

# ***DRAFT ENVIRONMENTAL IMPACT REPORT***

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## ***TIERRA LUNA EIR***

***Prepared for:***  
***City of Downey***

***Prepared By:***



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Environmental Planning and Research

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**April 2009**

**TIERRA LUNA EIR**  
**DRAFT ENVIRONMENTAL IMPACT REPORT**

**PREPARED FOR:**  
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April 2009

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# I. INTRODUCTION/SUMMARY

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## A. INTRODUCTION

### Purpose of the EIR

The purpose of this Environmental Impact Report (EIR) is to inform decisionmakers and the general public of the potential environmental impacts resulting from the proposed Tierra Luna Project (Proposed Project), a mixed-use project proposed to be located at 12214 Lakewood Boulevard in the City of Downey, and all discretionary approvals attendant to carrying out development pursuant to the Proposed Project. The City of Downey, Community Development Department is the lead agency, located at 11111 Brookshire Avenue, Downey, CA 90241. The Lead Agency is the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment. A detailed description of the Proposed Project is contained in Section II, Project Description of this Draft EIR.

The Proposed Project will require approval of certain discretionary actions by the City of Downey and other governmental agencies. Therefore, the Proposed Project is subject to environmental review requirements under the California Environmental Quality Act (CEQA).<sup>1</sup>

As described in Section 15121(a) and 15362 of the CEQA Guidelines<sup>2</sup>, an EIR is an informational document which will inform public agency decisionmakers and the public of the significant environmental effects of a project, identify possible ways to minimize any significant effects, and describe reasonable alternatives to the project. Therefore, the purpose of this EIR is to focus the discussion on those potential effects on the environment of the Proposed Project which the Lead Agency has determined are or may be significant. In addition, feasible mitigation measures are recommended, when applicable, that could reduce or avoid significant environmental impacts.

This EIR was prepared in accordance with Section 15151 of the State CEQA Guidelines, which defines the standards for EIR adequacy:

*An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the*

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<sup>1</sup> Public Resources Code Sections 21000-21178.

<sup>2</sup> California Code of Regulations Title 14, Chapter 3, Sections 15000-15387 (State CEQA Guidelines).

*experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

## **EIR Process**

### ***Notice of Preparation***

In compliance with Section 21080.4 of the California Public Resources Code, a Notice of Preparation (NOP) was prepared by the City of Downey Planning Division and distributed to the State Clearinghouse, Office of Planning and Research, responsible agencies and other interested parties on May 5, 2008. The NOP was circulated for 30 days with the comment period ending June 2, 2008. Appendix I-1 to this EIR contains a copy of the NOP. Appendix I-2 to this EIR contains the written responses received by the City in response to the NOP.

### ***Environmental Issues to be Analyzed in the EIR***

Based on public comments in response to the NOP and a review of environmental issues by the City of Downey Planning Division, this EIR analyzes the following impact areas:

- Aesthetics
- Air Quality
  - Criteria Pollutants
  - Greenhouse Gases, Global Warming and Climate Change
- Cultural Resources
  - Historic Resources
  - Archaeological and Paleontological Resources
- Geology/Soils
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
- Population, Housing, and Employment
- Public Services

- Fire Protection
- Police Protection
- Schools
- Libraries
- Recreation and Parks
- Traffic/Transportation/Parking
- Utilities
  - Wastewater
  - Water
  - Solid Waste
  - Electricity
  - Natural Gas

The City of Downey Community Development Department has determined that the Proposed Project would not result in any significant environmental effects with respect to agricultural resources, biological resources, and mineral resources. Therefore, these issues are not examined in the EIR.<sup>3</sup> In accordance with State CEQA Guidelines Section 15128, brief statements of the reasons that these possible significant effects were determined not to be significant are contained in Section IV.A, Impacts Found To Be Less Than Significant, of this EIR.

### ***Environmental Review Process***

The Draft EIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for a period of 45 days. After completion of the 45-day review period, a Final EIR will be prepared that responds to comments on the Draft EIR submitted during the review period and modifies the Draft EIR as required. Public hearings on the Proposed Project will be held after completion of the Final EIR. The City will make the Final EIR available to agencies and the public prior to considering certification of the EIR. Notice of the time and location will be published prior to the public hearing date. All comments or questions about the Draft EIR should be addressed to:

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<sup>3</sup> Per State CEQA Guidelines Section 15126.2(a), “an EIR shall identify and focus on the significant environmental effects of the proposed project.”

Mark Sellheim, Principal Planner  
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Planning Division  
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Downey, California 90241  
Fax: (562) 622-4816

## **Organization of the Draft EIR**

The Draft EIR is organized into eight sections as follows:

Section I (Introduction/Summary): This section provides an introduction to the environmental review process and a summary of the project description, alternatives, environmental impacts, and mitigation measures.

Section II (Project Description): A complete description of the Proposed Project including: project location, project site characteristics, project characteristics, project objectives, and required discretionary actions is presented.

Section III (Environmental Setting): An overview of the environmental setting of the Proposed Project is provided including a description of existing and surrounding land uses, and a list of related projects.

Section IV (Environmental Impact Analysis): The Environmental Impact Analysis section is the primary focus of this EIR. Separate discussions are provided to address the potential environmental effects of the Proposed Project. Each environmental issue contains a discussion of existing conditions, an assessment and discussion of the significance of impacts associated with the Proposed Project, mitigation measures, cumulative impacts, and level of impact significance after mitigation.

Section V (General Impact Categories): This section provides a summary of significant and unavoidable impacts of the Proposed Project, a discussion of potential growth inducing effects, and an explanation of the significant irreversible environmental changes.

Section VI (Alternatives to the Proposed Project): This section includes an analysis of a range of reasonable alternatives to the Proposed Project. The range of alternatives selected is based on their ability to feasibly attain most of the basic objectives of the project and alternatives that would avoid or substantially lessen any of the significant effects of the project.

Section VII (Preparers of the EIR and Persons Consulted): This section presents a list of City, County, and other agencies and consultant team members that contributed to the preparation of the EIR.

Section VIII (Acronyms and Abbreviations): This section provides a list of all acronyms and abbreviations that are used in the EIR.

## **B. PROJECT SUMMARY**

### **Project Location**

The Project Site, an approximately 79 acre site, is located at 12214 Lakewood Boulevard in the Downey Landing Specific Plan area in the City of Downey. The Project Site is generally bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, the City Park Learning Center and the Kaiser Permanente Hospital and Medical Center (currently under construction) to the south, and Clark Avenue and Lakewood Boulevard to the west.

