860.8	26.8	1.52	9.02	0.21	
580_07	0	0.10000E+01	575025.4	4177815.5	26.8	1.52	9.02	0.21	
580_08	0	0.10000E+01	575066.4	4177773.5	26.2	1.52	9.02	0.21	
580_09	0	0.10000E+01	575107.4	4177730.8	26.1	1.52	9.02	0.21	
580_10	0	0.10000E+01	575146.4	4177687.0	26.0	1.52	9.02	0.21	
580_11	0	0.10000E+01	575187.4	4177641.0	24.4	1.52	9.02	0.21	
580_12	0	0.10000E+01	575225.2	4177597.0	23.0	1.52	9.02	0.21	
580_13	0	0.10000E+01	575265.2	4177545.0	22.0	1.52	9.02	0.21	
580_14	0	0.10000E+01	575294.9	4177491.8	22.0	1.52	9.02	0.21	
580_15	0	0.10000E+01	575328.6	4177433.5	22.0	1.52	9.02	0.21	
580_16	0	0.10000E+01	575361.4	4177374.2	22.5	1.52	9.02	0.21	
580_17	0	0.10000E+01	575390.0	4177319.0	23.7	1.52	9.02	0.21	
GASST_01	0	0.10000E+01	574929.6	4177818.5	26.8	1.52	9.02	0.21	
GASST_02	0	0.10000E+01	574897.6	4177797.0	26.2	1.52	9.02	0.21	
GASST_03	0	0.10000E+01	574893.5	4177848.5	26.1	1.52	9.02	0.21	
GASST_04	0	0.10000E+01	574965.7	4177788.8	26.0	1.52	9.02	0.21	
GASST_05	0	0.10000E+01	574963.6	4177849.5	24.4	1.52	9.02	0.21	
GASST_06	0	0.10000E+01	574865.6	4177773.2	23.0	1.52	9.02	0.21	
GASST_07	0	0.10000E+01	574834.8	4177748.5	22.0	1.52	9.02	0.21	
GASST_08	0	0.10000E+01	574796.6	4177722.8	22.0	1.52	9.02	0.21	
GASST_09	0	0.10000E+01	574759.4	4177692.8	22.0	1.52	9.02	0.21	
GASST_10	0	0.10000E+01	574722.3	4177662.8	22.5	1.52	9.02	0.21	
GASST_11	0	0.10000E+01	574685.2	4177638.0	23.7	1.52	9.02	0.21	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
580_01	580_01 ,
580_02	580_02 ,
580_03	580_03 ,
580_04	580_04 ,
580_05	580_05 ,
580_06	580_06 ,
580_07	580_07 ,
580_08	580_08 ,
580_09	580_09 ,
580_10	580_10 ,
580_11	580_11 ,
580_12	580_12 ,
580_13	580_13 ,
580_14	580_14 ,
580_15	580_15 ,
580_16	580_16 ,
580_17	580_17 ,
GASST_01	GASST_01,

```
GASST_02  GASST_02,

GASST_03  GASST_03,
```

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
GASST_04	GASST_04,
GASST_05	GASST_05,
GASST_06	GASST_06,
GASST_07	GASST_07,
GASST_08	GASST_08,
GASST_09	GASST_09,
GASST_10	GASST_10,
GASST_11	GASST_11,

CONC   URBAN ELEV   DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: 1   ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

574597.0, 574622.0, 574647.0, 574672.0, 574697.0, 574722.0, 574747.0, 574772.0, 574797.0, 574822.0,
574847.0, 574872.0, 574897.0, 574922.0, 574947.0, 574972.0, 574997.0, 575022.0, 575047.0, 575072.0,
575097.0, 575122.0, 575147.0, 575172.0, 575197.0,

*** Y-COORDINATES OF GRID ***
(METERS)

4178000.0, 4177975.0, 4177950.0, 4177925.0, 4177900.0, 4177875.0, 4177850.0, 4177825.0, 4177800.0, 4177775.0,
4177750.0, 4177725.0, 4177700.0, 4177675.0, 4177650.0, 4177625.0, 4177600.0, 4177575.0, 4177550.0, 4177525.0,
4177500.0, 4177475.0, 4177450.0, 4177425.0, 4177400.0,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 574597.00	574622.00	574647.00	574672.00	574697.00	574722.00	574747.00	574772.00	574797.00
4177400.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177425.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177450.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177475.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177500.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177525.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177550.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177575.00	17.01	17.01	17.01	17.65	17.98	17.98	17.98	17.98	17.98
4177600.00	17.01	17.01	17.68	17.98	17.98	17.98	17.98	17.98	18.68
4177625.00	17.01	17.65	17.98	17.98	17.98	17.98	17.98	18.07	18.99
4177650.00	17.68	17.98	17.98	17.98	17.98	17.98	17.98	18.99	18.99
4177675.00	17.98	17.98	17.98	17.98	17.98	17.98	18.99	18.99	19.02
4177700.00	17.98	17.98	17.98	17.98	18.62	18.99	18.99	19.63	19.99
4177725.00	17.98	17.98	18.23	18.99	18.99	19.08	19.99	19.99	19.99
4177750.00	17.98	18.84	18.99	18.99	19.66	19.99	19.99	19.99	20.67
4177775.00	18.99	19.08	19.99	19.99	19.99	20.09	21.00	21.00	21.00
4177800.00	19.66	19.99	20.06	20.85	21.00	21.00	21.00	21.37	22.01
4177825.00	21.00	21.12	21.12	21.64	22.01	22.01	22.01	22.01	22.01
4177850.00	22.01	22.01	22.01	22.01	22.01	22.37	22.65	22.65	22.98
4177875.00	22.98	22.98	22.98	22.98	22.98	22.98	22.98	23.07	23.23
4177900.00	23.99	23.99	23.96	23.62	23.68	23.99	23.99	23.99	23.99
4177925.00	27.19	25.69	24.14	24.08	24.14	24.14	24.14	24.14	25.15
4177950.00	31.55	29.69	27.22	25.91	26.00	26.00	26.00	26.00	26.64
4177975.00	33.04	31.49	30.05	28.56	27.92	27.13	27.98	28.07	28.13
4178000.00	34.56	33.04	31.58	29.78	28.96	28.62	29.05	29.63	29.99

CONC   URBAN ELEV   DFAULT

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 574822.00	574847.00	574872.00	574897.00	574922.00	574947.00	574972.00	574997.00	575022.00
4177400.00	18.99	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177425.00	18.93	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177450.00	18.20	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177475.00	17.98	18.99	18.99	18.99	19.08	19.99	19.99	19.99	19.99
4177500.00	17.98	18.41	18.99	18.99	19.84	19.99	19.99	19.99	19.99
4177525.00	17.98	18.99	18.99	18.99	19.99	19.99	19.99	21.00	21.00
4177550.00	17.98	18.99	18.99	19.08	19.99	19.99	20.36	21.00	21.85
4177575.00	18.65	18.99	18.99	19.20	19.99	19.99	21.00	22.01	22.01
4177600.00	18.99	18.99	18.99	19.99	19.99	20.09	21.00	22.01	22.37
4177625.00	18.99	19.02	19.63	19.99	19.99	21.00	21.58	22.01	23.07
4177650.00	19.39	19.99	19.99	19.99	20.36	21.00	21.58	22.10	23.59
4177675.00	19.99	19.99	20.09	21.00	21.00	21.21	22.01	23.01	23.99
4177700.00	19.99	20.06	21.00	21.06	22.01	22.04	22.98	23.99	24.84
4177725.00	20.09	21.00	21.09	22.01	22.07	23.23	24.08	24.99	25.63
4177750.00	21.00	21.06	22.01	22.04	22.98	24.08	24.99	26.00	26.37
4177775.00	21.12	22.01	22.01	22.98	23.65	24.99	26.00	26.21	27.07
4177800.00	22.01	22.01	22.86	23.68	24.38	25.05	26.37	27.04	27.98
4177825.00	22.13	22.98	23.07	24.20	25.63	26.00	27.07	28.01	28.99
4177850.00	22.98	22.98	23.99	25.09	26.00	27.04	27.98	28.99	29.84
4177875.00	23.99	23.99	23.99	26.00	27.07	28.13	28.99	29.99	30.72
4177900.00	23.99	24.63	25.24	26.73	28.38	29.63	29.99	30.72	33.22
4177925.00	25.63	26.12	27.13	28.22	29.63	31.21	32.86	34.35	35.72
4177950.00	27.37	27.98	28.62	29.66	31.21	33.77	36.61	38.68	39.29
4177975.00	28.99	29.20	30.14	31.24	34.72	37.25	39.87	42.34	43.28
4178000.00	30.36	30.69	32.37	34.72	38.07	40.72	44.07	46.36	48.01

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 575047.00	575072.00	575097.00	575122.00	575147.00	575172.00	575197.00
4177400.00	19.99	19.99	21.00	21.00	21.00	21.00	21.00
4177425.00	19.99	20.09	21.00	21.00	21.00	21.00	21.00
4177450.00	19.99	20.85	21.00	21.00	21.00	21.00	21.00
4177475.00	20.09	21.00	21.00	21.00	21.00	21.00	21.00
4177500.00	21.00	21.00	21.00	21.00	21.67	21.79	22.01
4177525.00	21.00	21.00	21.12	22.01	22.01	22.01	22.01
4177550.00	22.01	22.01	22.68	22.98	22.65	22.65	22.98
4177575.00	22.22	23.13	23.99	23.99	23.13	23.13	23.23
4177600.00	23.68	24.63	24.57	23.99	23.99	23.99	24.05
4177625.00	24.99	25.09	25.15	25.15	24.99	24.99	25.21
4177650.00	24.99	26.00	26.00	26.00	26.00	26.37	26.73
4177675.00	25.09	26.00	26.21	27.07	27.13	27.98	28.01
4177700.00	25.66	26.37	27.04	27.98	28.62	28.99	29.05
4177725.00	26.21	27.07	28.01	28.99	29.99	30.08	30.27
4177750.00	27.04	27.98	28.99	29.84	30.05	32.22	33.31
4177775.00	28.01	28.99	29.99	30.72	32.22	34.72	36.21
4177800.00	28.99	29.84	30.72	33.01	34.72	37.22	38.71
4177825.00	29.99	30.72	33.22	34.72	37.22	38.71	41.21
4177850.00	30.72	33.22	34.72	37.22	38.71	41.21	43.34
4177875.00	33.22	35.63	37.22	38.71	41.21	42.73	45.23
4177900.00	35.66	37.22	38.71	40.57	42.73	45.45	48.68
4177925.00	37.22	38.71	40.23	42.67	45.23	48.71	51.21
4177950.00	40.29	40.63	42.03	44.23	48.71	51.21	53.61
4177975.00	43.28	42.28	44.14	46.09	48.22	53.31	57.58
4178000.00	48.28	47.27	47.27	47.85	51.88	58.43	64.43

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER OR 3*ZLB IN DISTANCE, OR WITHIN OPEN PIT SOURCE

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
580_03	574922.0	4178000.0	-10.35
580_03	574922.0	4177975.0	-3.37
580_04	574922.0	4177950.0	0.85
580_04	574947.0	4177950.0	-10.18
580_04	574947.0	4177925.0	-0.43
580_05	574947.0	4177900.0	-5.26
580_05	574972.0	4177900.0	-8.36
580_06	574997.0	4177875.0	-2.71
580_06	574972.0	4177850.0	0.13
580_06	574997.0	4177850.0	-5.58
580_07	575022.0	4177825.0	-9.30
580_07	575022.0	4177800.0	-3.53
580_08	575047.0	4177775.0	0.09
580_08	575072.0	4177775.0	-13.64
580_09	575097.0	4177725.0	-7.49
580_09	575122.0	4177725.0	-3.75
580_10	575147.0	4177700.0	-6.39
580_10	575147.0	4177675.0	-7.39
580_11	575172.0	4177650.0	-1.59
580_11	575197.0	4177650.0	-6.22
580_11	575197.0	4177625.0	-0.73
GASST_01	574922.0	4177825.0	-9.43
GASST_01	574947.0	4177825.0	-0.79
GASST_01	574922.0	4177800.0	0.58
GASST_02	574897.0	4177800.0	-16.34
GASST_03	574897.0	4177850.0	-15.59
GASST_04	574972.0	4177800.0	-6.50
GASST_04	574972.0	4177775.0	-4.27
GASST_05	574947.0	4177850.0	-2.77
GASST_05	574972.0	4177850.0	-11.01
GASST_06	574847.0	4177775.0	-0.69
GASST_06	574872.0	4177775.0	-12.79
GASST_07	574822.0	4177750.0	-6.56
GASST_07	574847.0	4177750.0	-7.06
GASST_08	574797.0	4177725.0	-17.11
GASST_09	574747.0	4177700.0	-5.01
GASST_09	574772.0	4177700.0	-4.90
GASST_10	574722.0	4177675.0	-7.15
GASST_10	574722.0	4177650.0	-6.65
GASST_11	574672.0	4177650.0	-1.53

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER OR 3*ZLB IN DISTANCE, OR WITHIN OPEN PIT SOURCE

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
GASST_11	574697.0	4177650.0	-2.61
GASST_11	574672.0	4177625.0	-0.84
GASST_11	574697.0	4177625.0	-1.88

**MODELOPTs:
CONC   URBAN ELEV   DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

METEOROLOGICAL DATA PROCESSED BETWEEN START DATE: 1978   1 1 0
AND END DATE: 1983 12 31 24

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
B	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
C	.20000E+00	.20000E+00	.20000E+00	.20000E+00	.20000E+00	.20000E+00
D	.25000E+00	.25000E+00	.25000E+00	.25000E+00	.25000E+00	.25000E+00
E	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00
F	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00	.30000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

CONC   URBAN ELEV   DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: P:\LRY1002\HRA\OAK78-83.ASC
FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 23230   UPPER AIR STATION NO.: 23230
NAME: OAKLAND   NAME: OAKLAND
YEAR: 1978   YEAR: 1978

YR MN DY HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
78 01 01 01	331.0	3.09	282.6	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 02	328.0	2.57	282.6	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 03	304.0	2.06	283.2	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 04	293.0	1.54	282.6	7	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 05	343.0	2.57	283.2	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 06	282.0	2.06	282.6	5	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 07	345.0	3.09	283.2	5	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 08	343.0	2.06	283.2	4	4.8	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 09	277.0	2.06	283.2	4	14.2	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 10	261.0	1.54	283.7	3	23.5	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 11	254.0	2.06	287.6	4	32.9	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 12	246.0	2.57	284.8	4	42.3	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 13	223.0	2.06	284.8	4	51.6	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 14	209.0	3.60	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 15	242.0	2.57	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 16	244.0	5.14	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78 01 01 17	231.0	3.09	284.3	4	61.1	61.1	0.0000	0.0	0.0000	0	0.00
78 01 01 18	247.0	5.14	284.3	4	62.8	62.8	0.0000	0.0	0.0000	0	0.00
78 01 01 19	254.0	4.12	284.3	4	64.6	64.6	0.0000	0.0	0.0000	0	0.00
78 01 01 20	257.0	3.09	284.3	4	66.3	66.3	0.0000	0.0	0.0000	0	0.00
78 01 01 21	280.0	5.14	284.3	4	68.0	68.0	0.0000	0.0	0.0000	0	0.00
78 01 01 22	292.0	2.06	284.3	4	69.7	69.7	0.0000	0.0	0.0000	0	0.00
78 01 01 23	220.0	3.60	284.3	4	71.4	71.4	0.0000	0.0	0.0000	0	0.00
78 01 01 24	240.0	4.12	283.7	4	73.1	73.1	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

**MODELOPTs:
CONC   URBAN ELEV   DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_01	1ST HIGHEST VALUE IS	56.40146	AT (	574947.00,	4178000.00,	40.72,	0.00)	GC	1
	2ND HIGHEST VALUE IS	55.82309	AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1
	3RD HIGHEST VALUE IS	48.94231	AT (	574972.00,	4178000.00,	44.07,	0.00)	GC	1
	4TH HIGHEST VALUE IS	40.50452	AT (	574997.00,	4178000.00,	46.36,	0.00)	GC	1
	5TH HIGHEST VALUE IS	40.22988	AT (	574897.00,	4178000.00,	34.72,	0.00)	GC	1
	6TH HIGHEST VALUE IS	33.21945	AT (	574972.00,	4177975.00,	39.87,	0.00)	GC	1
	7TH HIGHEST VALUE IS	33.15170	AT (	575022.00,	4178000.00,	48.01,	0.00)	GC	1
	8TH HIGHEST VALUE IS	33.07699	AT (	574947.00,	4177975.00,	37.25,	0.00)	GC	1
	9TH HIGHEST VALUE IS	29.98714	AT (	574997.00,	4177975.00,	42.34,	0.00)	GC	1
	10TH HIGHEST VALUE IS	29.57521	AT (	574922.00,	4177975.00,	34.72,	0.00)	GC	1
580_02	1ST HIGHEST VALUE IS	305.26172	AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1
	2ND HIGHEST VALUE IS	215.57367	AT (	574947.00,	4178000.00,	40.72,	0.00)	GC	1
	3RD HIGHEST VALUE IS	132.89250	AT (	574972.00,	4178000.00,	44.07,	0.00)	GC	1
	4TH HIGHEST VALUE IS	110.87147	AT (	574897.00,	4178000.00,	34.72,	0.00)	GC	1
	5TH HIGHEST VALUE IS	101.97813	AT (	574947.00,	4177975.00,	37.25,	0.00)	GC	1
	6TH HIGHEST VALUE IS	89.03761	AT (	574922.00,	4177975.00,	34.72,	0.00)	GC	1
	7TH HIGHEST VALUE IS	84.76641	AT (	574972.00,	4177975.00,	39.87,	0.00)	GC	1
	8TH HIGHEST VALUE IS	84.68711	AT (	574997.00,	4178000.00,	46.36,	0.00)	GC	1
	9TH HIGHEST VALUE IS	64.36067	AT (	574997.00,	4177975.00,	42.34,	0.00)	GC	1
	10TH HIGHEST VALUE IS	57.03632	AT (	575022.00,	4178000.00,	48.01,	0.00)	GC	1
580_03	1ST HIGHEST VALUE IS	885.83276	AT (	574947.00,	4177975.00,	37.25,	0.00)	GC	1
	2ND HIGHEST VALUE IS	719.64728	AT (	574947.00,	4178000.00,	40.72,	0.00)	GC	1
	3RD HIGHEST VALUE IS	459.79633	AT (	574897.00,	4178000.00,	34.72,	0.00)	GC	1
	4TH HIGHEST VALUE IS	317.39545	AT (	574972.00,	4177975.00,	39.87,	0.00)	GC	1
	5TH HIGHEST VALUE IS	274.14917	AT (	574947.00,	4177950.00,	33.77,	0.00)	GC	1
	6TH HIGHEST VALUE IS	271.44843	AT (	574972.00,	4178000.00,	44.07,	0.00)	GC	1
	7TH HIGHEST VALUE IS	188.66618	AT (	574972.00,	4177950.00,	36.61,	0.00)	GC	1
	8TH HIGHEST VALUE IS	178.79883	AT (	574897.00,	4177975.00,	31.24,	0.00)	GC	1
	9TH HIGHEST VALUE IS	176.01300	AT (	574922.00,	4177950.00,	31.21,	0.00)	GC	1
	10TH HIGHEST VALUE IS	150.73820	AT (	574997.00,	4177975.00,	42.34,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_04	1ST HIGHEST VALUE IS	617.01855 AT (	574972.00,	4177950.00,	36.61,	0.00)	GC	1
	2ND HIGHEST VALUE IS	611.56970 AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1
	3RD HIGHEST VALUE IS	329.13910 AT (	574922.00,	4177925.00,	29.63,	0.00)	GC	1
	4TH HIGHEST VALUE IS	246.99371 AT (	574997.00,	4177925.00,	34.35,	0.00)	GC	1
	5TH HIGHEST VALUE IS	236.59787 AT (	574947.00,	4177900.00,	29.63,	0.00)	GC	1
	6TH HIGHEST VALUE IS	226.27959 AT (	574972.00,	4177900.00,	29.99,	0.00)	GC	1
	7TH HIGHEST VALUE IS	224.02945 AT (	574997.00,	4177950.00,	38.68,	0.00)	GC	1
	8TH HIGHEST VALUE IS	217.07190 AT (	574922.00,	4177975.00,	34.72,	0.00)	GC	1
	9TH HIGHEST VALUE IS	198.62483 AT (	574947.00,	4177975.00,	37.25,	0.00)	GC	1
	10TH HIGHEST VALUE IS	174.38376 AT (	574897.00,	4177950.00,	29.66,	0.00)	GC	1
580_05	1ST HIGHEST VALUE IS	651.22333 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
	2ND HIGHEST VALUE IS	580.86426 AT (	574997.00,	4177900.00,	30.72,	0.00)	GC	1
	3RD HIGHEST VALUE IS	390.75964 AT (	574997.00,	4177875.00,	29.99,	0.00)	GC	1
	4TH HIGHEST VALUE IS	372.59842 AT (	574947.00,	4177925.00,	31.21,	0.00)	GC	1
	5TH HIGHEST VALUE IS	332.36395 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
	6TH HIGHEST VALUE IS	295.01767 AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1
	7TH HIGHEST VALUE IS	228.98441 AT (	574997.00,	4177925.00,	34.35,	0.00)	GC	1
	8TH HIGHEST VALUE IS	223.01712 AT (	574922.00,	4177900.00,	28.38,	0.00)	GC	1
	9TH HIGHEST VALUE IS	213.68649 AT (	575022.00,	4177900.00,	33.22,	0.00)	GC	1
	10TH HIGHEST VALUE IS	194.49240 AT (	575022.00,	4177875.00,	30.72,	0.00)	GC	1
580_06	1ST HIGHEST VALUE IS	638.72394 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1
	2ND HIGHEST VALUE IS	458.12424 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
	3RD HIGHEST VALUE IS	398.38254 AT (	575022.00,	4177875.00,	30.72,	0.00)	GC	1
	4TH HIGHEST VALUE IS	380.67496 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1
	5TH HIGHEST VALUE IS	296.39975 AT (	575022.00,	4177825.00,	28.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	236.35036 AT (	575047.00,	4177850.00,	30.72,	0.00)	GC	1
	7TH HIGHEST VALUE IS	211.41585 AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
	8TH HIGHEST VALUE IS	204.00719 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
	9TH HIGHEST VALUE IS	181.15205 AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
	10TH HIGHEST VALUE IS	176.40108 AT (	575047.00,	4177875.00,	33.22,	0.00)	GC	1

**MODELOPTs:
CONC URBAN ELEV DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_07	1ST HIGHEST VALUE IS	965.24597 AT (	575047.00,	4177800.00,	28.99,	0.00)	GC	1
	2ND HIGHEST VALUE IS	679.83893 AT (	575047.00,	4177825.00,	29.99,	0.00)	GC	1
	3RD HIGHEST VALUE IS	407.90411 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1
	4TH HIGHEST VALUE IS	348.33093 AT (	575072.00,	4177800.00,	29.84,	0.00)	GC	1
	5TH HIGHEST VALUE IS	292.25272 AT (	575072.00,	4177825.00,	30.72,	0.00)	GC	1
	6TH HIGHEST VALUE IS	289.14902 AT (	575047.00,	4177775.00,	28.01,	0.00)	GC	1
	7TH HIGHEST VALUE IS	288.71796 AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
	8TH HIGHEST VALUE IS	239.40637 AT (	575022.00,	4177775.00,	27.07,	0.00)	GC	1
	9TH HIGHEST VALUE IS	199.74011 AT (	575072.00,	4177775.00,	28.99,	0.00)	GC	1
	10TH HIGHEST VALUE IS	187.30673 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1
580_08	1ST HIGHEST VALUE IS	741.97046 AT (	575097.00,	4177775.00,	29.99,	0.00)	GC	1
	2ND HIGHEST VALUE IS	670.56525 AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1
	3RD HIGHEST VALUE IS	513.87244 AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1
	4TH HIGHEST VALUE IS	347.82736 AT (	575047.00,	4177750.00,	27.04,	0.00)	GC	1
	5TH HIGHEST VALUE IS	292.73175 AT (	575047.00,	4177800.00,	28.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	259.92703 AT (	575072.00,	4177800.00,	29.84,	0.00)	GC	1
	7TH HIGHEST VALUE IS	247.44827 AT (	575122.00,	4177775.00,	30.72,	0.00)	GC	1
	8TH HIGHEST VALUE IS	234.31898 AT (	575122.00,	4177750.00,	29.84,	0.00)	GC	1
	9TH HIGHEST VALUE IS	217.76892 AT (	575097.00,	4177800.00,	30.72,	0.00)	GC	1
	10TH HIGHEST VALUE IS	201.29294 AT (	575072.00,	4177725.00,	27.07,	0.00)	GC	1
580_09	1ST HIGHEST VALUE IS	512.57043 AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1
	2ND HIGHEST VALUE IS	497.15707 AT (	575147.00,	4177725.00,	29.99,	0.00)	GC	1
	3RD HIGHEST VALUE IS	357.99896 AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1
	4TH HIGHEST VALUE IS	343.42404 AT (	575097.00,	4177700.00,	27.04,	0.00)	GC	1
	5TH HIGHEST VALUE IS	341.38831 AT (	575122.00,	4177750.00,	29.84,	0.00)	GC	1
	6TH HIGHEST VALUE IS	309.18912 AT (	575147.00,	4177700.00,	28.62,	0.00)	GC	1
	7TH HIGHEST VALUE IS	271.72714 AT (	575072.00,	4177725.00,	27.07,	0.00)	GC	1
	8TH HIGHEST VALUE IS	258.26767 AT (	575147.00,	4177750.00,	30.05,	0.00)	GC	1
	9TH HIGHEST VALUE IS	236.96573 AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1
	10TH HIGHEST VALUE IS	195.79338 AT (	575172.00,	4177725.00,	30.08,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
580_10	1ST HIGHEST VALUE IS	924.15894 AT (	575172.00,	4177675.00,	27.98,	0.00)	GC	1
	2ND HIGHEST VALUE IS	570.83643 AT (	575172.00,	4177700.00,	28.99,	0.00)	GC	1
	3RD HIGHEST VALUE IS	450.13586 AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1
	4TH HIGHEST VALUE IS	413.61304 AT (	575122.00,	4177675.00,	27.07,	0.00)	GC	1
	5TH HIGHEST VALUE IS	309.75684 AT (	575197.00,	4177675.00,	28.01,	0.00)	GC	1
	6TH HIGHEST VALUE IS	309.06589 AT (	575172.00,	4177650.00,	26.37,	0.00)	GC	1
	7TH HIGHEST VALUE IS	290.75443 AT (	575147.00,	4177650.00,	26.00,	0.00)	GC	1
	8TH HIGHEST VALUE IS	231.15083 AT (	575197.00,	4177700.00,	29.05,	0.00)	GC	1
	9TH HIGHEST VALUE IS	200.61801 AT (	575197.00,	4177650.00,	26.73,	0.00)	GC	1
	10TH HIGHEST VALUE IS	155.80713 AT (	575122.00,	4177650.00,	26.00,	0.00)	GC	1
580_11	1ST HIGHEST VALUE IS	372.30225 AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1
	2ND HIGHEST VALUE IS	253.21472 AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1
	3RD HIGHEST VALUE IS	223.09149 AT (	575147.00,	4177650.00,	26.00,	0.00)	GC	1
	4TH HIGHEST VALUE IS	200.54961 AT (	575172.00,	4177675.00,	27.98,	0.00)	GC	1
	5TH HIGHEST VALUE IS	178.32764 AT (	575147.00,	4177625.00,	24.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	170.24770 AT (	575197.00,	4177675.00,	28.01,	0.00)	GC	1
	7TH HIGHEST VALUE IS	159.22626 AT (	575172.00,	4177600.00,	23.99,	0.00)	GC	1
	8TH HIGHEST VALUE IS	135.21773 AT (	575147.00,	4177675.00,	27.13,	0.00)	GC	1
	9TH HIGHEST VALUE IS	100.12820 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1
	10TH HIGHEST VALUE IS	93.95755 AT (	575147.00,	4177600.00,	23.99,	0.00)	GC	1
580_12	1ST HIGHEST VALUE IS	428.00378 AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1
	2ND HIGHEST VALUE IS	239.43250 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1
	3RD HIGHEST VALUE IS	223.20309 AT (	575197.00,	4177625.00,	25.21,	0.00)	GC	1
	4TH HIGHEST VALUE IS	128.06351 AT (	575172.00,	4177600.00,	23.99,	0.00)	GC	1
	5TH HIGHEST VALUE IS	112.19740 AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	102.22208 AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1
	7TH HIGHEST VALUE IS	101.39700 AT (	575172.00,	4177575.00,	23.13,	0.00)	GC	1
	8TH HIGHEST VALUE IS	79.92865 AT (	575197.00,	4177650.00,	26.73,	0.00)	GC	1
	9TH HIGHEST VALUE IS	66.22372 AT (	575172.00,	4177550.00,	22.65,	0.00)	GC	1
	10TH HIGHEST VALUE IS	65.10756 AT (	575172.00,	4177650.00,	26.37,	0.00)	GC	1

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CONC                       URBAN  ELEV         DFAULT

                                                   *** THE SUMMARY OF MAXIMUM PERIOD ( 52584 HRS) RESULTS ***

                                               ** CONC OF OTHER    IN MICROGRAMS/M**3                           **

                                                                                                         NETWORK
GROUP ID                      AVERAGE CONC                RECEPTOR  (XR, YR, ZELEV, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

580_13   1ST HIGHEST VALUE IS      78.23949 AT (  575197.00,  4177550.00,     22.98,      0.00)  GC   1
         2ND HIGHEST VALUE IS      74.67707 AT (  575197.00,  4177575.00,     23.23,      0.00)  GC   1
         3RD HIGHEST VALUE IS      66.25939 AT (  575197.00,  4177525.00,     22.01,      0.00)  GC   1
         4TH HIGHEST VALUE IS      53.43989 AT (  575197.00,  4177500.00,     22.01,      0.00)  GC   1
         5TH HIGHEST VALUE IS      51.75502 AT (  575197.00,  4177600.00,     24.05,      0.00)  GC   1
         6TH HIGHEST VALUE IS      43.11470 AT (  575172.00,  4177575.00,     23.13,      0.00)  GC   1
         7TH HIGHEST VALUE IS      41.69991 AT (  575172.00,  4177550.00,     22.65,      0.00)  GC   1
         8TH HIGHEST VALUE IS      36.90586 AT (  575172.00,  4177525.00,     22.01,      0.00)  GC   1
         9TH HIGHEST VALUE IS      36.83940 AT (  575172.00,  4177600.00,     23.99,      0.00)  GC   1
        10TH HIGHEST VALUE IS      34.72002 AT (  575197.00,  4177475.00,     21.00,      0.00)  GC   1

580_14   1ST HIGHEST VALUE IS      38.49137 AT (  575197.00,  4177525.00,     22.01,      0.00)  GC   1
         2ND HIGHEST VALUE IS      37.77801 AT (  575197.00,  4177500.00,     22.01,      0.00)  GC   1
         3RD HIGHEST VALUE IS      33.36390 AT (  575197.00,  4177550.00,     22.98,      0.00)  GC   1
         4TH HIGHEST VALUE IS      32.96554 AT (  575197.00,  4177475.00,     21.00,      0.00)  GC   1
         5TH HIGHEST VALUE IS      30.52714 AT (  575197.00,  4177450.00,     21.00,      0.00)  GC   1
         6TH HIGHEST VALUE IS      26.29465 AT (  575197.00,  4177425.00,     21.00,      0.00)  GC   1
         7TH HIGHEST VALUE IS      25.12945 AT (  575172.00,  4177525.00,     22.01,      0.00)  GC   1
         8TH HIGHEST VALUE IS      24.33277 AT (  575197.00,  4177575.00,     23.23,      0.00)  GC   1
         9TH HIGHEST VALUE IS      24.17435 AT (  575172.00,  4177500.00,     21.79,      0.00)  GC   1
        10TH HIGHEST VALUE IS      24.03973 AT (  575172.00,  4177550.00,     22.65,      0.00)  GC   1

580_15   1ST HIGHEST VALUE IS      21.65335 AT (  575197.00,  4177475.00,     21.00,      0.00)  GC   1
         2ND HIGHEST VALUE IS      21.19071 AT (  575197.00,  4177450.00,     21.00,      0.00)  GC   1
         3RD HIGHEST VALUE IS      20.59422 AT (  575197.00,  4177500.00,     22.01,      0.00)  GC   1
         4TH HIGHEST VALUE IS      19.71745 AT (  575197.00,  4177425.00,     21.00,      0.00)  GC   1
         5TH HIGHEST VALUE IS      18.12722 AT (  575197.00,  4177400.00,     21.00,      0.00)  GC   1
         6TH HIGHEST VALUE IS      16.90312 AT (  575197.00,  4177525.00,     22.01,      0.00)  GC   1
         7TH HIGHEST VALUE IS      15.58308 AT (  575172.00,  4177475.00,     21.00,      0.00)  GC   1
         8TH HIGHEST VALUE IS      15.55933 AT (  575172.00,  4177500.00,     21.79,      0.00)  GC   1
         9TH HIGHEST VALUE IS      15.20317 AT (  575172.00,  4177450.00,     21.00,      0.00)  GC   1
        10TH HIGHEST VALUE IS      14.29202 AT (  575172.00,  4177425.00,     21.00,      0.00)  GC   1
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*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
580_16	1ST HIGHEST VALUE IS	14.16520	AT (575197.00, 4177425.00, 21.00, 0.00)	GC	1
	2ND HIGHEST VALUE IS	13.88063	AT (575197.00, 4177400.00, 21.00, 0.00)	GC	1
	3RD HIGHEST VALUE IS	13.78371	AT (575197.00, 4177450.00, 21.00, 0.00)	GC	1
	4TH HIGHEST VALUE IS	12.14727	AT (575197.00, 4177475.00, 21.00, 0.00)	GC	1
	5TH HIGHEST VALUE IS	10.87043	AT (575172.00, 4177450.00, 21.00, 0.00)	GC	1
	6TH HIGHEST VALUE IS	10.81990	AT (575172.00, 4177425.00, 21.00, 0.00)	GC	1
	7TH HIGHEST VALUE IS	10.61066	AT (575172.00, 4177400.00, 21.00, 0.00)	GC	1
	8TH HIGHEST VALUE IS	10.17003	AT (575172.00, 4177475.00, 21.00, 0.00)	GC	1
	9TH HIGHEST VALUE IS	10.08214	AT (575197.00, 4177500.00, 22.01, 0.00)	GC	1
	10TH HIGHEST VALUE IS	8.86765	AT (575172.00, 4177500.00, 21.79, 0.00)	GC	1
580_17	1ST HIGHEST VALUE IS	10.28294	AT (575197.00, 4177400.00, 21.00, 0.00)	GC	1
	2ND HIGHEST VALUE IS	9.53702	AT (575197.00, 4177425.00, 21.00, 0.00)	GC	1
	3RD HIGHEST VALUE IS	8.30534	AT (575172.00, 4177400.00, 21.00, 0.00)	GC	1
	4TH HIGHEST VALUE IS	8.23201	AT (575197.00, 4177450.00, 21.00, 0.00)	GC	1
	5TH HIGHEST VALUE IS	8.03895	AT (575172.00, 4177425.00, 21.00, 0.00)	GC	1
	6TH HIGHEST VALUE IS	7.26888	AT (575172.00, 4177450.00, 21.00, 0.00)	GC	1
	7TH HIGHEST VALUE IS	6.88260	AT (575197.00, 4177475.00, 21.00, 0.00)	GC	1
	8TH HIGHEST VALUE IS	6.79546	AT (575147.00, 4177400.00, 21.00, 0.00)	GC	1
	9TH HIGHEST VALUE IS	6.76501	AT (575147.00, 4177425.00, 21.00, 0.00)	GC	1
	10TH HIGHEST VALUE IS	6.36658	AT (575147.00, 4177450.00, 21.00, 0.00)	GC	1
GASST_01	1ST HIGHEST VALUE IS	398.72171	AT (574947.00, 4177800.00, 25.05, 0.00)	GC	1
	2ND HIGHEST VALUE IS	356.08884	AT (574972.00, 4177825.00, 27.07, 0.00)	GC	1
	3RD HIGHEST VALUE IS	352.28659	AT (574972.00, 4177800.00, 26.37, 0.00)	GC	1
	4TH HIGHEST VALUE IS	186.25409	AT (574947.00, 4177775.00, 24.99, 0.00)	GC	1
	5TH HIGHEST VALUE IS	179.70311	AT (574922.00, 4177850.00, 26.00, 0.00)	GC	1
	6TH HIGHEST VALUE IS	179.31395	AT (574972.00, 4177775.00, 26.00, 0.00)	GC	1
	7TH HIGHEST VALUE IS	174.33525	AT (574947.00, 4177850.00, 27.04, 0.00)	GC	1
	8TH HIGHEST VALUE IS	173.95193	AT (574997.00, 4177800.00, 27.04, 0.00)	GC	1
	9TH HIGHEST VALUE IS	160.98470	AT (574997.00, 4177825.00, 28.01, 0.00)	GC	1
	10TH HIGHEST VALUE IS	136.01294	AT (574972.00, 4177850.00, 27.98, 0.00)	GC	1