Regional access to the Project Site is provided via the Glenn Anderson (Century) Freeway (Interstate 105), approximately one mile to the southwest; San Gabriel River Freeway (Interstate 605), approximately 1.5 miles to the east; Santa Ana Freeway (Interstate 5), approximately 2.5 miles north; and the Long Beach Freeway (Interstate 710), approximately three miles to the west. The primary arterial roadways providing access to the Project Site are Lakewood Boulevard (State Route 19), which borders the Project Site's west side; Firestone Boulevard (State Route 42), approximately one mile to the north; Imperial Highway, approximately one-half mile to the south; and Bellflower Boulevard, which borders the Project Site's east side. The light rail Metro Green Line's Lakewood Station is accessible from Lakewood Boulevard where the Glenn Anderson (Century) Freeway intersects, approximately one mile to the south of the Project Site. This line extends from the City of Norwalk at the Glenn Anderson (Century) Freeway and San Gabriel River Freeway intersection to the City of Redondo Beach at the Marine Avenue and Redondo Beach Avenue intersection. The Metro Green Line also provides access to the Metro Blue Line, which extends from the City of Long Beach to the City of Los Angeles, which in turn connects with the Metro Red and Purple Lines in downtown Los Angeles.

### **Proposed Project**

The proposed project involves an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site. The Proposed Project is intended to promote the development of a mixed-use, urban infill, comprehensively-designed, and coordinated development that implements state-of-the-art planning concepts and principles at the presently underutilized 79-acre Project Site. The Proposed Project would promote the creation of diverse, walkable, compact, and vibrant communities with a mix of uses, assembled in an integrated fashion.

Development of the Proposed Project would involve the construction of up to 4,075,000 square feet of commercial, office, residential and public open space uses, including up to 675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel units, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking,

and surface parking lots throughout the Project Site. The Proposed Project would include improvements to the streetscape as well as environmental management standards and amenities related to stormwater management, energy consumption, and water conservation. The Proposed Project would develop its own internal street network, connected to surrounding arterials, with all necessary infrastructure and utilities systems required to support development of the entire community. The Proposed Project would also involve demolition of most of the existing on-site structures.

The Proposed Project would include three main zones: Center Zone, Corridor Zone, and Neighborhood Zone. Additionally, several “Park-Once” shared garages would be located throughout the site. The Proposed Project would also include mechanisms to allow for the interchange of type, location, and character of the uses and facilities included within this Specific Plan, provided that total on-site development does not exceed the caps for each type of use detailed above.

### **C. AREAS OF CONTROVERSY**

Concerns raised in letters submitted to the City of Downey Department of Community Development in response to the NOP include: Air Quality, Utilities (Water and Gas), Traffic, Parking, Hazards, Cultural Impacts (Archaeology and Native American), Population and Housing, Recreation, Land Use Planning, Safety (Proximity to airport), and Operational Noise. The letters submitted in response to the NOP are contained in Appendix I-2 to this EIR.

### **D. ALTERNATIVES**

This EIR considers a range of alternatives to the Proposed Project to provide informed decision-making in accordance with Section 15126.6 of the CEQA Guidelines. As described below in greater detail, the alternatives to the Proposed Project that are analyzed in this EIR include: A) No Project/No Development Alternative, B) No Project/Existing Specific Plan Build-out Alternative, C) Reduced Density Alternative, D) Reduced-Site Alternative, and E) All-Commercial Alternative.

#### **Alternative A – No Project/No Development Alternative**

The No Project/No Development Alternative is the circumstance under which the project does not proceed. Under the No Project/No Development Alternative, the Project Site would remain in its current condition with no changes to existing buildings and surface parking lots.

#### **Alternative B –No Project/Existing Specific Plan Build-out Alternative**

Under the No Project/Existing Specific Plan Build-out Alternative, the proposed Tierra Luna Specific Plan area is assumed to be built out in accordance with the existing Downey Landing Specific Plan. The CEQA Guidelines (Section 15126.6(e)) provide that the “no project” analysis shall discuss the existing conditions at the time the Notice of Preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the Proposed Project is not approved based on current plans and consistent with available infrastructure and community services. Under the existing Downey Landing Specific Plan, the proposed Tierra Luna Specific Plan area corresponds to Planning Areas IIA, IIB, IIC,

and IID.<sup>4</sup> The existing Specific Plan would permit development in this area of up to 1,346,500 square feet of technology and business park uses, and up to 421,549 square feet of studio uses. This is an overall reduction of approximately 2,361,500 square feet (or 62 percent) of development when compared to the Proposed Project.<sup>5</sup> All other land use regulations and mitigation measures established by the Downey Landing Specific Plan and its associated Mitigation Monitoring and Reporting Program would continue to apply to the Project Site under the alternative.

### **Alternative C – Reduced Density Alternative**

Under the Reduced Density Alternative, the Project Site buildout would be similar to the Proposed Project and would occur over the same area as the Proposed Project. However, the development size would be reduced by approximately 25 percent for a total of 2,962,500 square feet of development. Of the reduced development size, a total of 1,125 residential units totaling 1,275,000 square feet would be developed. Office space would be reduced to 506,250 square feet. Similarly, retail space would be reduced by 25 percent to 900,000 square feet. The Reduced Density Alternative would include 281,250 square feet of hotel use. Open space would be reduced by 20 percent to 93,750 square feet. Building heights would also be reduced by 25 percent under this Alternative. Parking would continue to be located in parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site and a total of 637,500 square feet would be provided. This alternative was studied because the reduction in density offered the possibility of reducing at least some environmental impacts compared to the Proposed Project. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

### **Alternative D – Reduced-Site Alternative**

Under the Reduced-Site Alternative, the eastern 20 acres of the Project Site would be preserved as open space. Under this alternative, the same amount of development would be permitted under the Tierra Luna Specific Plan but would take place within the smaller 60 acre site. This alternative would result in greater concentration of density in the western 60 acres, but would provide an open space amenity as an offset to this increase in density. This alternative was studied because the reduction in site size offered the possibility of reducing at least some environmental impacts compared to the Proposed Project. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

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<sup>4</sup> *Environmental Impact Report for Downey Landing Specific Plan, City of Downey, February, 2002, Figure 2-2a and 2-2b.*

<sup>5</sup> *Environmental Impact Report for Downey Landing Specific Plan, City of Downey, February, 2002, Table 2-2.*