**MODELOPTs:
CONC   URBAN ELEV   DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
GASST_02	1ST HIGHEST VALUE IS	446.18790	AT (	574922.00,	4177800.00,	24.38,	0.00)	GC	1
	2ND HIGHEST VALUE IS	301.44852	AT (	574922.00,	4177775.00,	23.65,	0.00)	GC	1
	3RD HIGHEST VALUE IS	262.65900	AT (	574947.00,	4177800.00,	25.05,	0.00)	GC	1
	4TH HIGHEST VALUE IS	251.12752	AT (	574947.00,	4177775.00,	24.99,	0.00)	GC	1
	5TH HIGHEST VALUE IS	188.17842	AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1
	6TH HIGHEST VALUE IS	141.49857	AT (	574972.00,	4177775.00,	26.00,	0.00)	GC	1
	7TH HIGHEST VALUE IS	137.74272	AT (	574972.00,	4177800.00,	26.37,	0.00)	GC	1
	8TH HIGHEST VALUE IS	134.14171	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1
	9TH HIGHEST VALUE IS	134.01950	AT (	574947.00,	4177750.00,	24.08,	0.00)	GC	1
	10TH HIGHEST VALUE IS	133.25237	AT (	574897.00,	4177825.00,	24.20,	0.00)	GC	1
GASST_03	1ST HIGHEST VALUE IS	710.61951	AT (	574922.00,	4177850.00,	26.00,	0.00)	GC	1
	2ND HIGHEST VALUE IS	467.72906	AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1
	3RD HIGHEST VALUE IS	264.39603	AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
	4TH HIGHEST VALUE IS	238.62656	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1
	5TH HIGHEST VALUE IS	224.23322	AT (	574922.00,	4177875.00,	27.07,	0.00)	GC	1
	6TH HIGHEST VALUE IS	219.63707	AT (	574897.00,	4177875.00,	26.00,	0.00)	GC	1
	7TH HIGHEST VALUE IS	193.91687	AT (	574897.00,	4177825.00,	24.20,	0.00)	GC	1
	8TH HIGHEST VALUE IS	157.90508	AT (	574922.00,	4177800.00,	24.38,	0.00)	GC	1
	9TH HIGHEST VALUE IS	149.80452	AT (	574872.00,	4177875.00,	23.99,	0.00)	GC	1
	10TH HIGHEST VALUE IS	136.72328	AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
GASST_04	1ST HIGHEST VALUE IS	625.03607	AT (	574997.00,	4177775.00,	26.21,	0.00)	GC	1
	2ND HIGHEST VALUE IS	502.00940	AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
	3RD HIGHEST VALUE IS	258.99429	AT (	574997.00,	4177750.00,	26.00,	0.00)	GC	1
	4TH HIGHEST VALUE IS	251.68579	AT (	575022.00,	4177775.00,	27.07,	0.00)	GC	1
	5TH HIGHEST VALUE IS	241.25716	AT (	574972.00,	4177750.00,	24.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	240.30669	AT (	574947.00,	4177800.00,	25.05,	0.00)	GC	1
	7TH HIGHEST VALUE IS	210.02119	AT (	574947.00,	4177775.00,	24.99,	0.00)	GC	1
	8TH HIGHEST VALUE IS	202.95334	AT (	575022.00,	4177800.00,	27.98,	0.00)	GC	1
	9TH HIGHEST VALUE IS	170.67224	AT (	575022.00,	4177750.00,	26.37,	0.00)	GC	1
	10TH HIGHEST VALUE IS	160.34181	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
GASST_05	1ST HIGHEST VALUE IS	702.68030 AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
	2ND HIGHEST VALUE IS	647.03217 AT (	574997.00,	4177850.00,	28.99,	0.00)	GC	1
	3RD HIGHEST VALUE IS	452.14142 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1
	4TH HIGHEST VALUE IS	384.31543 AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1
	5TH HIGHEST VALUE IS	327.11203 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
	6TH HIGHEST VALUE IS	267.10181 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
	7TH HIGHEST VALUE IS	227.82265 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1
	8TH HIGHEST VALUE IS	217.39615 AT (	574997.00,	4177875.00,	29.99,	0.00)	GC	1
	9TH HIGHEST VALUE IS	213.75430 AT (	575022.00,	4177825.00,	28.99,	0.00)	GC	1
	10TH HIGHEST VALUE IS	210.89674 AT (	574922.00,	4177850.00,	26.00,	0.00)	GC	1
GASST_06	1ST HIGHEST VALUE IS	627.23242 AT (	574897.00,	4177775.00,	22.98,	0.00)	GC	1
	2ND HIGHEST VALUE IS	402.37241 AT (	574897.00,	4177750.00,	22.04,	0.00)	GC	1
	3RD HIGHEST VALUE IS	361.06650 AT (	574872.00,	4177750.00,	22.01,	0.00)	GC	1
	4TH HIGHEST VALUE IS	237.23817 AT (	574922.00,	4177775.00,	23.65,	0.00)	GC	1
	5TH HIGHEST VALUE IS	221.96155 AT (	574922.00,	4177750.00,	22.98,	0.00)	GC	1
	6TH HIGHEST VALUE IS	217.63049 AT (	574872.00,	4177800.00,	22.86,	0.00)	GC	1
	7TH HIGHEST VALUE IS	208.36311 AT (	574847.00,	4177800.00,	22.01,	0.00)	GC	1
	8TH HIGHEST VALUE IS	206.99873 AT (	574897.00,	4177800.00,	23.68,	0.00)	GC	1
	9TH HIGHEST VALUE IS	169.66689 AT (	574897.00,	4177725.00,	22.01,	0.00)	GC	1
	10TH HIGHEST VALUE IS	149.91614 AT (	574847.00,	4177750.00,	21.06,	0.00)	GC	1
GASST_07	1ST HIGHEST VALUE IS	479.64081 AT (	574872.00,	4177750.00,	22.01,	0.00)	GC	1
	2ND HIGHEST VALUE IS	448.61710 AT (	574847.00,	4177725.00,	21.00,	0.00)	GC	1
	3RD HIGHEST VALUE IS	346.54456 AT (	574872.00,	4177725.00,	21.09,	0.00)	GC	1
	4TH HIGHEST VALUE IS	232.59723 AT (	574847.00,	4177775.00,	22.01,	0.00)	GC	1
	5TH HIGHEST VALUE IS	222.90857 AT (	574822.00,	4177775.00,	21.12,	0.00)	GC	1
	6TH HIGHEST VALUE IS	193.68550 AT (	574897.00,	4177750.00,	22.04,	0.00)	GC	1
	7TH HIGHEST VALUE IS	189.43736 AT (	574897.00,	4177725.00,	22.01,	0.00)	GC	1
	8TH HIGHEST VALUE IS	180.37277 AT (	574872.00,	4177775.00,	22.01,	0.00)	GC	1
	9TH HIGHEST VALUE IS	171.20706 AT (	574797.00,	4177750.00,	20.67,	0.00)	GC	1
	10TH HIGHEST VALUE IS	159.99785 AT (	574872.00,	4177700.00,	21.00,	0.00)	GC	1

**MODELOPTs:
CONC   URBAN ELEV   DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG) OF TYPE	NETWORK GRID-ID
GASST_08	1ST HIGHEST VALUE IS	442.81036	AT (574822.00, 4177725.00, 20.09, 0.00) GC	1
	2ND HIGHEST VALUE IS	349.13843	AT (574822.00, 4177700.00, 19.99, 0.00) GC	1
	3RD HIGHEST VALUE IS	259.69955	AT (574847.00, 4177725.00, 21.00, 0.00) GC	1
	4TH HIGHEST VALUE IS	222.64502	AT (574847.00, 4177700.00, 20.06, 0.00) GC	1
	5TH HIGHEST VALUE IS	182.33015	AT (574822.00, 4177750.00, 21.00, 0.00) GC	1
	6TH HIGHEST VALUE IS	162.77922	AT (574797.00, 4177750.00, 20.67, 0.00) GC	1
	7TH HIGHEST VALUE IS	155.71759	AT (574822.00, 4177675.00, 19.99, 0.00) GC	1
	8TH HIGHEST VALUE IS	146.82372	AT (574772.00, 4177750.00, 19.99, 0.00) GC	1
	9TH HIGHEST VALUE IS	144.54791	AT (574797.00, 4177700.00, 19.99, 0.00) GC	1
	10TH HIGHEST VALUE IS	140.19604	AT (574772.00, 4177725.00, 19.99, 0.00) GC	1
GASST_09	1ST HIGHEST VALUE IS	302.71680	AT (574797.00, 4177700.00, 19.99, 0.00) GC	1
	2ND HIGHEST VALUE IS	261.92386	AT (574797.00, 4177675.00, 19.02, 0.00) GC	1
	3RD HIGHEST VALUE IS	174.24023	AT (574822.00, 4177675.00, 19.99, 0.00) GC	1
	4TH HIGHEST VALUE IS	156.43739	AT (574822.00, 4177700.00, 19.99, 0.00) GC	1
	5TH HIGHEST VALUE IS	146.24707	AT (574797.00, 4177650.00, 18.99, 0.00) GC	1
	6TH HIGHEST VALUE IS	136.37108	AT (574772.00, 4177650.00, 18.99, 0.00) GC	1
	7TH HIGHEST VALUE IS	130.93112	AT (574747.00, 4177725.00, 19.99, 0.00) GC	1
	8TH HIGHEST VALUE IS	119.34871	AT (574822.00, 4177650.00, 19.39, 0.00) GC	1
	9TH HIGHEST VALUE IS	116.32423	AT (574772.00, 4177725.00, 19.99, 0.00) GC	1
	10TH HIGHEST VALUE IS	112.25262	AT (574797.00, 4177725.00, 19.99, 0.00) GC	1
GASST_10	1ST HIGHEST VALUE IS	198.90540	AT (574772.00, 4177650.00, 18.99, 0.00) GC	1
	2ND HIGHEST VALUE IS	182.67683	AT (574747.00, 4177675.00, 18.99, 0.00) GC	1
	3RD HIGHEST VALUE IS	165.01988	AT (574747.00, 4177650.00, 17.98, 0.00) GC	1
	4TH HIGHEST VALUE IS	156.71700	AT (574772.00, 4177675.00, 18.99, 0.00) GC	1
	5TH HIGHEST VALUE IS	121.29653	AT (574772.00, 4177625.00, 18.07, 0.00) GC	1
	6TH HIGHEST VALUE IS	118.68651	AT (574797.00, 4177650.00, 18.99, 0.00) GC	1
	7TH HIGHEST VALUE IS	110.86613	AT (574747.00, 4177625.00, 17.98, 0.00) GC	1
	8TH HIGHEST VALUE IS	100.49820	AT (574797.00, 4177625.00, 18.99, 0.00) GC	1
	9TH HIGHEST VALUE IS	98.83588	AT (574797.00, 4177675.00, 19.02, 0.00) GC	1
	10TH HIGHEST VALUE IS	76.30881	AT (574772.00, 4177700.00, 19.63, 0.00) GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
GASST_11	1ST HIGHEST VALUE IS	139.25107	AT (	574722.00,	4177625.00,	17.98,	0.00)	GC	1
	2ND HIGHEST VALUE IS	116.37540	AT (	574747.00,	4177625.00,	17.98,	0.00)	GC	1
	3RD HIGHEST VALUE IS	113.57471	AT (	574722.00,	4177650.00,	17.98,	0.00)	GC	1
	4TH HIGHEST VALUE IS	96.08421	AT (	574747.00,	4177650.00,	17.98,	0.00)	GC	1
	5TH HIGHEST VALUE IS	94.64082	AT (	574722.00,	4177600.00,	17.98,	0.00)	GC	1
	6TH HIGHEST VALUE IS	92.85007	AT (	574747.00,	4177600.00,	17.98,	0.00)	GC	1
	7TH HIGHEST VALUE IS	80.35980	AT (	574772.00,	4177625.00,	18.07,	0.00)	GC	1
	8TH HIGHEST VALUE IS	74.01653	AT (	574772.00,	4177650.00,	18.99,	0.00)	GC	1
	9TH HIGHEST VALUE IS	71.80815	AT (	574772.00,	4177600.00,	17.98,	0.00)	GC	1
	10TH HIGHEST VALUE IS	61.66257	AT (	574747.00,	4177575.00,	17.98,	0.00)	GC	1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_01	HIGH	1ST HIGH VALUE IS	1990.78967	ON 78100203: AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1
580_02	HIGH	1ST HIGH VALUE IS	6213.92529	ON 78050724: AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1
580_03	HIGH	1ST HIGH VALUE IS	12226.57812	ON 80081901: AT (	574947.00,	4178000.00,	40.72,	0.00)	GC	1
580_04	HIGH	1ST HIGH VALUE IS	9561.77734	ON 78091920: AT (	574972.00,	4177950.00,	36.61,	0.00)	GC	1
580_05	HIGH	1ST HIGH VALUE IS	12075.67285	ON 79090502: AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1
580_06	HIGH	1ST HIGH VALUE IS	14708.54590	ON 78092401: AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
580_07	HIGH	1ST HIGH VALUE IS	13422.26562	ON 78062423: AT (	575047.00,	4177825.00,	29.99,	0.00)	GC	1
580_08	HIGH	1ST HIGH VALUE IS	13063.54785	ON 78092021: AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1
580_09	HIGH	1ST HIGH VALUE IS	14535.50098	ON 78101302: AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1
580_10	HIGH	1ST HIGH VALUE IS	11238.68848	ON 78051305: AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1
580_11	HIGH	1ST HIGH VALUE IS	12648.94238	ON 78092504: AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1
580_12	HIGH	1ST HIGH VALUE IS	10695.19922	ON 81020305: AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1
580_13	HIGH	1ST HIGH VALUE IS	3615.84424	ON 80040803: AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1
580_14	HIGH	1ST HIGH VALUE IS	2148.96167	ON 78020302: AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1
580_15	HIGH	1ST HIGH VALUE IS	1379.27991	ON 78103006: AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1
580_16	HIGH	1ST HIGH VALUE IS	974.34912	ON 78040802: AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1
580_17	HIGH	1ST HIGH VALUE IS	679.41040	ON 78112102: AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1
GASST_01	HIGH	1ST HIGH VALUE IS	7565.91016	ON 80020901: AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
GASST_02	HIGH	1ST HIGH VALUE IS	6350.31299	ON 78122918: AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1
GASST_03	HIGH	1ST HIGH VALUE IS	9201.61426	ON 80051506: AT (	574897.00,	4177875.00,	26.00,	0.00)	GC	1

**MODELOPTs:
CONC   URBAN ELEV   DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
GASST_04 HIGH	1ST HIGH VALUE IS	8923.74316	ON 78110502: AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
GASST_05 HIGH	1ST HIGH VALUE IS	12090.58105	ON 80071922: AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
GASST_06 HIGH	1ST HIGH VALUE IS	8857.02930	ON 78122118: AT (	574872.00,	4177800.00,	22.86,	0.00)	GC	1
GASST_07 HIGH	1ST HIGH VALUE IS	8748.99609	ON 79090502: AT (	574847.00,	4177775.00,	22.01,	0.00)	GC	1
GASST_08 HIGH	1ST HIGH VALUE IS	5674.45898	ON 81111404: AT (	574822.00,	4177750.00,	21.00,	0.00)	GC	1
GASST_09 HIGH	1ST HIGH VALUE IS	4709.10791	ON 83011517: AT (	574772.00,	4177675.00,	18.99,	0.00)	GC	1
GASST_10 HIGH	1ST HIGH VALUE IS	5226.34619	ON 83011517: AT (	574747.00,	4177650.00,	17.98,	0.00)	GC	1
GASST_11 HIGH	1ST HIGH VALUE IS	4170.12646	ON 83011518: AT (	574722.00,	4177625.00,	17.98,	0.00)	GC	1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

```
**MODELOPTs:
CONC                        URBAN  ELEV          DFAULT


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            1 Warning Message(s)
A Total of          460 Informational Message(s)

A Total of          460 Calm Hours Identified


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W360   307 SET_WI:2-Digit Year Specified: Valid for Range 1950-2049  SURFDATA

   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```

This file: P:\LRY1002\HRA\Rep_Chr_Wrk_PtEst_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:14 PM

EXCEPTION REPORT
   (there have been no changes or exceptions)

INPUT FILES:
   Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
   Averaging period adjustment factors file: not applicable
   Emission rates file: EmisRatesPM25.ems
   Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: Standard work schedule (49 wks/yr, 5 days/wk, 8 hrs/day, 40 yrs)
Analysis method: Point estimate
Health effect: Chronic HI
Receptor(s):   All
Sources(s):   All
Chemicals(s):   All

SITE PARAMETERS

DEPOSITION

   Deposition rate (m/s)   0.05

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)

9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=4   NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=5   NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=6   NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=7   NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=27   NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=28   NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CHRONIC HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	4.17E-06	0.00E+00	3.88E-06	3.26E-08	0.00E+00	3.26E-08	0.00E+00	3.26E-08	1.65E-06	2.12E-04	0.00E+00	2.66E-06	2.12E-04
0002	0.00E+00	4.63E-06	0.00E+00	4.31E-06	3.62E-08	0.00E+00	3.62E-08	0.00E+00	3.62E-08	1.83E-06	2.36E-04	0.00E+00	2.96E-06	2.36E-04
0003	0.00E+00	5.17E-06	0.00E+00	4.81E-06	4.04E-08	0.00E+00	4.04E-08	0.00E+00	4.04E-08	2.05E-06	2.63E-04	0.00E+00	3.30E-06	2.63E-04
0004	0.00E+00	5.78E-06	0.00E+00	5.38E-06	4.52E-08	0.00E+00	4.52E-08	0.00E+00	4.52E-08	2.29E-06	2.94E-04	0.00E+00	3.69E-06	2.94E-04
0005	0.00E+00	6.55E-06	0.00E+00	6.09E-06	5.12E-08	0.00E+00	5.12E-08	0.00E+00	5.12E-08	2.59E-06	3.33E-04	0.00E+00	4.19E-06	3.33E-04
0006	0.00E+00	7.53E-06	0.00E+00	7.01E-06	5.88E-08	0.00E+00	5.88E-08	0.00E+00	5.88E-08	2.98E-06	3.83E-04	0.00E+00	4.81E-06	3.83E-04
0007	0.00E+00	8.89E-06	0.00E+00	8.27E-06	6.94E-08	0.00E+00	6.94E-08	0.00E+00	6.94E-08	3.52E-06	4.51E-04	0.00E+00	5.68E-06	4.51E-04
0008	0.00E+00	1.07E-05	0.00E+00	9.97E-06	8.37E-08	0.00E+00	8.37E-08	0.00E+00	8.37E-08	4.24E-06	5.43E-04	0.00E+00	6.85E-06	5.43E-04
0009	0.00E+00	1.31E-05	0.00E+00	1.22E-05	1.02E-07	0.00E+00	1.02E-07	0.00E+00	1.02E-07	5.18E-06	6.63E-04	0.00E+00	8.37E-06	6.63E-04
0010	0.00E+00	1.64E-05	0.00E+00	1.53E-05	1.28E-07	0.00E+00	1.28E-07	0.00E+00	1.28E-07	6.51E-06	8.32E-04	0.00E+00	1.05E-05	8.32E-04
0011	0.00E+00	2.15E-05	0.00E+00	2.00E-05	1.67E-07	0.00E+00	1.67E-07	0.00E+00	1.67E-07	8.49E-06	1.08E-03	0.00E+00	1.37E-05	1.08E-03
0012	0.00E+00	3.52E-05	0.00E+00	3.27E-05	2.74E-07	0.00E+00	2.74E-07	0.00E+00	2.74E-07	1.39E-05	1.77E-03	0.00E+00	2.25E-05	1.77E-03
0013	0.00E+00	8.81E-05	0.00E+00	8.20E-05	6.86E-07	0.00E+00	6.86E-07	0.00E+00	6.86E-07	3.48E-05	4.44E-03	0.00E+00	5.63E-05	4.44E-03
0014	0.00E+00	5.90E-05	0.00E+00	5.49E-05	4.59E-07	0.00E+00	4.59E-07	0.00E+00	4.59E-07	2.33E-05	2.97E-03	0.00E+00	3.77E-05	2.97E-03
0015	0.00E+00	1.33E-04	0.00E+00	1.24E-04	1.04E-06	0.00E+00	1.04E-06	0.00E+00	1.04E-06	5.28E-05	6.72E-03	0.00E+00	8.53E-05	6.72E-03
0016	0.00E+00	6.73E-05	0.00E+00	6.26E-05	5.24E-07	0.00E+00	5.24E-07	0.00E+00	5.24E-07	2.66E-05	3.39E-03	0.00E+00	4.30E-05	3.39E-03
0017	0.00E+00	4.25E-05	0.00E+00	3.95E-05	3.31E-07	0.00E+00	3.31E-07	0.00E+00	3.31E-07	1.68E-05	2.14E-03	0.00E+00	2.71E-05	2.14E-03
0018	0.00E+00	3.06E-05	0.00E+00	2.85E-05	2.39E-07	0.00E+00	2.39E-07	0.00E+00	2.39E-07	1.21E-05	1.54E-03	0.00E+00	1.96E-05	1.54E-03
0019	0.00E+00	2.36E-05	0.00E+00	2.20E-05	1.84E-07	0.00E+00	1.84E-07	0.00E+00	1.84E-07	9.34E-06	1.19E-03	0.00E+00	1.51E-05	1.19E-03
0020	0.00E+00	1.90E-05	0.00E+00	1.77E-05	1.48E-07	0.00E+00	1.48E-07	0.00E+00	1.48E-07	7.52E-06	9.59E-04	0.00E+00	1.21E-05	9.59E-04
0021	0.00E+00	1.58E-05	0.00E+00	1.47E-05	1.23E-07	0.00E+00	1.23E-07	0.00E+00	1.23E-07	6.24E-06	7.97E-04	0.00E+00	1.01E-05	7.97E-04
0022	0.00E+00	1.34E-05	0.00E+00	1.25E-05	1.04E-07	0.00E+00	1.04E-07	0.00E+00	1.04E-07	5.30E-06	6.77E-04	0.00E+00	8.56E-06	6.77E-04
0023	0.00E+00	1.16E-05	0.00E+00	1.08E-05	9.04E-08	0.00E+00	9.04E-08	0.00E+00	9.04E-08	4.58E-06	5.86E-04	0.00E+00	7.41E-06	5.86E-04
0024	0.00E+00	1.02E-05	0.00E+00	9.46E-06	7.93E-08	0.00E+00	7.93E-08	0.00E+00	7.93E-08	4.02E-06	5.14E-04	0.00E+00	6.50E-06	5.14E-04
0025	0.00E+00	9.03E-06	0.00E+00	8.41E-06	7.05E-08	0.00E+00	7.05E-08	0.00E+00	7.05E-08	3.57E-06	4.57E-04	0.00E+00	5.77E-06	4.57E-04
0026	0.00E+00	4.15E-06	0.00E+00	3.86E-06	3.25E-08	0.00E+00	3.25E-08	0.00E+00	3.25E-08	1.64E-06	2.12E-04	0.00E+00	2.65E-06	2.12E-04
0027	0.00E+00	4.61E-06	0.00E+00	4.29E-06	3.60E-08	0.00E+00	3.60E-08	0.00E+00	3.60E-08	1.82E-06	2.35E-04	0.00E+00	2.95E-06	2.35E-04

```
This file: P:\LRY1002\HRA\Rep_Chr_Res_Avg_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c  Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:44:19 PM


EXCEPTION REPORT
   (there have been no changes or exceptions)

INPUT FILES:
   Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
   Averaging period adjustment factors file: not applicable
   Emission rates file: EmisRatesPM25.ems
   Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: resident
Analysis method:   Average Point Estimate
Health effect:     Chronic HI
Receptor(s):       All
Sources(s):        All
Chemicals(s):      All

SITE PARAMETERS

DEPOSITION

   Deposition rate (m/s)             0.05

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***
```

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)

9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CHRONIC HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	4.17E-06	0.00E+00	3.88E-06	3.26E-08	0.00E+00	3.26E-08	0.00E+00	3.26E-08	1.65E-06	2.12E-04	0.00E+00	2.66E-06	2.12E-04
0002	0.00E+00	4.63E-06	0.00E+00	4.31E-06	3.62E-08	0.00E+00	3.62E-08	0.00E+00	3.62E-08	1.83E-06	2.36E-04	0.00E+00	2.96E-06	2.36E-04
0003	0.00E+00	5.17E-06	0.00E+00	4.81E-06	4.04E-08	0.00E+00	4.04E-08	0.00E+00	4.04E-08	2.05E-06	2.63E-04	0.00E+00	3.30E-06	2.63E-04
0004	0.00E+00	5.78E-06	0.00E+00	5.38E-06	4.52E-08	0.00E+00	4.52E-08	0.00E+00	4.52E-08	2.29E-06	2.94E-04	0.00E+00	3.69E-06	2.94E-04
0005	0.00E+00	6.55E-06	0.00E+00	6.09E-06	5.12E-08	0.00E+00	5.12E-08	0.00E+00	5.12E-08	2.59E-06	3.33E-04	0.00E+00	4.19E-06	3.33E-04
0006	0.00E+00	7.53E-06	0.00E+00	7.01E-06	5.88E-08	0.00E+00	5.88E-08	0.00E+00	5.88E-08	2.98E-06	3.83E-04	0.00E+00	4.81E-06	3.83E-04
0007	0.00E+00	8.89E-06	0.00E+00	8.27E-06	6.94E-08	0.00E+00	6.94E-08	0.00E+00	6.94E-08	3.52E-06	4.51E-04	0.00E+00	5.68E-06	4.51E-04
0008	0.00E+00	1.07E-05	0.00E+00	9.97E-06	8.37E-08	0.00E+00	8.37E-08	0.00E+00	8.37E-08	4.24E-06	5.43E-04	0.00E+00	6.85E-06	5.43E-04
0009	0.00E+00	1.31E-05	0.00E+00	1.22E-05	1.02E-07	0.00E+00	1.02E-07	0.00E+00	1.02E-07	5.18E-06	6.63E-04	0.00E+00	8.37E-06	6.63E-04
0010	0.00E+00	1.64E-05	0.00E+00	1.53E-05	1.28E-07	0.00E+00	1.28E-07	0.00E+00	1.28E-07	6.51E-06	8.32E-04	0.00E+00	1.05E-05	8.32E-04
0011	0.00E+00	2.15E-05	0.00E+00	2.00E-05	1.67E-07	0.00E+00	1.67E-07	0.00E+00	1.67E-07	8.49E-06	1.08E-03	0.00E+00	1.37E-05	1.08E-03
0012	0.00E+00	3.52E-05	0.00E+00	3.27E-05	2.74E-07	0.00E+00	2.74E-07	0.00E+00	2.74E-07	1.39E-05	1.77E-03	0.00E+00	2.25E-05	1.77E-03
0013	0.00E+00	8.81E-05	0.00E+00	8.20E-05	6.86E-07	0.00E+00	6.86E-07	0.00E+00	6.86E-07	3.48E-05	4.44E-03	0.00E+00	5.63E-05	4.44E-03
0014	0.00E+00	5.90E-05	0.00E+00	5.49E-05	4.59E-07	0.00E+00	4.59E-07	0.00E+00	4.59E-07	2.33E-05	2.97E-03	0.00E+00	3.77E-05	2.97E-03
0015	0.00E+00	1.33E-04	0.00E+00	1.24E-04	1.04E-06	0.00E+00	1.04E-06	0.00E+00	1.04E-06	5.28E-05	6.72E-03	0.00E+00	8.53E-05	6.72E-03
0016	0.00E+00	6.73E-05	0.00E+00	6.26E-05	5.24E-07	0.00E+00	5.24E-07	0.00E+00	5.24E-07	2.66E-05	3.39E-03	0.00E+00	4.30E-05	3.39E-03
0017	0.00E+00	4.25E-05	0.00E+00	3.95E-05	3.31E-07	0.00E+00	3.31E-07	0.00E+00	3.31E-07	1.68E-05	2.14E-03	0.00E+00	2.71E-05	2.14E-03
0018	0.00E+00	3.06E-05	0.00E+00	2.85E-05	2.39E-07	0.00E+00	2.39E-07	0.00E+00	2.39E-07	1.21E-05	1.54E-03	0.00E+00	1.96E-05	1.54E-03
0019	0.00E+00	2.36E-05	0.00E+00	2.20E-05	1.84E-07	0.00E+00	1.84E-07	0.00E+00	1.84E-07	9.34E-06	1.19E-03	0.00E+00	1.51E-05	1.19E-03
0020	0.00E+00	1.90E-05	0.00E+00	1.77E-05	1.48E-07	0.00E+00	1.48E-07	0.00E+00	1.48E-07	7.52E-06	9.59E-04	0.00E+00	1.21E-05	9.59E-04
0021	0.00E+00	1.58E-05	0.00E+00	1.47E-05	1.23E-07	0.00E+00	1.23E-07	0.00E+00	1.23E-07	6.24E-06	7.97E-04	0.00E+00	1.01E-05	7.97E-04
0022	0.00E+00	1.34E-05	0.00E+00	1.25E-05	1.04E-07	0.00E+00	1.04E-07	0.00E+00	1.04E-07	5.30E-06	6.77E-04	0.00E+00	8.56E-06	6.77E-04
0023	0.00E+00	1.16E-05	0.00E+00	1.08E-05	9.04E-08	0.00E+00	9.04E-08	0.00E+00	9.04E-08	4.58E-06	5.86E-04	0.00E+00	7.41E-06	5.86E-04
0024	0.00E+00	1.02E-05	0.00E+00	9.46E-06	7.93E-08	0.00E+00	7.93E-08	0.00E+00	7.93E-08	4.02E-06	5.14E-04	0.00E+00	6.50E-06	5.14E-04
0025	0.00E+00	9.03E-06	0.00E+00	8.41E-06	7.05E-08	0.00E+00	7.05E-08	0.00E+00	7.05E-08	3.57E-06	4.57E-04	0.00E+00	5.77E-06	4.57E-04
0026	0.00E+00	4.15E-06	0.00E+00	3.86E-06	3.25E-08	0.00E+00	3.25E-08	0.00E+00	3.25E-08	1.64E-06	2.12E-04	0.00E+00	2.65E-06	2.12E-04
0027	0.00E+00	4.61E-06	0.00E+00	4.29E-06	3.60E-08	0.00E+00	3.60E-08	0.00E+00	3.60E-08	1.82E-06	2.35E-04	0.00E+00	2.95E-06	2.35E-04

```
This file: P:\LRY1002\HRA\Rep_Can_WRK_Avg_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c  Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:06 PM


EXCEPTION REPORT
   (there have been no changes or exceptions)

INPUT FILES:
   Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
   Averaging period adjustment factors file: not applicable
   Emission rates file: EmisRatesPM25.ems
   Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: Standard work schedule (49 wks/yr, 5 days/wk, 8 hrs/day, 40 yrs)
Analysis method:   Point estimate
Health effect:     Cancer Risk
Receptor(s):       All
Sources(s):        All
Chemicals(s):      All

SITE PARAMETERS

DEPOSITION

   Deposition rate (m/s)             0.05

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***
```

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)

9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

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91203          Naphthalene                 1                          5.8e-3          6.6e-7
115071         Propylene                   1                          3.8e-1          4.3e-5
100425         Styrene                     1                          1.5e-2          1.7e-6
108883         Toluene                     1                          7.1e-1          8.0e-5
1330207        Xylenes                     1                          4.4e-1          5.0e-5
88101          PM2.5                       1                             3.8          4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=13   NAME=FOOTHILL SQUARE STACK 13  EMS (lbs/yr)
SOURCE MULTIPLIER=1
CAS            ABBREV             MULTIPLIER     BG (ug/m^3)   AVRG (lbs/yr)    MAX (lbs/hr)
9901           DieselExhPM                 1                            2.08          2.4e-4
106990         1,3-Butadiene               1                          6.6e-2          7.5e-6
71432          Benzene                     1                          3.2e-1          3.6e-5
100414         Ethyl Benzene               1                          1.3e-1          1.5e-5
91203          Naphthalene                 1                          5.8e-3          6.6e-7
115071         Propylene                   1                          3.8e-1          4.3e-5
100425         Styrene                     1                          1.5e-2          1.7e-6
108883         Toluene                     1                          7.1e-1          8.0e-5
1330207        Xylenes                     1                          4.4e-1          5.0e-5
88101          PM2.5                       1                             3.8          4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=14   NAME=FOOTHILL SQUARE STACK 14  EMS (lbs/yr)
SOURCE MULTIPLIER=1
CAS            ABBREV             MULTIPLIER     BG (ug/m^3)   AVRG (lbs/yr)    MAX (lbs/hr)
9901           DieselExhPM                 1                            2.08          2.4e-4
106990         1,3-Butadiene               1                          6.6e-2          7.5e-6
71432          Benzene                     1                          3.2e-1          3.6e-5
100414         Ethyl Benzene               1                          1.3e-1          1.5e-5
91203          Naphthalene                 1                          5.8e-3          6.6e-7
115071         Propylene                   1                          3.8e-1          4.3e-5
100425         Styrene                     1                          1.5e-2          1.7e-6
108883         Toluene                     1                          7.1e-1          8.0e-5
1330207        Xylenes                     1                          4.4e-1          5.0e-5
88101          PM2.5                       1                             3.8          4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=15   NAME=FOOTHILL SQUARE STACK 15  EMS (lbs/yr)
SOURCE MULTIPLIER=1
CAS            ABBREV             MULTIPLIER     BG (ug/m^3)   AVRG (lbs/yr)    MAX (lbs/hr)
9901           DieselExhPM                 1                            2.08          2.4e-4
106990         1,3-Butadiene               1                          6.6e-2          7.5e-6
71432          Benzene                     1                          3.2e-1          3.6e-5
100414         Ethyl Benzene               1                          1.3e-1          1.5e-5
91203          Naphthalene                 1                          5.8e-3          6.6e-7
115071         Propylene                   1                          3.8e-1          4.3e-5
100425         Styrene                     1                          1.5e-2          1.7e-6
108883         Toluene                     1                          7.1e-1          8.0e-5
1330207        Xylenes                     1                          4.4e-1          5.0e-5
88101          PM2.5                       1                             3.8          4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=16   NAME=FOOTHILL SQUARE STACK 16  EMS (lbs/yr)
SOURCE MULTIPLIER=1
CAS            ABBREV             MULTIPLIER     BG (ug/m^3)   AVRG (lbs/yr)    MAX (lbs/hr)
9901           DieselExhPM                 1                            2.08          2.4e-4
106990         1,3-Butadiene               1                          6.6e-2          7.5e-6
71432          Benzene                     1                          3.2e-1          3.6e-5
100414         Ethyl Benzene               1                          1.3e-1          1.5e-5
91203          Naphthalene                 1                          5.8e-3          6.6e-7
115071         Propylene                   1                          3.8e-1          4.3e-5
100425         Styrene                     1                          1.5e-2          1.7e-6
108883         Toluene                     1                          7.1e-1          8.0e-5
1330207        Xylenes                     1                          4.4e-1          5.0e-5
88101          PM2.5                       1                             3.8          4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=17   NAME=FOOTHILL SQUARE STACK 17  EMS (lbs/yr)
SOURCE MULTIPLIER=1
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CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CANCER RISK REPORT

REC	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	6.83E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.83E-08
0002	7.58E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.58E-08
0003	8.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.47E-08
0004	9.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-08
0005	1.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-07
0006	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-07
0007	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-07
0008	1.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-07
0009	2.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-07
0010	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-07
0011	3.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-07
0012	5.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.70E-07
0013	1.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-06
0014	9.55E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.55E-07
0015	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-06
0016	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-06
0017	6.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-07
0018	4.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.96E-07
0019	3.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-07
0020	3.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-07
0021	2.56E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-07
0022	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-07
0023	1.88E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-07
0024	1.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-07
0025	1.47E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-07
0026	6.82E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.82E-08
0027	7.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-08

This file: P:\LRY1002\HRA\Rep_Can_70yr_Inh_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:31:53 PM

EXCEPTION REPORT
(there have been no changes or exceptions)

INPUT FILES:
Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: 70 year (adult resident)
Analysis method: 80th Percentile Point Estimate (inhalation pathway only)
Health effect: Cancer Risk
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

Inhalation only. Site parameters not applicable.

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=1   NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5

1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5

100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5

108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9

71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CANCER RISK REPORT

REC	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-07
0002	3.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-07
0003	4.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-07
0004	4.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.79E-07
0005	5.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.43E-07
0006	6.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-07
0007	7.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.35E-07
0008	8.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.85E-07
0009	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-06
0010	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-06
0011	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-06
0012	2.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.89E-06
0013	7.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.23E-06
0014	4.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-06
0015	1.09E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-05
0016	5.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-06
0017	3.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-06
0018	2.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-06
0019	1.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-06
0020	1.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-06
0021	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-06
0022	1.10E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-06
0023	9.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.54E-07
0024	8.38E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.38E-07
0025	7.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-07
0026	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-07
0027	3.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-07
0028	4.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.27E-07
0029	4.77E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.77E-07
0030	5.40E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-07
0031	6.13E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.13E-07
0032	7.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.26E-07
0033	8.58E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.58E-07
0034	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-06
0035	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-06
0036	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-06
0037	2.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.54E-06
0038	4.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-06
0039	4.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.18E-06
0040	1.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-05
0041	6.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.65E-06
0042	4.21E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.21E-06
0043	2.99E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E-06
0044	2.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-06
0045	1.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-06
0046	1.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-06
0047	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-06
0048	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-06
0049	9.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.46E-07
0050	8.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.35E-07
0051	3.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-07
0052	3.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.80E-07
0053	4.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.17E-07
0054	4.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-07
0055	5.25E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.25E-07
0056	6.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-07
0057	6.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.93E-07
0058	8.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.08E-07
0059	9.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.80E-07
0060	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-06
0061	1.63E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E-06
0062	2.34E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.34E-06
0063	4.01E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.01E-06

```
This file: P:\LRY1002\HRA\Rep_Can_9yrC_DerOEH_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c  Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:47:48 PM


EXCEPTION REPORT
   (there have been no changes or exceptions)

INPUT FILES:
   Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
   Averaging period adjustment factors file: not applicable
   Emission rates file: EmisRatesPM25.ems
   Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: 9 year (child resident)
Analysis method:   Derived (OEHHA) Method
Health effect:     Cancer Risk
Receptor(s):       All
Sources(s):        All
Chemicals(s):      All

SITE PARAMETERS

DEPOSITION

   Deposition rate (m/s)             0.05

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***
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CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)

9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=4   NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=5   NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=6   NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=7   NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CANCER RISK REPORT

REC	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	8.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.56E-08
0002	9.50E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E-08
0003	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-07
0004	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-07
0005	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-07
0006	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-07
0007	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-07
0008	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-07
0009	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-07
0010	3.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-07
0011	4.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.37E-07
0012	7.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.15E-07
0013	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-06
0014	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-06
0015	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-06
0016	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-06
0017	8.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-07
0018	6.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.22E-07
0019	4.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.80E-07
0020	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.86E-07
0021	3.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-07
0022	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-07
0023	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.36E-07
0024	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
0025	1.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-07
0026	8.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-08
0027	9.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.48E-08

This file: P:\LRY1002\HRA\Rep_Acu_AllRec_AllSrc_AllCh_ByRec.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:26 PM

EXCEPTION REPORT
(there have been no changes or exceptions)

INPUT FILES:
Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Analysis method: Point Estimate
Health effect: Acute HI Simple (Concurrent Max.)
Receptor(s):   All
Sources(s):   All
Chemicals(s):   All

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8   DEV=*   PRO=*   STK=1   NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5

1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5

100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5

108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

ACUTE HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	8.93E-07	0.00E+00	1.23E-05	0.00E+00	2.84E-06	0.00E+00	1.14E-05	0.00E+00	1.23E-05	2.84E-06	0.00E+00	1.14E-05	1.23E-05
0002	0.00E+00	9.65E-07	0.00E+00	1.33E-05	0.00E+00	3.04E-06	0.00E+00	1.24E-05	0.00E+00	1.33E-05	3.04E-06	0.00E+00	1.24E-05	1.33E-05
0003	0.00E+00	1.05E-06	0.00E+00	1.44E-05	0.00E+00	3.28E-06	0.00E+00	1.34E-05	0.00E+00	1.44E-05	3.28E-06	0.00E+00	1.34E-05	1.44E-05

Foothill Square Redevelopment
HARP Risk Levels

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
1	0.086	0.068	0.35	2.12E-04	1.23E-05	574,597	4,178,000
2	0.095	0.076	0.38	2.36E-04	1.33E-05	574,622	4,178,000
3	0.11	0.085	0.43	2.63E-04	1.44E-05	574,647	4,178,000
4	0.12	0.095	0.48	2.94E-04	1.58E-05	574,672	4,178,000
5	0.13	0.11	0.54	3.33E-04	1.80E-05	574,697	4,178,000
6	0.15	0.12	0.62	3.83E-04	2.06E-05	574,722	4,178,000
7	0.18	0.15	0.74	4.51E-04	2.37E-05	574,747	4,178,000
8	0.22	0.18	0.89	5.43E-04	2.69E-05	574,772	4,178,000
9	0.27	0.21	1.1	6.63E-04	3.07E-05	574,797	4,178,000
10	0.34	0.27	1.4	8.32E-04	3.61E-05	574,822	4,178,000
11	0.44	0.35	1.8	1.08E-03	4.46E-05	574,847	4,178,000
12	0.72	0.57	2.9	1.77E-03	5.92E-05	574,872	4,178,000
13	1.8	1.4	7.2	4.44E-03	9.66E-05	574,897	4,178,000
14	1.2	0.96	4.8	2.97E-03	7.50E-05	574,922	4,178,000
15	2.7	2.2	11	6.72E-03	1.17E-04	574,947	4,178,000
16	1.4	1.1	5.5	3.39E-03	8.41E-05	574,972	4,178,000
17	0.86	0.69	3.5	2.14E-03	6.93E-05	574,997	4,178,000
18	0.62	0.5	2.5	1.54E-03	5.73E-05	575,022	4,178,000
19	0.48	0.38	1.9	1.19E-03	4.85E-05	575,047	4,178,000
20	0.39	0.31	1.6	9.59E-04	4.15E-05	575,072	4,178,000
21	0.32	0.26	1.3	7.97E-04	3.60E-05	575,097	4,178,000
22	0.27	0.22	1.1	6.77E-04	3.18E-05	575,122	4,178,000
23	0.24	0.19	0.95	5.86E-04	2.89E-05	575,147	4,178,000
24	0.21	0.17	0.84	5.14E-04	2.64E-05	575,172	4,178,000
25	0.18	0.15	0.74	4.57E-04	2.44E-05	575,197	4,178,000
26	0.086	0.068	0.35	2.12E-04	1.24E-05	574,597	4,177,975
27	0.095	0.076	0.38	2.35E-04	1.34E-05	574,622	4,177,975
28	0.11	0.084	0.43	2.62E-04	1.49E-05	574,647	4,177,975
29	0.12	0.094	0.48	2.93E-04	1.66E-05	574,672	4,177,975
30	0.13	0.11	0.54	3.32E-04	1.85E-05	574,697	4,177,975
31	0.15	0.12	0.61	3.77E-04	2.04E-05	574,722	4,177,975
32	0.18	0.14	0.73	4.46E-04	2.28E-05	574,747	4,177,975
33	0.21	0.17	0.86	5.27E-04	2.60E-05	574,772	4,177,975
34	0.25	0.2	1	6.31E-04	3.00E-05	574,797	4,177,975
35	0.32	0.26	1.3	8.02E-04	3.57E-05	574,822	4,177,975
36	0.42	0.34	1.7	1.04E-03	4.16E-05	574,847	4,177,975
37	0.63	0.5	2.5	1.56E-03	5.38E-05	574,872	4,177,975
38	1.1	0.88	4.4	2.72E-03	7.30E-05	574,897	4,177,975
39	1	0.83	4.2	2.57E-03	7.65E-05	574,922	4,177,975
40	3.2	2.5	13	7.90E-03	1.27E-04	574,947	4,177,975
41	1.6	1.3	6.7	4.08E-03	9.52E-05	574,972	4,177,975
42	1	0.83	4.2	2.59E-03	7.72E-05	574,997	4,177,975
43	0.74	0.59	3	1.83E-03	6.55E-05	575,022	4,177,975
44	0.56	0.45	2.3	1.40E-03	5.58E-05	575,047	4,177,975
45	0.45	0.36	1.8	1.11E-03	4.79E-05	575,072	4,177,975
46	0.37	0.3	1.5	9.18E-04	4.17E-05	575,097	4,177,975
47	0.31	0.25	1.3	7.74E-04	3.65E-05	575,122	4,177,975
48	0.27	0.21	1.1	6.65E-04	3.26E-05	575,147	4,177,975
49	0.23	0.19	0.95	5.81E-04	2.94E-05	575,172	4,177,975
50	0.21	0.17	0.84	5.13E-04	2.70E-05	575,197	4,177,975
51	0.085	0.068	0.34	2.11E-04	1.28E-05	574,597	4,177,950
52	0.094	0.075	0.38	2.33E-04	1.40E-05	574,622	4,177,950
53	0.1	0.082	0.42	2.56E-04	1.52E-05	574,647	4,177,950
54	0.11	0.091	0.46	2.84E-04	1.64E-05	574,672	4,177,950
55	0.13	0.1	0.53	3.22E-04	1.81E-05	574,697	4,177,950
56	0.15	0.12	0.6	3.69E-04	2.01E-05	574,722	4,177,950
57	0.17	0.14	0.69	4.25E-04	2.26E-05	574,747	4,177,950
58	0.2	0.16	0.81	4.96E-04	2.50E-05	574,772	4,177,950

Foothill Square Redevelopment
HARP Risk Levels

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
59	0.24	0.19	0.98	6.01E-04	2.85E-05	574,797	4,177,950
60	0.31	0.24	1.2	7.57E-04	3.31E-05	574,822	4,177,950
61	0.4	0.32	1.6	1.00E-03	4.02E-05	574,847	4,177,950
62	0.58	0.46	2.3	1.44E-03	5.07E-05	574,872	4,177,950
63	0.99	0.79	4	2.46E-03	7.03E-05	574,897	4,177,950
64	0.93	0.74	3.8	2.30E-03	6.45E-05	574,922	4,177,950
65	1.2	0.98	5	3.06E-03	7.91E-05	574,947	4,177,950
66	2.5	2	10	6.20E-03	1.12E-04	574,972	4,177,950
67	1.3	1.1	5.3	3.28E-03	8.63E-05	574,997	4,177,950
68	0.89	0.71	3.6	2.21E-03	7.34E-05	575,022	4,177,950
69	0.66	0.53	2.7	1.64E-03	6.24E-05	575,047	4,177,950
70	0.52	0.42	2.1	1.29E-03	5.39E-05	575,072	4,177,950
71	0.43	0.34	1.7	1.05E-03	4.64E-05	575,097	4,177,950
72	0.36	0.28	1.4	8.82E-04	4.10E-05	575,122	4,177,950
73	0.3	0.24	1.2	7.53E-04	3.69E-05	575,147	4,177,950
74	0.26	0.21	1.1	6.53E-04	3.36E-05	575,172	4,177,950
75	0.23	0.18	0.94	5.74E-04	3.06E-05	575,197	4,177,950
76	0.083	0.066	0.34	2.05E-04	1.31E-05	574,597	4,177,925
77	0.091	0.072	0.37	2.25E-04	1.40E-05	574,622	4,177,925
78	0.099	0.079	0.4	2.46E-04	1.53E-05	574,647	4,177,925
79	0.11	0.088	0.45	2.75E-04	1.67E-05	574,672	4,177,925
80	0.13	0.1	0.51	3.10E-04	1.82E-05	574,697	4,177,925
81	0.14	0.11	0.57	3.52E-04	1.97E-05	574,722	4,177,925
82	0.16	0.13	0.66	4.02E-04	2.12E-05	574,747	4,177,925
83	0.19	0.15	0.76	4.65E-04	2.32E-05	574,772	4,177,925
84	0.23	0.18	0.92	5.66E-04	2.67E-05	574,797	4,177,925
85	0.28	0.22	1.1	6.97E-04	3.12E-05	574,822	4,177,925
86	0.36	0.29	1.5	8.95E-04	3.69E-05	574,847	4,177,925
87	0.51	0.41	2.1	1.27E-03	4.71E-05	574,872	4,177,925
88	0.84	0.67	3.4	2.09E-03	6.41E-05	574,897	4,177,925
89	1.7	1.4	7.1	4.33E-03	1.00E-04	574,922	4,177,925
90	1.5	1.2	6.1	3.71E-03	9.23E-05	574,947	4,177,925
91	2.8	2.2	11	6.96E-03	1.31E-04	574,972	4,177,925
92	1.7	1.4	6.9	4.21E-03	9.67E-05	574,997	4,177,925
93	1.1	0.87	4.4	2.70E-03	8.04E-05	575,022	4,177,925
94	0.79	0.63	3.2	1.95E-03	6.97E-05	575,047	4,177,925
95	0.61	0.48	2.5	1.50E-03	6.06E-05	575,072	4,177,925
96	0.49	0.39	2	1.21E-03	5.29E-05	575,097	4,177,925
97	0.4	0.32	1.6	1.00E-03	4.65E-05	575,122	4,177,925
98	0.34	0.27	1.4	8.49E-04	4.12E-05	575,147	4,177,925
99	0.3	0.24	1.2	7.33E-04	3.74E-05	575,172	4,177,925
100	0.26	0.21	1	6.41E-04	3.41E-05	575,197	4,177,925
101	0.08	0.064	0.32	1.99E-04	1.34E-05	574,597	4,177,900
102	0.088	0.071	0.36	2.19E-04	1.45E-05	574,622	4,177,900
103	0.098	0.078	0.4	2.43E-04	1.55E-05	574,647	4,177,900
104	0.11	0.087	0.44	2.70E-04	1.66E-05	574,672	4,177,900
105	0.12	0.098	0.5	3.04E-04	1.77E-05	574,697	4,177,900
106	0.14	0.11	0.56	3.46E-04	1.89E-05	574,722	4,177,900
107	0.16	0.13	0.64	3.94E-04	2.08E-05	574,747	4,177,900
108	0.18	0.15	0.74	4.55E-04	2.31E-05	574,772	4,177,900
109	0.21	0.17	0.87	5.33E-04	2.58E-05	574,797	4,177,900
110	0.26	0.2	1	6.36E-04	2.87E-05	574,822	4,177,900
111	0.33	0.26	1.3	8.09E-04	3.41E-05	574,847	4,177,900
112	0.44	0.35	1.8	1.08E-03	4.15E-05	574,872	4,177,900
113	0.68	0.54	2.7	1.68E-03	5.64E-05	574,897	4,177,900
114	1.3	1.1	5.3	3.26E-03	8.48E-05	574,922	4,177,900
115	1.2	0.96	4.9	3.00E-03	7.38E-05	574,947	4,177,900
116	1.3	1	5.2	3.18E-03	8.05E-05	574,972	4,177,900

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
117	2.5	2	10	6.14E-03	1.11E-04	574,997	4,177,900
118	1.4	1.1	5.6	3.42E-03	9.01E-05	575,022	4,177,900
119	0.95	0.76	3.9	2.36E-03	7.75E-05	575,047	4,177,900
120	0.71	0.57	2.9	1.77E-03	6.70E-05	575,072	4,177,900
121	0.56	0.45	2.3	1.39E-03	5.86E-05	575,097	4,177,900
122	0.46	0.37	1.9	1.14E-03	5.12E-05	575,122	4,177,900
123	0.39	0.31	1.6	9.60E-04	4.58E-05	575,147	4,177,900
124	0.33	0.26	1.3	8.22E-04	4.15E-05	575,172	4,177,900
125	0.29	0.23	1.2	7.15E-04	3.79E-05	575,197	4,177,900
126	0.079	0.063	0.32	1.95E-04	1.36E-05	574,597	4,177,875
127	0.086	0.069	0.35	2.15E-04	1.43E-05	574,622	4,177,875
128	0.096	0.076	0.39	2.37E-04	1.53E-05	574,647	4,177,875
129	0.11	0.085	0.43	2.64E-04	1.64E-05	574,672	4,177,875
130	0.12	0.095	0.48	2.95E-04	1.74E-05	574,697	4,177,875
131	0.13	0.11	0.54	3.31E-04	1.87E-05	574,722	4,177,875
132	0.15	0.12	0.61	3.76E-04	2.02E-05	574,747	4,177,875
133	0.17	0.14	0.7	4.32E-04	2.20E-05	574,772	4,177,875
134	0.2	0.16	0.82	5.04E-04	2.43E-05	574,797	4,177,875
135	0.25	0.2	1	6.16E-04	2.83E-05	574,822	4,177,875
136	0.3	0.24	1.2	7.54E-04	3.26E-05	574,847	4,177,875
137	0.38	0.3	1.5	9.47E-04	3.78E-05	574,872	4,177,875
138	0.58	0.46	2.4	1.44E-03	5.17E-05	574,897	4,177,875
139	0.95	0.76	3.9	2.36E-03	7.00E-05	574,922	4,177,875
140	1.9	1.5	7.6	4.68E-03	1.02E-04	574,947	4,177,875
141	3.3	2.7	14	8.28E-03	1.45E-04	574,972	4,177,875
142	1.6	1.3	6.4	3.95E-03	7.71E-05	574,997	4,177,875
143	2	1.6	8.2	5.03E-03	1.02E-04	575,022	4,177,875
144	1.2	0.96	4.9	3.00E-03	8.47E-05	575,047	4,177,875
145	0.86	0.68	3.5	2.12E-03	7.45E-05	575,072	4,177,875
146	0.66	0.53	2.7	1.63E-03	6.54E-05	575,097	4,177,875
147	0.53	0.42	2.1	1.32E-03	5.77E-05	575,122	4,177,875
148	0.44	0.35	1.8	1.09E-03	5.13E-05	575,147	4,177,875
149	0.37	0.3	1.5	9.26E-04	4.59E-05	575,172	4,177,875
150	0.32	0.26	1.3	8.00E-04	4.17E-05	575,197	4,177,875
151	0.077	0.061	0.31	1.91E-04	1.37E-05	574,597	4,177,850
152	0.084	0.067	0.34	2.09E-04	1.46E-05	574,622	4,177,850
153	0.093	0.074	0.38	2.30E-04	1.54E-05	574,647	4,177,850
154	0.1	0.082	0.42	2.55E-04	1.61E-05	574,672	4,177,850
155	0.11	0.091	0.46	2.83E-04	1.70E-05	574,697	4,177,850
156	0.13	0.1	0.52	3.19E-04	1.81E-05	574,722	4,177,850
157	0.15	0.12	0.59	3.62E-04	1.94E-05	574,747	4,177,850
158	0.17	0.13	0.67	4.13E-04	2.13E-05	574,772	4,177,850
159	0.19	0.16	0.79	4.83E-04	2.39E-05	574,797	4,177,850
160	0.23	0.18	0.93	5.68E-04	2.65E-05	574,822	4,177,850
161	0.28	0.22	1.1	6.83E-04	3.02E-05	574,847	4,177,850
162	0.36	0.28	1.4	8.83E-04	3.67E-05	574,872	4,177,850
163	0.48	0.39	2	1.20E-03	4.62E-05	574,897	4,177,850
164	0.73	0.58	3	1.82E-03	5.92E-05	574,922	4,177,850
165	1.2	0.97	4.9	3.01E-03	8.10E-05	574,947	4,177,850
166	1.1	0.85	4.3	2.63E-03	6.76E-05	574,972	4,177,850
167	1.2	0.98	5	3.06E-03	7.62E-05	574,997	4,177,850
168	2.7	2.2	11	6.75E-03	1.15E-04	575,022	4,177,850
169	1.5	1.2	6.2	3.82E-03	9.78E-05	575,047	4,177,850
170	1.1	0.86	4.3	2.66E-03	8.47E-05	575,072	4,177,850
171	0.79	0.63	3.2	1.97E-03	7.39E-05	575,097	4,177,850
172	0.62	0.5	2.5	1.55E-03	6.50E-05	575,122	4,177,850
173	0.51	0.41	2.1	1.26E-03	5.70E-05	575,147	4,177,850
174	0.43	0.34	1.7	1.06E-03	5.09E-05	575,172	4,177,850

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
175	0.36	0.29	1.5	9.03E-04	4.59E-05	575,197	4,177,850
176	0.075	0.06	0.3	1.86E-04	1.38E-05	574,597	4,177,825
177	0.082	0.065	0.33	2.04E-04	1.44E-05	574,622	4,177,825
178	0.09	0.072	0.36	2.23E-04	1.49E-05	574,647	4,177,825
179	0.1	0.08	0.4	2.48E-04	1.57E-05	574,672	4,177,825
180	0.11	0.089	0.45	2.77E-04	1.67E-05	574,697	4,177,825
181	0.12	0.099	0.5	3.08E-04	1.76E-05	574,722	4,177,825
182	0.14	0.11	0.56	3.47E-04	1.90E-05	574,747	4,177,825
183	0.16	0.13	0.64	3.93E-04	2.06E-05	574,772	4,177,825
184	0.18	0.15	0.73	4.51E-04	2.23E-05	574,797	4,177,825
185	0.21	0.17	0.86	5.26E-04	2.49E-05	574,822	4,177,825
186	0.26	0.21	1.1	6.44E-04	2.91E-05	574,847	4,177,825
187	0.32	0.25	1.3	7.82E-04	3.35E-05	574,872	4,177,825
188	0.42	0.33	1.7	1.04E-03	4.12E-05	574,897	4,177,825
189	0.6	0.48	2.4	1.48E-03	5.25E-05	574,922	4,177,825
190	0.86	0.68	3.5	2.13E-03	6.52E-05	574,947	4,177,825
191	1.4	1.1	5.7	3.51E-03	8.74E-05	574,972	4,177,825
192	2.5	2	10	6.32E-03	1.16E-04	574,997	4,177,825
193	1.4	1.1	5.6	3.41E-03	7.25E-05	575,022	4,177,825
194	2.7	2.2	11	6.77E-03	1.22E-04	575,047	4,177,825
195	1.6	1.2	6.3	3.85E-03	9.66E-05	575,072	4,177,825
196	1	0.81	4.1	2.52E-03	8.38E-05	575,097	4,177,825
197	0.76	0.61	3.1	1.89E-03	7.27E-05	575,122	4,177,825
198	0.6	0.48	2.4	1.50E-03	6.38E-05	575,147	4,177,825
199	0.49	0.39	2	1.23E-03	5.68E-05	575,172	4,177,825
200	0.42	0.33	1.7	1.03E-03	5.11E-05	575,197	4,177,825
201	0.073	0.058	0.29	1.80E-04	1.35E-05	574,597	4,177,800
202	0.079	0.063	0.32	1.97E-04	1.42E-05	574,622	4,177,800
203	0.087	0.069	0.35	2.16E-04	1.48E-05	574,647	4,177,800
204	0.097	0.077	0.39	2.40E-04	1.55E-05	574,672	4,177,800
205	0.11	0.085	0.43	2.65E-04	1.62E-05	574,697	4,177,800
206	0.12	0.095	0.48	2.94E-04	1.73E-05	574,722	4,177,800
207	0.13	0.11	0.54	3.29E-04	1.83E-05	574,747	4,177,800
208	0.15	0.12	0.61	3.74E-04	1.98E-05	574,772	4,177,800
209	0.18	0.14	0.71	4.34E-04	2.20E-05	574,797	4,177,800
210	0.2	0.16	0.82	5.03E-04	2.42E-05	574,822	4,177,800
211	0.24	0.19	0.96	5.91E-04	2.69E-05	574,847	4,177,800
212	0.29	0.23	1.2	7.21E-04	3.14E-05	574,872	4,177,800
213	0.36	0.29	1.5	9.02E-04	3.74E-05	574,897	4,177,800
214	0.48	0.38	1.9	1.19E-03	4.47E-05	574,922	4,177,800
215	0.64	0.51	2.6	1.60E-03	5.43E-05	574,947	4,177,800
216	0.94	0.75	3.8	2.34E-03	7.01E-05	574,972	4,177,800
217	1.6	1.3	6.5	3.98E-03	9.26E-05	574,997	4,177,800
218	1.1	0.86	4.4	2.67E-03	6.88E-05	575,022	4,177,800
219	3.7	3	15	9.25E-03	1.27E-04	575,047	4,177,800
220	2.1	1.7	8.4	5.17E-03	1.18E-04	575,072	4,177,800
221	1.5	1.2	5.9	3.61E-03	9.79E-05	575,097	4,177,800
222	1	0.8	4.1	2.49E-03	8.33E-05	575,122	4,177,800
223	0.74	0.59	3	1.84E-03	7.27E-05	575,147	4,177,800
224	0.59	0.47	2.4	1.46E-03	6.38E-05	575,172	4,177,800
225	0.48	0.39	2	1.20E-03	5.69E-05	575,197	4,177,800
226	0.071	0.056	0.29	1.75E-04	1.36E-05	574,597	4,177,775
227	0.077	0.061	0.31	1.91E-04	1.40E-05	574,622	4,177,775
228	0.085	0.068	0.34	2.11E-04	1.44E-05	574,647	4,177,775
229	0.093	0.074	0.38	2.31E-04	1.51E-05	574,672	4,177,775
230	0.1	0.082	0.41	2.54E-04	1.60E-05	574,697	4,177,775
231	0.11	0.091	0.46	2.82E-04	1.68E-05	574,722	4,177,775
232	0.13	0.1	0.52	3.20E-04	1.80E-05	574,747	4,177,775

HARP Risk Levels

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
233	0.15	0.12	0.59	3.60E-04	1.92E-05	574,772	4,177,775
234	0.17	0.13	0.67	4.10E-04	2.07E-05	574,797	4,177,775
235	0.19	0.15	0.77	4.76E-04	2.25E-05	574,822	4,177,775
236	0.22	0.18	0.89	5.47E-04	2.57E-05	574,847	4,177,775
237	0.25	0.2	1	6.31E-04	2.87E-05	574,872	4,177,775
238	0.33	0.27	1.3	8.25E-04	3.38E-05	574,897	4,177,775
239	0.41	0.32	1.6	1.01E-03	3.97E-05	574,922	4,177,775
240	0.53	0.42	2.2	1.32E-03	4.82E-05	574,947	4,177,775
241	0.71	0.57	2.9	1.77E-03	5.93E-05	574,972	4,177,775
242	0.99	0.79	4	2.46E-03	7.21E-05	574,997	4,177,775
243	1.6	1.3	6.4	3.94E-03	9.27E-05	575,022	4,177,775
244	1.3	1.1	5.3	3.26E-03	7.08E-05	575,047	4,177,775
245	1.2	0.93	4.7	2.88E-03	7.00E-05	575,072	4,177,775
246	2.8	2.2	11	6.93E-03	1.15E-04	575,097	4,177,775
247	1.4	1.1	5.7	3.47E-03	9.68E-05	575,122	4,177,775
248	0.96	0.77	3.9	2.38E-03	8.29E-05	575,147	4,177,775
249	0.73	0.58	2.9	1.80E-03	7.15E-05	575,172	4,177,775
250	0.58	0.46	2.3	1.43E-03	6.29E-05	575,197	4,177,775
251	0.068	0.055	0.28	1.70E-04	1.32E-05	574,597	4,177,750
252	0.075	0.06	0.3	1.86E-04	1.37E-05	574,622	4,177,750
253	0.082	0.065	0.33	2.03E-04	1.43E-05	574,647	4,177,750
254	0.089	0.071	0.36	2.22E-04	1.49E-05	574,672	4,177,750
255	0.099	0.079	0.4	2.47E-04	1.55E-05	574,697	4,177,750
256	0.11	0.088	0.45	2.74E-04	1.64E-05	574,722	4,177,750
257	0.12	0.098	0.5	3.05E-04	1.74E-05	574,747	4,177,750
258	0.14	0.11	0.56	3.43E-04	1.85E-05	574,772	4,177,750
259	0.16	0.13	0.65	3.97E-04	2.01E-05	574,797	4,177,750
260	0.18	0.14	0.71	4.37E-04	2.20E-05	574,822	4,177,750
261	0.2	0.16	0.8	4.94E-04	2.38E-05	574,847	4,177,750
262	0.26	0.21	1	6.39E-04	2.72E-05	574,872	4,177,750
263	0.29	0.23	1.2	7.17E-04	3.05E-05	574,897	4,177,750
264	0.34	0.27	1.4	8.55E-04	3.56E-05	574,922	4,177,750
265	0.43	0.34	1.7	1.07E-03	4.18E-05	574,947	4,177,750
266	0.55	0.44	2.2	1.37E-03	4.99E-05	574,972	4,177,750
267	0.72	0.58	2.9	1.80E-03	6.08E-05	574,997	4,177,750
268	1	0.83	4.2	2.59E-03	7.44E-05	575,022	4,177,750
269	1.7	1.4	7	4.33E-03	9.84E-05	575,047	4,177,750
270	2.9	2.3	12	7.09E-03	1.23E-04	575,072	4,177,750
271	2.7	2.2	11	6.80E-03	1.33E-04	575,097	4,177,750
272	2	1.6	8	4.90E-03	1.23E-04	575,122	4,177,750
273	1.4	1.2	5.8	3.57E-03	9.62E-05	575,147	4,177,750
274	0.95	0.76	3.9	2.36E-03	8.13E-05	575,172	4,177,750
275	0.71	0.57	2.9	1.76E-03	7.09E-05	575,197	4,177,750
276	0.067	0.053	0.27	1.66E-04	1.32E-05	574,597	4,177,725
277	0.072	0.058	0.29	1.80E-04	1.36E-05	574,622	4,177,725
278	0.079	0.063	0.32	1.96E-04	1.40E-05	574,647	4,177,725
279	0.087	0.07	0.35	2.17E-04	1.46E-05	574,672	4,177,725
280	0.096	0.076	0.39	2.38E-04	1.54E-05	574,697	4,177,725
281	0.11	0.084	0.43	2.63E-04	1.62E-05	574,722	4,177,725
282	0.12	0.096	0.49	3.00E-04	1.71E-05	574,747	4,177,725
283	0.13	0.11	0.54	3.32E-04	1.81E-05	574,772	4,177,725
284	0.14	0.12	0.58	3.58E-04	1.93E-05	574,797	4,177,725
285	0.18	0.14	0.71	4.38E-04	2.06E-05	574,822	4,177,725
286	0.2	0.16	0.82	5.07E-04	2.28E-05	574,847	4,177,725
287	0.22	0.18	0.9	5.54E-04	2.53E-05	574,872	4,177,725
288	0.26	0.2	1	6.35E-04	2.86E-05	574,897	4,177,725
289	0.29	0.23	1.2	7.30E-04	3.20E-05	574,922	4,177,725
290	0.36	0.29	1.5	8.91E-04	3.71E-05	574,947	4,177,725

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
291	0.44	0.35	1.8	1.10E-03	4.30E-05	574,972	4,177,725
292	0.56	0.45	2.3	1.40E-03	5.11E-05	574,997	4,177,725
293	0.74	0.59	3	1.83E-03	6.11E-05	575,022	4,177,725
294	1	0.81	4.1	2.51E-03	7.49E-05	575,047	4,177,725
295	1.7	1.4	6.9	4.25E-03	9.63E-05	575,072	4,177,725
296	1.1	0.9	4.5	2.79E-03	6.75E-05	575,097	4,177,725
297	1.1	0.89	4.5	2.75E-03	7.51E-05	575,122	4,177,725
298	2.2	1.7	8.8	5.42E-03	1.12E-04	575,147	4,177,725
299	1.3	1	5.2	3.17E-03	9.50E-05	575,172	4,177,725
300	0.91	0.73	3.7	2.26E-03	8.07E-05	575,197	4,177,725
301	0.065	0.052	0.26	1.62E-04	1.30E-05	574,597	4,177,700
302	0.071	0.056	0.29	1.75E-04	1.34E-05	574,622	4,177,700
303	0.077	0.061	0.31	1.91E-04	1.39E-05	574,647	4,177,700
304	0.084	0.067	0.34	2.08E-04	1.45E-05	574,672	4,177,700
305	0.093	0.074	0.37	2.30E-04	1.51E-05	574,697	4,177,700
306	0.1	0.082	0.42	2.56E-04	1.56E-05	574,722	4,177,700
307	0.11	0.087	0.44	2.71E-04	1.64E-05	574,747	4,177,700
308	0.12	0.098	0.5	3.05E-04	1.74E-05	574,772	4,177,700
309	0.15	0.12	0.59	3.65E-04	1.86E-05	574,797	4,177,700
310	0.16	0.13	0.66	4.07E-04	2.00E-05	574,822	4,177,700
311	0.18	0.14	0.71	4.38E-04	2.16E-05	574,847	4,177,700
312	0.2	0.16	0.8	4.94E-04	2.39E-05	574,872	4,177,700
313	0.22	0.18	0.9	5.55E-04	2.62E-05	574,897	4,177,700
314	0.26	0.21	1.1	6.50E-04	2.98E-05	574,922	4,177,700
315	0.3	0.24	1.2	7.54E-04	3.29E-05	574,947	4,177,700
316	0.37	0.29	1.5	9.11E-04	3.75E-05	574,972	4,177,700
317	0.45	0.36	1.8	1.12E-03	4.38E-05	574,997	4,177,700
318	0.56	0.45	2.3	1.40E-03	5.17E-05	575,022	4,177,700
319	0.75	0.6	3	1.86E-03	6.20E-05	575,047	4,177,700
320	1.1	0.87	4.4	2.71E-03	7.68E-05	575,072	4,177,700
321	1.8	1.4	7.3	4.45E-03	9.91E-05	575,097	4,177,700
322	2.9	2.4	12	7.31E-03	1.21E-04	575,122	4,177,700
323	1.3	1.1	5.4	3.33E-03	7.38E-05	575,147	4,177,700
324	2.4	1.9	9.5	5.83E-03	1.14E-04	575,172	4,177,700
325	1.3	1	5.2	3.20E-03	9.15E-05	575,197	4,177,700
326	0.063	0.051	0.26	1.57E-04	1.30E-05	574,597	4,177,675
327	0.069	0.055	0.28	1.70E-04	1.34E-05	574,622	4,177,675
328	0.074	0.059	0.3	1.85E-04	1.37E-05	574,647	4,177,675
329	0.081	0.064	0.33	2.01E-04	1.40E-05	574,672	4,177,675
330	0.087	0.069	0.35	2.16E-04	1.45E-05	574,697	4,177,675
331	0.094	0.075	0.38	2.32E-04	1.53E-05	574,722	4,177,675
332	0.11	0.087	0.44	2.72E-04	1.61E-05	574,747	4,177,675
333	0.12	0.096	0.48	2.98E-04	1.70E-05	574,772	4,177,675
334	0.14	0.11	0.54	3.35E-04	1.79E-05	574,797	4,177,675
335	0.15	0.12	0.6	3.67E-04	1.94E-05	574,822	4,177,675
336	0.16	0.13	0.65	3.97E-04	2.06E-05	574,847	4,177,675
337	0.18	0.14	0.71	4.39E-04	2.23E-05	574,872	4,177,675
338	0.2	0.16	0.82	5.02E-04	2.49E-05	574,897	4,177,675
339	0.23	0.18	0.93	5.70E-04	2.74E-05	574,922	4,177,675
340	0.27	0.21	1.1	6.57E-04	2.99E-05	574,947	4,177,675
341	0.31	0.25	1.3	7.75E-04	3.34E-05	574,972	4,177,675
342	0.37	0.3	1.5	9.30E-04	3.83E-05	574,997	4,177,675
343	0.46	0.37	1.9	1.14E-03	4.46E-05	575,022	4,177,675
344	0.58	0.47	2.4	1.45E-03	5.28E-05	575,047	4,177,675
345	0.76	0.61	3.1	1.89E-03	6.36E-05	575,072	4,177,675
346	1.1	0.87	4.4	2.71E-03	7.72E-05	575,097	4,177,675
347	2	1.6	8	4.89E-03	1.05E-04	575,122	4,177,675
348	1.1	0.85	4.3	2.63E-03	6.79E-05	575,147	4,177,675