### **Alternative E – All-Commercial Alternative**

Under the All-Commercial Alternative, development would occur on the same 79-acre Project Site as the Proposed Project; however, the residential component of the Proposed Project would not be included. The same amount of commercial and hotel development would be permitted as would occur under the Proposed Project. The All-Commercial Alternative would include development of up to 675,000 square feet of commercial/office uses, up to 1,200,000 square feet of commercial/retail uses, up to 450 hotel rooms, and up to 125,000 square feet of public open space. Overall development density would be reduced under this Alternative as less development would be permitted on the same Project Site as the Proposed Project. The All-Commercial Alternative would also include parking facilities dispersed among several multi-level parking structures, on-street parking, and surface parking lots. Because the residential component of the Proposed Project would be eliminated from this Alternative, it would represent an overall reduction in development by approximately 1,700,000 square feet (i.e., 1,500 residential units) when compared to the Proposed Project. Development regulations pertaining to building height, location, and setback would be the same as the Proposed Project, with one exception. Under this Alternative, the development regulations for the easternmost 20 acres of the Project Site would be modified to allow for the development of large-scale retail uses facing Bellflower Boulevard, including buildings of similar height, landscaping and set back from the street at the same distance as the buildings located within other retail developments in the Vicinity of the Project Site. Access to the Project Site would be similar to the Proposed Project, with primary access provided from Lakewood and Bellflower Boulevards. Internal streets would be provided to provide access to buildings located on the interior of the Project Site, same as the Proposed Project. Signage regulations would be the same as under the Proposed Project. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

### **Environmentally Superior Alternative**

Section 15126.6 of the CEQA Guidelines requires that an “environmentally superior” alternative be identified and the reasons disclosed. In general, the environmentally superior alternative is the alternative that has the greatest potential to reduce or avoid the significant adverse impacts of the Proposed Project, while meeting some or all of the project objectives. The No Project/No Development Alternative would reduce or avoid many of the significant adverse impacts of the Proposed Project. Of the five alternatives examined, only the No Project/No Development Alternative would avoid the significant and unavoidable effects of the Proposed Project with respect to construction air quality and construction noise. However, this alternative would fail to meet most of the project objectives including:

- To create a new and unique regional destination for Downey.
- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- To facilitate development that is compatible with surrounding land uses.

- To achieve an environment reflecting a high level of concern for architecture, landscape, and urban design principles by developing a high quality, comprehensively-designed project.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.
- To provide unique new retail opportunities for Downey residents.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- To create new and good-paying jobs by facilitating development of modern office space.
- To positively impact the City of Downey's fiscal tax base.

The CEQA Guidelines require, when a no project alternative is identified as environmentally superior alternative, another alternative must be identified as the environmentally superior alternative.

Accordingly, the All-Commercial Alternative is identified as the environmentally superior alternative. The All-Commercial Alternative would have similar significant and unavoidable impacts as the Proposed Project with respect to construction and construction noise and would reduce the significant and unavoidable impacts of the Proposed Project with respect to regional operational air emissions. Moreover, the All-Commercial Alternative would meet the project objectives except for the following:

- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.

## **E. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

Table I-1 summarizes the various environmental impacts associated with the construction and operation of the Proposed Project. Mitigation Measures are proposed for significant impacts and the level of significance after mitigation is also identified.

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<b>AESTHETICS</b>		
<p>Impacts related to the change in the visual appearance and character of the Project Site would be less than significant, as viewed from adjacent streets and the commercial, residential, and public facility uses in the surrounding area.</p> <p>Because the San Gabriel Mountains lie low on the horizon, development of structures within the Corridor district parcels could potentially block views through the Project Site of these mountains from Clark Avenue and its adjacent sidewalks. However, because of the intermittent nature of these views and the distance from the Project Site, these view lines do not represent views of a scenic resource and any such view blockage would be less than significant.</p> <p>The Proposed Project would not result in a substantial amount of light that would adversely affect the day or nighttime views in the project vicinity. Impacts related to the increase in onsite light would result in potentially significant impacts. However, with implementation of Mitigation Measures B-1 and B-2, lighting impacts would be reduced to a less than significant level.</p> <p>Development of the Proposed Project may include architectural features and facades that have a low level of reflectivity depending on the type of building surfaces. The Proposed Project includes glass windows, which could result in some transitory conditions of glare during the day. However, with implementation of Mitigation Measure B-3, impacts related to glare would be reduced to a level that is less than significant.</p> <p>Signage associated with the buildout of the Proposed Project would be subject to design review by the City of Downey and would incorporate specific design</p>	<p>As all structures developed pursuant to the guidelines of the specific plan would be required to meet the lighting standards codified under the specific plan, light pollution emanating from the Project Site would be limited to the maximum extent possible. The following two mitigation measures would be required to further reduce lighting impacts to a less than significant level.</p> <p>B-1. Project lighting shall be directed onto the site, and all lighting shall be shielded from adjacent roadways and off-site properties.</p> <p>B-2. Atmospheric light pollution shall be minimized by utilizing lighting fixtures that cut-off light directed to the sky.</p> <p>The following mitigation measure is required to reduce glare impacts to less than significant level.</p> <p>B-3. The proposed buildings shall incorporate non-reflective exterior building materials (such as plaster and masonry) in their design. Any glass to be incorporated into the façade of the building shall be either of low-reflectivity, or accompanied by a non-glare coating. Reflective materials such as mirrored glass</p>	<p>Project development would result in less than significant impacts related to scenic views, the visual character of the project area, new sources of light and glare, and shade and shadow impacts.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>requirements, such as being representative of the type and scale of materials used for the structure onto which it would be attached and the prevention of the use of reflective materials, intended to mitigate visual impacts such as light and glare and hazards to motorists. As such, with compliance with the sign regulations component of the specific plan upon project approval, project impacts related to on-site signage development would be less than significant.</p> <p>The Proposed Project’s structures would extend to approximately eight stories at its tallest location, however, there are no shadow-sensitive uses located near the Project Site to be impacted by long shadows from the Center district. Therefore, no shadow impacts from the Proposed Project would occur due to the lack of shadow sensitive uses in close enough proximity to the Project Site.</p>	<p>shall not be permitted.</p>	
<b>AIR QUALITY – CRITERIA POLLUTANTS</b>		
<p>The Proposed Project is planned in a way that would result in the minimization of VMT both within the project area and the community in which it is located, thereby, minimizing the amount of air pollutant emissions. Therefore, the Proposed Project would be consistent with the goals of the AQMP for reducing the emissions associated with new development. Based on this information, the Proposed Project would not impair implementation of the AQMP, and this impact would be less than significant.</p> <p><b>Construction</b></p> <p><i>Regional Air Quality Impacts</i></p> <p>Construction-related daily emissions that were analyzed for the worst-case construction scenario would exceed SCAQMD significance thresholds for NO<sub>x</sub> during the site</p>	<p>The following measures are recommended to reduce the potential emissions associated with construction activities to the maximum extent feasible:</p> <p>C-1. The Project Developer(s) shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the Project Site throughout the Project construction phases. The Project developer(s) shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and</p>	<p>Implementation of Mitigation Measure C-1 would serve to reduce the potential emissions associated with construction activities to the maximum extent feasible, while implementation of Mitigation Measure C-2 would ensure that the fugitive dust control measures associated with SCAQMD Rule 403 would be implemented at the Project Site.</p> <p>The Proposed Project’s impacts</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>demolition and site grading and excavation phases, while the peak daily emissions of the other five construction-related emissions (ROG, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) would not exceed SCAQMD significance thresholds during these two phases. The exceedance of the SCAQMD significance threshold for NO<sub>x</sub> during the site demolition and site grading and excavation phases is primarily due to the amount of off-site haul truck trips that would occur on an estimated peak construction day at the Project Site during these two phases. As such, the regional air quality impact associated with NO<sub>x</sub> emissions would be significant. The regional air quality impacts associated with ROG, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions during the demolition and grading/excavation phases would be less than significant.</p> <p>The construction-related daily emissions generated during the building phase at the Project Site would exceed the regional emission threshold recommended by the SCAQMD for ROG, while the other criteria pollutants (CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) would not exceed their respective SCAQMD regional significance thresholds. As such, the regional air quality impact associated with ROG emissions would be significant. The regional air quality impacts associated with CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions during the building phase would be less than significant.</p> <p><i>Localized Air Quality Impacts</i></p> <p>For the purpose of conducting a worst-case analysis, this analysis assumes that all of the NO<sub>x</sub> emissions generated at the Project Site are NO<sub>2</sub>. Based on the dispersion modeling results, the maximum 1-hour NO<sub>2</sub> concentration generated by construction of the Proposed Project would exceed the 0.18 ppm threshold at all of the identified off-site receptors (both sensitive and non-sensitive) during all phases of construction. Thus, the localized air quality impacts associated with NO<sub>2</sub> concentrations at these</p>	<p>recommended include the following:</p> <ul style="list-style-type: none"> <li>• Keep all construction equipment in proper tune in accordance with manufacturer’s specifications.</li> <li>• Use late model heavy-duty diesel-powered equipment at the Project Site to the extent that it is readily available in the South Coast Air Basin (meaning that it does not have to be imported from another air basin and that the procurement of the equipment would not cause a delay in construction activities of more than two weeks).</li> <li>• Limit truck and equipment idling time to five minutes or less.</li> <li>• Rely on the electricity infrastructure surrounding the construction sites rather than electrical generators powered by internal combustion engines to the extent feasible.</li> </ul> <p>C-2. The Project Developer(s) shall implement fugitive dust control measures in accordance with SCAQMD Rule 403. The Project Developer(s) shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of</p>	<p>on regional air quality resulting from construction activities would be potentially significant for NO<sub>x</sub> emissions during the site demolition and site grading and excavation phases, which exceeds the SCAQMD’s threshold of significance. Implementation of Mitigation Measure C-3, which would require that all heavy-duty diesel-powered construction equipment used onsite to be retrofitted with either lean-NO<sub>x</sub> or diesel oxidation catalysts to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, would reduce the amount of NO<sub>x</sub> emissions generated during the site demolition and site grading and excavation phases. The NO<sub>x</sub> emissions resulting from the site demolition and site grading and excavation phases at the Project</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>off-site receptors would be significant.</p> <p>In terms of construction-related CO emissions, none of the 1-hour and 8-hour CO concentrations at the identified off-site receptors would exceed the 20 ppm and 9.0 ppm thresholds, respectively. Thus, the localized air quality impacts associated with CO concentrations during construction of the Proposed Project would be less than significant.</p> <p>Based on the dispersion modeling results for PM<sub>10</sub>, the maximum localized emissions of PM<sub>10</sub> generated during Project construction would exceed the SCAQMD’s 10.4 µg/m<sup>3</sup> significance threshold at Off-Site Receptor Locations 1, 6, 7, 8, and 9, while the PM<sub>10</sub> concentrations at the remaining off-site receptors would not exceed this threshold. The PM<sub>10</sub> concentrations assume that appropriate dust control measures would be implemented during the grading and excavation phase of construction as required by SCAQMD Rule 403—Fugitive Dust. As PM<sub>10</sub> concentrations would exceed the SCAQMD’s significance threshold at the off-site receptors identified above, impacts associated with PM<sub>10</sub> concentrations at these receptors would be significant.</p> <p>Based on the dispersion modeling results for PM<sub>2.5</sub>, the maximum localized emissions of PM<sub>2.5</sub> generated during Project construction would only exceed the SCAQMD’s 10.4 µg/m<sup>3</sup> significance threshold at Off-Site Receptor Location 6, while the PM<sub>2.5</sub> concentrations at the remaining off-site receptors would not exceed this threshold. Therefore, because PM<sub>2.5</sub> concentrations would exceed the SCAQMD’s significance threshold at the off-site receptor identified above, localized air quality impacts associated PM<sub>2.5</sub> concentrations at this receptor would be significant.</p>	<p>development. Examples of the types of measures currently required and recommended include the following:</p> <ul style="list-style-type: none"> <li>• Use watering to control dust generation during demolition of structures or break-up of pavement.</li> <li>• Water active grading/excavation sites and unpaved surfaces at least three times daily.</li> <li>• Cover stockpiles with tarps or apply non-toxic chemical soil binders.</li> <li>• Limit vehicle speed on unpaved roads to 15 miles per hour.</li> <li>• Sweep daily (with water sweepers) all paved construction parking areas and staging areas.</li> <li>• Provide daily clean-up of mud and dirt carried onto paved streets from the site.</li> <li>• Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.</li> </ul>	<p>Site after implementation of Mitigation Measure C-3 are shown in Table IV-C-14, Estimated Daily Construction NO<sub>x</sub> Emissions With Mitigation During Demolition and Grading/Excavation Phases. As shown, although the total amount of NO<sub>x</sub> emissions are reduced with implementation of Mitigation Measure C-3, the regional NO<sub>x</sub> impacts would still exceed the SCAQMD’s threshold of significance. As such, this impact would be significant and unavoidable.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p><b>Operational Emissions</b></p> <p>The net increase of 32,118 vehicle trips generated by the Proposed Project already includes adjustments to account for internal trips, transit trips, and pass-by trips that would result from the mixed-use and pedestrian-oriented nature of the Proposed Project as well as the existing public transportation available to serve the Project Site. Despite accounting for these factors, the operational emissions of the Proposed Project would still exceed the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. As such, this impact would be significant.</p> <p>Future 1-hour and 8-hour CO concentrations near the six study intersections that would experience the greatest increase in traffic volumes associated with the Project would not exceed their respective national or State ambient air quality standards. Therefore, implementation of the Proposed Project would not expose any possible sensitive receptors (such as residential uses, schools, hospitals) located in proximity to these intersections to substantial localized pollutant concentrations. This would be a less-than-significant impact regarding the exposure of sensitive receptors to substantial pollutant concentrations.</p> <p><b>Objectionable Odors</b></p> <p>Objectionable odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. As the Proposed Project involves no elements related to these types of activities, no objectionable odors are anticipated.</p> <p>During the construction phase, activities associated with the application of</p>	<ul style="list-style-type: none"> <li>• Suspend excavation and grading activity when winds (instantaneous gusts) exceed 15 miles per hour over a 30-minute period or more.