Foothill Square Redevelopment
HARP Risk Levels

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
349	3.4	2.7	14	8.39E-03	1.23E-04	575,172	4,177,675
350	1.7	1.4	7	4.27E-03	1.07E-04	575,197	4,177,675
351	0.061	0.049	0.25	1.51E-04	1.28E-05	574,597	4,177,650
352	0.066	0.053	0.27	1.64E-04	1.30E-05	574,622	4,177,650
353	0.071	0.057	0.29	1.77E-04	1.34E-05	574,647	4,177,650
354	0.076	0.06	0.31	1.88E-04	1.39E-05	574,672	4,177,650
355	0.081	0.065	0.33	2.02E-04	1.45E-05	574,697	4,177,650
356	0.091	0.072	0.37	2.25E-04	1.49E-05	574,722	4,177,650
357	0.1	0.082	0.42	2.57E-04	1.55E-05	574,747	4,177,650
358	0.12	0.093	0.47	2.89E-04	1.65E-05	574,772	4,177,650
359	0.12	0.098	0.5	3.06E-04	1.75E-05	574,797	4,177,650
360	0.13	0.11	0.54	3.31E-04	1.86E-05	574,822	4,177,650
361	0.15	0.12	0.59	3.64E-04	1.99E-05	574,847	4,177,650
362	0.16	0.13	0.65	4.02E-04	2.14E-05	574,872	4,177,650
363	0.18	0.14	0.73	4.49E-04	2.32E-05	574,897	4,177,650
364	0.21	0.16	0.83	5.11E-04	2.51E-05	574,922	4,177,650
365	0.24	0.19	0.96	5.89E-04	2.78E-05	574,947	4,177,650
366	0.28	0.22	1.1	6.82E-04	3.06E-05	574,972	4,177,650
367	0.32	0.26	1.3	7.93E-04	3.41E-05	574,997	4,177,650
368	0.39	0.31	1.6	9.60E-04	3.96E-05	575,022	4,177,650
369	0.48	0.38	1.9	1.18E-03	4.64E-05	575,047	4,177,650
370	0.6	0.48	2.4	1.50E-03	5.47E-05	575,072	4,177,650
371	0.81	0.64	3.3	2.00E-03	6.46E-05	575,097	4,177,650
372	1.1	0.9	4.6	2.80E-03	7.83E-05	575,122	4,177,650
373	1.8	1.4	7.3	4.49E-03	9.60E-05	575,147	4,177,650
374	1.3	1.1	5.4	3.32E-03	6.99E-05	575,172	4,177,650
375	1.1	0.86	4.4	2.67E-03	7.19E-05	575,197	4,177,650
376	0.058	0.047	0.24	1.45E-04	1.25E-05	574,597	4,177,625
377	0.063	0.05	0.26	1.57E-04	1.29E-05	574,622	4,177,625
378	0.068	0.054	0.28	1.69E-04	1.33E-05	574,647	4,177,625
379	0.072	0.058	0.29	1.79E-04	1.36E-05	574,672	4,177,625
380	0.078	0.062	0.31	1.93E-04	1.39E-05	574,697	4,177,625
381	0.089	0.071	0.36	2.20E-04	1.46E-05	574,722	4,177,625
382	0.096	0.077	0.39	2.40E-04	1.54E-05	574,747	4,177,625
383	0.1	0.083	0.42	2.58E-04	1.60E-05	574,772	4,177,625
384	0.11	0.09	0.46	2.81E-04	1.70E-05	574,797	4,177,625
385	0.12	0.097	0.49	3.03E-04	1.79E-05	574,822	4,177,625
386	0.13	0.11	0.54	3.30E-04	1.89E-05	574,847	4,177,625
387	0.15	0.12	0.6	3.68E-04	2.04E-05	574,872	4,177,625
388	0.17	0.13	0.67	4.13E-04	2.21E-05	574,897	4,177,625
389	0.19	0.15	0.76	4.64E-04	2.40E-05	574,922	4,177,625
390	0.22	0.17	0.87	5.34E-04	2.64E-05	574,947	4,177,625
391	0.25	0.2	1	6.12E-04	2.86E-05	574,972	4,177,625
392	0.28	0.23	1.2	7.03E-04	3.14E-05	574,997	4,177,625
393	0.33	0.27	1.4	8.27E-04	3.56E-05	575,022	4,177,625
394	0.4	0.32	1.6	1.00E-03	4.14E-05	575,047	4,177,625
395	0.49	0.39	2	1.21E-03	4.71E-05	575,072	4,177,625
396	0.6	0.48	2.4	1.50E-03	5.45E-05	575,097	4,177,625
397	0.79	0.63	3.2	1.96E-03	6.44E-05	575,122	4,177,625
398	1.2	0.95	4.8	2.97E-03	7.87E-05	575,147	4,177,625
399	1.8	1.5	7.4	4.52E-03	1.08E-04	575,172	4,177,625
400	1.2	0.92	4.7	2.86E-03	7.33E-05	575,197	4,177,625
401	0.056	0.045	0.23	1.40E-04	1.23E-05	574,597	4,177,600
402	0.06	0.048	0.24	1.49E-04	1.26E-05	574,622	4,177,600
403	0.065	0.052	0.26	1.61E-04	1.29E-05	574,647	4,177,600
404	0.069	0.055	0.28	1.72E-04	1.33E-05	574,672	4,177,600
405	0.075	0.06	0.3	1.87E-04	1.39E-05	574,697	4,177,600
406	0.082	0.066	0.33	2.05E-04	1.45E-05	574,722	4,177,600

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
407	0.089	0.071	0.36	2.21E-04	1.49E-05	574,747	4,177,600
408	0.095	0.076	0.39	2.37E-04	1.56E-05	574,772	4,177,600
409	0.1	0.083	0.42	2.58E-04	1.64E-05	574,797	4,177,600
410	0.11	0.09	0.46	2.80E-04	1.73E-05	574,822	4,177,600
411	0.12	0.098	0.5	3.06E-04	1.84E-05	574,847	4,177,600
412	0.14	0.11	0.55	3.37E-04	1.96E-05	574,872	4,177,600
413	0.15	0.12	0.62	3.81E-04	2.11E-05	574,897	4,177,600
414	0.17	0.14	0.69	4.26E-04	2.28E-05	574,922	4,177,600
415	0.19	0.15	0.78	4.78E-04	2.42E-05	574,947	4,177,600
416	0.22	0.18	0.89	5.47E-04	2.64E-05	574,972	4,177,600
417	0.25	0.2	1	6.29E-04	2.90E-05	574,997	4,177,600
418	0.29	0.23	1.2	7.20E-04	3.22E-05	575,022	4,177,600
419	0.34	0.27	1.4	8.49E-04	3.66E-05	575,047	4,177,600
420	0.41	0.33	1.7	1.01E-03	4.17E-05	575,072	4,177,600
421	0.49	0.39	2	1.22E-03	4.74E-05	575,097	4,177,600
422	0.62	0.49	2.5	1.53E-03	5.42E-05	575,122	4,177,600
423	0.83	0.66	3.3	2.05E-03	6.44E-05	575,147	4,177,600
424	1.2	0.95	4.8	2.95E-03	7.88E-05	575,172	4,177,600
425	2.2	1.7	8.8	5.40E-03	1.04E-04	575,197	4,177,600
426	0.054	0.043	0.22	1.34E-04	1.21E-05	574,597	4,177,575
427	0.057	0.046	0.23	1.43E-04	1.23E-05	574,622	4,177,575
428	0.061	0.049	0.25	1.51E-04	1.27E-05	574,647	4,177,575
429	0.066	0.052	0.27	1.63E-04	1.31E-05	574,672	4,177,575
430	0.071	0.057	0.29	1.76E-04	1.36E-05	574,697	4,177,575
431	0.077	0.061	0.31	1.90E-04	1.38E-05	574,722	4,177,575
432	0.082	0.066	0.33	2.05E-04	1.46E-05	574,747	4,177,575
433	0.088	0.071	0.36	2.20E-04	1.53E-05	574,772	4,177,575
434	0.095	0.076	0.39	2.37E-04	1.59E-05	574,797	4,177,575
435	0.1	0.083	0.42	2.59E-04	1.68E-05	574,822	4,177,575
436	0.12	0.092	0.46	2.85E-04	1.76E-05	574,847	4,177,575
437	0.13	0.1	0.51	3.13E-04	1.86E-05	574,872	4,177,575
438	0.14	0.11	0.57	3.48E-04	2.00E-05	574,897	4,177,575
439	0.16	0.13	0.64	3.92E-04	2.16E-05	574,922	4,177,575
440	0.18	0.14	0.71	4.38E-04	2.32E-05	574,947	4,177,575
441	0.2	0.16	0.81	4.98E-04	2.52E-05	574,972	4,177,575
442	0.23	0.18	0.92	5.67E-04	2.70E-05	574,997	4,177,575
443	0.26	0.21	1	6.39E-04	2.94E-05	575,022	4,177,575
444	0.29	0.24	1.2	7.30E-04	3.25E-05	575,047	4,177,575
445	0.35	0.28	1.4	8.58E-04	3.68E-05	575,072	4,177,575
446	0.42	0.33	1.7	1.03E-03	4.20E-05	575,097	4,177,575
447	0.51	0.4	2	1.25E-03	4.78E-05	575,122	4,177,575
448	0.62	0.5	2.5	1.54E-03	5.45E-05	575,147	4,177,575
449	0.85	0.68	3.4	2.11E-03	6.50E-05	575,172	4,177,575
450	1.3	1.1	5.4	3.33E-03	8.20E-05	575,197	4,177,575
451	0.052	0.041	0.21	1.29E-04	1.19E-05	574,597	4,177,550
452	0.055	0.044	0.22	1.36E-04	1.22E-05	574,622	4,177,550
453	0.058	0.046	0.24	1.44E-04	1.25E-05	574,647	4,177,550
454	0.062	0.049	0.25	1.53E-04	1.28E-05	574,672	4,177,550
455	0.067	0.053	0.27	1.66E-04	1.33E-05	574,697	4,177,550
456	0.072	0.057	0.29	1.78E-04	1.39E-05	574,722	4,177,550
457	0.077	0.061	0.31	1.91E-04	1.45E-05	574,747	4,177,550
458	0.083	0.066	0.33	2.05E-04	1.49E-05	574,772	4,177,550
459	0.089	0.071	0.36	2.21E-04	1.54E-05	574,797	4,177,550
460	0.097	0.077	0.39	2.40E-04	1.62E-05	574,822	4,177,550
461	0.11	0.085	0.43	2.66E-04	1.71E-05	574,847	4,177,550
462	0.12	0.094	0.48	2.92E-04	1.82E-05	574,872	4,177,550
463	0.13	0.1	0.53	3.23E-04	1.94E-05	574,897	4,177,550
464	0.15	0.12	0.59	3.62E-04	2.07E-05	574,922	4,177,550

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
465	0.16	0.13	0.66	4.02E-04	2.22E-05	574,947	4,177,550
466	0.18	0.15	0.73	4.50E-04	2.35E-05	574,972	4,177,550
467	0.2	0.16	0.83	5.06E-04	2.49E-05	574,997	4,177,550
468	0.23	0.19	0.94	5.75E-04	2.72E-05	575,022	4,177,550
469	0.26	0.21	1.1	6.51E-04	2.99E-05	575,047	4,177,550
470	0.3	0.24	1.2	7.43E-04	3.29E-05	575,072	4,177,550
471	0.35	0.28	1.4	8.74E-04	3.71E-05	575,097	4,177,550
472	0.42	0.34	1.7	1.04E-03	4.20E-05	575,122	4,177,550
473	0.51	0.41	2.1	1.27E-03	4.76E-05	575,147	4,177,550
474	0.66	0.53	2.7	1.64E-03	5.56E-05	575,172	4,177,550
475	0.89	0.71	3.6	2.22E-03	6.75E-05	575,197	4,177,550
476	0.05	0.04	0.2	1.23E-04	1.17E-05	574,597	4,177,525
477	0.052	0.042	0.21	1.30E-04	1.19E-05	574,622	4,177,525
478	0.055	0.044	0.22	1.37E-04	1.23E-05	574,647	4,177,525
479	0.059	0.047	0.24	1.46E-04	1.26E-05	574,672	4,177,525
480	0.063	0.051	0.26	1.57E-04	1.31E-05	574,697	4,177,525
481	0.068	0.054	0.27	1.68E-04	1.35E-05	574,722	4,177,525
482	0.072	0.058	0.29	1.80E-04	1.38E-05	574,747	4,177,525
483	0.078	0.062	0.31	1.93E-04	1.44E-05	574,772	4,177,525
484	0.084	0.067	0.34	2.08E-04	1.52E-05	574,797	4,177,525
485	0.091	0.072	0.37	2.25E-04	1.58E-05	574,822	4,177,525
486	0.1	0.08	0.4	2.48E-04	1.65E-05	574,847	4,177,525
487	0.11	0.087	0.44	2.72E-04	1.74E-05	574,872	4,177,525
488	0.12	0.096	0.49	3.00E-04	1.84E-05	574,897	4,177,525
489	0.14	0.11	0.55	3.36E-04	1.97E-05	574,922	4,177,525
490	0.15	0.12	0.6	3.71E-04	2.10E-05	574,947	4,177,525
491	0.17	0.13	0.67	4.11E-04	2.22E-05	574,972	4,177,525
492	0.19	0.15	0.75	4.62E-04	2.38E-05	574,997	4,177,525
493	0.21	0.17	0.84	5.15E-04	2.52E-05	575,022	4,177,525
494	0.23	0.19	0.94	5.77E-04	2.71E-05	575,047	4,177,525
495	0.26	0.21	1.1	6.53E-04	2.97E-05	575,072	4,177,525
496	0.3	0.24	1.2	7.49E-04	3.28E-05	575,097	4,177,525
497	0.36	0.29	1.5	8.87E-04	3.73E-05	575,122	4,177,525
498	0.43	0.34	1.7	1.06E-03	4.21E-05	575,147	4,177,525
499	0.52	0.42	2.1	1.30E-03	4.83E-05	575,172	4,177,525
500	0.68	0.54	2.7	1.68E-03	5.67E-05	575,197	4,177,525
501	0.048	0.038	0.19	1.18E-04	1.16E-05	574,597	4,177,500
502	0.05	0.04	0.2	1.24E-04	1.18E-05	574,622	4,177,500
503	0.053	0.042	0.21	1.31E-04	1.21E-05	574,647	4,177,500
504	0.056	0.045	0.23	1.39E-04	1.24E-05	574,672	4,177,500
505	0.06	0.048	0.24	1.48E-04	1.28E-05	574,697	4,177,500
506	0.064	0.051	0.26	1.59E-04	1.32E-05	574,722	4,177,500
507	0.068	0.055	0.28	1.70E-04	1.37E-05	574,747	4,177,500
508	0.073	0.058	0.3	1.82E-04	1.43E-05	574,772	4,177,500
509	0.079	0.063	0.32	1.95E-04	1.47E-05	574,797	4,177,500
510	0.085	0.068	0.34	2.11E-04	1.51E-05	574,822	4,177,500
511	0.093	0.074	0.38	2.31E-04	1.58E-05	574,847	4,177,500
512	0.1	0.082	0.41	2.54E-04	1.68E-05	574,872	4,177,500
513	0.11	0.09	0.46	2.79E-04	1.77E-05	574,897	4,177,500
514	0.13	0.1	0.51	3.11E-04	1.89E-05	574,922	4,177,500
515	0.14	0.11	0.56	3.43E-04	2.00E-05	574,947	4,177,500
516	0.15	0.12	0.62	3.78E-04	2.13E-05	574,972	4,177,500
517	0.17	0.13	0.68	4.17E-04	2.23E-05	574,997	4,177,500
518	0.19	0.15	0.75	4.62E-04	2.30E-05	575,022	4,177,500
519	0.21	0.17	0.85	5.22E-04	2.52E-05	575,047	4,177,500
520	0.24	0.19	0.96	5.86E-04	2.75E-05	575,072	4,177,500
521	0.27	0.21	1.1	6.65E-04	3.02E-05	575,097	4,177,500
522	0.31	0.25	1.3	7.65E-04	3.34E-05	575,122	4,177,500

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
523	0.37	0.29	1.5	9.08E-04	3.79E-05	575,147	4,177,500
524	0.44	0.36	1.8	1.10E-03	4.32E-05	575,172	4,177,500
525	0.57	0.46	2.3	1.41E-03	5.03E-05	575,197	4,177,500
526	0.046	0.036	0.19	1.13E-04	1.13E-05	574,597	4,177,475
527	0.048	0.038	0.19	1.19E-04	1.15E-05	574,622	4,177,475
528	0.051	0.04	0.2	1.26E-04	1.18E-05	574,647	4,177,475
529	0.054	0.043	0.22	1.33E-04	1.22E-05	574,672	4,177,475
530	0.057	0.045	0.23	1.41E-04	1.25E-05	574,697	4,177,475
531	0.061	0.049	0.25	1.51E-04	1.29E-05	574,722	4,177,475
532	0.065	0.052	0.26	1.61E-04	1.34E-05	574,747	4,177,475
533	0.069	0.055	0.28	1.72E-04	1.37E-05	574,772	4,177,475
534	0.074	0.059	0.3	1.85E-04	1.41E-05	574,797	4,177,475
535	0.08	0.064	0.32	1.99E-04	1.48E-05	574,822	4,177,475
536	0.088	0.07	0.36	2.19E-04	1.55E-05	574,847	4,177,475
537	0.096	0.077	0.39	2.38E-04	1.61E-05	574,872	4,177,475
538	0.11	0.084	0.43	2.61E-04	1.70E-05	574,897	4,177,475
539	0.12	0.092	0.47	2.86E-04	1.80E-05	574,922	4,177,475
540	0.13	0.1	0.52	3.17E-04	1.92E-05	574,947	4,177,475
541	0.14	0.11	0.57	3.48E-04	2.03E-05	574,972	4,177,475
542	0.15	0.12	0.62	3.83E-04	2.13E-05	574,997	4,177,475
543	0.17	0.14	0.69	4.22E-04	2.22E-05	575,022	4,177,475
544	0.19	0.15	0.76	4.68E-04	2.35E-05	575,047	4,177,475
545	0.21	0.17	0.86	5.29E-04	2.55E-05	575,072	4,177,475
546	0.24	0.19	0.97	5.96E-04	2.78E-05	575,097	4,177,475
547	0.27	0.22	1.1	6.80E-04	3.06E-05	575,122	4,177,475
548	0.32	0.25	1.3	7.89E-04	3.40E-05	575,147	4,177,475
549	0.38	0.3	1.5	9.39E-04	3.83E-05	575,172	4,177,475
550	0.46	0.37	1.9	1.15E-03	4.38E-05	575,197	4,177,475
551	0.044	0.035	0.18	1.09E-04	1.12E-05	574,597	4,177,450
552	0.046	0.037	0.19	1.14E-04	1.14E-05	574,622	4,177,450
553	0.049	0.039	0.2	1.20E-04	1.17E-05	574,647	4,177,450
554	0.051	0.041	0.21	1.27E-04	1.20E-05	574,672	4,177,450
555	0.054	0.043	0.22	1.34E-04	1.22E-05	574,697	4,177,450
556	0.058	0.046	0.23	1.44E-04	1.26E-05	574,722	4,177,450
557	0.062	0.049	0.25	1.53E-04	1.30E-05	574,747	4,177,450
558	0.066	0.052	0.27	1.63E-04	1.34E-05	574,772	4,177,450
559	0.07	0.056	0.29	1.75E-04	1.39E-05	574,797	4,177,450
560	0.076	0.061	0.31	1.89E-04	1.44E-05	574,822	4,177,450
561	0.083	0.066	0.34	2.06E-04	1.48E-05	574,847	4,177,450
562	0.09	0.072	0.36	2.24E-04	1.55E-05	574,872	4,177,450
563	0.098	0.078	0.4	2.44E-04	1.65E-05	574,897	4,177,450
564	0.11	0.086	0.43	2.66E-04	1.74E-05	574,922	4,177,450
565	0.12	0.095	0.48	2.94E-04	1.85E-05	574,947	4,177,450
566	0.13	0.1	0.52	3.22E-04	1.95E-05	574,972	4,177,450
567	0.14	0.11	0.57	3.52E-04	2.02E-05	574,997	4,177,450
568	0.16	0.12	0.63	3.86E-04	2.11E-05	575,022	4,177,450
569	0.17	0.14	0.69	4.26E-04	2.16E-05	575,047	4,177,450
570	0.19	0.15	0.78	4.78E-04	2.36E-05	575,072	4,177,450
571	0.22	0.17	0.87	5.36E-04	2.57E-05	575,097	4,177,450
572	0.25	0.2	0.99	6.08E-04	2.82E-05	575,122	4,177,450
573	0.28	0.23	1.1	6.99E-04	3.12E-05	575,147	4,177,450
574	0.33	0.26	1.3	8.21E-04	3.48E-05	575,172	4,177,450
575	0.4	0.32	1.6	9.89E-04	3.95E-05	575,197	4,177,450
576	0.042	0.034	0.17	1.05E-04	1.10E-05	574,597	4,177,425
577	0.044	0.035	0.18	1.10E-04	1.12E-05	574,622	4,177,425
578	0.047	0.037	0.19	1.15E-04	1.14E-05	574,647	4,177,425
579	0.049	0.039	0.2	1.22E-04	1.17E-05	574,672	4,177,425
580	0.052	0.041	0.21	1.28E-04	1.20E-05	574,697	4,177,425

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index Chronic	Hazard Index Acute	UTM Coordinates Easting	UTM Coordinates Northing
581	0.055	0.044	0.22	1.37E-04	1.24E-05	574,722	4,177,425
582	0.059	0.047	0.24	1.45E-04	1.27E-05	574,747	4,177,425
583	0.062	0.05	0.25	1.55E-04	1.31E-05	574,772	4,177,425
584	0.067	0.053	0.27	1.66E-04	1.34E-05	574,797	4,177,425
585	0.072	0.058	0.29	1.80E-04	1.38E-05	574,822	4,177,425
586	0.078	0.062	0.32	1.94E-04	1.45E-05	574,847	4,177,425
587	0.085	0.068	0.34	2.11E-04	1.53E-05	574,872	4,177,425
588	0.092	0.074	0.37	2.29E-04	1.59E-05	574,897	4,177,425
589	0.1	0.08	0.41	2.49E-04	1.67E-05	574,922	4,177,425
590	0.11	0.088	0.45	2.74E-04	1.77E-05	574,947	4,177,425
591	0.12	0.096	0.49	2.98E-04	1.85E-05	574,972	4,177,425
592	0.13	0.1	0.53	3.25E-04	1.93E-05	574,997	4,177,425
593	0.14	0.11	0.58	3.55E-04	2.00E-05	575,022	4,177,425
594	0.16	0.13	0.63	3.89E-04	2.08E-05	575,047	4,177,425
595	0.17	0.14	0.7	4.30E-04	2.21E-05	575,072	4,177,425
596	0.2	0.16	0.79	4.85E-04	2.40E-05	575,097	4,177,425
597	0.22	0.18	0.89	5.46E-04	2.60E-05	575,122	4,177,425
598	0.25	0.2	1	6.23E-04	2.85E-05	575,147	4,177,425
599	0.29	0.23	1.2	7.24E-04	3.17E-05	575,172	4,177,425
600	0.35	0.28	1.4	8.59E-04	3.56E-05	575,197	4,177,425
601	0.041	0.032	0.16	1.01E-04	1.07E-05	574,597	4,177,400
602	0.043	0.034	0.17	1.06E-04	1.10E-05	574,622	4,177,400
603	0.045	0.036	0.18	1.11E-04	1.13E-05	574,647	4,177,400
604	0.047	0.037	0.19	1.17E-04	1.15E-05	574,672	4,177,400
605	0.05	0.04	0.2	1.24E-04	1.18E-05	574,697	4,177,400
606	0.053	0.042	0.21	1.31E-04	1.21E-05	574,722	4,177,400
607	0.056	0.045	0.23	1.39E-04	1.23E-05	574,747	4,177,400
608	0.059	0.047	0.24	1.47E-04	1.27E-05	574,772	4,177,400
609	0.063	0.051	0.26	1.57E-04	1.31E-05	574,797	4,177,400
610	0.069	0.055	0.28	1.70E-04	1.36E-05	574,822	4,177,400
611	0.074	0.059	0.3	1.84E-04	1.41E-05	574,847	4,177,400
612	0.08	0.064	0.32	1.98E-04	1.46E-05	574,872	4,177,400
613	0.087	0.069	0.35	2.15E-04	1.51E-05	574,897	4,177,400
614	0.094	0.075	0.38	2.33E-04	1.59E-05	574,922	4,177,400
615	0.1	0.082	0.42	2.55E-04	1.69E-05	574,947	4,177,400
616	0.11	0.089	0.45	2.77E-04	1.77E-05	574,972	4,177,400
617	0.12	0.097	0.49	3.01E-04	1.85E-05	574,997	4,177,400
618	0.13	0.11	0.53	3.27E-04	1.90E-05	575,022	4,177,400
619	0.14	0.12	0.58	3.57E-04	1.98E-05	575,047	4,177,400
620	0.16	0.13	0.64	3.92E-04	2.06E-05	575,072	4,177,400
621	0.18	0.14	0.72	4.39E-04	2.21E-05	575,097	4,177,400
622	0.2	0.16	0.8	4.91E-04	2.40E-05	575,122	4,177,400
623	0.22	0.18	0.9	5.54E-04	2.62E-05	575,147	4,177,400
624	0.26	0.2	1	6.35E-04	2.89E-05	575,172	4,177,400
625	0.3	0.24	1.2	7.42E-04	3.22E-05	575,197	4,177,400

ATTACHMENT 4

CALIFORNIA NATURAL DIVERSITY DATABASE SEARCH RESULTS

Record	QUADNAME	ELMCODE	SCINAME	COMNAME	FEDSTATUS	CALSTATUS	DFGSTATUS	CNPSLIST
1	San Leandro	ABNGA04040	Ardea alba	great egret	None	None		
2	San Leandro	ABNGA06030	Egretta thula	snowy egret	None	None		
3	San Leandro	ABNME05016	Rallus longirostris obsoletus	California clapper rail	Endangered	Endangered	FP	
4	San Leandro	ABNNB03031	Charadrius alexandrinus nivosus	western snowy plover	Threatened	None	SSC	
5	San Leandro	ABNNM08103	Sternula antillarum browni	California least tern	Endangered	Endangered	FP	
6	San Leandro	ABPBXA301S	Melospiza melodia pusillula	Alameda song sparrow	None	None	SSC	
7	San Leandro	AFCHA0209G	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threatened	None		
8	San Leandro	AMAFF02040	Reithrodontomys raviventris	salt-marsh harvest mouse	Endangered	Endangered	FP	
9	San Leandro	PDAST4R0P1	Centromadia parryi ssp. congdonii	Congdon's tarplant	None	None		1B.2

ATTACHMENT 5

TRAFFIC IMPACT ANALYSIS

Foothill Square Shopping Center Traffic Impact Analysis

Draft Report

Prepared For:

The City of Oakland

At the Request of:

Jay-Phares Corporation

March 29, 2011

Prepared By:

omni · means
ENGINEERS · PLANNERS

FOOTHILL SQUARE SHOPPING CENTER PROJECT
TRAFFIC IMPACT ANALYSIS

ADMINISTRATIVE DRAFT REPORT

PREPARED FOR:
THE CITY OF OAKLAND

PREPARED BY:

OMNI-MEANS, LTD.
ENGINEERS & PLANNERS
1901 OLYMPIC BOULEVARD, SUITE 120
WALNUT CREEK, CALIFORNIA 94596
(925) 935-2230

MARCH 29, 2011

35-4365-01
(R1448TIA001.DOC)

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Technical Appendices (Separate Document)

INTRODUCTION

This report presents the results of a traffic impact analysis performed by OMNI-MEANS for the proposed Foothill Square Shopping Center redevelopment project in the City of Oakland. The proposed project would consist of 20,916 square-feet of mixed-use shopping center development. Larger components of the project include a supermarket and other retail/commercial tenants (Ross Store). The center would also accommodate some non-traditional tenants including two medical treatment clinics, a bingo venue, and a pre-school center. All of these "non-traditional" uses are present in the existing center as currently configured. The project site would be located just west of Interstate 580 bounded by Foothill Boulevard, MacArthur Boulevard, 106th Avenue, and 108th Avenue. Figure 1 illustrates the Project Location and Vicinity Map. Based on discussions with City Transportation Engineering staff, the traffic issues for this development relate to operations at key intersections along MacArthur Boulevard, Foothill-Stanley Boulevard, 106th and 108th Avenues, year 2015 short-term and cumulative year 2035 conditions, and proposed project access and circulation. Some of the key issues evaluated in this study include the following:

- Peak hour traffic operations at intersections in the project area along 106th Avenue, 108th Avenue, and I-580 ramp locations;
- Project trip generation relative to unique land use characteristics;
- Project access on Foothill Boulevard and it's relationship to other nearby intersections and driveways and transit operations;
- Project internal circulation, parking and drive aisle standards and potential conflicts;
- Project conditions under short-term and future Year 2035 cumulative conditions.

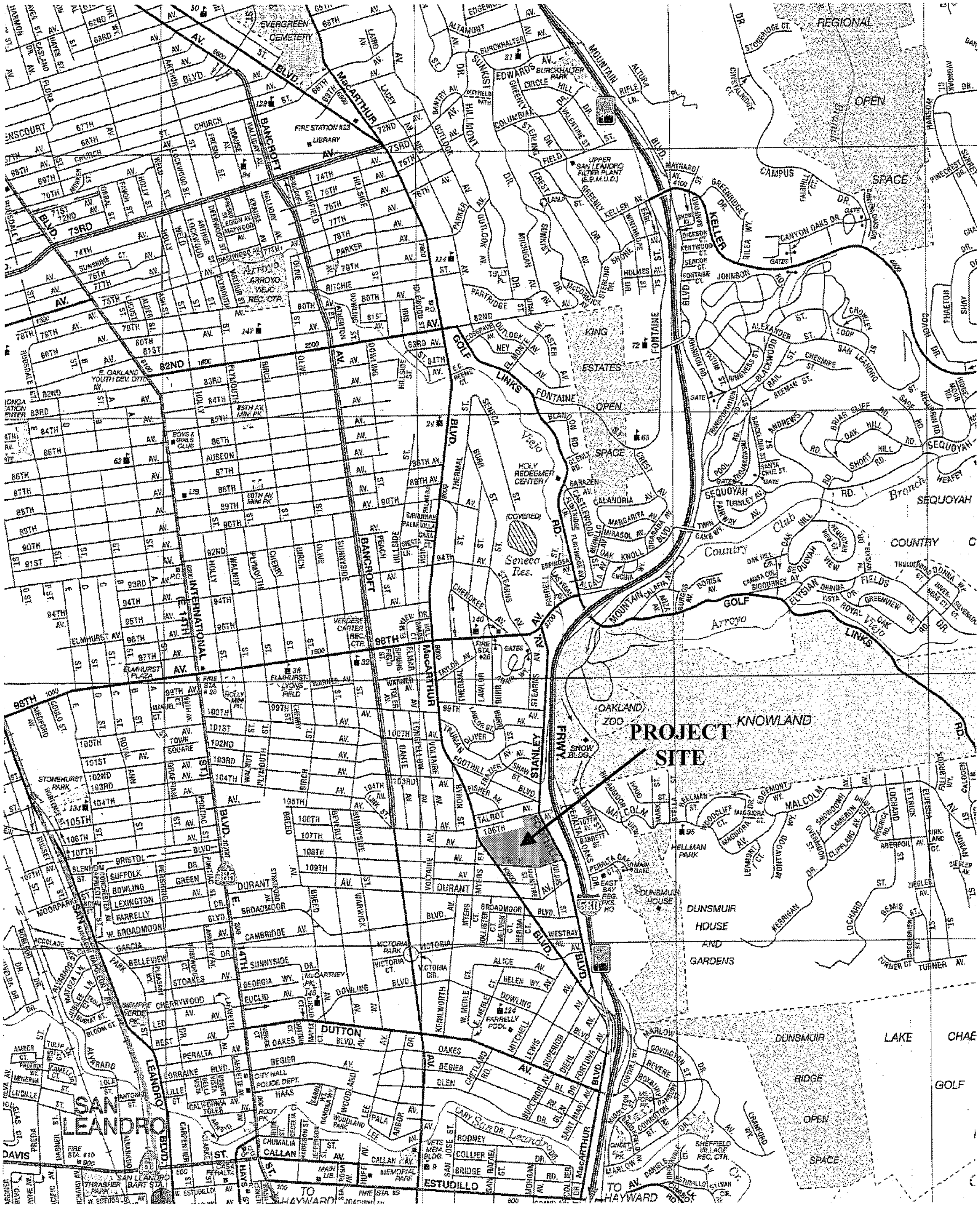
Intersection operation (as compared to roadway segments) is usually considered the major factor in determining the traffic handling capacity of a local circulation system. The analysis responds to the City of Oakland's Transportation Services Division's *Transportation Impact Study (TIS) Technical Guidelines.*[1] These guidelines provide a process to evaluate a proposed project's potential need for a TIS and the geographic scope of the analysis. At a minimum, the traffic analysis should include the following:

- Intersections of streets adjacent to the site;
- Intersections operating or projected to operate at Level of Service (LOS) A or B where 30 or more peak hour trips are added by the project;
- Intersections operating or projected to operate at LOS C or below where 10 or more peak hour trips are added by the project.

As a result, the following ten (10) intersections have been chosen for evaluation as they would provide direct and indirect access to the proposed project site:

1. Stanley Avenue/I-580 Southbound Off-Ramp
2. 106th Avenue/Bancroft Avenue
3. 106th Avenue/Voltaire Avenue
4. 106th Avenue/MacArthur Boulevard
5. 106th Avenue/Foothill Boulevard
6. 106th Avenue/I-580 Northbound On-Ramp-Peralta Oaks Drive
7. 108th Avenue/MacArthur Boulevard
8. 108th Avenue/Foothill Boulevard
9. Durant Avenue/MacArthur Boulevard
10. Superior Avenue/MacArthur Boulevard

[1] City of Oakland Transportation Services Division, *Transportation Impact Study (TIS) Technical Guidelines*, March 9, 2007.



Project Vicinity Map

North

omni-means

figure 1

Based on discussions with City Engineering and Planning staff, the following five scenarios have been analyzed as part of a comprehensive transportation and circulation analysis:

- Existing Traffic Conditions: Represents existing traffic flow conditions collected through new field counts and/or previous traffic counts conducted for the eight existing study intersections. Points of congestion and vehicle delays are noted for both the AM and PM peak commute hours;

- Short-Term Year 2015 (No Project) Conditions: Represents existing traffic plus traffic from anticipated approved projects over the next 5-year period. A yearly growth rate for background traffic has been developed from ACCMA transportation model projections. In addition, specific approved projects identified by the City of Oakland were included in short-term traffic growth. Approved developments may not have begun construction, may be under construction but not occupied, or may be partially occupied;

- Short-Term Year 2015 Plus Project Conditions: Proposed project trips added to short-term traffic volumes to determine any project-specific traffic impacts;

- Cumulative Year 2035 (No Project) Conditions: Year 2035 conditions were derived by using Alameda County Congestions Management Agency (ACCMA) transportation model volumes and/or recent transportation studies conduced in the City of Oakland;

- Cumulative Year 2035 Plus Project Conditions: Year 2035 conditions adjusted to include proposed project volumes.

EXISTING CONDITIONS

Existing conditions describe the existing transportation (roadways and intersections) and transit and pedestrian facilities serving the project site.

EXISTING ROADWAYS

Roadways that provide primary circulation in the vicinity of the project site are as follows:

Foothill Boulevard extends in a north-south direction along the eastern frontage of the project site. Foothill Boulevard is a wide, two-lane arterial street that provides access to both commercial and residential areas adjacent to the proposed project. Immediately adjacent to the project site, Foothill Boulevard has vehicle parking on the west side of the street and provides access to transit (AC Transit). South of 108th Avenue, the roadway provides access to residential areas as it extends to MacArthur Boulevard and I-580 south of the project site. Foothill Boulevard would provide direct access to the proposed project site.

Stanley Avenue forms the north leg of the Stanley Avenue/106th Avenue/Foothill Boulevard intersection. Extending north from 106th Avenue, Stanley Avenue parallels Interstate 580 on its west side acting as a frontage road and providing access to residential areas north of the proposed project site to 98th Avenue. In this area, the roadway has two travel lanes with vehicle parking allowed on the west side of the street.

106th Avenue extends along the northern frontage of the project site between Foothill Boulevard-Stanley Avenue and MacArthur Avenue. This segment of 106th Avenue is an arterial street with vehicle parking on both sides of the street and provides access to commercial-retail areas and residential areas. West of MacArthur Boulevard, the roadway provides access to purely residential areas. Further west of Bancroft Avenue, the roadway narrows as it extends west towards Breed Avenue. 106th Avenue would provide direct access to the proposed project site.

108th Avenue extends along the southern frontage of project site between Foothill Boulevard and MacArthur Avenue. In this area, 108th Avenue is a wide two-lane street with parking on both sides of the street providing access to residential areas on the south side of the street and commercial-retail areas on the east. West of MacArthur Avenue the roadway narrows and provides access to mainly residential areas as it extends to Breed Avenue.

MacArthur Boulevard is a major north-south arterial street that extends north-south along the proposed project site's western frontage. Extending between Foothill Boulevard-Interstate 580 to the south and 73rd Avenue to the north, MacArthur Boulevard is a main arterial route linking commercial areas with residential areas both north and south of the project site. In the immediate project site area, MacArthur Boulevard has two travel lanes, a two-way-left-turn-lane (TWLTL), and vehicle parking on both sides of the street. MacArthur Boulevard would provide direct access to the proposed project site.