</li> <li>• An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.</li> </ul> <p>C-3. The Project Developer(s) shall require by contract specifications that all heavy-duty diesel-powered construction equipment used onsite would be retrofitted with either lean-NO<sub>x</sub> or diesel oxidation catalysts that would reduce NO<sub>x</sub> emissions by 40 percent to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin (meaning that the cost of the equipment use is not more than 20 percent greater than the cost of standard equipment and that the equipment does</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>architectural coatings and other interior and exterior finishes may produce discernible odors typical of most construction sites. Such odors would be a temporary source of nuisance to adjacent uses, but because they are temporary and intermittent in nature, would not be considered a significant environmental impact. Therefore, impacts associated with objectionable odors would be less than significant.</p>	<p>not have to be imported from another basin). (This measure does not apply to diesel-powered trucks traveling to and from the Project Site.)</p> <p>C-4. The Project Developer(s) shall require by contract specifications that all heavy-duty diesel-powered equipment operating and refueling at the Project Site, excluding haul trucks, would be equipped with diesel particulate filters that would reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions by 85 percent to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin (meaning that the cost of the equipment use is not more than 20 percent greater than the cost of standard equipment and that the equipment does not have to be imported from another basin). (This measure does not apply to diesel-powered trucks traveling to and from the Project Site.).</p> <p>C-5. The Project Developer(s) shall include in construction contracts the required application of paints and primer at the Project Site during construction to have a VOC rating of 125 grams per liter or less, and that only a maximum of 214 liters (57 gallons) of such paints can be used on any given day.</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<b>AIR QUALITY – GREEN HOUSE GASES, GLOBAL WARMING AND CLIMATE CHANGE</b>		
<p><i>Hotel Uses</i></p> <p>As the specific designs of the hotel uses are not known at this time, energy savings opportunities were evaluated with respect to the building type performance data in the EnergyPro database. Typical hotel uses are expected to generate demand of approximately 7.61 kwhr per square foot per year and 0.19 therms per square foot per year. The Project would reduce energy consumption by 10 percent relative to Title 24 (2005). This could be accomplished through a combination of energy efficiency and green power purchasing. Design features may include measures such as low E windows, low solar heat gain curtain walls, and high efficiency water source heat pumps.</p> <p><i>Residential Uses</i></p> <p>The project is a new mixed-use residential development. “Business-as-usual” for the residential uses is defined as buildings meeting the minimum requirements of the Title 24 (2005) energy code and typical design, construction, and operational practices. The Project includes two general construction types: multi story flats and condos and low-rise row homes and carriage units.</p> <p>Residential uses would be designed to exceed Title 24 (2005) by 15 percent. These emissions reductions for residential land uses could be achieved through a combination of existing technologies. The bullets listed below describe the combinations of features that can achieve the specified targets for each residential land use category with existing technology. As described previously, these packages of features are based on whole-building energy simulations. They represent only one</p>	<p>Impacts related to climate change would be less than significant, and no mitigation measures are recommended or required.</p>	<p>With implementation of the Project’s design features and emission reduction features, impacts with regards to climate change would be less than significant.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>of many possible combinations of design features, and over time, it is likely that new technologies and building techniques may provide alternative strategies to reach the same performance levels. That is, this list is meant to be representative of the ways in which the project would achieve the specified energy performance targets relative to Title 24 (2005).</p> <ul style="list-style-type: none"> <li>• Multi-story flats and condos would be designed to exceed Title 24 (2005) by 15 percent with features that may include the following:               <ul style="list-style-type: none"> <li>▪ R-19 Optimum Value Engineered Framing;</li> <li>▪ Radiant barriers;</li> <li>▪ High performance windows (0.33 U-Value, 0.35 SHGC); and</li> <li>▪ Sealed and tested ducts.</li> </ul> </li> <li>• Row homes and carriage units would be designed to exceed Title 24 (2005) by 15 percent with features that may include the following:               <ul style="list-style-type: none"> <li>▪ R-19 Optimum Value Engineered Framing;</li> <li>▪ Radiant barriers;</li> <li>▪ High performance windows (0.33 U-Value, 0.35 SHGC);</li> </ul> </li> </ul>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<ul style="list-style-type: none"> <li>▪ Sealed and tested ducts; and</li> <li>▪ Window overhangs (shading).</li> </ul> <p><i>Infrastructure</i></p> <p>The broad category of infrastructure provides numerous opportunities for energy savings and emissions reductions. These include the design and operation of subterranean parking garages. Technologies exist to improve substantially over standard practice.</p> <p><u>Subterranean Garages</u></p> <p>Underground parking facilities use a surprising amount of electricity and are associated with a corresponding amount of GHG emissions. The proposed infrastructure would include the following emissions reducing features:</p> <ul style="list-style-type: none"> <li>• Demand control ventilation: Ventilation provided in response to actual number of occupants and occupant activity; and</li> <li>• Efficient lighting.</li> </ul> <p><i>Water</i></p> <p>The Project can achieve energy savings and emissions reductions through a number of indoor and outdoor water conservation measures. Reducing potable water use is consistent with the goal of reducing potable water use outlined in the Proposed</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Scoping Plan.</p> <p><u>Project Design Features Reducing Outdoor Water Use</u></p> <p>“Business-as-usual” water consumption for landscaped outdoor areas was defined with respect to past use on the site and conditions anticipated in the Water Supply Assessment prepared for the Project included as Appendix M-2 to this Draft EIR. Emissions reductions would be achieved through the following:</p> <ul style="list-style-type: none"> <li>• <u>“Smart” Irrigation Controller</u>: A “Smart” irrigation controller (a.k.a. weather-based controller, evapotranspiration controller, or ET controller) automatically adjusts the irrigation schedule based on plant evapotranspiration requirements and current weather conditions. This saves significant water compared to traditional timer-based irrigation controllers;</li> <li>• <u>Efficient Drip Irrigation</u>: There is a significant variation in how efficiently different sprinkler systems distribute water. A base case irrigation efficiency of 63 percent (typical of conventional automatic sprinkler systems) is compared to a high-efficiency scenario (e.g., extensive use of drip irrigation and good design practices) with 90 percent irrigation efficiency; and</li> <li>• <u>Efficient Landscaping Palette</u>: The use of water efficient, drought tolerant landscaping palettes (e.g., MWD’s “California Friendly” landscaping program, xeriscaping, etc.) can save significant water. The impacts of reducing the plant species factor (Ks) by 0.3 (representative of specifying a “California Friendly” landscaping design versus typical</li> </ul>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>southern California landscaping design) are examined.</p> <p><u>Project Design Features Reducing Indoor Water Use</u></p> <p>“Business-as-usual” water consumption for indoor applications was defined using fixture and flow rates specified in the National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances outlined in the Energy Policy Act of 1992, 2005. Project emissions reductions targets would be achieved by specifying indoor water fixtures that meet or exceed the following performance levels:</p> <ul style="list-style-type: none"> <li>• <u>High-Efficiency Water Heaters</u>: The use of code-compliant standard efficiency tank type water heaters versus efficient water heaters is examined;</li> <li>• <u>Low-Flow Showers</u>: The use of low-flow showers with a flow rate of 1.8 gallons per minute (gpm) versus 2.5 gpm are analyzed in Residences and Hotels;</li> <li>• <u>Low-Flow Kitchen Sinks</u>: The use of low-flow kitchen sinks with a flow rate of 1.8 gpm versus 2.5 gpm are analyzed;</li> <li>• <u>Low-Flow Lavatories</u>: The use of low-flow bathroom sinks with a flow rate of 1.8 gpm versus 2.5 gpm are analyzed in Residences and Hotels. Current code already requires very low flow aerators on commercial lavatories.</li> <li>• <u>Low-Flow Urinals</u>: The use of low-flow 0.5 gallons per flush (gpf)</li> </ul>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>versus standard 1.0 gpf urinals are analyzed; and</p> <ul style="list-style-type: none"> <li>• <u>Efficient Toilets (1.1 gpf)</u>: The use of very efficient low-flow toilets is examined. This analysis assumes an average flush volume of 1.1 gpf, typical of some of the high efficient toilets currently on the market (e.g., Sloan Flushmate IV equipped toilets and some dual-flush toilets). Current code requirement is 1.6 gpf.</li> </ul> <p>By specifying the above indoor water conserving fixtures, the Project will reduce potable and recycled water consumption by 33 percent (equivalent to the performance level required to achieve the US Green Building Council LEED for New Construction [version 2.2] Water Efficiency credit 3.1) and reduce wastewater generation by 29 percent.</p> <p><u>Solid Waste</u></p> <p>The “business-as-usual” scenario for the project includes the regional solid waste diversion rate of 50 percent. The Project as proposed does not set a solid waste diversion target beyond the 50 percent “business-as-usual” scenario for operational waste. The Project would also establish a construction waste diversion program to divert up to 50 percent of construction related waste. In addition, recycling centers would be provided in readily accessible areas within the building for depositing, storage, and collection of non-hazardous materials for recycling.</p> <p><u>Transportation</u></p> <p>GHG emissions reductions from the Project can be evaluated in two respects. First, they can be considered with respect to the goals of the CalTrans Climate Action</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Plan. Second, they can be considered with respect to reductions anticipated through implementation of the Project’s Transportation Demand Management (TDM) program.</p> <p align="center"><i>CalTrans Climate Action Plan</i></p> <p>The GHG emissions reduction performance of transportation-related project features can be evaluated with respect to the CalTrans Climate Action Plan. The CalTrans plan suggests that local project design features may be able to influence approximately 10 to 30 percent of overall GHG emissions through so-called Smart Land Use and Intelligent Transportation Systems. CalTrans identifies the goal of these measures as the reduction in per capita vehicle travel, relief from congestion, and improvement in travel time in congested corridors and result in “...more compact, accessible, multi-modal communities where travel distances are shorter, people have more travel options, and it is possible [to] walk and bicycle to more destinations...”</p> <p>The CalTrans action plan calls for “Local Development/Intergovernmental Review” that ensures that local land use planning and development decisions include the provision of the following:</p> <ul style="list-style-type: none"> <li>• Transportation choices: transit, intercity rail, passenger service, air service, walking, biking.</li> <li>• Land use design: urban infill development, mixed used development, transit oriented development</li> </ul> <p>The Project includes a number of features that support the CalTrans climate action</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>plan goals. The Project’s location as a regional in-fill site and the association of jobs, housing, and transit are consistent with the CalTrans intent to promote transportation choices, urban infill, mixed-use, and transit oriented development.</p> <p>The comparison to the CalTrans goals provides a qualitative measure of the consistency of the Project with state plans for emissions reduction.</p> <p align="center"><i>Transportation Demand Management Program</i></p> <p>The Project is a mixed-use, urban infill, comprehensively-designed, and coordinated development that is consistent with the goal of promoting higher density mixed-used development that provides a variety of multi-modal transportation choices. The Project’s TDM plan is a set of strategies that would encourage Project employees and patrons to reduce vehicular traffic on street and freeway systems during the most congested time periods of the day by promoting non-auto travel through pedestrian-friendly design and orientation that facilitates transit use.</p> <p>The value of TDM strategies for reducing auto-related GHG emissions reduction can be evaluated with the following equation:</p> <p align="center">Transportation GHG emissions = (Miles traveled) x (mpg) x (GHG per gallon)</p> <p>This equation can be adapted to consider the implications of non-auto transit modes. The following bullets evaluate the components of the TDM project with respect to their potential impact on GHG emissions:</p>		

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<ul style="list-style-type: none"> <li>• Flexible work schedules and telecommuting programs</li> <li>• Alternative work schedules</li> <li>• Mixed-used development</li> <li>• Bicycle and pedestrian-friendly environment</li> <li>• Rideshare/carpool/vanpool promotion and support</li> <li>• Shuttle buses operated residential homeowner’s association</li> <li>• Transit passes for employees and residents</li> <li>• Education and information on alternative modes</li> <li>• Transportation Information Center</li> <li>• Transportation Management Association</li> </ul> <p>In addition to the proposed TDM, the Project proposes a Transit Mitigation Program. The premise of the Project’s Transit Mitigation Program is to maximize the utilization of the existing transit through provision of improved connectivity, better and improved transit speeds and facilitation of coordinated transfers between and to these transit infrastructure elements. In addition, viable and practical connections to pedestrian and bicycle networks and provision of kiosks offering real-time information regarding location, schedule adherence, and service provisions for trip planning purposes are all proposed as part of the Transit Improvement Program for</p>		

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>the project.</p> <p>The Project would provide a potentially intelligent demand-responsive shuttle system to serve residents, employees, visitors, and the surrounding community, focusing on providing coordinated connections to the regional mass transit stations for transfers to Metro Green Line, Blue Line, and the Metrolink trains. The connections to the regional transit service would be provided at the Lakewood Green Line Station, Firestone Blue Line Station, and Norwalk Metrolink Station.</p> <p>The shuttles will be low-emission or zero emission busses sized appropriate to their role within the project. These shuttles would be equipped with GPS or other vehicle tracking system devices and communication system in order to be able to provide location and schedule status information and to potentially respond to calls from the service areas on a real-time basis. Patrons at bus stops outside of the central system core will also have the ability to call for a shuttle bus at the bus stops on-site. Information on the status of the shuttle and wait-time will be given to the patron</p> <p>The transportation study for the Project concludes that the TDM program and transit proximity can be credited with a 27 percent reduction in trip generation, including a reduction in trip length, and by extension a reduction in transportation-related GHG emissions. The average trip distance anticipated for this Project is 5.0 miles, a 33 percent reduction from the regional average of 7.5 miles per trip. Due to the proposed Project’s proximity to the Metro Green Line Station located within half a mile from the Project Site and the anticipated rerouting of local bus routes through the Project Site, the reduction in trip length is calculated at 33 percent. This reduction is reflected as an emissions reduction project design feature in the GHG emissions calculation presented herein.</p>		