Bancroft Avenue is located west of the proposed project site and extends in a north-south direction between High Street and East 14th Street. North of 106th Avenue, the roadway becomes divided by a large landscaped median which provides for one-way travel in both the northbound and southbound directions. In this segment, Bancroft Avenue has one travel lane (each) northbound/southbound and Class II bike lanes on both sides of the street. South of 106th Avenue, the roadway becomes a two-lane street with a two-way-left-turn-lane, Class II bike lanes, and vehicle parking on both sides of the street. Bancroft Avenue provides access to residential areas west of the project site.

107th Avenue extends in an east-west direction between MacArthur Boulevard to Breed Avenue and beyond. Intersecting approximately mid-block along the proposed project's MacArthur Boulevard frontage, 107th Avenue serves commercial uses immediately adjacent to MacArthur Boulevard and residential uses further to the west.

Voltaire Avenue is also located west of the proposed project site between Bancroft Avenue and MacArthur Boulevard. Extending in a north-south direction, Voltaire Avenue is a narrow two-lane street that provides access to residential areas.

Peralta Oaks Drive is located east of Interstate 580 and extends in a north-south direction serving residential and institutional areas east of the proposed project site. A wide two-lane roadway, Peralta Oaks Drive extends south from 106th Avenue and vehicle parking is allowed on both sides of the street.

Shaw Street is a narrow, one-way street (eastbound) that is located just west of the Stanley Boulevard/I-580 Eastbound (southbound) off-ramp intersection and provides access to residential areas.

Julius Street extends between 108th Avenue and Broadmoor Boulevard in a north-south direction. Located just south of the proposed project site, Julius Street is a two-lane roadway with parking on both sides of the street.

McIntyre Street extends between 108th Avenue and Durant Avenue in a north-south direction providing access to residential areas south of the proposed project site. McIntyre Street is a two-lane residential street with vehicle parking on both sides.

Regional access to the proposed project site is provided by Interstate 580 located immediately east of the project site. I-580 is an east-west facility extending between Interstate 80 to the west and Interstate 5 to the east. In the project study area, I-580 is oriented in a north-south direction with four travel lanes in each direction. Partial access to the project site is provided by the Stanley Avenue/I-580 Eastbound off-ramp intersection and 106th Avenue/I-580 Westbound on-ramp/Peralta Oaks Drive intersection. Vehicle access can also be gained at the MacArthur Boulevard/I-580 Eastbound on-ramp and Foothill Boulevard/I-580 westbound off-ramp junctions located approximately one-half mile east of the proposed project site. I-580 provides from Oakland in the west to Hayward, Castro Valley, Dublin, Pleasanton, Livermore, and Tracy to the east.

TRANSIT

Transit service in the project study area is provided by AC Transit. AC Transit has four bus routes that serve the project study area. These four bus routes use the existing Foothill Square shopping center as a transit node with multiple major bus lines converging and terminating at this location including the 45, 57, 75, NL, and NX3. A brief description of these lines follows and a transit diagram exhibiting the bus routes and bus stops serving the site has been provided in Figure 2.

Line #45 stops at the Eastmont Transit Center, Seminary Avenue/MacArthur Boulevard, Seminary Avenue/International Boulevard, Seminary Avenue near San Leandro Street, Coliseum BART, 85th Avenue/Edes Avenue, Bergedo Drive/Estepa Drive/, 105th Avenue/International Boulevard, and the Foothill Square Shopping Center between 5:00-12:43 a.m. on weekdays with headways every 15-30 minutes. Weekend operations are between 5:00-12:46 a.m. with headways every 20-30 minutes

Line #57 stops at 40th Street/San Pablo Avenue, MacArthur BART, Lakeshore Avenue/MacArthur Boulevard, Fruitvale Avenue/MacArthur Boulevard, Seminary Avenue/MacArthur Boulevard, Eastmont Transit Center, and Foothill Square shopping center between 5:30 a.m. and 12:43 a.m. on weekdays. Headways are every 12-30 minutes during the weekdays and 15-20 minutes on the weekends (operating between 5:45 a.m. and 12:54 a.m.).

Line #75 stops at San Leandro BART, Marina Bouelvard/Merced Street, Purdue Street/Farnsworth Street, Farnsworth Street/Lewelling Boulevard, Washington Avenue/Lewelling Boulevard, Bay Fair BART, Estudillo Avenue/MacArthur Boulevard, 106th Avenue/MacArthur Boulevard (Foothill Square Shopping Center), Estudillo Avenue/Bancroft Avenue, and San Leandro BART between 6:10 a.m. and 8:55 p.m. on weekdays. Headways are every hour during this time period and this route only operates on weekdays.

Line #NL stops at the Transbay Terminal (SF), Thomas L. Berkley Way/Broadway, Lakeshore Avenue/Mac Arthur Boulevard, Fruitvale Avenue/MacArthur Boulevard, MacArthur Boulevard/Millsbrae Avenue, Eastmont Transit Center, and the Foothill Square shopping center between 6:12 a.m. and 12:57 a.m. on weekdays. However, Line #NL only stops at the Foothill Square shopping center between 4:12 – 7:12 p.m. Headways are every 30 minutes during the weekday and weekend hours.

Line #NX3 stops at the Transbay Terminal (SF), Seminary Avenue/MacArthur Boulevard, Eastmont Transit Center, and Marlow Drive/Foothill Boulevard between 5:50 – 9:00 a.m. and 4:35 – 9:21 p.m. during the weekday commute periods (only). Headways range from 4-35 minutes depending on the location.

AC Transit buses currently stage (stop) on Foothill Boulevard (line #'s 45, 57, and 75) as well as MacArthur Boulevard (line #'s 45, 57, 75, NL, and NX3).

Transit use for all routes serving the existing Foothill Square shopping center were observed and quantified during the weekday AM and PM peak periods.[2] Specifically, all AC Transit patrons that were using the shopping center were counted for travel mode purposes. As counted, the use of transit to access the center is currently quite low. During the AM peak period a total of one (1) rider was observed (1 in, 0 out) while during the PM peak period a total of seven (7) riders were observed (1 in, 6 out) using the center. These results would indicate that people using transit to access the shopping center is low and is estimated to be less than 5% of all existing shopping center trips. In addition, discussions with AC Transit staff indicate that all bus routes

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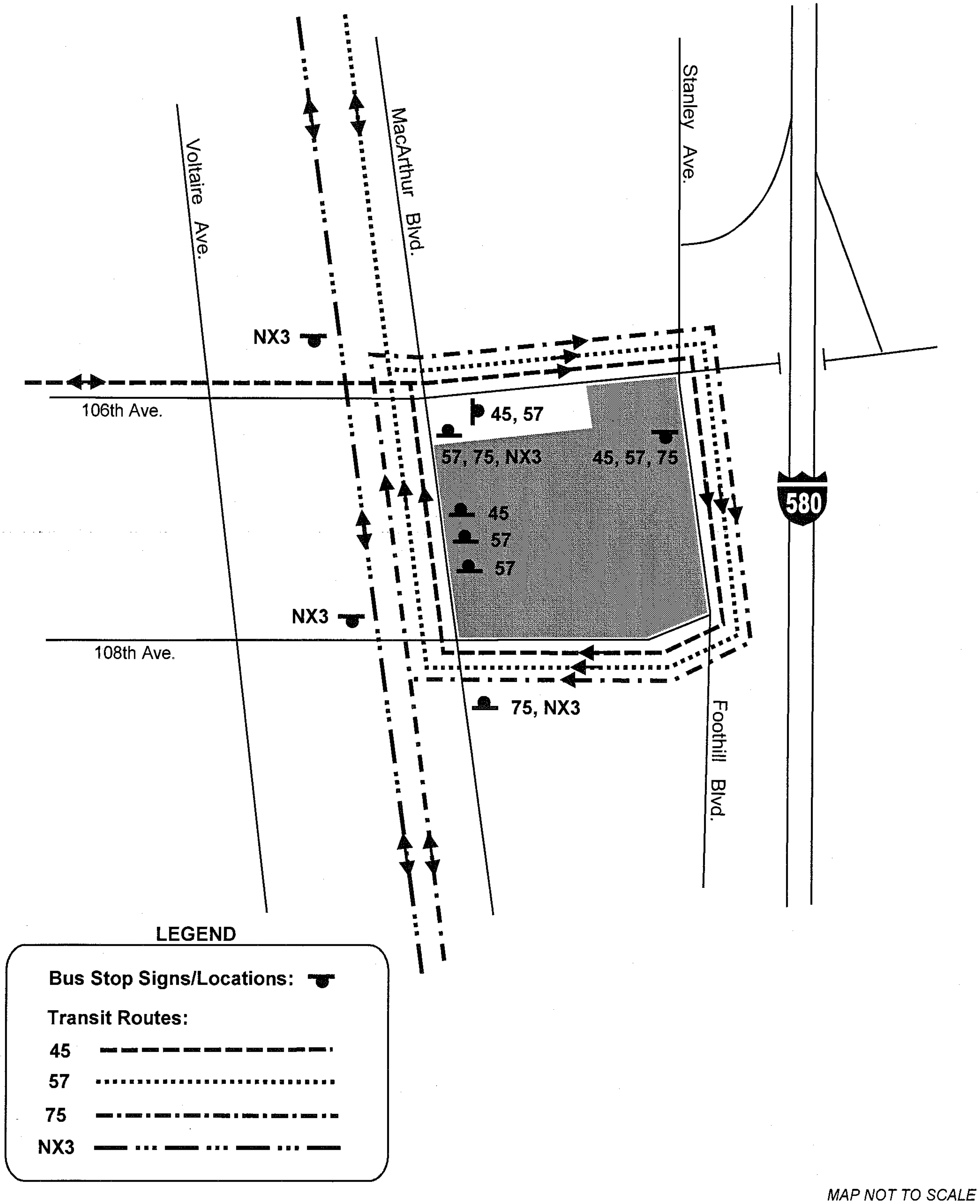
[2] *Omni-Means Engineers & Planner, AM and PM peak period(7:00-9:00 a.m. & 4:00-6:00 p.m.) transit use to/from the Foothill Square shopping center, November 17, 2010.*



Transit Routes & Stops Serving Foothill Square

North

omni-means

figure 2

serving the existing center have excess capacity (specific ridership data is not available) and this was observed and noted during peak period transit use counts for the proposed project.[3]

BICYCLE AND PEDESTRIAN FACILITIES

Existing bicycle and pedestrian facilities in the area are comprised of sidewalks, pedestrian crosswalks, Class II bike lanes, and signalized intersections. Pedestrian sidewalks are located on 106th Avenue, Foothill Boulevard, 108th Avenue, and MacArthur Boulevard around the entire proposed project site on both sides of the street (the exception being the east side of Foothill Boulevard). Peralta Oaks Drive has pedestrian sidewalks on the east side of the street extending to Barrett Street. West of the project side, pedestrians sidewalks extend all the way down both 106th and 108th Avenues to Bancroft Avenue and beyond. Class II bike lanes are present on both sides of Bancroft Avenue west of the project site.

Pedestrian crosswalks are present at all four intersections surrounding the proposed project site. At the 106th Avenue/Foothill Boulevard, pedestrian crosswalks extend east-west (north side) of Foothill Boulevard and north-south (west side) of 106th Avenue. At the 108th Avenue/Foothill Boulevard intersection a pedestrian crosswalk extends north-south (west side) across 108th Avenue. The signalized intersection of 106th Avenue/MacArthur has pedestrian crosswalks across all four approach legs. Along MacArthur Boulevard, there are two east-west crosswalks located on the north side of the 107th Avenue and 108th Avenue, respectively. A permanent pedestrian "walk phase" is in effect at the signalized intersection of 106th Avenue/MacArthur Boulevard for both the north-south and east-west directions. The allotted green time is approximately 30 seconds per direction during peak commute hours.

Pedestrian and bicycle counts were conducted at all adjacent intersections and pedestrian crosswalks serving the Foothill Square shopping center. This included the intersections of 106th Avenue/Stanley-Foothill Boulevard, 106th Avenue/MacArthur Boulevard, 108th Avenue/Foothill Boulevard, and 108th Avenue/MacArthur Boulevard. It also included all mid-block pedestrian crosswalks on MacArthur Boulevard between 108th Avenue and 107th Avenue. Pedestrian and bicycle counts were quantified during the AM and PM peak periods.[4] Both pedestrian and bicycle volumes adjacent to the proposed project site could be considered moderate. As shown in Figure 3, pedestrian activity is more pronounced at the MacArthur Boulevard crossings at 108th and 106th Avenues with approximately 10-30 pedestrians. This is in part due to activity/access of AC Transit bus stops and transfers. It is noted that at the 108th Avenue/MacArthur Boulevard intersection only has one east-west pedestrian crosswalk on MacArthur Boulevard (north side). Pedestrians generally cross 108th Avenue on either side of MacArthur Avenue without benefit of an official striped crosswalk. Bicycle traffic in the area is light with most project study intersections on 108th and 106th Avenue experiencing 1-2 bicyclists during the peak hours.

EXISTING INTERSECTIONS

The following list of study intersections have been reviewed by Oakland Engineering staff for both existing and proposed project operating conditions.[5] To assess vehicle traffic flows on key streets in the project study vicinity, both AM and PM peak period (7:00-9:00 a.m. and 4:00-6:00 p.m.) intersection turning movement counts were conducted/obtained at the following ten intersections as follows:[6]

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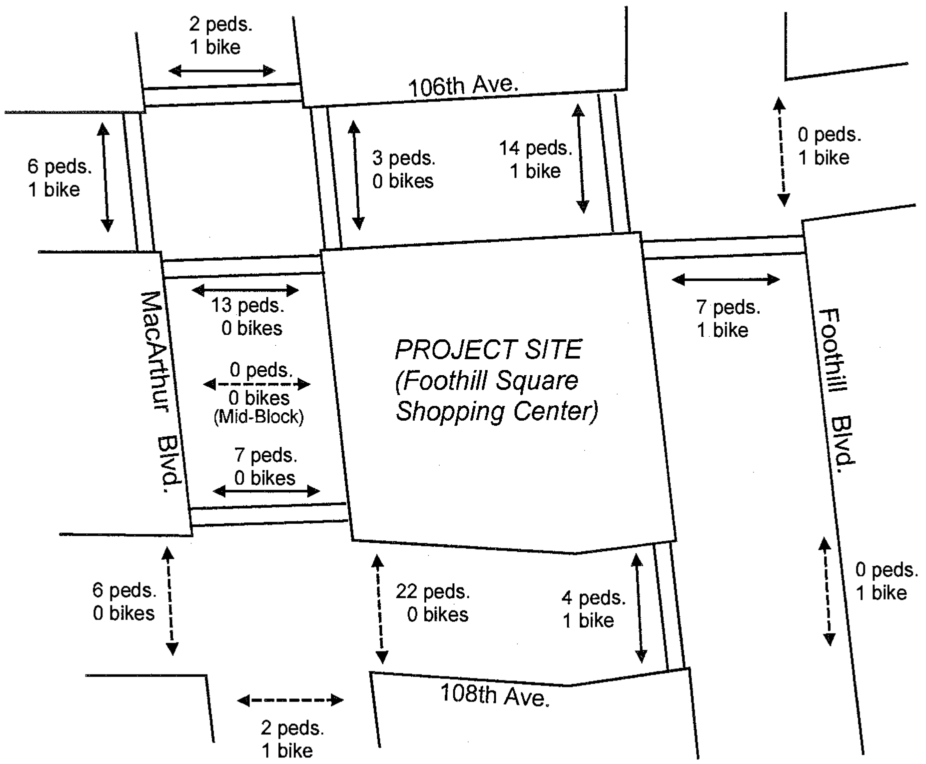
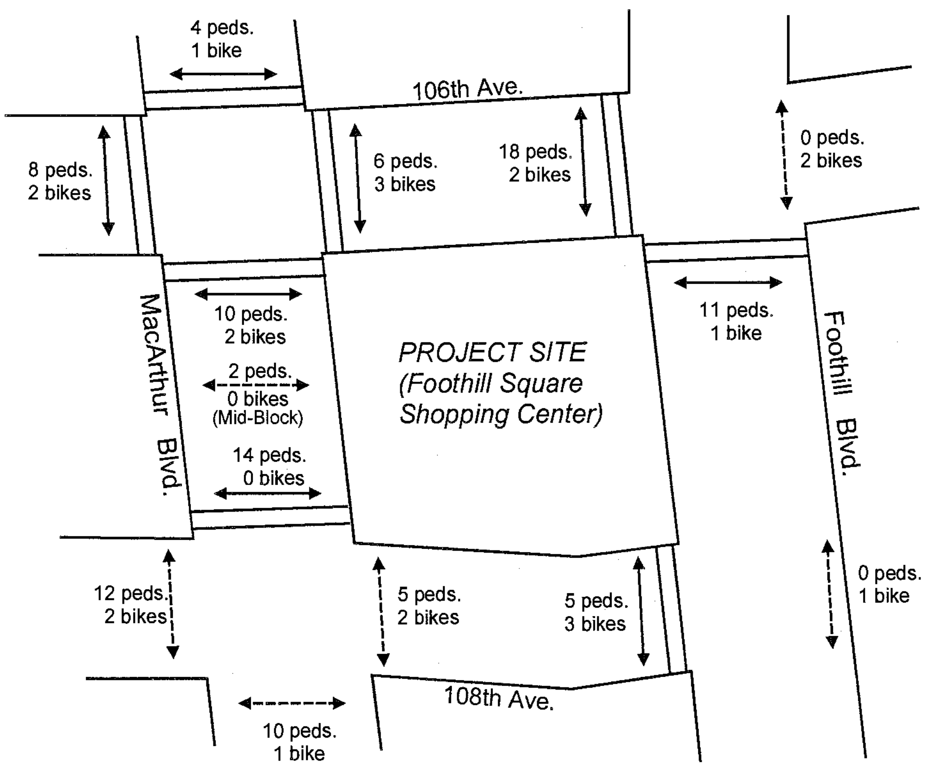
[3] *Mr. Ajay Martin, AC Transit Planner, AC Transit, Personal communication on May 11, 2010.*
[4] *Baymetrics Traffic Resources, AM and PM (7:00-9:00 a.m. & 4:00-6:00 p.m.) peak period pedestrian and bicycle counts at project study intersections along 106th Avenue and 108th Avenue, November, 2010.*
[5] *Mr. Philip Ho, Transportation Services Division, City of Oakland, Review of Memorandum of Assumptions (MoA) for proposed Foothill Square project, January 7, 2010.*
[6] *Omni-Means Engineers and Planners, AM and PM (7:00-9:00 a.m. & 4:00-6:00 p.m.) peak period intersection counts along 106th Avenue, 108th Avenue, MacArthur Boulevard, and Foothill-Stanley Boulevard, March 2010.*



AM PERIOD



PM PERIOD

MAPS NOT TO SCALE

Pedestrian & Bicycle Volumes
A.M. and P.M. Peak Hour

North

omni-means

figure 3

Intersections	*Control*
1. Stanley Avenue/I-580 Southbound Off-Ramp	Stop-Sign (I-580 off-ramp)
2. 106th Avenue/Bancroft Avenue	Signal
3. 106th Avenue/Voltaire Avenue	All-Way-Stop
4. 106th Avenue/MacArthur Boulevard	Signal
5. 106th Avenue/Foothill Boulevard	All-Way-Stop
6. 106th Avenue/I-580 Northbound On-Ramp-Peralta Oaks Drive	All-Way-Stop
7. 108th Avenue/MacArthur Boulevard	Stop-Sign (108th Ave.)
8. 108th Avenue/Foothill Boulevard	Stop-Sign (108th Ave.)
9. Durant Avenue/MacArthur Boulevard	Stop-Sign (Durant Ave.)
10. Superior Avenue/MacArthur Boulevard	Stop-Sign (Superior Ave.)

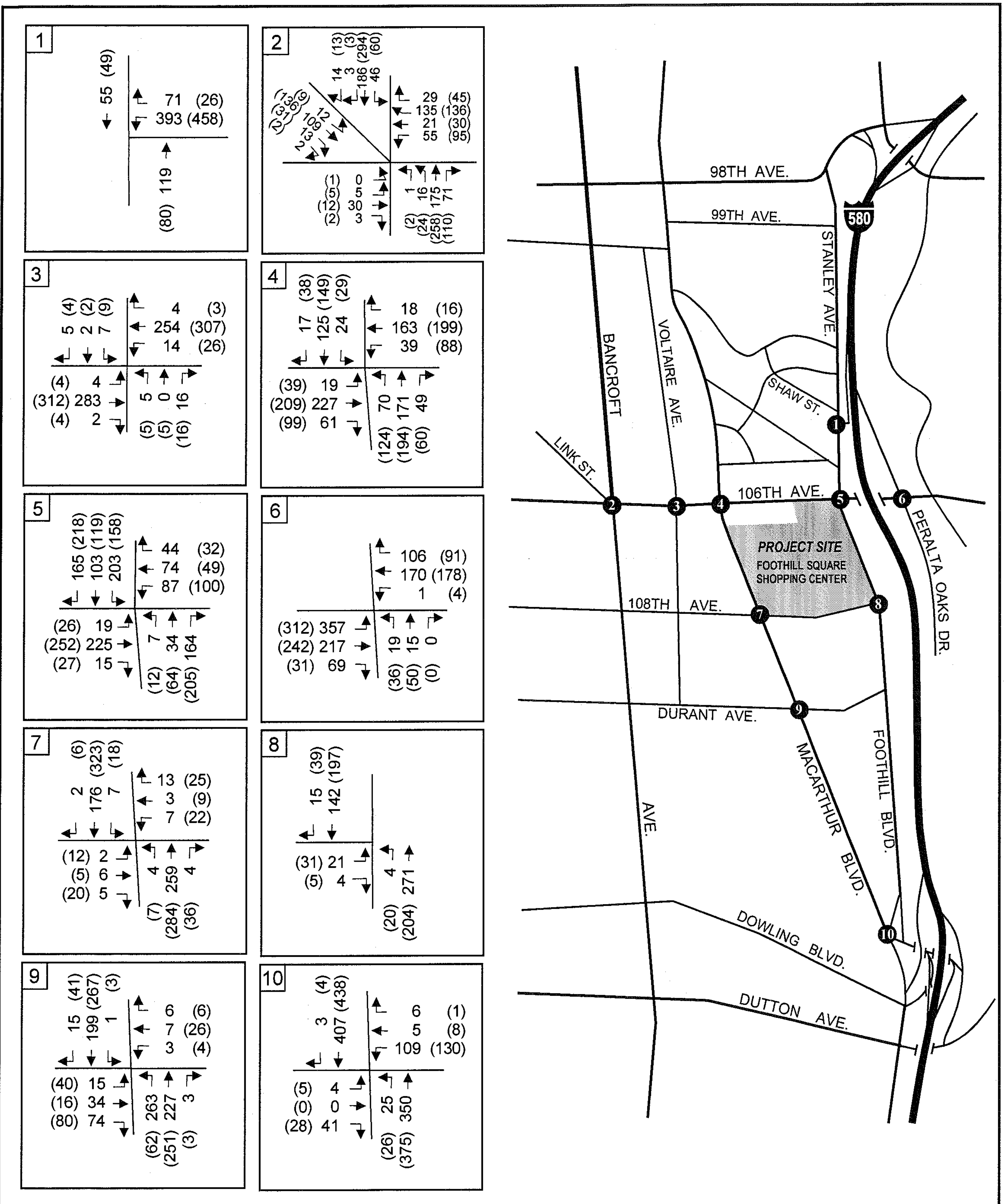
Existing study intersections' AM and PM peak hour traffic volumes are shown on Figure 4.

INTERSECTION LEVEL-OF-SERVICE (LOS) CONCEPT

Intersection LOS provides the most accurate measure of operational performance with a scale ranging from LOS A-F (see Table 1—LOS Definition Criteria). These ratings correspond to a Level-of-Service rating and corresponding vehicle delay in seconds. LOS A represents relatively free-flow conditions with little delay at intersections. LOS E represents unstable or unbalanced flow conditions with volumes at or near design capacity. LOS F represents a significantly congested condition where traffic flows can exceed design capacities resulting in long vehicle queues and delays from the minor-street driveway. At unsignalized intersections, stated intersection LOS usually refers to the minor street or stop-sign controlled driveway movement. With all-way-stop-controlled intersections, measured vehicle delay is typically an average of all approach legs. However, where an approach volume on a specific intersection leg is substantially unbalanced (i.e. higher), that approach leg would experience proportionately longer vehicle delays.

Based on the City's Transportation Services Division *Transportation Impact Study Technical Guidelines*, signalized and unsignalized AM and PM peak hour intersection LOS have been calculated using the operations method of the *2000 Highway Capacity Manual (HCM)* using Synchro-Simtraffic software. Study intersections were chosen based on an initial distribution of project trips and include the ten study intersections as identified using the City's TIS Technical Criteria for selection of study intersections and these include the following:

- Intersections of streets adjacent to the project site;
- Intersections operating or projected to operate at Level-of-Service (LOS) A or B where 30 or more peak hour trips are added by the project;
- Intersections operating or projected to operate at LOS C or below where 10 or more peak hour trips are added by the project.



Existing A.M & (P.M.) Peak Hour Volumes

omni-means

figure 4

TABLE 1
LEVEL-OF-SERVICE CRITERIA FOR INTERSECTIONS

Level of Service	Type of Flow	Delay	Maneuverability	Control Delay (seconds/vehicle): Signalized	Unsignalized	All-Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0 secs. ≤ 0.60 v/c	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted □within groups of vehicles.	>10 and ≤ 20.0 secs. 0.61 – 0.70 v/c	>10 and ≤ 15.0	>10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20 and ≤ 35.0 secs. 0.71 – 0.80 v/c	>15 and ≤ 25.0	>15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles of stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤ 55.0 secs. 0.81 – 0.90 v/c	>25 and ≤ 35.0	>25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55 and ≤ 80.0 secs. 0.91 – 1.00 v/c	>35 and ≤ 50.0	>35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0 secs. > 1.00 v/c	> 50.0	> 50.0

References: 1. Highway Capacity Manual, Fourth Edition, Transportation Research Board, 2000, Contra Costa Transportation Authority (CCTA), Technical Procedures Update, Final, July 9, 2006. For the purposes of this study, CCTA intersection methodology has been used for signalized intersections yielding an LOS and v/c ratio.

EXISTING INTERSECTION OPERATIONS

Field observations indicate that traffic flows in the Foothill Square shopping center area tend to flow from east to west during the AM morning commute period. Specifically, traffic volumes on 106th Avenue reflect an eastbound pattern during the AM peak hour with many vehicles accessing I-580. Similarly, there is a predominantly westbound traffic flow on Foothill Boulevard during the same time period. Between 106th Avenue and Foothill Boulevard there are approximately 500 vehicles accessing I-580 westbound and 106th Avenue (north of Peralta Oaks Drive) during the AM peak hour. MacArthur Boulevard has an east to west travel pattern as well. During the PM evening commute period, these traffic flows are reversed with a primarily west to east travel pattern in the study area. Traffic volumes tend to flow off of I-580 and access 106th Avenue and Foothill Boulevard in a the westbound and southbound direction, respectively.

On the immediate project vicinity streets fronting the project site, traffic volumes are most pronounced on 106th Avenue, Foothill Boulevard, and MacArthur Boulevard. On the south side of the center, 108th Avenue experiences relatively light traffic volumes (100 trips) during both the AM and PM peak hours.

Existing intersection LOS has been shown in Table 2. As calculated, nine of the ten project study intersections are operating at acceptable levels (LOS D or better) during both the AM and PM peak hours. Currently, the most congested location is the minor street stop-controlled intersection of Superior Ave-Foothill Blvd./MacArthur Avenue . At this intersection, existing LOS is E during the AM peak hour and LOS F during the PM peak hour. This level of service refers to the stop-sign controlled westbound through and left-turn movements from Foothill Boulevard onto MacArthur Avenue. All other turning movements at this intersection are operating at LOS C or better during the peak hours. This intersection serves as a "gateway" intersection to the area providing access to/from I-580 to residential and commercial areas west of the freeway in San Leandro/Oakland.

TABLE 2
EXISTING CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	AM Peak Hour Vehicle Delay	AM Peak Hour LOS	PM Peak Hour Vehicle Delay	PM Peak Hour LOS
1	Stanley Ave./I-580 SB (EB) Off	Stop	17.1	C	16.4	C
2	106th Ave./Bancroft Ave./Link St.	Signal	34.2	C	29.5	C
3	106th Ave./Voltaire Ave.	AWSC	10.7	B	9.8	A
4	106th Ave./MacArthur Blvd.	Signal	11.1	B	10.3	B
5	106th Ave./Foothill Blvd.	AWSC	17.1	C	15.6	C
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	11.4	B	11.6	B
7	108th Ave./MacArthur Blvd.	Stop	15.1	C	11.6	B
8	108th Ave./Foothill Blvd.	Stop	12.1	B	11.4	B
9	Durant Ave./MacArthur Blvd.	Stop	22.9	C	16.0	C
10	Superior Ave./MacArthur Blvd.	Stop	**38.5**	**E**	**53.9**	**F**

Signalized and unsignalized intersection calculations based on HCM 2000 operations methodology which yields an intersection LOS and corresponding vehicle delay in seconds using Synchro-Simtraffic software.

TRAFFIC SIGNAL WARRANT ANALYSIS

A supplemental traffic signal warrant analysis has been completed to determine whether existing unsignalized study intersections may require or benefit from the installation of a traffic signal. The term "signal warrant" refers to any of the eight established methods used by Caltrans to quantify the need for a traffic signal at an unsignalized intersection. The eight signal warrant methods are described in the latest edition of the California

Manual on Uniform Traffic Control Devises (MUTCD).

The California MUTCD indicates that the installation of a traffic signal should be considered only if one or more of the eight signal warrants are met. This TIAR has performed the peak hour volume-based Warrant #3 on all eight unsignalized project study intersections. The results of the signal warrant analyses may indicate that a traffic signal could be beneficial to the operations of an intersection. The final decision to install a traffic signal should, however, be based upon further studies utilizing additional warrants as presented in the California MUTCD.

Based on MUTCD's peak hour warrant #3 criteria, none of the eight stop-sign controlled project study intersections would qualify for signalization with existing traffic volumes during the weekday peak hours.[7]

SHORT-TERM YEAR 2015 (NO PROJECT) TRAFFIC CONDITIONS

Short-term year 2015 (no project) traffic conditions represent existing plus approved/pending project traffic that would be generated in the next 5-year horizon period to the year 2015. Approved/pending development is defined as projects that have either been approved by the City of Oakland or Alameda County and are not yet constructed--or have a reasonable chance of being approved and constructed prior to the proposed project. For this reason, short-term conditions represent a conservative estimate of approved and/or pending project traffic in the study area.

SHORT-TERM YEAR 2015 PLANNED CIRCULATION IMPROVEMENTS

Discussions with City of Oakland Engineering staff indicate that there are no short-term circulation improvements planned for intersections/roadways in the immediate study area. Discussions with City of San Leandro Engineering staff indicate specific improvements are planned for the Superior Avenue-Foothill Boulevard/MacArthur Avenue intersections.[8] As part of their MacArthur Boulevard Streetscape Plan, an analysis was conducted for the Superior Avenue-Foothill Boulevard/MacArthur Avenue intersection that recommends (among other alternatives) installation of a modern roundabout to improve traffic flow and intersection LOS.[9] The City of San Leandro would install the roundabout resulting in a future LOS A projected for both the AM and PM peak hours. However, there is currently no funding for Phase 2 of the MacArthur Boulevard Streetscape Plan which would include this improvement. No other short-term year 2015 improvements are planned at this time.

SHORT-TERM YEAR 2015 DEVELOPMENT/METHODOLOGY

Approved/pending projects likely to affect traffic flows in the general study areas were identified from previous transportation studies conducted in the immediate project study area and/or long-range volume projections derived from the Alameda County Congestion Management Agency (ACCMA) transportation model.[10] Discussions with City of Oakland Planning staff indicate that there are no short-term approved projects in the immediate study area that would affect traffic flows on the adjacent project streets of Foothill-Stanley Boulevard, 106th Avenue, 108th Avenue, and MacArthur Boulevard.[11] Therefore, yearly growth rates were developed using ACCMA model projections. Derived from base year 2000 and future year 2015 model projections, a weighted average of projected traffic increases on all major travel corridors serving the project

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[7] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*

[8] *Mr. Reh-Lin Chen, Senior Transportation Engineer, City of San Leandro, Personal communication on December 3, 2010.*

[9] *Dowling Associates, Inc., Final Plan for the MacArthur/Superior/Foothill Intersection TETAP Project, City of San Leandro, February 14, 2006.*

[10] *Alameda County Congestion Management Agency (ACCMA), Year 2000 and Year 2035 ACCMA Transportation Model volume projections, ABAG Projections 2007, October 2008 (ACCMA Website).*

[11] *Aubrey Rose, Planner, City of Oakland, Personal communication on September 21, 2010.*

site was developed for MacArthur Avenue, Bancroft Avenue, 106th Avenue, 108th Avenue, Stanley-Foothill Boulevard and I-580. In the study area, the ACCMA transportation model tends to load less congested parallel corridors (MacArthur Boulevard and Stanley-Foothill Boulevard) with higher traffic volumes diverted from I-580. In most instances, yearly growth increases in traffic volumes are approximately 1-2% with the exception of major routes/arterial streets that parallel I-580 and/or I-880. For project study streets and roadways, the yearly growth in traffic volumes averaged 12% over the 15 year period. Between the years 2010-2015, this would equate to a 4% increase in overall traffic volumes.

AM and PM peak hour short-term (no project) volumes have been shown in Figure 5.

SHORT-TERM YEAR 2015 (NO PROJECT) INTERSECTION OPERATION

With short-term (no project) traffic added to existing peak hour traffic volumes, intersection LOS have been calculated and are shown in Table 3. As calculated, overall operating conditions would remain unchanged from existing levels with nine of the ten study intersections operating at acceptable levels (LOS D or better). However, there would be selected changes in intersection LOS at some locations. These include the following intersections:

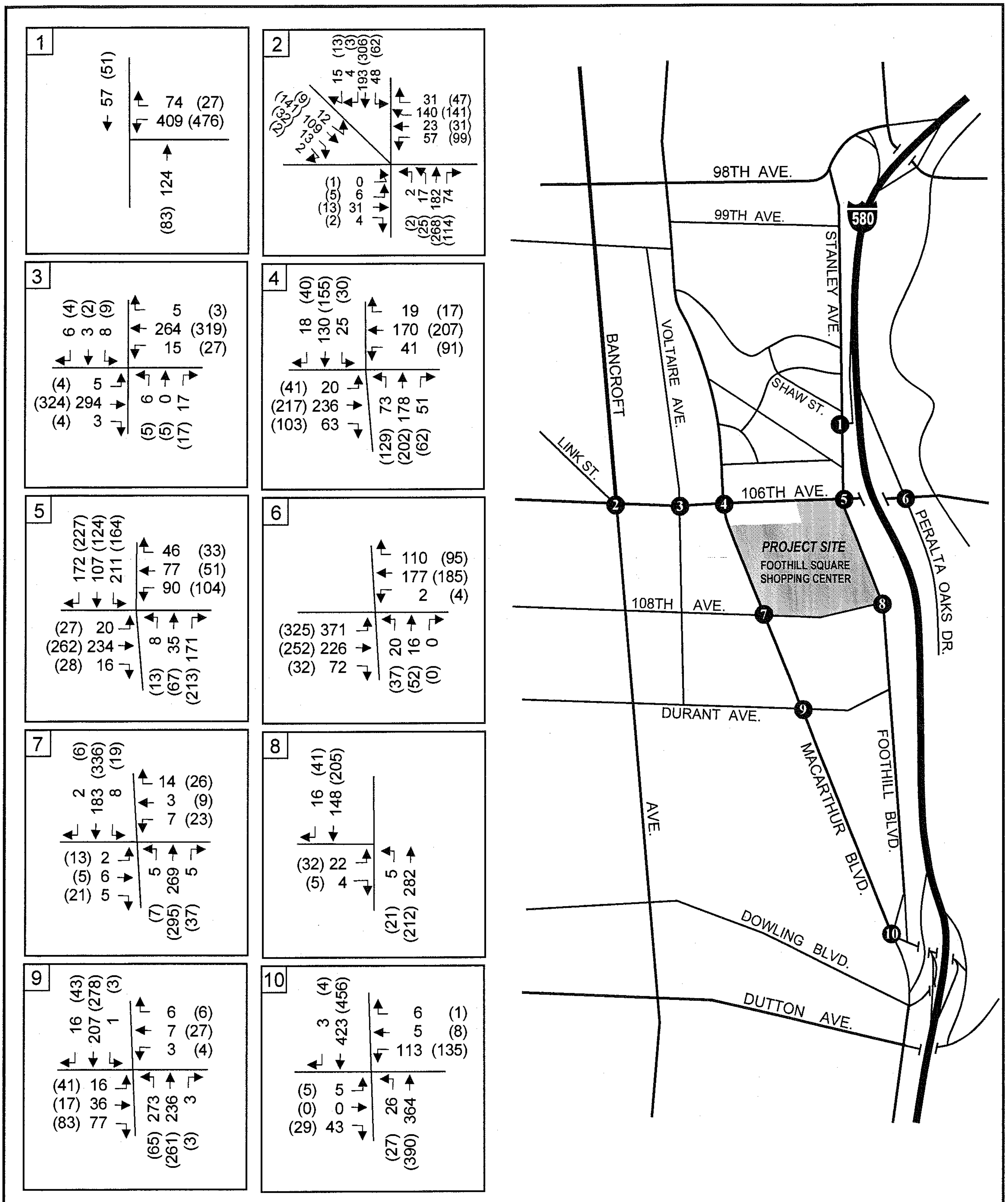
- 106th Avenue/Bancroft Avenue/Link St.: LOS would change from C to D during the PM peak hour;
- 106th Avenue/Voltaire Avenue: LOS would change from A to B during the PM peak hour;
- 108th Avenue/MacArthur Boulevard: LOS would change from B to C during the PM peak hour;
- Durant Avenue/MacArthur Boulevard: LOS would change from C to D during the AM peak hour.

The unsignalized intersection of Superior Avenue-Foothill Boulevard/MacArthur Boulevard would continue to operate at unacceptable levels (LOS E-F) during the AM and PM peak hours with short-term (no project) volumes. This LOS refers to the westbound Foothill Boulevard left-through movements onto MacArthur Avenue. All other turning movements at this intersection would be operating at LOS C or better during the AM and PM peak hours.

TABLE 3
SHORT-TERM YEAR 2015 (NO PROJECT) CONDITIONS: INTERSECTION LOS AM AND PM PEAK HOUR

#	Intersection	Control Type	AM Peak Hour LOS-V/C		PM Peak Hour LOS-V/C	
			Existing	Short-Term (No Project)	Existing	Short-Term (No Project)
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.1	C 17.3	C 16.4	C 18.2
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.2	C 29.5	D 35.6
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.7	A 9.8	B 11.3
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 10.3	B 11.3
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 17.1	C 15.6	C 18.7
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	B 11.4	B 12.0	B 11.6	B 14.1
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	B 11.6	C 15.6
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 11.4	B 12.3
9	Durant Ave./MacArthur Blvd.	Stop	C 22.9	D 25.5	C 16.0	C 17.6
10	Superior Ave./MacArthur Blvd.	Stop	**E 38.5**	**E 45.1**	**F 53.9**	**F 66.8**

Signalized intersection calculations based on Contra Costa Transportation Authority (CCTA) methodology which yields an intersection LOS and volume/capacity (v/c) ratio.



Short-Term Year 2015 Without Project
A.M & (P.M.) Peak Hour Volumes

North

omni-means

figure 5

SHORT-TERM (NO PROJECT) SIGNAL WARRANT ANALYSIS

Based on MUTCD's peak hour warrant #3 criteria, none of the eight stop-sign controlled project study intersections would qualify for signalization with year 2015 short-term (no project) volumes during the weekday peak hours.[12]

SIGNIFICANCE CRITERIA

CITY OF OAKLAND

The City of Oakland currently has Interim Revised CEQA Transportation Thresholds of Significance for proposed development in the preparation of all environmental review documents. Transportation thresholds/significance that would apply to the proposed project have been taken directly from these transportation/traffic guidelines and would be as follows:[13]

The project would have a significant impact on the environment 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:

- at a study, signalized intersection which is located **outside the Downtown**[14] area, the project would cause the level of service (LOS)[15] to degrade to worse than LOS D (i.e., E);

- 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., F);

- 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., F);

- 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., F);

- at a study, signalized intersection for all areas where the level of service is LOS F, the project would

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[12] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*

[13] *City of Oakland, Interim CEQA Transportation Thresholds of Significance, June 10, 2010.*

[14] *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.*

[15] *LOS and delay calculations for local intersections should be based on the Highway Capacity Manual, Transportation Research Board, National Research Council, 2000 edition. For CMA intersections (project proposes a general plan amendment, or if an EIR is performed and there are 100 or more peak trips), use the 2000~~1985~~ Highway Capacity Manual. For state facilities, consult with the Planning Department.*

cause (a) the total intersection average vehicle delay to increase by two (2) or more seconds, or (b) an increase in average delay for any of the critical movements of four (4) seconds or more; or (c) the volume-to-capacity ("V/C") ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately);

- At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant;
- For a Congestion Management Program (CMP) required analysis, (i.e., projects that generate 100 or more p.m. peak hour trips) cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;
- Result in substantially increased travel times for AC Transit buses; [**NOTE:** 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 routes(s). The evaluation may require a qualitative and/or quantitative analysis depending upon these relevant factors.]

OTHER THRESHOLDS

- 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;
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- 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; or
- Fundamentally conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

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.16 Similarly, the December 2009 amendments to the State CEQA Guidelines (which were 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 additional 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,

[16] *San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656.*

parking conditions are evaluated in this document.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed project are considered less than significant.

This study evaluates if the project's estimated parking demand (both project-generated and project-displaced) would be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the project site. Project-displaced parking results from the project's removal of standard on-street parking, City or Redevelopment Agency owned/controlled parking and/or legally required off-street parking (non-open-to-the-public parking which is legally required).

TRANSIT RIDERSHIP

Evaluate the project's potential to:

- Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period;
- Increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains;
- Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute; and

QUEUING

- Evaluate the project's potential effect on 95th percentile queuing. Would the project cause an increase in 95th percentile queue length of 25 feet or more at a study, signalized intersection.

TRAFFIC CONTROL DEVICES

- Evaluate the need for additional traffic control devices (e.g., stop signs, street lighting, crosswalks, traffic calming devices) using the California MUTCD and applicable City standards.

CITY OF SAN LEANDRO

The City of San Leandro has not adopted specific intersection LOS thresholds relating to what level of contribution to intersections operating below acceptable services levels would be considered a significant impact. However, there is specific language in the City's General Plan that contains LOS standards for intersection operations, whether an intersection is signalized or not. According to Policy 16.02, the minimum acceptable LOS is D. Exceptions are detailed on page 4-20 of the General Plan, which states, "LOS D may only be exceeded where the following circumstances exist:

- Road improvements are not possible because the necessary right-of-way does not exist and cannot be acquired without significant impacts on adjacent buildings and properties.

- The intersection or road segment is in a pedestrian district, such as Downtown, where the priority is on pedestrian, bicycle, and public transit access rather than vehicle traffic.

Consistent with recent traffic analyses conducted for the Kaiser Medical Center Plus Mixed-Use Retail Development DEIR in the City of San Leandro, the following intersection threshold criteria will be applied to determine significant traffic impacts at intersections in the study area that are identified if the Project causes:[17]

- An intersection to operate at LOS E or F; or

- An increase in the volume-to-capacity (v/c) ratio of 0.05 or more for signalized intersections that operate at LOS E or F under No Project conditions; or

- An increase in average delay of more than five (5) seconds on the worst approach for unsignalized intersections that operate at LOS E or F under No Project conditions.

PROPOSED PROJECT IMPACTS

PROJECT DESCRIPTION

The project site plan reflects a 200,916 square foot mixed-use shopping center, including a discount supermarket and other retail/commercial tenants. A vacant service station at the southwest corner of 106th Avenue/Foothill Boulevard would be developed with a new gas station. The center would include 154,525 square feet of retail space plus two medical clinics (present in the existing center), a bingo venue (present in the existing center) and a pre-school (present in the existing center). The proposed project would involve some demolition of shopping center buildings/pads and construction of new buildings/pads.

The project would include six primary driveways (two on MacArthur Boulevard, three on 108th Avenue, and one on Foothill Boulevard). A truck access driveway (serving the proposed supermarket would also be located on 108th Avenue. Finally, two driveways (one each on Foothill Boulevard and 106th Avenue) would serve the proposed gas station at the southwest corner of Foothill Boulevard/106th Avenue. A total of 753 parking spaces would be provided on the site.

PROJECT TRIP GENERATION

The peak hour trip generation of the existing shopping center has been established through AM and PM peak period counts at the existing center driveways. The center's existing AM and PM peak hour volumes (including their inbound/outbound trip characteristics) are identified in Table 4.

The proposed project's peak hour trips were calculated using trip research compiled by the Institute of Transportation Engineers (ITE).[(3)] Because of the somewhat unique tenant mix, trip generation calculations were segregated to include specific tenant spaces. It is noted that vehicle driveway counts were not conducted at other representative Foods Co locations at this time due to the difficulty in obtaining accurate trip generation data. This is due to the size of the retail centers in which they are located (part of an overall large retail shopping mall/center), multiple vehicle access driveways, and shared parking for multiple retail uses.

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[17] *Dowling Associates, Inc., Revised Traffic Report for San Leandro Kaiser Medical Center plus Mixed-Use Retail Development, PBS&J and the City of San Leandro, April 6, 2010.*

TABLE 4
PROPOSED PROJECT PEAK HOUR TRIP GENERATION
AM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	2.74/1,000	197 AM trips; 114 in/83 out
24,400 sq.ft. Proposed Department Store (Ross)	0.53/1,000	13 AM trips; 8 in/5 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	1.03/1,000(2)	9 AM trips; 6 in/3 out.
49,690 sq.ft. Proposed Specialty Retail	0.73/1,000(2)	36 AM trips; 22 in/14 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		255 AM trips; 150 in/105 out x 90% (10% internal) = 230 AM trips; 135 in/95 out
Less Existing 52,711 sq.ft. Specialty Retail (3)	0.73/1,000(2)	(38 AM trips; 18 in/20 out)
Net New Shopping Center Trips:		**192 AM trips; 113 in/79**
Proposed Gas Station with 8 fueling positions	12.16/position	97 AM trips; 49 in/48 out
Less 57% Pass-By Trips		(56 AM trips; 28 in/28 out)
Net New Gas Station Trips:		**41 AM trips; 21 in/20 out**
Total Net New Project Trips:		**233 AM trips; 134 in/99 out**

PM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	8.90/1,000	640 PM trips; 320 in/320 out
24,400 sq.ft. Proposed Department Store (Ross)	1.78/1,000	43 PM trips; 22 in/21 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	3.83/1,000	32 PM trips; 16 in/16 out
49,690 sq.ft. Proposed Specialty Retail	2.71/1,000	135 PM trips; 59 in/76 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
20,916 sq.ft. Shopping Center Trip generation		850 PM trips; 417 in/433out x 90% (10% internal trips) = 765 PM trips; 375 in/390 out
Less Existing 52,711 sq.ft. Specialty Retail Trips(3)	2.71/1,000	(143 PM trips; 72 in/71 out)
Less 34% Pass-By Trips		(212 PM trips; 106 in/106 out)
Net New Shopping Center Trips:		**410 PM trips; 205 in/205 out**
Proposed Gas Station with 8 fueling positions	13.87/position	111 PM trips; 55 in/56 out
Less 42% Pass-By Trips		(47 PM trips; 23 in/24 out)
Net New Gas Station Trips:		**64 PM trips; 32 in/32 out**
Total Net New Project Trips		**474 PM trips; 237 in/237 out**

(1) Institute of Transportation Engineers (ITE), Trip Generation, an ITE Informational Report, 8th Edition, 2008.
(2) The ITE data base does not include AM peak rates for these land uses. The AM peak rates were derived based on the AM/PM trip proportion for shopping centers as outlined in the ITE data.
(3) The center currently has a number of smaller tenants that would be categorized as "Specialty Retail". The calculations have therefore deducted the trips by these existing tenants.

Consequently, ITE rates used for proposed Foods Co uses represent vehicle counts at 15 different "Discount Supermarket" sites and would represent a reasonable estimate of this proposed use.

The project's AM and PM gross peak hour trip generation is summarized in Table 4. The proposed project's peak hour trip generation has been reviewed by the City's Transportation Services Division prior to inclusion in this analysis. As outlined, the expanded center would generate 327 additional trips during the AM peak commute hour and 876 additional trips during the PM peak commute hour (gross) and includes both the shopping center and gas station uses.

ITE research was also consulted regarding the likely incidence of "pass-by" trips representing shopping center customer trips by persons already traveling on adjacent streets. Based on a 154,525 square foot shopping center, the ITE research indicates that 34% of the PM peak hour trips would be pass-by trips on/off of Foothill and MacArthur boulevards (background traffic volumes on 106th Avenue are relatively low, and no appreciable pass-by trips would likely be diverted from this street). It is also noted that ITE research does not provide pass-by trip data for a shopping center's AM peak hour. In addition, ITE research indicates that for the proposed gas station, 58% of the AM peak trips and 42% of the PM peak trips would be pass-by. The proposed project would be expected to generate 233 net new AM peak hour trips and 472 net new PM peak hour trips onto the adjacent street network, calculated as follows:

- 230 AM shopping center trips – 38 exist. x 100% new = 192 net AM trips; 113 in/79 out
- 97 AM gas station trips x 42% new = 41 net AM trips; 21 in/20 out

233 net AM trips; 134 in/99 out

- 761 PM shopping center trips – 143 exist. x 66% new = 410 net PM trips; 205 in/205 out
- 111 PM gas station trips x 58% new = 64 net PM trips; 32 in/ 32 out

474 net PM trips; 237 in/237 out

In addition to AM and PM peak hour trip generation, daily trip generation for the proposed project has been calculated in Table 5. As calculated, the proposed project is expected to generate 8,932 net new daily vehicle trips.

TABLE 5
DAILY PROJECT TRIP GENERATION

Condition/Land Use	Daily Rate/KSF or Position	Daily Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	96.82/1,000	6,966
24,400 sq.ft. Proposed Department Store (Ross)	22.88/1,000	558
8,485 sq.ft. Proposed Apparel Store (Rainbow)	22.88/1,000	194
49,690 sq.ft. Proposed Specialty Retail	44.32/1,000	2,202
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		9,920
Less Existing 52,711 sq.ft. Specialty Retail Trips(3)	44.32/1,000	(2,336)
Net New Shopping Center Daily Trips:		**7,584**
Gas Station w/ 8 Fueling Positions	168.56/Position	1,348
Total Net New Daily Project Trips		**8,932**

Source: Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition, Daily trip rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008. Department store daily trip rate used for apparel store (no daily trip rate listed).

PROJECT TRIP ASSIGNMENT

The expected distribution of project trips has been based on residential distributions and primary access routes in the vicinity of the shopping center. Overall proposed project distribution has been reviewed by the City Transportation Services Division prior to inclusion in this study. Based on these analyses, the project's net new peak hour trips would be distributed as follows:

Proposed Project Trip Distribution

- 12% to/from I-580 north
- 12% to/from I-580 and Foothill Boulevard south
- 18% to/from MacArthur Boulevard north
- 16% to/from MacArthur Boulevard south
- 20% to/from 106th Avenue west
- 4% to/from 106th Avenue east
- 18% to/from Stanley Boulevard north

Based on these factors, proposed project trip assignment and proposed project trips have been shown graphically in Figure 6. The entire gross trip increase is reflected at the site driveways. The net new project trips (excluding pass-by trips) are shown at adjacent study intersections (where allowed). Existing plus project AM and PM peak hour intersection volumes are shown in Figure 7.

PROPOSED PROJECT EFFECTS ON INTERSECTION OPERATIONS

Existing Plus Project Intersection Operation

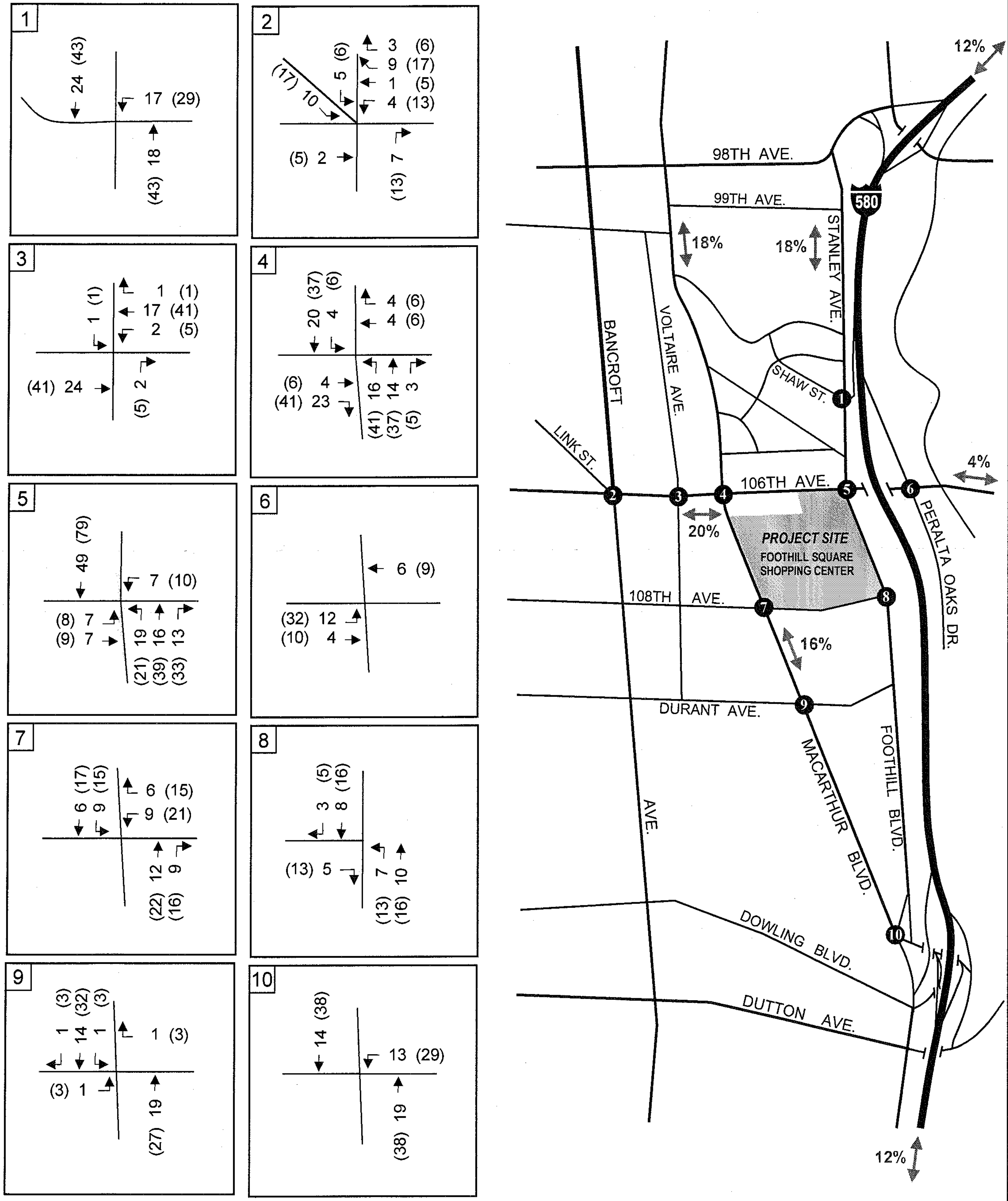
With peak hour proposed project traffic added to existing traffic volumes, intersection LOS have been calculated and our shown in Table 7. The addition of project trips would cause many of the project study intersections to change LOS, particularly during the PM peak hour. However, nine of the ten intersections would be operating within the City's significance criteria (Oakland and San Leandro) associated with both signalized and unsignalized locations. Intersections that would change LOS with proposed project traffic include the following:

- Stanley Ave./I-580 SB (EB) Off: LOS would change from C to D during the PM peak hour;
- 106th Ave./Bancroft Ave./Link St.: LOS would change from C to D during the PM peak hour;
- 106th Ave./Voltaire Ave.: LOS would change from A to B during the PM peak hour;
- 106th Ave./Foothill Blvd.: LOS would change from C to D during the PM peak hour;
- 108th Ave./MacArthur Blvd.: LOS would change from B to C during the PM peak hour;

The Foothill Boulevard-Superior Avenue/MacArthur Boulevard would continue to operate at unacceptable levels during both the AM and PM peak hours with proposed project traffic. Based on the City of San Leandro's significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) and this would be considered a **significant impact**.

T-1: With existing plus proposed project traffic the Foothill Boulevard-Superior Avenue/MacArthur Boulevard intersection would change from LOS E (38.5 seconds) to LOS E (48.2 seconds) during the AM peak hour and LOS F (53.9 seconds) to LOS F (>80.0 seconds) during the PM peak hour. This would be considered a **significant impact**;

M-1: Based on discussions with the City of San Leandro traffic engineering staff, the City is planning to

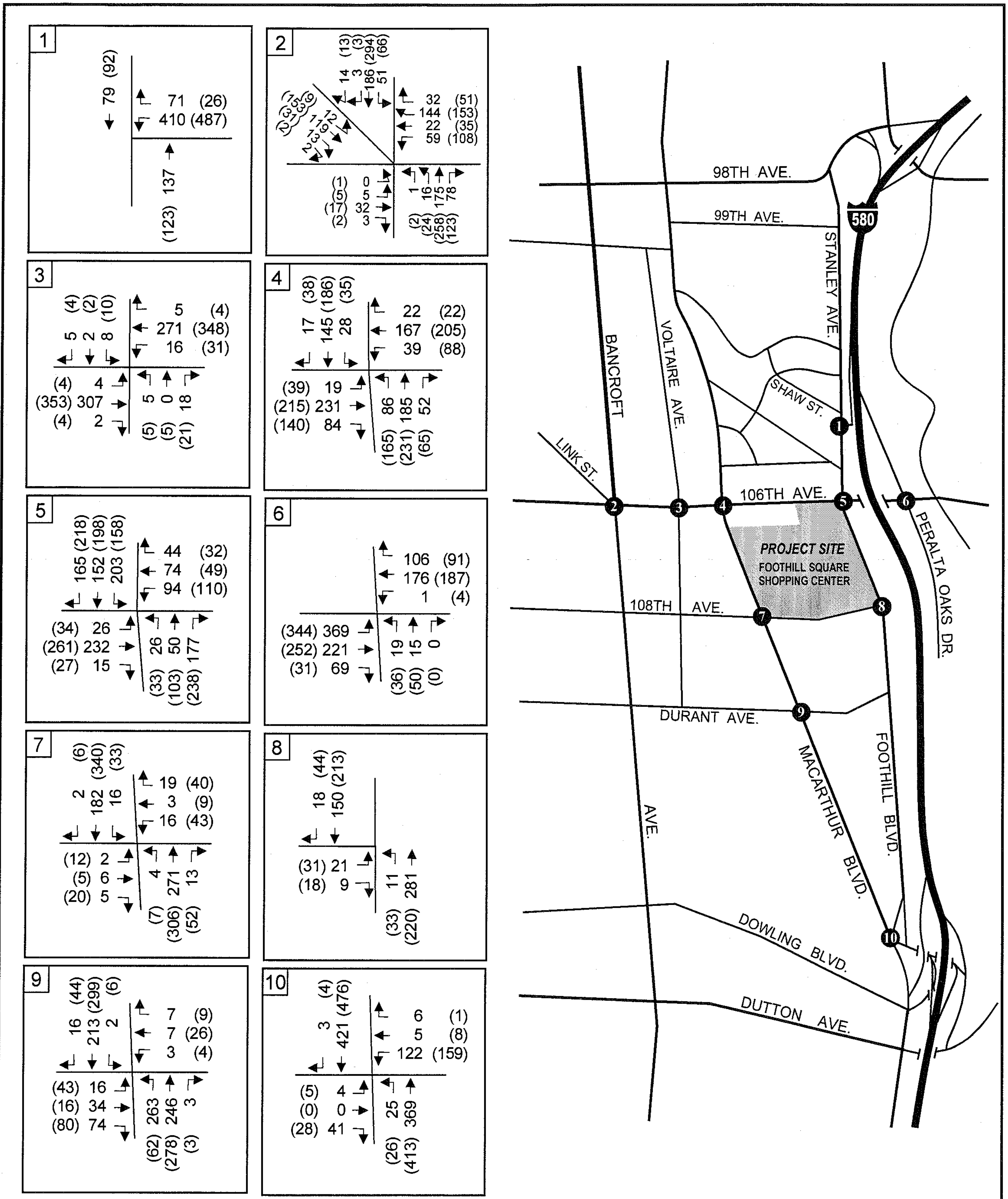


A.M & (P.M.) Peak Hour Project Trips
and Regional Trip Distributions

North

omni-means

figure 6



Existing + Project A.M & (P.M.) Peak Hour Volumes

North

omni-means

figure 7

TABLE 7
EXISTING AND EXISTING PLUS PROJECT CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			Existing	E+Project	Existing	E+Project
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.1	C 19.3	C 16.4	D 26.1
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.2	C 29.5	D 42.8
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.7	A 9.8	B 12.3
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 10.3	B 11.5
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 19.7	C 15.6	D 25.3
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	B 11.4	B 11.9	B 11.6	B 14.9
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	B 11.6	C 18.6
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 11.4	B 12.2
9	Durant Ave./MacArthur Blvd.	Stop	C 22.9	C 24.8	C 16.0	C 18.1
10	Superior Ave./MacArthur Blvd.	Stop	**E 38.5**	**E 48.2**	**F 53.9**	**F >80.0**

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds.

install a roundabout at this intersection as part of the second phase of the MacArthur Avenue improvement plan.[18] With a roundabout installed at this location, overall intersection operation is projected to improve to LOS A during the AM peak hour and LOS A during the PM peak hour. It is recommended that the project applicant contribute a proportional share towards the improvement of a roundabout based on the proposed project PM peak hour trips at the intersection. This would equate to a 9.4% overall share (105 / 1,120) towards these improvements and would reduce the proposed project's impact to **less-than-significant**.

All remaining project study intersections would be operating at acceptable levels (LOS D or better) with existing plus project traffic volumes.

Existing Plus Project Signal Warrant Analysis

Based on MUTCD's peak hour warrant #3 criteria, one of the eight stop-sign controlled project study intersections would qualify for signalization with existing plus project volumes during the weekday peak hours.[19] The 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection would satisfy the minimum peak hour volume criteria for signalization during the peak hour. Based on the City of Oakland's significance criteria for unsignalized intersection this would be considered a **significant impact.**

T-2: 106th Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106th Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-2: Install in new traffic signal at the 106th Avenue/Foothill-Stanley Boulevard intersection. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS C (24.6 seconds) during the AM peak hour and LOS C (33.6 seconds) during the PM peak hour. It is noted that the intersection would continue to operate at acceptable levels (LOS D or better) under existing all-way-stop-control with proposed project traffic. These circulation improvements would reduce the proposed project's impact to **less-than-significant**.

[18] *Mr. Reh-Lin Chen, Senior Traffic Engineer, City of San Leandro, Personal communication on December 3, 2010.*
[19] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*

Short-Term Year 2015 Plus Project Intersection Operation

Proposed project vehicle trips have been added to short-term year 2015 plus project AM and PM peak hour intersection volumes and are shown in Figure 8.

With peak hour proposed project traffic added to short-term year 2015 (no project) traffic volumes, intersection LOS have been calculated and our shown in Table 8. The addition of project would cause three of the project study intersections to change LOS during one of the peak hours. However, nine of the ten intersections would be operating within the City's (Oakland and San Leandro) significance criteria associated with both signalized and unsignalized locations. Intersections that would change LOS with proposed project traffic include the following:

- Stanley Ave./I-580 SB (EB) Off: LOS would change from C to D during the PM peak hour;
- 106th Ave./Foothill-Stanley Blvd.: LOS would change from C to D during the PM peak hour;
- Superior-Foothill Ave./MacArthur Blvd.: LOS would change from E to F during the AM peak hour.

The Foothill Boulevard-Superior Avenue/MacArthur Boulevard would continue to operate at unacceptable levels during both the AM and PM peak hours with proposed project traffic. Based on the City of San Leandro's significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) and this would be considered a **significant impact**.

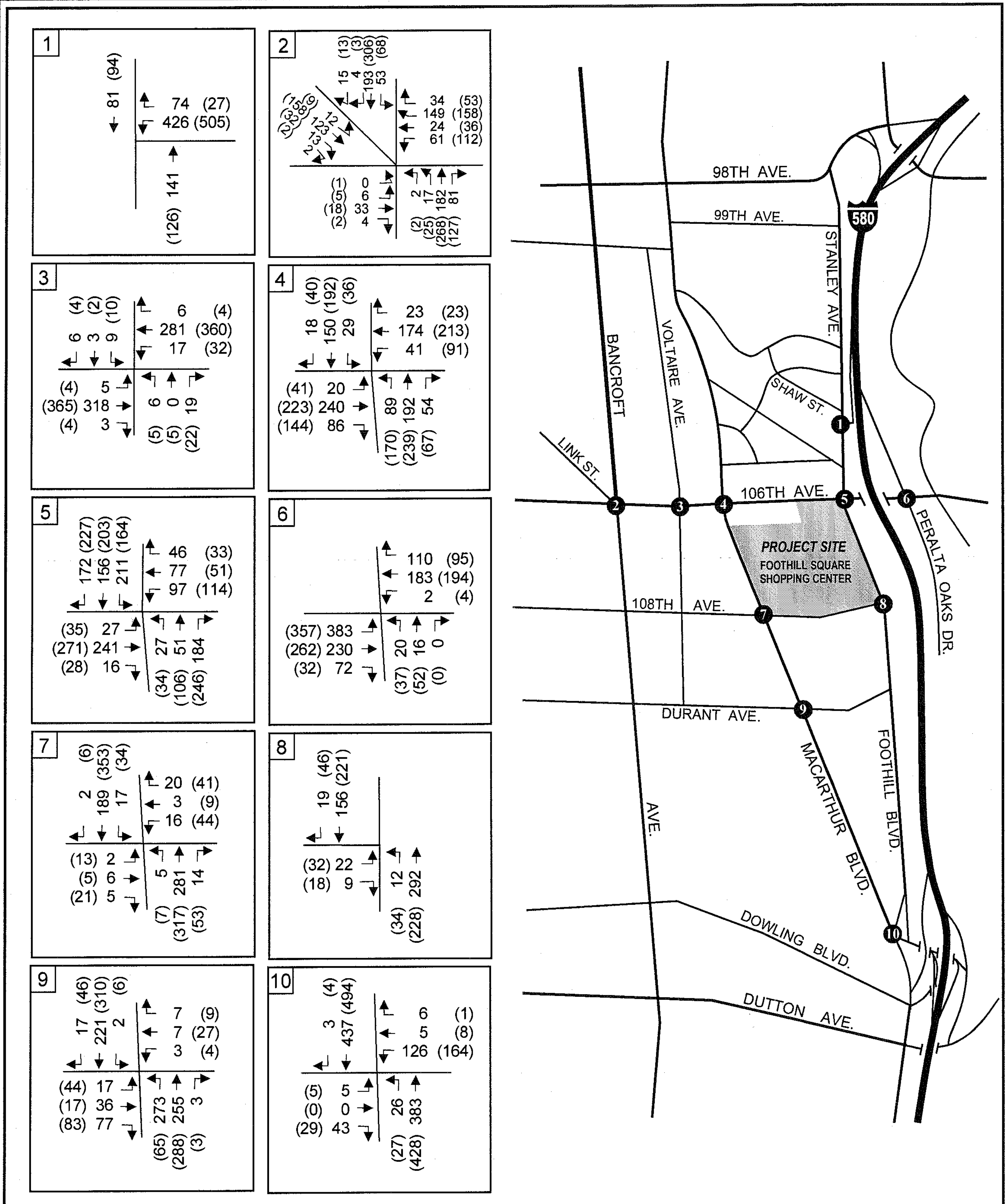
> **T-3:** With short-term year 2015 plus proposed project traffic the Foothill Boulevard-Superior Avenue/MacArthur Boulevard intersection would change from LOS E (45.1 seconds) to LOS F (58.4 seconds) during the AM peak hour and LOS F (66.8 seconds) to LOS F (>80.0 seconds) during the PM peak hour. This would be considered a **significant impact**;
>
> **M-3:** Same as recommended mitigation **M-1**. Based on discussions with the City of San Leandro traffic engineering staff, the City is planning to install a roundabout at this intersection as part of the second phase of the MacArthur Avenue improvement plan.[20] With a roundabout installed at this location, overall intersection operation is projected to improve to LOS A during the AM peak hour and LOS A during the PM peak hour with short-term year 2105 plus project conditions and would reduce proposed project impacts to **less-than-significant**.

All remaining project study intersections would be operating at acceptable levels (LOS D or better) with short-term year 2015 plus project traffic volumes.

Short-Term Year 2015 Plus Project Signal Warrant Analysis

Based on MUTCD's peak hour warrant #3 criteria, one of the eight stop-sign controlled project study intersections would qualify for signalization with short-term year 2015 plus project volumes during the weekday peak hours.[21] The 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection would satisfy the minimum peak hour volume criteria for signalization during the peak hour. Based on the City of Oakland's significance criteria for unsignalized intersection this would be considered a **significant impact.**

[20] *Mr. Reh-Lin Chen, Senior Traffic Engineer, City of San Leandro, Personal communication on December 3, 2010.*
[21] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*



Short-Term Year 2015 + Project
A.M & (P.M.) Peak Hour Volumes

North

omni-means

figure 8

TABLE 8
SHORT-TERM AND SHORT-TERM PLUS PROJECT CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			S-T (NP)	S-T + Prj.	S-T (NP)	S-T + Prj.
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.3	C 20.7	C 18.2	D 29.1
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.5	D 35.6	D 47.6
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.8	B 11.3	B 12.8
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 11.3	B 11.8
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 21.9	C 18.7	D 29.2
6	106th Ave./Peralta Oaks Dr./I-580 WB	AWSC	B 12.0	B 12.4	B 11.9	B 12.7
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	C 15.6	C 19.5
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 12.3	B 12.5
9	Durant Ave./MacArthur Blvd.	Stop	D 25.5	D 28.0	C 17.6	C 19.2
10	Superior Ave./MacArthur Blvd.	Stop	**E 45.1**	**F 58.4**	**F 66.8**	**F >80.0**

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds.

T-4: 106th Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106th Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-4: Same as recommended mitigation **M-2**. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS C (24.0 seconds) during the AM peak hour and LOS C (25.0 seconds) during the PM peak hour under short-term year 2015 plus project conditions and would reduce proposed project impacts to **less-than-significant**. It is noted that the intersection would continue to operate at acceptable levels (LOS D or better) under existing all-way-stop-control with proposed project traffic.

YEAR 2015 SHORT-TERM PLUS PROJECT EFFECTS ON I-580

The effects of proposed project trips on Interstate 580 have been quantified using Caltrans volume data, proposed project distribution, and ACCMA peak hour link volumes on I-580. Specifically, I-580 would be carrying 12,896 vehicles at the 106th Avenue and Foothill Boulevard interchanges during the "peak hour" based on the latest Caltrans volume data (2009) and short-term traffic growth (4%) to the year 2015. Using ACCMA transportation model splits for I-580 in this area, 6,964 vehicles (54%) are traveling northbound and 5,932 vehicles (46%) are traveling southbound during the AM peak hour. The proposed project would add 29 trips in the northbound and southbound direction (each) during the AM peak hour. This would represent an increase in AM peak hour volumes of less than one percent. Assuming a capacity of 2,000 passenger cars per hour per lane (pcphpl) and with four travel lanes on I-580 in each direction, this would equate to a peak hour carrying capacity of 8,000 vehicles per direction. The northbound direction would be operating at LOS D (6,993 / 8,000) while the southbound direction would be operating at LOS C (5,961 / 8,000). Overall I-580 freeway operation would remain unchanged with proposed project traffic. During the PM peak hour the freeway splits are exactly reversed with 46% northbound and 54% southbound. During this time period, the proposed project would add 58 trips in the northbound and southbound directions (each). This would equate to the northbound direction operating at LOS C (5,990 / 8,000) and the southbound direction operating at LOS D (7,022 / 8,000). Consequently, overall I-580 freeway LOS would remain unchanged with project traffic.

PROJECT ACCESS AND CIRCULATION

SITE ACCESS/INTERNAL CIRCULATION

The project site would be served by six primary driveways with two on MacArthur Boulevard, three on 108th Avenue, and one on Foothill Boulevard. As shown in the proposed project site plan (see Figure 9—Proposed Project Site Plan) vehicle access along MacArthur Boulevard would be largely unchanged from current conditions. Along MacArthur Boulevard, the south driveway would be located approximately 220 feet north of 108th Avenue, whereas the northern driveway would be located approximately 190 feet south of 106th Avenue. Both of these driveways would be accessed by an existing two-way-left-turn-lane on MacArthur Boulevard and have one inbound and one outbound travel lane.