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<b>CULTURAL RESOURCES</b>		
<p><b><i>Historic Resources</i></b></p> <p>All of the historic resources on the site would be demolished, with the exception of the front portion of Building 1. The historic resources to be demolished include Buildings 6, 11, 36, 39, 108, 123, 125, 126, 127, 128, 130, and 290. The portion of Building 1 that will be preserved includes the front section of the original E.M. Smith Company (EMSCO) building (1929), the Kauffman wing (1939-41), and another wing attributed to Kauffman (1941). The use and treatment of this portion of Building 1 is unknown. However, the impact any alterations would have on this portion of Building 1 would be mitigated by compliance with the Secretary of the Interior’s Standards.</p> <p>Compliance with the requirements of the MOA would reduce impacts of the proposed Tierra Luna Specific Plan to a less-than-significant level.</p> <p><b><i>Archaeological Resources</i></b></p> <p>The anticipated excavation activities associated with the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater infrastructure. While it is possible that human remains could be discovered during construction activities, with the implementation of Mitigation Measure D-3, impacts to archaeological resources would be reduced to a less than significant level.</p>	<p>CEQA requires the Lead Agency to examine and impose mitigation measures that would avoid or minimize any impacts or potential impacts to historic resources. The following mitigation measures are recommended:</p> <p><b><i>Documentation</i></b></p> <p>D-1. Historic American Engineering Record (HAER) reports were prepared for all of the historic resources on the Project Site in 2006. These reports were prepared as mitigation pursuant to the Memorandum of Agreement (MOA). However, the HAER report for Building 1 did not document that portion planned for preservation. Although the Project will preserve that same portion of Building 1, the report should be completed so that the entirety of Building 1 is documented. Prior to the commencement of the Project, Level II Historic American Buildings Survey (HABS) documentation shall be prepared for that portion of Building 1 planned for preservation. One original copy of the report as specified above shall be assembled and offered to the National Park Service, State Office of Historic</p>	<p>The mitigation measures listed for historic resources are consistent with the Memorandum of Agreement and would reduce impacts to historic resources to less than significant.</p> <p>With implementation of the mitigation measure listed for archaeological resources, impacts to archaeological resources would be less than significant.</p> <p>With implementation of the mitigation measure listed for paleontological resources, impacts to paleontological resources would be less than significant.</p> <p>With implementation of the mitigation measure listed for human remains, impacts to human remains would be less</p>

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p><b><i>Paleontological Resources</i></b></p> <p>The anticipated excavation activities associated with the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater infrastructure. While it is unlikely that archaeological resources would be discovered during project development activities, should any such resources be encountered, full realization of the Proposed Project would result in significant impacts to paleontological resources. However, with the implementation of Mitigation Measure D-4, impacts to paleontological resources would be reduced to a level of less than significant.</p> <p><b><i>Human Remains</i></b></p> <p>The anticipated excavation activities associated with the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater BMP infrastructure, including stormwater retention facilities, identified in the Tierra Luna Specific Plan. While it is possible that human remains could be discovered during construction activities, with the implementation of Mitigation Measure D-5, impacts to human remains would be reduced to a less than significant level.</p>	<p>Preservation, and the City of Downey.</p> <p><b><i>Compliance with the Secretary of the Interior's Standards</i></b></p> <p>D-2. The rehabilitation of the remaining historic resources on the Project Site shall comply with the Secretary of the Interior's Standards. According to the schematic plans, the Project appears to comply with the Standards. However, the plans are expected to evolve to a greater level of detail, including construction materials and treatment of features. As such, a qualified historic architect shall monitor the design and the construction of the Project to ensure that it continues to comply with the Standards. The historic architect shall prepare a report at the conclusion of the design and development phase of the Project analyzing compliance with the Standards. That report shall be submitted to the City of Downey for their review and approval.</p> <p><b><i>Archaeological Resources</i></b></p> <p>D-3. If any archaeological materials are encountered during the course of development of all future projects constructed pursuant to the Tierra Luna</p>	<p>than significant.</p>

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
	<p>Specific Plan, the project shall be halted. The services of an archaeologist shall be secured by contacting the Center for Public Archaeology – California State University at Fullerton, or a member of the Society of Professional Archaeologists (SOPA) or a SOPA-qualified archaeologist to assess the resources and evaluate the impact. Copies of the archaeological survey, study or report shall be submitted to the UCLA Archaeological Information Center. A covenant and agreement shall be recorded before grading resumes.</p> <p><i>Paleontological Resources</i></p> <p>D-4. If any archaeological materials are encountered during the course of development of all future projects constructed pursuant to the Tierra Luna Specific Plan, the project shall be halted. The services of a paleontologist shall be secured by contacting the Center for Public Paleontology – University of Southern California (USC), University of California at Los Angeles (UCLA), California State University at Los Angeles, California State University at Long Beach, or the Los Angeles County Natural History Museum to assess the resources and</p>	

**Table I-1  
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Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
	<p>evaluate the impact. Copies of the paleontological survey, study, or report shall be submitted to the Los Angeles County Natural History Museum. A covenant and agreement shall be recorded prior to obtaining a grading permit.</p> <p><b>Human Remains</b></p> <p>D-5. If human remains are discovered at the Project Site during construction for future projects pursuant to the Tierra Luna Specific Plan, work at the respective construction site shall be suspended, and the City of Downey and County Coroner shall be immediately notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment or disposition of the remains.</p>	
<b>GEOLOGY/SOILS</b>		
<p><b>Soil Stability</b></p> <p>It is assumed that the existing on-site soils would be unsuitable for support of new foundations and slabs. Therefore, impacts related to soil stability would be potentially significant. However, with the implementation of mitigation measures</p>	<p>No mitigation measures are required.</p>	<p>The Proposed Project would result in less than significant impacts related to geology and soils.</p>