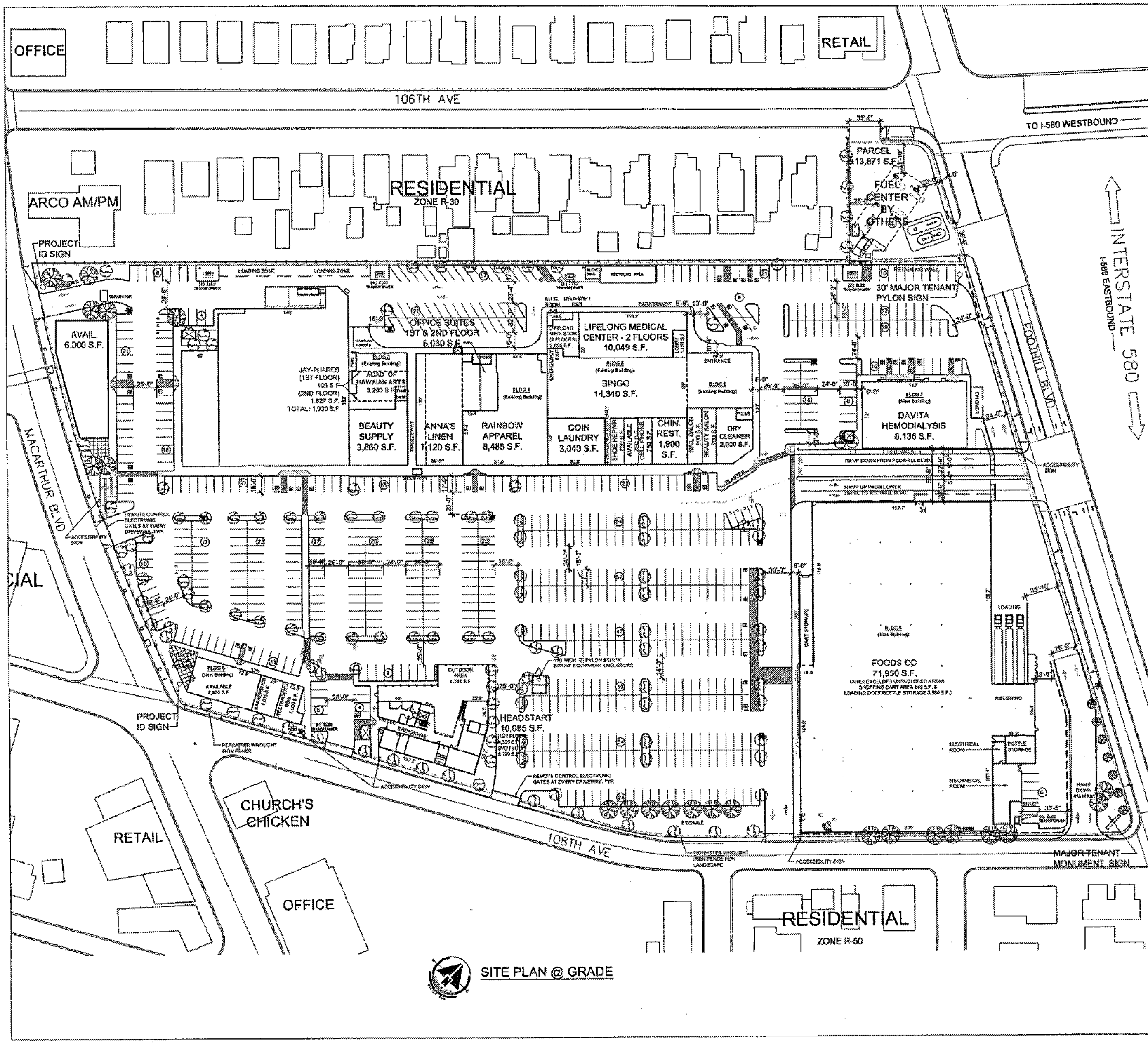
108th Avenue would have three proposed project driveways and one (1) auxiliary truck access driveway. Extending east from MacArthur Boulevard, the first project driveway would be located approximately 180 east off 108th Avenue. The second (middle) driveway off 108th Avenue would be located approximately 380 feet east of MacArthur Avenue and west of McIntyre Street. The third or eastern-most driveway off 108th Avenue would be located approximately 70 feet east of McIntyre Street. All three project driveways located off of 108th Avenue would be 30 feet in width with wide inbound and outbound travel lanes. The auxiliary truck access driveway on 108th Avenue would be located just 50-60 feet west of Foothill Boulevard. However, this driveway would only serve for truck access (inbound only). Therefore, the proposed truck access driveway is not anticipated to cause significant vehicle/truck conflicts on 108th Avenue due to inbound only access, limited deliveries, and light traffic volumes on 108th Avenue. Overall intersection LOS at the 108th Avenue/Foothill Boulevard intersection is project to be B during both the AM and PM peak hours.

The proposed project driveway off of Foothill Boulevard would serve as one of the main access points to/from the site. Located approximately mid-block between 106th and 108th Avenues (approximately 430 feet north of 108th Avenue), the Foothill Boulevard driveway would be approximately 58-feet in width with two inbound lanes and two outbound lanes with a divided median. This driveway would have a slight downgrade (no more than 6%) into the project site.

In addition to the six primary driveways serving the project site, there would also be two driveways serving the proposed gas service station located on the southwest quadrant of the 106th Avenue/Foothill Boulevard intersection. One driveway would be located off Foothill Boulevard approximately 120 feet south of 106th Avenue. The second driveway would be located on 106th Avenue approximately 50 feet west of Foothill Boulevard. The location of the 106th Avenue driveway in such close proximately (50-feet) to the 106th Avenue/Foothill Boulevard intersection would likely cause vehicle conflicts on 106th Avenue. In theory, commercial driveways would typically have a minimum distance of 100-150 feet from major intersections based on engineering judgment and efficient vehicle ingress/egress. Specifically, vehicles attempting to turn left into or left out of the gas station to/from 106th Avenue would interfere with vehicle progression on 106th Avenue. This would be considered a **significant impact**.

T-5: The proposed driveway on 106th Avenue serving the gas service station component of the project would be located only 50-feet from the 106th Avenue/Foothill-Stanley Boulevard intersection. Vehicles turning left from 106th Avenue into the site or vehicles turning left (outbound) from the site would interfere with vehicle progression/intersection operations on 106th Avenue would be considered a **significant impact**.

M-5: The proposed driveway on 106th Avenue serving the gas service station component of the project should be limited to right-turns-only for inbound/outbound vehicles and would the project impact to **less-than-significant.**



SITE DATA

APNs: 47-5559-1, 47-5559-1-4, 47-5559-1-5, 47-5589-1-6

ZONING: C-30 (DISTRICT THOROUGHFARE COMMERCIAL)	
TOTAL SITE AREA:	602,945 S.F. (±13.841 ACRES)
(-) UPPER LEVEL PARCEL	13,871 S.F. (±0.318) ACRES)
LOWER LEVEL COMMERCIAL PARCEL	589,074 S.F. (±13.523 ACRES)

COMMERCIAL BUILDING AREA

BUILDING 1 – AVAILABLE		6,000 S.F.
BUILDING 2 – (29,060 S.F.)	ROSS	24,400 S.F.
	SHOPS 2	4,980 S.F.
BUILDING 3 – (8,990 S.F.)	ACADEMY OF HAWAIIAN ARTS	3,200 S.F.
	BEAUTY SUPPLY	3,860 S.F.
	JAY-PHARES CORPORATION	1,930 S.F.
BUILDING 4 – FLOOR (21,825 S.F.)	DESTINED TO DANCE - 1ST	520 S.F.
	DESTINED TO DANCE - 2ND FLOOR	2,222 S.F.
	OUR TV - 2ND FLOOR	3,188 S.F.
	COMMON AREA - 1ST & 2ND FLOOR	1,100 S.F.
	RAINBOW APPAREL	8,485 S.F.
	ANNA'S LINEN	7,120 S.F.
	UTILITY	190 S.F.
BUILDING 5 – (31,445 S.F.)	LIFELONG MEDICAL CENTER	10,049 S.F.
	LOBBY	1,151 S.F.
	LIFELONG MEDICAL ADDITION	2,655 S.F.
	PG&E	250 S.F.
	BINGO	10,150 S.F.
	COIN LAUNDRY	3,040 S.F.
	SHOE REPAIR	750 S.F.
	AVAILABLE	750 S.F.
	CELL PHONE	750 S.F.
	CHINESE RESTAURANT	1,900 S.F.
BUILDING 6 – (8,205 S.F.)	BINGO	4,165 S.F.
	NAIL SALON	900 S.F.
	BEAUTY SALON	900 S.F.
	DRY CLEANER	2000 S.F.
	PGE	240 S.F.
BUILDING 7 – DAVITA		8,136 S.F.
BUILDING 8 – FOODS CO		71,950 S.F.
BUILDING 9 – (4,900 S.F.)	AVAILABLE	2,900 S.F.
	BARBERSHOP	1,000 S.F.
	WESTBROOK'S BBQ	1,000 S.F.
BUILDING 10 – HEADSTART		10,085 S.F.
SUBTOTAL =		200,916 S.F.
NET LOWER LEVEL COMMERCIAL BUILDING AREA (F.A.R.)		200,916 S.F. (34.1%)

PARKING PROVIDED – TOTAL:	
STANDARD & COMPACT	708
ACCESSIBLE (4%)	38
	746 SPACES
TOTAL PROJECT PARKING RATIO:	3.72/1,000 S.F.

MACARTHUR BOULEVARD ASSOCIATES
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FOOTHILL SQUARE
MACARTHUR BLVD.
OAKLAND, CALIFORNIA

PRELIMINARY SITE PLAN

AS - 18

FS 12-9-10

Proposed Project Site Plan

North

omni-means

figure 9

Internal circulation would be provided by a set of north-south and east-west drive aisles that would provide vehicle through-access within the site. As shown in Figure 9, a main east-drive aisle extends through the site between MacArthur Boulevard and the main Foothill Boulevard project driveway. Another north-south internal drive aisle extends from 108th Avenue past the proposed Foods Co project component to the rear (north end) of the project site. Where these two main internal driveways intersect, there would all-way-stop-control. The proposed discount supermarket (Foods Co project component) would be located on the southeast quadrant of the site. Directly to the west of this building there would be five east-west parking aisles serving both the discount supermarket and other retail areas locate along 108th Avenue. Another six north-south parking aisles would be located in the southwest portion of the site and would serve major retail uses located along the northern half of the site as well as uses along 108th Avenue.

Large truck circulation within the site would primarily be along the project site's eastern and northern frontages. Specifically, large trucks would enter the site from 108th Avenue to access the Foods Co building and other large retail stores (Ross). Trucks would travel one-way northbound passing underneath the Foothill Boulevard project driveway/ramp before extending west around the northern perimeter of the site to the rear drive aisle. Trucks could then access out either the MacArthur Boulevard northern-most driveway or return via the Foothill Boulevard and/or 108th Avenue driveways.

PROJECT DRIVEWAY OPERATION

Proposed project driveways along Foothill Boulevard, 108th Avenue, and MacArthur Boulevard have been evaluated for LOS operations. Specifically, AM and PM peak hour project driveway volumes have been evaluated using year 2015 short-term plus project volumes (rather than existing volumes). Starting with proposed gas service station driveway off of Foothill Boulevard, a total of seven project driveways were evaluated for peak hour intersection operation (the eighth project driveway serving the proposed gas service station off of 106th would be right-turns-only for inbound/outbound traffic. No LOS can be calculated for right-turns only driveway).

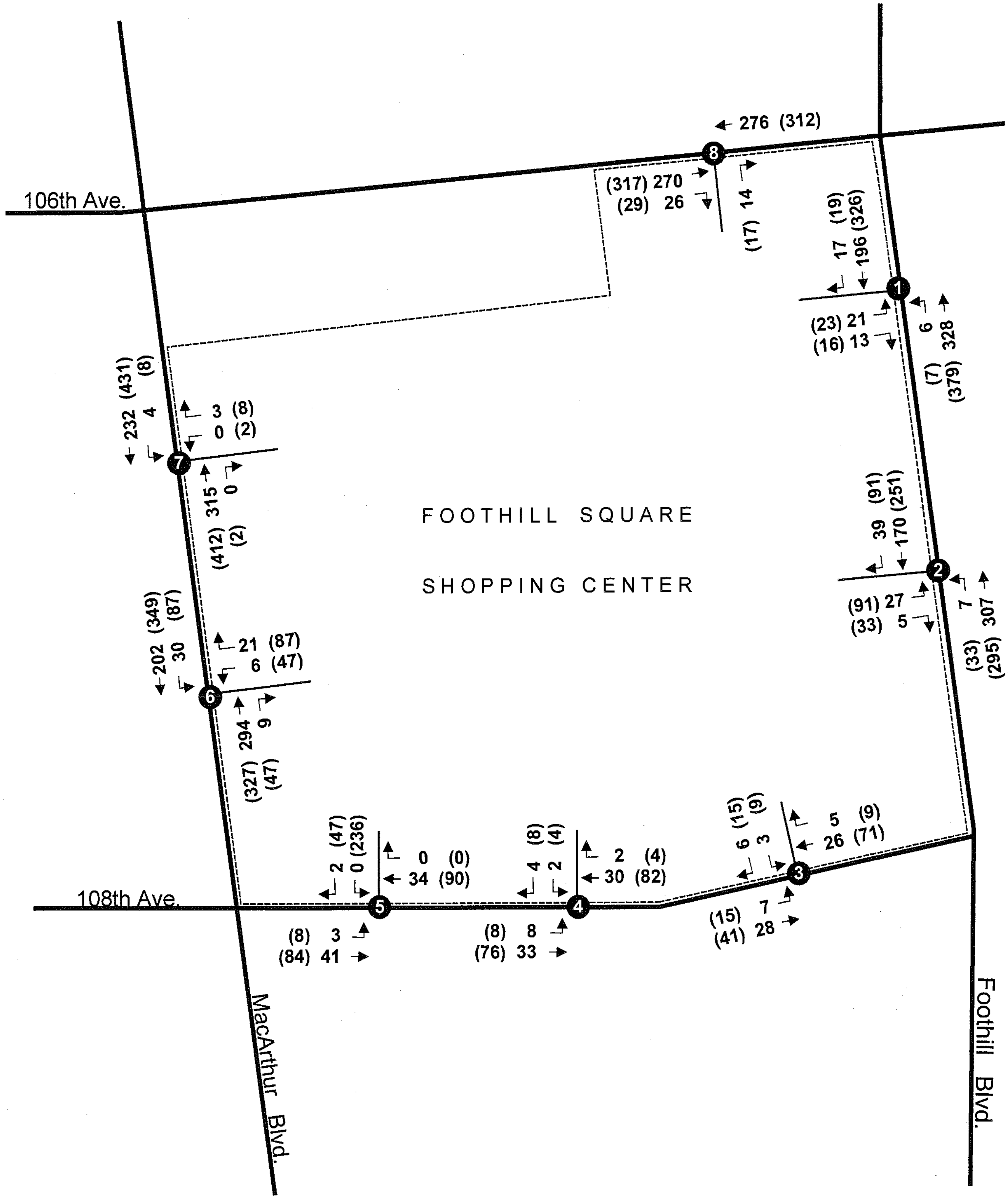
AM and PM short-term year 2015 plus project driveway volumes have been shown in Figure 10.

Short-term year 2015 plus project driveway intersection LOS have been shown in Table 9. As calculated, all seven project driveways would be operating at acceptable levels (LOS C or better) during both the AM and PM peak hours. Based on the MUTCD warrant #3 criteria for peak hour signal satisfaction, none of the proposed project driveways would meet the minimum peak hour volumes for signalization.

TABLE 9
SHORT-TERM YEAR 2015 PLUS PROJECT: DRIVEWAY INTERSECTION LEVELS-OF-SERVICE

			AM Peak Hour		PM Peak Hour	
#	Intersection	Control Type	Vehicle Delay	LOS	Vehicle Delay	LOS
1	Gas Station Driveway/Foothill Blvd..	Stop	13.1	B	15.9	C
2	Foothill Main Driveway/Foothill Blvd.	Stop	12.8	B	17.6	C
3	E. 108th Driveway/108th Ave.	Stop	8.6	A	9.1	A
4	Mid-Block 108th Driveway/108th Ave.	Stop	8.7	A	9.1	A
5	W. 108th Driveway/108th Ave.	Stop	8.5	A	8.8	A
6	S. MacArthur Driveway/MacArthur Blvd.	Stop	11.0	B	17.3	C
7	N. MacArthur Driveway/MacArthur Blvd.	Stop	10.2	B	12.4	B

Signalized and unsignalized intersection calculations based on HCM 2000 operations methodology which yields an intersection LOS and corresponding vehicle delay in seconds using Synchro-Simtraffic software. It is noted the eighth project driveway serving the proposed gas service station off of 106th would be right-turns-only for inbound/outbound traffic. No LOS can be calculated for right-turns only driveways.



MAP NOT TO SCALE

Short-Term Year 2015 + Project Driveway Volumes
A.M. & (P.M.) Peak Hour

North

omni-means

figure 10

PROJECT VEHICLE QUEUING

Similar to proposed project driveway operation, the two signalized study intersections of 106th Ave./Bancroft Ave./Link St. and 106th Avenue/MacArthur Boulevard have been evaluated for potential vehicle queuing using year 2015 short-term plus project traffic. The City of Oakland's significance criteria indicates that there could be a potential impact if proposed project trips cause an increase in the 95th percentile vehicle queues to extend 25 feet or more from measured queues at a signalized project study intersection.

Based on evaluation of the 95th percentile vehicle queues with year 2015 short-term (no project) and year 2015 short-term plus project volumes, the following approach lanes would have their 95th percentile queues extended beyond 25 feet (one car length) with proposed project traffic:

	S-T No Project	S-T With Project
• 106th Avenue/Bancroft Avenue/Link Street:		
Westbound shared left, through, right-turn lane:	S-T(NP) = 303 feet	S-T(WP) = 353 feet
• 106th Avenue/MacArthur Boulevard:	S-T No Project	S-T With Project
Westbound shared through/right-turn lane:	S-T(NP) = 80 feet	S-T(WP) = 122 feet
Northbound left-turn lane:	S-T(NP) = 36 feet	S-T(WP) = 82 feet
Northbound shared through/right-turn lane:	S-T(NP) = 83 feet	S-T(WP) = 115 feet
Southbound shared through/right-turn lane:	S-T(NP) = 57 feet	S-T(WP) = 86 feet

As shown above, proposed project vehicle trips would extend year 2015 short-term 95th percentile vehicle queues beyond 25 feet (westbound) at the 106th Avenue/Bancroft Avenue/Link Street intersection during the PM peak hour. During the AM peak hour, the same condition would occur at the 106th Avenue/MacArthur Boulevard intersection for specific westbound, northbound, and southbound approaches. However, based on available storage capacity and the location of existing driveways and/or intersections, these slightly longer vehicles (in most cases not more than two-car lengths) would not significantly affect intersection operation and would be considered **less-than-significant**.

PEDESTRIAN CIRCULATION

Pedestrian access and circulation would be adequate for the site with new pedestrian sidewalks constructed/rehabilitated along the project site's entire west, south, and east frontages. In addition, a pedestrian sidewalk would be constructed along the main Foothill Boulevard driveway's east-west internal drive aisle (on its north side) with existing pedestrian sidewalks that extend through the site to MacArthur Boulevard. New pedestrian sidewalks would be constructed around all new and existing buildings within the site.

Pedestrian crosswalks would be installed at the main internal drive aisle intersections of main Foothill Boulevard east-west driveway and the 108th Avenue north-south driveway (in front of the Foods Co building). However, there are no north-south pedestrian crosswalks linking the main parking fields to the south serving new retail uses along the proposed project's northern area. This is particularly true of the proposed Ross and Rainbow Apparel department stores. In addition, pedestrian counts and observations indicated that there are currently no north-south pedestrian crosswalks at the 108th Avenue/MacArthur Boulevard intersection even though there are currently pedestrian crossings occurring in this direction. With the proposed project, pedestrian crossings at this and other intersections immediately adjacent to the site would increase proportionately and without adequate crosswalks for safety this would be considered a **significant impact**.

T-6: Pedestrian crosswalks are not provided at the 108th Avenue/MacArthur Boulevard intersection nor internally linking parking fields to new retail uses in the northern half of the site and this would be considered a **significant impact**.

M-6: Stripe new pedestrian crosswalks across 108th Avenue both east and west of MacArthur Boulevard to provide a pedestrian link to neighborhoods south of the project site. In addition, provide a north-south internal pedestrian link between parking fields located in the south of the project site to new retail uses in the north. This pedestrian crossing could be located in front of the planned Ross Store and/or Rainbow Apparel Store uses and would reduce pedestrian impact to **less-than-significant**.

PROJECT EFFECTS ON LOCAL NEIGHBORHOODS

Consideration has been given to the affect of the proposed project on local residential neighborhoods located immediately south of the project site on 108th Avenue. Specifically, unlike the quantitative volume-to-capacity ratio and intersection LOS approach used to evaluate operational impacts on the road system, the evaluation of neighborhood quality impacts from project-related traffic increases can be tenuous to quantify. Residential street traffic flow characteristics do not necessarily lend themselves to conventional traffic capacity analysis. In essence, residential street traffic capacities relate more closely to residents' concerns regarding noise, pedestrian safety, and conflicts between through-traffic and driveway access. There has been little research conducted on this topic, and there is not a generally established guideline that considers these factors relative to traffic effects on residential streets. To this end, research has been conducted at the University of California's Institute of Transportation Studies for substantive traffic impacts to residential streets. From this review, there a number of references which provide some information relative to traffic factors on residential streets.

The various references discuss a number of factors related to residential streets. These include the following:

- Street widths (with or without parking)
- Street grades
- Vehicle speeds
- Traffic/pedestrian safety

With respect to street widths, it is generally accepted that 20-22 feet of roadway width is necessary for two travel lanes without parking. The presence of curb parking would increase the guideline (based on a minimum 7-foot width for each parking lane). The references also suggest maximum grades of 15% on residential streets. The alignment should be designed for vehicle speeds of 20-30 miles per hour. The references cite traffic safety as an issue but provide no standards relative to traffic history. The residential street references provide discussions of these factors, yet they offer no correlation between these factors and representative traffic volumes. As an example, there is no assessment which indicates that as street widths decrease and street grades increase overall street volumes are lower. Thus, the various design factors cannot be directly used to identify appropriate volumes that would indicate whether residential streets could be impacted or not.

With no consensus on the correlation between roadway traffic volumes and their effects on residential street impacts, the following volume criteria could be used for the preliminary analysis of residential street impacts. Specifically, the criteria are based on HCM thresholds for roadway capacity/LOS, previous traffic analyses conducted in other sensitive residential neighborhoods, field observations, and engineering judgment.

AM and PM peak hour intersection turning movement counts at the 108th Avenue/MacArthur Boulevard and 108th Avenue/Foothill Boulevard intersections indicate that 108th Avenue is currently carrying relatively low volumes of traffic. Approximately 40-50 vehicles use the roadway during the AM peak hour and 90-100 vehicles during the PM peak hour. Based on these volumes, 108th Avenue could be classified as a residential-collector street providing neighborhood access while providing access to arterial roadways to the east and west. These streets typically carry approximately 1,000-3,000 *daily* vehicle trips. 108th Avenue is currently near the low threshold of this capacity. Streets carrying less than 1,000 daily vehicles could be classified as being purely local (residential) in nature. With proposed project traffic, peak hour traffic volumes on 108th Avenue would essentially increase by 98 PM peak hour trips when the center is most active (worst case). Existing peak hour volumes would increase from approximately 100 vehicles to 200 vehicles during the PM peak hour. Neighbors living south of the project site would notice this increase in vehicle activity on 108th Avenue. However, the roadway would continue to operate as a residential collector street and would remain within 1,000-3,000 daily vehicles. Proposed project driveways located along 108th Avenue would are all projected to operate at LOS A and help to disperse traffic along the street. In addition, these driveways on 108th would be the least used driveways serving the center based on overall trip distribution. Both the main project driveways on Foothill Boulevard and MacArthur Boulevard would carry the majority of project trips to/from the site.

T-7: The increased activity on 108th Avenue from proposed project uses would be noticed by neighbors living immediately to the south along 108th Avenue. It is noted that proposed project plans indicate that there would be remote control electronic gates at the first two proposed project driveways on 108th Avenue east of MacArthur Boulevard. Proposed project plans also do not indicate at pedestrian crosswalk linking neighborhoods to the south of 108th Avenue with the proposed project. In response, following measures are recommended to reduce project impacts along 108th Avenue to **less-than-significant**:

M-7: The remote control electronic gates located at the first two proposed project driveways on 108th Avenue east of MacArthur Boulevard should remain closed during all non business hours of the proposed shopping center to reduce inbound/outbound project trips on 108th Avenue. A north-south pedestrian crosswalk should be striped on 108th Avenue at Julius Street (west side) east of the main 108th Avenue driveway serving the Foods Co building. The pedestrian crosswalk should have a bulb-out from the south side of 108th Avenue to reduce pedestrian crossing distance and increase visibility. These measures would help to reduce potential project impacts on 108th Avenue to **less-than-significant** levels.

TRANSIT

The affects of the proposed project have been evaluated on AC Transit operations in the immediate study area serving the site. Specifically, existing transit use counts for all lines serving the existing center (45, 57, 75, NL, and NX3) indicate that current ridership is well within capacity and all buses have excess capacity. Transit use to/from the center is low with just one rider in the AM peak period and seven riders in the PM peak hour. For this reason, proposed project trip generation calculated for the new shopping center assumes no transit mode splits. It is likely that with a re-developed shopping center/proposed project, transit ridership to/from the center would increase and potentially reduce the number of drive alone trips to center. However, even if transit use made up 5% (conservative estimate) of the proposed project's total trip generation, there would still be excess capacity on all bus lines serving the Foothill Square shopping center.

AC Transit uses the Foothill Square shopping center as a transit node with the multiple bus lines converging and terminating at the center. Currently, all bus lines stopping (laying over) at the center us MacArthur Boulevard between 107th Avenue and 108th Avenue. With proposed project construction, AC Transit would move the layover area to Foothill Boulevard between the project's main Foothill Boulevard and 108th Avenue. Buses would drop-off passengers on Foothill Boulevard near the proposed main driveway and then pull forward to their layover area prior to 108th Avenue. After the layover period, the buses will turn west onto 108th Avenue and proceed to their pick-up stop. The buses would pick up passengers on 108th Avenue as this would prevent them from having to circle back around the block to the bus stop on Foothill Boulevard. Since AC Transit buses already travel on 108th Avenue, this would not be considered a significant impact.

PARKING

The proposed project would supply 753 total parking spaces for all existing and proposed uses based on the most recent project site plan. These parking spaces would generally be found in the large north-south and east-west parking aisles in the southern half of the project site and would be accessed by proposed project driveways located on MacArthur Boulevard, 108th Avenue, and Foothill Boulevard. In addition, there would also be vehicle parking spaces located along the northern portion of the site (behind existing and proposed retail/medical/group assembly buildings) and these spaces would primarily serve the needs of the adjacent uses and/or employees.

With the proposed project consisting of a number of varied land uses, the project's parking needs have been segregated for those uses. Based on parking requirements outlined in the Oakland Planning Code, the project parking needs have been calculated in Table 10. Based on City code calculations, the proposed project would require 859 parking spaces. With the proposed parking supply totaling 753 spaces, this would represent an 86 space deficit compared to Code calculated parking need. However, it is recognized that the Code calculation does not reflect that different on-site uses would not necessarily have the same peak parking demand periods.

Shared parking reflects well-documented analyses of hour-by-hour parking demands for various land uses.[22] Essentially, these analyses indicate that peak demands for individual commercial uses do not necessarily overlap. Thus, while one land use might have a peak mid-day demand, another land use in the same development could have a peak evening demand. Without an overlap in peak demand, both land uses could "share" the available parking spaces.

Also, research conducted by the Institute of Transportation Engineers (ITE) indicates that in larger multi-use developments, there is a measurable interaction between the various uses.[23] For example, a retail customer in a regional shopping center might also patronize a restaurant within that center. Similarly, a retail customer could also patronize a bank within a center. The ITE research suggests that for 15% of the restaurant customers, the restaurant is a secondary trip purpose. This same research indicates that for 17% of the bank customers, the bank is a secondary trip purpose.

Of particular relevance to this project is the large demand associated with the group assembly uses, particularly the bingo facility. On weekdays, the bingo program begins a 7:00 PM and at that time, demand by other retail tenants would be substantially reduced. Thus, the retail and bingo uses could share parking.

TABLE 10
CITY CODE PARKING REQUIREMENTS; PROPOSED PROJECT

Condition/Land Use	Parking Rate/KSF or Employee	Parking Spaces
74,850 sq. ft. food sales/restaurant	1/200	374
72,765 sq. ft. general retail	1/400	182
20,840 sq. ft. medical	1/400	52
10,085 sq. ft. day car; 26 day care employees	1/3	9
17,515 sq. ft. group assembly	1/80	219
1,930 sq. ft. administrative office	1/600	3
2,931 sq. ft. common area/utilities	n.a.	n.a.
200,916 sq. ft. total uses		839

Source: City of Oakland, Planning Code, April 15, 2010

An alternative parking calculation has used parking ratios recommended by the ULI and ICSC.[24] These ratios essentially include the fact that various tenants within a shopping center would share the overall parking. This

[22] *Urban Land Institute (ULI), Shared Parking, 2nd Edition, 2005.*
[23] *Institute of Transportation Engineers (ITE), Trip Generation Handbook, 2nd Edition—An ITE Recommended Practice, June 2004.*
[24] *Urban Land Institute/International Council of Shopping Centers (ULI/ICSC), Parking Requirements for Shopping Centers, Summary Recommendations and Research Study Report, 2nd Edition, 1999.*

alternative calculation is based on an overall shopping center parking rate, adjusted to account for the fact that a portion of the center would include "entertainment" uses (the bingo facility and Hawaiian Arts business). The other non commercial uses' (the medical facilities and the day care facility) parking needs have been added to the shopping center calculation.

Based on the ULI/ICSC rate (and adding in the other non-commercial uses' demand), the overall project parking need would be as follows:

• 167,060 sq.ft. shopping center @ 4.03/1,000 sq.ft.	=	673 spaces
• 20,840 sq.ft. medical uses @ 1/400sq.ft.	=	52 spaces
• 10,085 sq.ft. day care; 26 day care employees @1/3 employees	=	9 spaces
• 2,931 sq.ft. common area/utilities	=	N.A.
200,916 sq.ft. total		734 spaces

This alternative calculation suggests that the project's 753 spaces would meet the shared demand of the various on-site uses. However, it is likely that the proposed project applicant would need to obtain approval for a parking variance for less than the code required parking spaces as part of overall proposed project approvals.

CUMULATIVE (YEAR 2035) TRAFFIC CONDITIONS

METHODOLOGY

Cumulative year 2035 traffic conditions have been based on the Alameda County Congestion Management Agency's transportation model output baseline and future year directional link volumes. Specifically, AM and PM peak hour directional link volumes for the future year 2035 were compared to year 2000 base model volumes from the ACCMA traffic model. Consistent with the development of short-term year 2015 traffic growth projections, a weighted average of projected traffic increases on all major travel corridors serving the project site was developed for MacArthur Avenue, Bancroft Avenue, 106th Avenue, 108th Avenue, Stanley-Foothill Boulevard and I-580. In general, cumulative year 2035 traffic projections are highly conservative and may overestimate future traffic growth on specific roadway study segments. In the study area, the ACCMA transportation model tends to load less congested parallel corridors (MacArthur Boulevard and Stanley-Foothill Boulevard) with higher traffic volumes diverted from I-580. In most instances, yearly growth increases in traffic volumes are approximately 1-2% with the exception of major routes/arterial streets that parallel I-580 and/or I-880. For project study streets and roadways, the yearly growth in traffic volumes averaged 30% over the 25 year period. Between the years 2010-2035, this would equate to a 20% increase in overall traffic volumes (4% every five years). It is noted that the traffic growth projections used for this study are consistent with previous analyses conducted for the City of San Leandro on planned projects along MacArthur Boulevard. Specifically, future ACCMA model projections used in San Leandro reflected a 20% growth rate to the year 2025 or 5% per year. Extending to the future year 2035 would produce a 30% growth rate consistent with current traffic growth projections from the latest ACCMA transportation model.

Discussions with ACCMA staff indicate the current transportation model output reflects the most up-to-date land use data currently available for model projections. This includes the October 2008 updated that reflects Projections 2007 Land Uses from ABAG. The next model update will likely be completed in year 2011 and reflect new ABAG 2009 projections. In addition, the ACCMA transportation model assumes some level of retail commercial development on the project site consistent with existing zoning. For this reason, there is the potential that adding proposed project trips to cumulative year 2035 (no project) volumes could "double count" proposed project trips on the street network. However, since this is a redevelopment project and new uses are being proposed (Foods Co) it is likely that there would be a net increase in overall vehicle trips beyond cumulative year 2035 (no project) conditions. The proposed project trips were added into cumulative year 2035 (no project) volumes to present a most conservative analysis of proposed project impacts.

AM and PM cumulative year 2035 (no project) volumes have been shown in Figure 11. AM and PM cumulative year 2035 plus project volumes have been shown in Figure 12.

Planned Cumulative Year 2035 (No Project)Circulation Improvements

The same street network and intersection lane geometries have been assumed for cumulative year 2035 (no project) conditions as with short-term year 2015 (no project) conditions. However, the planned installation of a roundabout at the Superior Avenue-Foothill Boulevard/MacArthur Boulevard intersection in the City of San Leandro has been assumed to be in place by cumulative year 2035 (no project) conditions.

Cumulative Year 2035 (No Project) Conditions

With cumulative year 2035 (no project) traffic volumes derived from the ACCMA travel forecast model growth projections, study intersection LOS has been calculated and is shown in Table 11. As shown, the Durant Avenue/MacArthur Boulevard would be operating at unacceptable levels (LOS E 42.9 seconds) during the AM peak hour with year cumulative year 2035 (no project) volumes. This LOS refers to the eastbound minor street stop-sign controlled movements from Durant Avenue at MacArthur Boulevard. There is a significant northbound left-turn movement from MacArthur Boulevard onto westbound Durant Avenue during the AM peak hour under cumulative year 2035 conditions (315 vehicles). This northbound free-flowing left-turn movement causes long delays for the stop-sign controlled eastbound turning movements from Durant Avenue.

All remaining project study intersections would operate at acceptable levels with cumulative year 2035 (no project) traffic.

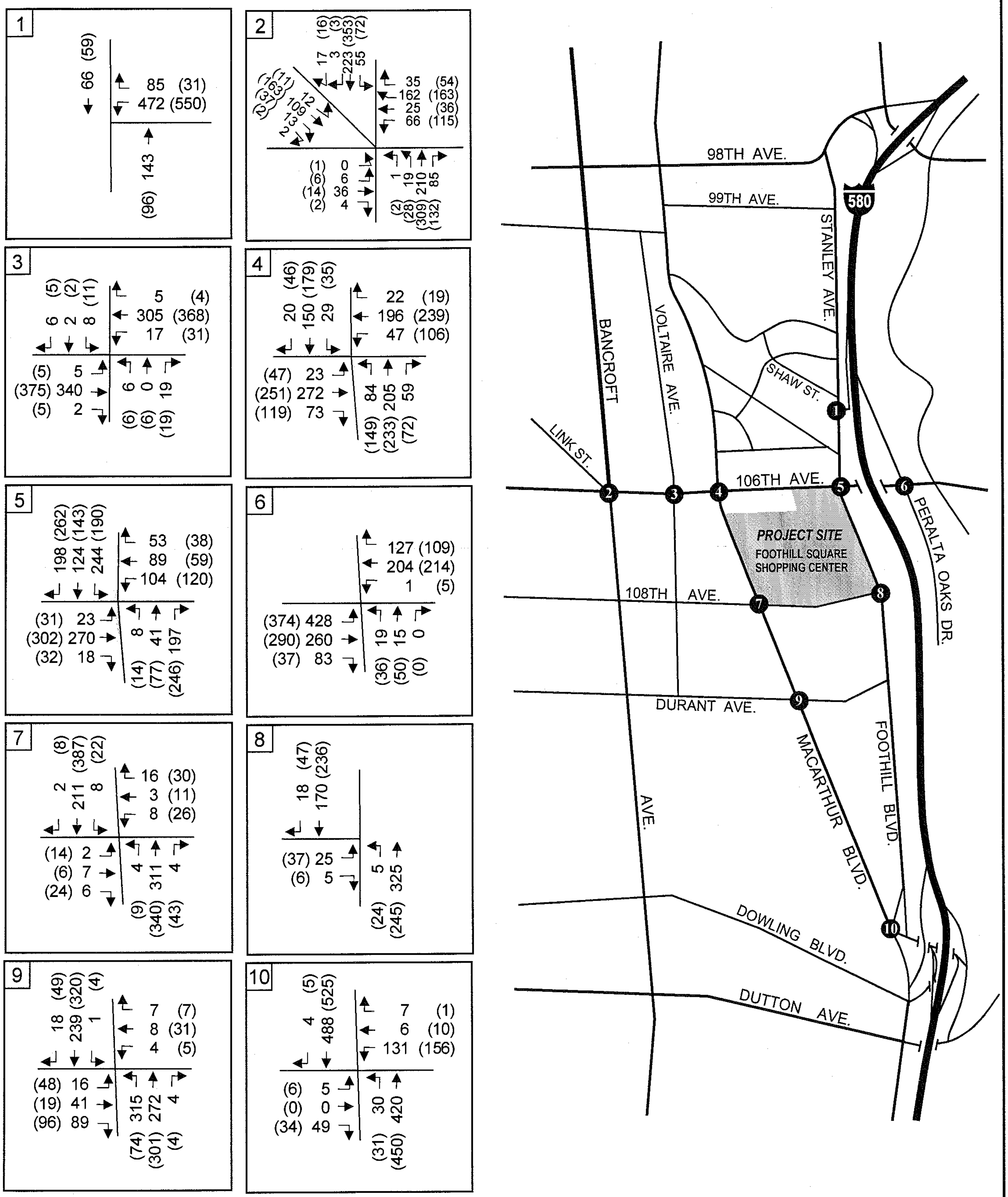
Cumulative Year 2035 (No Project) Signal Warrants

Based on MUTCD's peak hour warrant #3 criteria, two of the eight stop-sign controlled project study intersections would qualify for signalization with cumulative year 2035 (no project) volumes during the weekday peak hour.[25] This would include the 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection and the Stanley Boulevard/Shaw Street/I-580 Eastbound off-ramp intersection which would satisfy the minimum peak hour volume criteria for signalization during the PM peak hour.

Cumulative Year 2035 Plus Project Conditions

With proposed project added to cumulative year 2035 (no project) conditions, three study intersections would be operating at unacceptable conditions (LOS E-F) during the peak hours as shown in Table 11. These would include the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection that would change from LOS D (25.5 seconds) to LOS F (51.9 seconds) during the PM peak hour. The 106th Avenue/Foothill-Stanley Boulevard intersection would change from LOS D (25.2 seconds) to LOS E (37.4 seconds) during the AM peak hour and from LOS D (30.0 seconds) to LOS F (50.4 seconds) during the PM peak hour. Finally, the Durant Avenue/MacArthur Boulevard intersection would change from LOS E (42.9 seconds) to LOS F (49.6 seconds) during the AM peak hour. Based on the City of Oakland and the City of San Leandro significance criteria for intersection operation, these would be considered **significant impacts**.

[25] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*

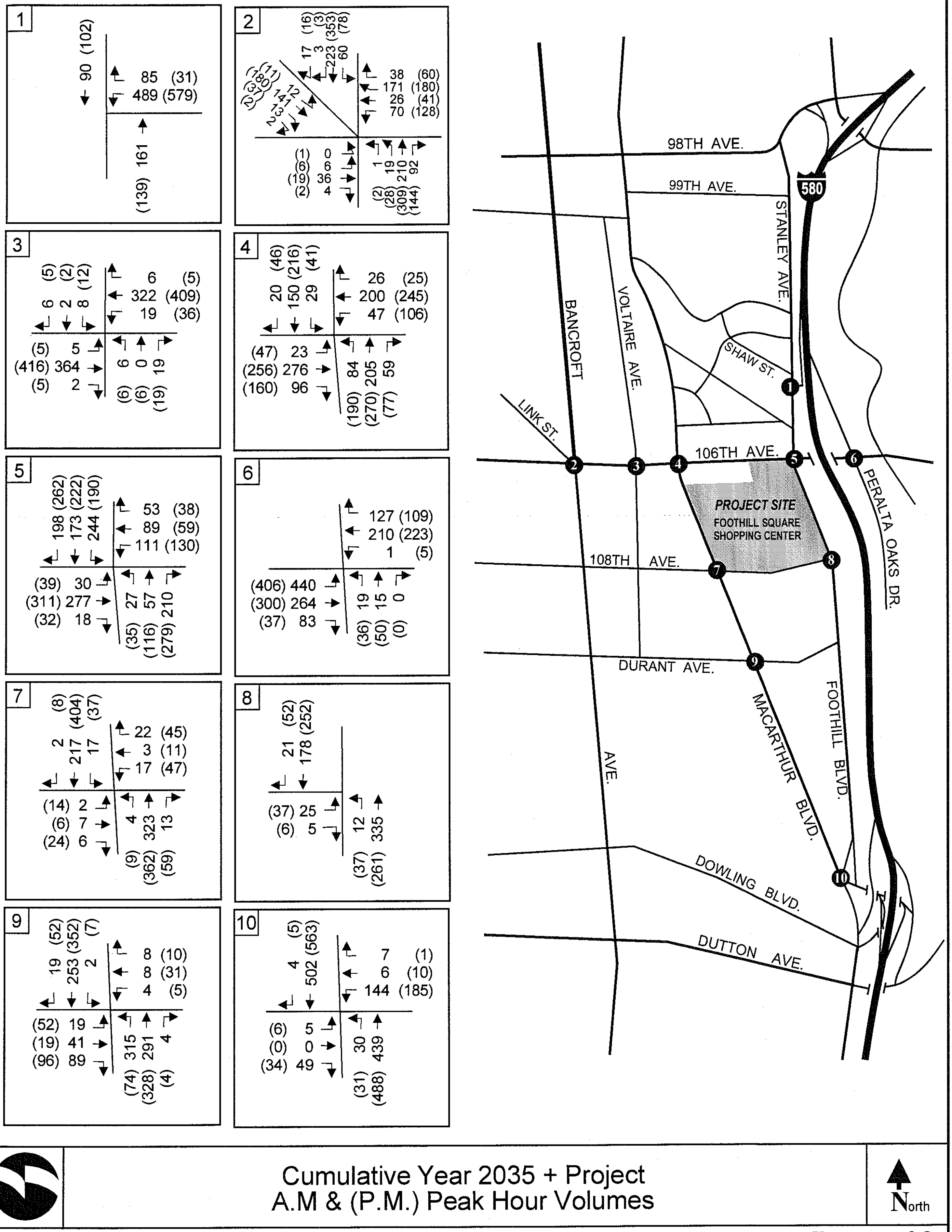


Cumulative Year 2035 Without Project
A.M & (P.M.) Peak Hour Volumes

North

omni-means

figure 11



Cumulative Year 2035 + Project
A.M & (P.M.) Peak Hour Volumes

omni-means

figure 12

TABLE 11
CUMALATIVE YEAR 2035 (NO PROJECT) AND YEAR 2035 PLUS PROJECT CONDITIONS
AM AND PM PEAK HOUR INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			2035 (NP)	2035 + Prj.	2035 (NP)	2035 + Prj.
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 23.2	D 30.5	D 25.5	**F 51.9**
2	106th Ave./Bancroft Ave./Link St.	Signal	C 33.0	C 33.0	D 47.1	D 54.00
3	106th Ave./Voltaire Ave.	AWSC	B 11.2	B 11.5	B 12.6	B 14.5
4	106th Ave./MacArthur Blvd.	Signal	B 10.9	B 11.0	B 12.1	B 12.8
5	106th Ave./Foothill Blvd.	AWSC	D 25.2	**E 37.4**	D 30.0	**F 50.4**
6	106th Ave./Peralta Oaks Dr./I-580 WB	AWSC	B 14.2	B 14.7	B 13.6	B 14.8
7	108th Ave./MacArthur Blvd..	Stop	B 12.3	B 13.1	C 18.4	C 24.5
8	108th Ave./Foothill Blvd.	Stop	B 12.3	B 12.3	B 13.3	B 13.5
9	Durant Ave./MacArthur Blvd.	Stop	**E 42.9**	**F 49.6**	C 21.6	D 26.2
10	Superior Ave./MacArthur Blvd.	RDABT	**A 4.5**	**A 4.5**	**A 6.7**	**A 6.7**

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds. A roundabout is assumed for the Superior-Foothill/MacArthur intersection as part the planned improvements for the City of San Leandro (MacArthur/Superior/Foothill Intersection TETAP Project—2006).

In response to these impacts, the following measures are recommended to reduce proposed project impacts:

T-8: Stanley Boulevard/Shaw Street/I-580 EB off-ramp: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection and the intersection would continue to satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization under both cumulative year 2035 (no project) and upon proposed project completion. This would be considered a **significant impact**.

M-8: Install in new traffic signal at the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS A (7.8 seconds) during the AM peak hour and LOS A (9.0 seconds) during the PM peak hour. These circulation improvements would reduce the proposed project's impact to **less-than-significant**.

T-9: 106^{th} Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106^{th} Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-9: Same as recommended mitigation **M-2**. An initial signal calculation indicates the intersection would operate at LOS C (32.7 seconds) during the AM peak hour and LOS D (35.7 seconds) during the PM peak hour and would reduce proposed project impacts to **less-than-significant**.

T-10: Durant Avenue/MacArthur Boulevard: Based on the City of San Leandro significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) under cumulative year 2035 (no project) conditions and this would be considered a **significant impact**.

M-10: It is recommended that all-way-stop-control be installed to improve vehicle delays and pedestrian safety at the intersection. With this recommended circulation improvement, overall intersection operation would improve to LOS D (31.6 seconds) during the AM peak hour and LOS C (16.2 seconds) during the PM peak hour. Installation of an all-way-stop control at the Durant Avenue/MacArthur Boulevard intersection would reduce the proposed project's impact to **less-than-significant**.

It is noted that the Durant Avenue/MacArthur Boulevard intersection would change from LOS E (42.9 seconds) to LOS F (49.6 seconds) during the AM peak hour under cumulative year 2035 plus project conditions. This would equate to the proposed project adding 6.7 seconds of delay to the intersection thus exceeding the significance threshold of 5.0 seconds by 1.7 seconds for unsignalized intersections. Based on MUTCD peak hour signal warrant criteria, the intersection would not qualify for signalization under either cumulative year 2035 (no project) or cumulative year 2035 plus project conditions. This unsignalized intersection has also undergone circulation improvements to calm traffic and make it more pedestrian friendly. These include "bulb-outs" at pedestrian crosswalks, new wider pedestrian sidewalks, and reduced pedestrian crossing distances. For this reason, no physical improvement mitigation can be suggested to improve intersection operation at this time (i.e. widening or additional travel lanes). The City of San Leandro's General Plan Policy 16.02 states that the minimum acceptable LOS is D. However, exceptions to this mandate are noted in the General Plan policy that states "LOS D may only be exceeded where the following circumstances exist:

- Road improvements are not possible because the necessary right-of-way does not exist and cannot be acquired without significant impacts on adjacent buildings and properties;

- The intersection or road segment is in a pedestrian district, such as the Downtown, where the priority is on pedestrian, bicycle, and public transit access rather than vehicle traffic."[26]

It is likely that these exceptions could apply to the Durant Avenue/MacArthur Boulevard intersection.

CUMULATIVE YEAR 2035 PLUS PROJECT SIGNAL WARRANTS

Based on MUTCD's peak hour warrant #3 criteria, two of the eight stop-sign controlled project study intersections would continue to qualify for signalization with cumulative year 2035 plus project volumes during the weekday peak hour.[27] This would include the 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection and the Stanley Boulevard/Shaw Street/I-580 Eastbound off-ramp intersection which would satisfy the minimum peak hour volume criteria for signalization during the PM peak hour.

[26] *City of San Leandro, General Plan 2002, Chapter 4, Transportation, page 4-20.*
[27] *California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.*

March 31, 2011

Ms. Rebecca Gorton
Lamphier-Gregory
1944 Embarcadero
Oakland, CA 94606

RE: Addendum: Proposed Foothill Square Shopping Center; Administrative Draft Mitigated Negative Declaration/Traffic Impact Analysis Supplemental Information/Analysis in Coordination with Caltrans Review Letter (March 30, 2011)

Dear Ms. Gorton:

The following addendum letter provides additional transportation information and analysis for the proposed Foothill Square Shopping Center project. Specifically, Caltrans has provided comment and input regarding the administrative draft traffic analysis ("ADTR") involving forecasting, operational analysis, proposed mitigation measures, and encroachment permit. In response, the following information is provided to supplement the administrative draft traffic analysis for the proposed project:

Forecasting:

Institute of Transportation (ITE) land use codes used to calculate the proposed project's trip generation have been added to peak hour and daily trip generation Tables 4 and 5 from the administrative draft traffic report (attached). Various land use codes used in the traffic analysis include discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944).

Pass-by rates used for the proposed project are based on ITE research on pass-by, primary, and diverted link trips. Specifically, the *ITE Trip Generation Handbook—An ITE Recommended Practice*, *2nd Edition, 2004* was employed for "shopping center" (land use #820) and gasoline/service station (land use #944) pass-by rates. Based on the size of the shopping center and number of gasoline fueling stations, this equated to a 34% pass-by rate for overall shopping center uses and 42% for gasoline/service station uses.

ITE trip generation research on "department store" uses indicate that department stores specialize in the sale of apparel, footwear, home products, bedding and linens, luggage, jewelry, and accessories. These described sale items are exactly what a Ross Store provides and an ITE "department store" rate is appropriate for this use. In contrast, an "apparel store" is generally much smaller (average size 5,000 square feet) and specializes in clothing sales. These stores have a more conservative trip generation rate than department stores and typically generate higher vehicle trips.

Operational Analysis:

The two-way, minor street stop-sign controlled Foothill Boulevard/Stanley Avenue intersection has been added to overall proposed project analysis. This intersection is located between the Stanley Avenue/I-580 eastbound off-ramp intersection (#1 in ADTR) and the 106th Avenue/Foothill Boulevard intersection (#5 in ADTR). New AM and PM peak hour counts were conducted at the Foothill Boulevard/Stanley Avenue intersection. [1] Intersection LOS for existing, existing plus project, short-term (2015 no project), short-term plus project, cumulative (2035 no project), and cumulative plus project have been shown in Table A (LOS calculation sheets attached).

As shown in Table A, the Stanley Avenue/Foothill Boulevard intersection would operating at acceptable conditions (LOS D or better) under all with and without project scenarios. A qualitative check of the peak hour signal warrant (MUTCD peak hour warrant #3) indicates the intersection would not qualify for signalization under any analyzed scenario. Peak hour volumes would not exceed the minimum levels required for signalization.

The Stanley Avenue/I-580 EB off-ramp intersection LOS shown in Table 11 of the ADTR (Cumulative Year 2035 [No Project] and Year 2035 Plus Project Conditions) is incorrect for the AM and PM peak hour (control delay instead of approach delay was reported). The corrected intersection LOS is as follows:

Stanley Avenue/I-580 EB off-ramp	AM Peak LOS/Delay	PM Peak LOS/Delay
Year 2035 (No Project) Conditions	C 21.1	C 24.6
Year 2035 Plus Project Conditions	D 27.4	E 49.7

TABLE A
FOOTHILL BOULEVARD/STANLEY AVENUE; AM AND PM PEAK HOUR INTERSECTION LOS

Analysis Condition	Control Type	AM Peak Hour		PM Peak Hour	
		LOS	Delay	LOS	Delay
Existing	TWSC	B	11.1	C	15.8
Existing Plus Project	TWSC	B	11.8	C	20.5
Year 2015 (No Project)	TWSC	B	11.3	C	16.7
Year 2015 plus Project	TWSC	B	12.0	C	22.2
Year 2035 (No Project)	TWSC	B	12.1	C	22.1
Year 2035 plus Project	TWSC	B	13.0	D	34.4

Source: Omni-Means Engineers and Planners, AM and PM peak period intersection count, Foothill Boulevard/Stanley Avenue intersection, March 30-31, 2011. Based on HCM 2000 unsignalized methodology using Synchro-Simtraffic software yielding an intersection LOS (worst approach) and vehicle delay in seconds.

[1] Omni-Means Engineers and Planners, AM and PM (7:00-9:00 a.m. and 4:00-6:00 p.m.) peak hour intersection turning movement counts, Foothill Boulevard/Stanley Avenue, March 30, 31, 2011.

Proposed Mitigation Measures:

Under year 2035 plus project conditions, the ADTR recommends signalization of both the Stanley Avenue/I-580 eastbound off-ramp and the 106th Avenue/Foothill Boulevard intersections to mitigate proposed project impacts at these locations. Both intersections qualify for signalization under MUTCD peak hour warrant criteria. As part of these recommendations, a vehicle queuing analysis has been conducted for the PM peak hour (worst case analysis) using year 2035 plus project volumes. This is to ensure that vehicle queues do not affect freeway mainline volumes.

The vehicle queuing analysis indicates that, while extensive, vehicle queues on the I-580 off-ramp at Stanley Avenue would not exceed the existing storage capacity of the off-ramp under year 2035 plus project conditions. Currently, there is approximately 1,350 feet of storage capacity on the I-580 eastbound off-ramp. Using Synchro-Simtraffic software for vehicle queuing, the 95th percentile queue for the I-580 off-ramp is projected to be 1,189 feet for the eastbound (southbound) left-turn movement from the off-ramp onto eastbound Stanley Avenue. This is the maximum vehicle queue (95th) over the 1-hour period and accounts for the addition of right-turn movements combined in the overall queue. In addition, vehicle queues at the Foothill Boulevard/Stanley Avenue intersection are projected at 194 feet (95th percentile) for the eastbound (southbound) left-turn movement from Stanley Avenue onto Foothill Boulevard. Current storage capacity exceeds 300 feet. It is noted that vehicle queues from this stop-sign controlled Stanley Avenue eastbound (southbound) approach will queue back towards the I-580 eastbound off-ramp as occurs today under existing conditions. However, vehicle traffic on Foothill Boulevard and Talbot Avenue is very light and eastbound vehicles on Stanley Boulevard progress through the stop-sign control very efficiently as evidenced in vehicle simulation using Simtraffic software (please see Vehicle Queuing Report—attached). It is recognized that installing a signal at the Stanley Avenue/I-580 eastbound off-ramp under year 2035 plus project conditions could require additional measures to ensure efficient traffic flow in the project study area. Therefore, the following revised mitigation measure language is recommended related to signalization of the Stanley Avenue/I-580 eastbound off-ramp intersection (as modified from the ADTR):

> With the addition of Project traffic to the cumulative 2035 scenario, the proposed Project would contribute a cumulatively considerable amount of traffic to impacts at the following intersections:
>
> **Impact Traf-5: Stanley Avenue/Shaw Street/I-580 EB Off-ramp.** This intersection in Caltrans jurisdiction would change from LOS D (25.5 seconds delay) to LOS E (49.7 seconds delay) during the PM peak hour with addition of Project traffic to the cumulative 2035 baseline.
>
> **Project Mitigation Measures**
>
> **MM Traf-5**: The Project proponent has agreed to fund and work with Caltrans to implement the following improvement:
>
> - Caltrans' installation of a new traffic signal at the Stanley Avenue/Shaw Street/I-580 EB Off-ramp intersection. The applicant shall apply for an encroachment permit for work in the State ROW for the installation of the proposed signal. As part of the encroachment permit additional operational improvements for the intersection signalization may be required by Caltrans to address any potential queuing back up on the freeway mainline, which may include but is not limited

to installation of off-ramp queue detector loops, synchronizing signals, and increasing the length of the left-turn pockets.

With a signal installed at this location, the intersection would operate at LOS A (7.8 seconds delay) during the AM peak hour and LOS B (15.60 seconds delay) during the PM peak hour.

With a signal at the Stanley Avenue/Shaw Street/I-580 EB Off-Ramp intersection and no changes to the Stanley Avenue/Foothill Boulevard intersection, traffic queues could be contained within the existing off-ramp and would not back up to the mainline I-580 freeway. Both these intersections are modeled to be operating at acceptable levels under these conditions.

Encroachment Permit:

As noted by Caltrans, any work or traffic control within the State ROW requires an encroachment permit that is issued by the Department. Traffic related mitigation measures will be incorporated into the construction plans during the encroachment permit process.

We trust that this addendum letter report provides additional transportation information for the environmental review of the proposed Foothill Square Shopping Center project. Please call if you have any questions.

Sincerely,

OMNI-MEANS, Ltd.
Engineers & Planners

Peter J. Galloway
Transportation Planner

Cc: Peterson Vollmann, Planner III, City of Oakland
Lisa Carboni, Senior Transportation Planner, Caltrans
Mark Zabaneh, Caltrans

Enc:

Tables 4 and 5, Stanley Avenue/Foothill Boulevard LOS Calculations, Mitigated LOS calculations for the Stanley Avenue/I-580 eastbound off-ramp, Foothill Boulevard/Stanley Avenue, and 106th Avenue/Foothill Boulevard intersections (PM peak hour only), and Simtraffic Vehicle Queuing Report.

TABLE 4
PROPOSED PROJECT PEAK HOUR TRIP GENERATION
AM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	2.74/1,000	197 AM trips; 114 in/83 out
24,400 sq.ft. Proposed Department Store (Ross)	0.53/1,000	13 AM trips; 8 in/5 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	1.03/1,000(2)	9 AM trips; 6 in/3 out.
49,690 sq.ft. Proposed Specialty Retail	0.73/1,000(2)	36 AM trips; 22 in/14 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		255 AM trips; 150 in/105 out x 90% (10% internal) = 230 AM trips; 135 in/95 out
Less Existing 52,711 sq.ft. Specialty Retail (3)	0.73/1,000(2)	(38 AM trips; 18 in/20 out)
Net New Shopping Center Trips:		**192 AM trips; 113 in/79**
Proposed Gas Station with 8 fueling positions	12.16/position	97 AM trips; 49 in/48 out
Less 57% Pass-By Trips		(56 AM trips; 28 in/28 out)
Net New Gas Station Trips:		**41 AM trips; 21 in/20 out**
Total Net New Project Trips:		**233 AM trips; 134 in/99 out**

PM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	8.90/1,000	640 PM trips; 320 in/320 out
24,400 sq.ft. Proposed Department Store (Ross)	1.78/1,000	43 PM trips; 22 in/21 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	3.83/1,000	32 PM trips; 16 in/16 out
49,690 sq.ft. Proposed Specialty Retail	2.71/1,000	135 PM trips; 59 in/76 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
20,916 sq.ft. Shopping Center Trip generation		850 PM trips; 417 in/433out x 90% (10% internal trips) = 765 PM trips; 375 in/390 out
Less Existing 52,711 sq.ft. Specialty Retail Trips(3)	2.71/1,000	(143 PM trips; 72 in/71 out)
Less 34% Pass-By Trips		(212 PM trips; 106 in/106 out)
Net New Shopping Center Trips:		**410 PM trips; 205 in/205 out**
Proposed Gas Station with 8 fueling positions	13.87/position	111 PM trips; 55 in/56 out
Less 42% Pass-By Trips		(47 PM trips; 23 in/24 out)
Net New Gas Station Trips:		**64 PM trips; 32 in/32 out**
Total Net New Project Trips		**474 PM trips; 237 in/237 out**

(1) Institute of Transportation Engineers (ITE), Trip Generation, an ITE Informational Report, 8th Edition, 2008 Peak hour trip generation rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008. .

(2) The ITE data base does not include AM peak rates for these land uses. The AM peak rates were derived based on the AM/PM trip proportion for shopping centers as outlined in the ITE data.

(3) The center currently has a number of smaller tenants that would be categorized as "Specialty Retail". The calculations have therefore deducted the trips by these existing tenants.

TABLE 5
DAILY PROJECT TRIP GENERATION

Condition/Land Use	Daily Rate/KSF or Position	Daily Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	96.82/1,000	6,966
24,400 sq.ft. Proposed Department Store (Ross)	22.88/1,000	558
8,485 sq.ft. Proposed Apparel Store (Rainbow)	22.88/1,000	194
49,690 sq.ft. Proposed Specialty Retail	44.32/1,000	2,202
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		9,920
Less Existing 52,711 sq.ft. Specialty Retail Trips(3)	44.32/1,000	(2,336)
Net New Shopping Center Daily Trips:		**7,584**
Gas Station w/ 8 Fueling Positions	168.56/Position	1,348
Total Net New Daily Project Trips		**8,932**

Source: Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition, Daily trip rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008. Department store daily trip rate used for apparel store (no daily trip rate listed).

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	40	0	4	25	83	0	0	3	206	4	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	43	0	4	27	90	0	0	3	224	4	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	117			43			164	172	43	130	127	72
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	117			43			164	172	43	130	127	72
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	73	99	96
cM capacity (veh/h)	1471			1565			768	719	1027	838	761	990

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	122	3	263
Volume Left	1	4	0	224
Volume Right	0	90	3	35
cSH	1471	1565	1027	854
Volume to Capacity	0.00	0.00	0.00	0.31
Queue Length 95th (ft)	0	0	0	33
Control Delay (s)	0.2	0.3	8.5	11.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	0.3	8.5	11.1
Approach LOS			A	B

Intersection Summary			
Average Delay	6.9		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	62	0	6	38	46	0	2	6	369	22	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	67	0	7	41	50	0	2	7	401	24	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	91			67			221	183	67	165	158	66
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	91			67			221	183	67	165	158	66
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	49	97	95
cM capacity (veh/h)	1504			1534			676	706	996	787	729	997

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	98	9	476
Volume Left	5	7	0	401
Volume Right	0	50	7	51
cSH	1504	1534	903	802
Volume to Capacity	0.00	0.00	0.01	0.59
Queue Length 95th (ft)	0	0	1	100
Control Delay (s)	0.6	0.5	9.0	15.8
Lane LOS	A	A	A	C
Approach Delay (s)	0.6	0.5	9.0	15.8
Approach LOS			A	C

Intersection Summary			
Average Delay	11.8		
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	40	0	4	25	101	0	0	3	247	4	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	43	0	4	27	110	0	0	3	268	4	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	137			43			173	191	43	140	136	82
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	137			43			173	191	43	140	136	82
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	67	99	96
cM capacity (veh/h)	1447			1565			756	701	1027	826	752	978

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	45	141	3	308
Volume Left	1	4	0	268
Volume Right	0	110	3	35
cSH	1447	1565	1027	839
Volume to Capacity	0.00	0.00	0.00	0.37
Queue Length 95th (ft)	0	0	0	42
Control Delay (s)	0.2	0.2	8.5	11.8
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	0.2	8.5	11.8
Approach LOS			A	B

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	38.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	62	0	6	38	89	0	2	6	441	22	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	67	0	7	41	97	0	2	7	479	24	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	138			67			244	229	67	189	181	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	138			67			244	229	67	189	181	90
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	37	97	95
cM capacity (veh/h)	1446			1534			651	665	996	760	707	968

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	73	145	9	554
Volume Left	5	7	0	479
Volume Right	0	97	7	51
cSH	1446	1534	886	773
Volume to Capacity	0.00	0.00	0.01	0.72
Queue Length 95th (ft)	0	0	1	155
Control Delay (s)	0.6	0.4	9.1	20.5
Lane LOS	A	A	A	C
Approach Delay (s)	0.6	0.4	9.1	20.5
Approach LOS			A	C

Intersection Summary			
Average Delay	14.8		
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	42	0	4	26	86	0	0	4	214	4	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	46	0	4	28	93	0	0	4	233	4	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	122			46			170	178	46	136	132	75
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	122			46			170	178	46	136	132	75
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	72	99	96
cM capacity (veh/h)	1466			1562			760	713	1024	829	756	986

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	126	4	273
Volume Left	1	4	0	233
Volume Right	0	93	4	36
cSH	1466	1562	1024	846
Volume to Capacity	0.00	0.00	0.00	0.32
Queue Length 95th (ft)	0	0	0	35
Control Delay (s)	0.2	0.3	8.5	11.3
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	0.3	8.5	11.3
Approach LOS			A	B

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	64	0	6	40	47	0	2	6	384	23	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	70	0	7	43	51	0	2	7	417	25	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	95			70			228	188	70	170	162	69
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	95			70			228	188	70	170	162	69
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	47	97	95
cM capacity (veh/h)	1499			1531			666	701	993	782	724	994

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	75	101	9	496
Volume Left	5	7	0	417
Volume Right	0	51	7	53
cSH	1499	1531	900	797
Volume to Capacity	0.00	0.00	0.01	0.62
Queue Length 95th (ft)	0	0	1	110
Control Delay (s)	0.6	0.5	9.0	16.7
Lane LOS	A	A	A	C
Approach Delay (s)	0.6	0.5	9.0	16.7
Approach LOS			A	C

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	1	42	0	4	26	104	0	0	4	255	4	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	46	0	4	28	113	0	0	4	277	4	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			46			179	198	46	146	141	85
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			46			179	198	46	146	141	85
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	66	99	96
cM capacity (veh/h)	1442			1562			748	695	1024	817	747	974

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	146	4	317
Volume Left	1	4	0	277
Volume Right	0	113	4	36
cSH	1442	1562	1024	831
Volume to Capacity	0.00	0.00	0.00	0.38
Queue Length 95th (ft)	0	0	0	45
Control Delay (s)	0.2	0.2	8.5	12.0
Lane LOS	A	A	A	B
Approach Delay (s)	0.2	0.2	8.5	12.0
Approach LOS			A	B

Intersection Summary			
Average Delay	7.6		
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	64	0	6	40	90	0	2	6	456	23	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	70	0	7	43	98	0	2	7	496	25	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			70			252	235	70	193	186	92
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			70			252	235	70	193	186	92
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	34	96	94
cM capacity (veh/h)	1442			1531			641	660	993	754	703	965

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	75	148	9	574
Volume Left	5	7	0	496
Volume Right	0	98	7	53
cSH	1442	1531	882	768
Volume to Capacity	0.00	0.00	0.01	0.75
Queue Length 95th (ft)	0	0	1	173
Control Delay (s)	0.6	0.4	9.1	22.2
Lane LOS	A	A	A	C
Approach Delay (s)	0.6	0.4	9.1	22.2
Approach LOS			A	C

Intersection Summary			
Average Delay	16.0		
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	48	0	5	30	100	0	0	4	247	5	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	52	0	5	33	109	0	0	4	268	5	41
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			52			198	209	52	159	154	87
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			52			198	209	52	159	154	87
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	66	99	96
cM capacity (veh/h)	1442			1554			721	685	1015	801	734	972

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	147	4	315
Volume Left	2	5	0	268
Volume Right	0	109	4	41
cSH	1442	1554	1015	818
Volume to Capacity	0.00	0.00	0.00	0.39
Queue Length 95th (ft)	0	0	0	46
Control Delay (s)	0.3	0.3	8.6	12.1
Lane LOS	A	A	A	B
Approach Delay (s)	0.3	0.3	8.6	12.1
Approach LOS			A	B

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	74	0	7	46	55	0	2	7	442	26	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	80	0	8	50	60	0	2	8	480	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	110			80			264	218	80	197	189	80
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	110			80			264	218	80	197	189	80
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	36	96	94
cM capacity (veh/h)	1480			1517			622	673	980	748	699	980

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	117	10	570
Volume Left	7	8	0	480
Volume Right	0	60	8	61
cSH	1480	1517	890	765
Volume to Capacity	0.00	0.01	0.01	0.74
Queue Length 95th (ft)	0	0	1	171
Control Delay (s)	0.6	0.5	9.1	22.1
Lane LOS	A	A	A	C
Approach Delay (s)	0.6	0.5	9.1	22.1
Approach LOS			A	C

Intersection Summary			
Average Delay	16.3		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	2	48	0	5	30	118	0	0	4	288	5	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	52	0	5	33	128	0	0	4	313	5	41
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	161			52			208	228	52	168	164	97
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	161			52			208	228	52	168	164	97
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	60	99	96
cM capacity (veh/h)	1418			1554			710	668	1015	789	725	960

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	54	166	4	360
Volume Left	2	5	0	313
Volume Right	0	128	4	41
cSH	1418	1554	1015	804
Volume to Capacity	0.00	0.00	0.00	0.45
Queue Length 95th (ft)	0	0	0	58
Control Delay (s)	0.3	0.3	8.6	13.0
Lane LOS	A	A	A	B
Approach Delay (s)	0.3	0.3	8.6	13.0
Approach LOS			A	B

Intersection Summary			
Average Delay	8.2		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	74	0	7	46	98	0	2	7	514	26	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	80	0	8	50	107	0	2	8	559	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	157			80			287	265	80	221	212	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157			80			287	265	80	221	212	103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	23	96	94
cM capacity (veh/h)	1423			1517			599	634	980	722	679	952

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	164	10	648
Volume Left	7	8	0	559
Volume Right	0	107	8	61
cSH	1423	1517	874	737
Volume to Capacity	0.00	0.01	0.01	0.88
Queue Length 95th (ft)	0	0	1	275
Control Delay (s)	0.6	0.4	9.2	34.4
Lane LOS	A	A	A	D
Approach Delay (s)	0.6	0.4	9.2	34.4
Approach LOS			A	D

Intersection Summary			
Average Delay	24.7		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	1863			1863
Volume (vph)	579	31	139	0	0	102
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	629	34	151	0	0	111
RTOR Reduction (vph)	0	19	0	0	0	0
Lane Group Flow (vph)	629	15	151	0	0	111
Turn Type		custom				
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	22.0	22.0	20.0			20.0
Effective Green, g (s)	22.0	22.0	20.0			20.0
Actuated g/C Ratio	0.44	0.44	0.40			0.40
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	779	697	745			745
v/s Ratio Prot			c0.08			0.06
v/s Ratio Perm	c0.36	0.01				
v/c Ratio	0.81	0.02	0.20			0.15
Uniform Delay, d1	12.2	7.9	9.8			9.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	6.2	0.0	0.6			0.4
Delay (s)	18.3	7.9	10.4			10.0
Level of Service	B	A	B			A
Approach Delay (s)	17.8		10.4			10.0
Approach LOS	B		B			A

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	6	74	0	7	46	98	0	2	7	514	26	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	80	0	8	50	107	0	2	8	559	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)					220							
pX, platoon unblocked												
vC, conflicting volume	157			80			287	265	80	221	212	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157			80			287	265	80	221	212	103
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	99	23	96	94
cM capacity (veh/h)	1423			1517			599	634	980	722	679	952

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	87	164	10	648
Volume Left	7	8	0	559
Volume Right	0	107	8	61
cSH	1423	1517	874	737
Volume to Capacity	0.00	0.01	0.01	0.88
Queue Length 95th (ft)	0	0	1	275
Control Delay (s)	0.6	0.4	9.2	34.4
Lane LOS	A	A	A	D
Approach Delay (s)	0.6	0.4	9.2	34.4
Approach LOS			A	D

Intersection Summary			
Average Delay	24.7		
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		0.95	0.95		1.00	1.00		1.00	1.00	
Frt		0.99		1.00	0.95		1.00	0.89		1.00	0.92	
Flt Protected		0.99		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1832		1681	1669		1770	1665		1770	1711	
Flt Permitted		0.99		0.95	0.99		0.30	1.00		0.38	1.00	
Satd. Flow (perm)		1832		1681	1669		554	1665		715	1711	
Volume (vph)	39	311	32	130	59	38	35	116	279	190	222	262
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	338	35	141	64	41	38	126	303	207	241	285
RTOR Reduction (vph)	0	5	0	0	23	0	0	96	0	0	48	0
Lane Group Flow (vph)	0	410	0	120	103	0	38	333	0	207	478	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		19.9		10.8	10.8		37.3	37.3		37.3	37.3	
Effective Green, g (s)		19.9		10.8	10.8		37.3	37.3		37.3	37.3	
Actuated g/C Ratio		0.25		0.14	0.14		0.47	0.47		0.47	0.47	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		456		227	225		258	776		333	798	
v/s Ratio Prot		c0.22		c0.07	0.06			0.20			0.28	
v/s Ratio Perm							0.07			c0.29		
v/c Ratio		0.90		0.53	0.46		0.15	0.43		0.62	0.60	
Uniform Delay, d1		29.1		32.2	31.9		12.2	14.2		16.0	15.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.5		2.2	1.5		1.2	1.7		8.5	3.3	
Delay (s)		49.6		34.4	33.4		13.4	16.0		24.5	19.1	
Level of Service		D		C	C		B	B		C	B	
Approach Delay (s)		49.6			33.9			15.8			20.7	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	27.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection: 1: I-580 EB Off & Stanley Blvd.

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	1080	429	106	161
Average Queue (ft)	512	136	57	55
95th Queue (ft)	1189	447	96	119
Link Distance (ft)	1387		142	656
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		400		
Storage Blk Time (%)	27	0		
Queuing Penalty (veh)	8	2		

Intersection: 5: 106th Avenue & Stanley Blvd.

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	LTR	L	TR	L	TR
Maximum Queue (ft)	492	82	156	68	279	146	189
Average Queue (ft)	267	37	70	22	112	102	140
95th Queue (ft)	455	70	123	53	208	164	200
Link Distance (ft)	1007		391		810		152
Upstream Blk Time (%)						4	10
Queuing Penalty (veh)						0	62
Storage Bay Dist (ft)		250		400		150	
Storage Blk Time (%)						4	11
Queuing Penalty (veh)						19	20

Intersection: 11: Foothill Blvd. & Stanley Blvd.

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	60	21	185
Average Queue (ft)	7	1	157
95th Queue (ft)	33	7	194
Link Distance (ft)	236	152	142
Upstream Blk Time (%)			23
Queuing Penalty (veh)			158
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Nework Summary

Network wide Queuing Penalty: 269