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>identified below and the recommendations provided in the Geotechnical Investigation, impacts associated with soil stability and caving during the excavation of the Project Site would be reduced to a level of less than significant.</p> <p><b><i>Erosion and Top Soil</i></b></p> <p><i>Construction</i></p> <p>During construction activities, particularly during excavation for the subterranean levels, installation of foundations and utilities, and grading, the amount of impervious surfaces would be reduced, increasing the potential for wind-borne erosion.</p> <p>With implementation of the required construction BMPs and construction mitigation measures below, impacts to erosion or loss of topsoil would be reduced to a level of less than significant.</p> <p><i>Operation</i></p> <p>Long term operation of the Proposed Project would not result in substantial soil erosion or loss of topsoil. With implementation of the applicable grading and building permit requirements and the application of Best Management Practices, impacts with respect to erosion or loss of topsoil would be less than significant.</p>		

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p><b><i>Seismic Hazards</i></b></p> <p><i>Ground Shaking</i></p> <p>The proposed construction would be consistent with all applicable provisions of the City of Downey Building Code, as well as the seismic design criteria contained within the Uniform Building Code. Therefore, the risks from seismic ground shaking are considered to be less than significant.</p> <p><i>Fault Rupture</i></p> <p>The possibility of surface fault rupture affecting the Project Site would be considered remote. The Proposed Project would not present any adverse impacts with respect to exposing people or property to hazardous conditions resulting from rupture of a known earthquake fault on the Project Site. Therefore, project impacts with respect to fault rupture would be less than significant.</p> <p><b><i>Landslides</i></b></p> <p>The topography at the Project Site is relatively flat. Additionally, the Proposed Project would be subject to the design requirements set forth in the 2007 California Building Code and shall implement the recommendations presented in the Geotechnical Investigation. Therefore, impacts associated with landslides would be less than significant.</p> <p><b><i>Liquefaction</i></b></p> <p>Because the Project Site is located in an identified potential liquefaction zone,</p>		

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Summary of Environmental Impacts and Mitigation Measures**

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<p>development of the Proposed Project may subject persons or property to a risk resulting from liquefaction. However, as with seismic conditions, because the risk of liquefaction on-site would be no greater than many other places in the region and with compliance with modern building practices and the State of California Building Code, development of the Proposed Project would not expose people or property to a substantial adverse effect. Therefore, impacts with respect to liquefaction, including seismic settlement and differential compaction, would be less than significant.</p> <p><b><i>Subsidence and Expansive Soil</i></b></p> <p>Groundwater and petroleum are not currently being extracted from the Project Site and would not be extracted as part of the Proposed Project. Therefore, risk of subsidence would be less than significant.</p> <p>The alluvium underlying the project area exhibits low to moderate expansion potential, which could be potentially significant. The Proposed Project would comply with the requirements of the City of Downey Building Code and BMPs. Therefore, impacts with respect to expansive soils would be less than significant.</p> <p><b><i>Tsunamis, Seiche, and Flooding</i></b></p> <p>According to the Geotechnical Investigation prepared for the Proposed Project, the Project Site is located approximately 100 feet above sea level while the closest shoreline is approximately 11 miles from the Project Site. Therefore, the Proposed Project would not subject persons or property to hazards related to tsunamis and impacts would be less than significant.</p> <p>The Project Site is located within a potential inundation area. Current design and</p>		

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Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>construction practices, as well as ongoing programs of review, modification, or total reconstruction of existing dams, are intended to ensure that all dams are capable of withstanding the maximum credible earthquake (MCE) for the site. Therefore, the potential for inundation at the Project Site as a result of an earthquake-induced dam failure is considered low and impacts would be less than significant.</p>		
<b>HAZARDS AND HAZARDOUS MATERIALS</b>		
<p>Construction of the Proposed Project would involve routine transport, use, and disposal of these types of hazardous materials throughout the duration of construction activities. The Proposed Project would be required to implement standard best management practices (BMPs) set forth by the City and the Los Angeles Regional Water Quality Control Board (LARWQCB) which would ensure that wastes generated during the construction process are disposed of properly. Therefore, the Proposed Project would not create a significant impact related to routine transport, use, or disposal of hazardous materials during construction.</p> <p>Operation of the Proposed Project would involve the transport, use, and disposal of hazardous materials typically associated with residential and community-serving commercial uses. All hazardous waste generated or used on the Project Site would be properly regulated, transported, and disposed off-site by a licensed subcontractor, in compliance with all applicable City, State, and federal regulations and requirements. Additionally, the Proposed Project would be required to comply with federal OSHA and Cal OSHA requirements. This would ensure that operation of the Proposed Project would result in a less than significant impact with respect to the routine transport, use, and disposal of hazardous materials.</p>	<p>The following mitigation measures are required in order to ensure hazardous material/waste impacts associated with the previous uses at the Project Site are less than significant. Before development is allowed on the Project Site, the following mitigation measures are required.</p> <p>F-1. Prior to the issuance of a Project Site permit for any existing on-site structure, the structure shall undergo survey to document the presence of any potential polychlorinated biphenyls (PCBs) within any equipment or otherwise on or beneath the structure. Any PCBs identified as part of this survey shall be properly disposed of in accordance with all applicable regulations.</p> <p>F-2. Prior to the issuance of a demolition permit for any existing on-site structure not previously surveyed, the structure shall</p>	<p>With implementation of the mitigation measures listed, impacts related to hazards and hazardous materials would be less than significant.</p>

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Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p><u>Polychlorinated Biphenyls (PCBs)</u></p> <p>PCBs may be present on the Project Site. However, as set forth in the mitigation measure presented in this Section, the Proposed Project would be required to comply with all regulations and requirements governing the proper disposal of PCBs prior to any demolition activities. Compliance with Mitigation Measure F-3 would ensure that the potential impact related to accidental release of PCBs would be reduced to a less-than-significant level.</p> <p><u>Asbestos-Containing Material (ACM)</u></p> <p>The existing buildings on-site could potentially contain ACMs. However, as set forth in the mitigation measure presented later in this Section, all existing on-site structures not previously surveyed would be required to undergo an asbestos survey and any asbestos discovered would be abated prior to demolition. Compliance with Mitigation Measure F-4 would ensure that the potential impact related to accidental release of asbestos would be reduced to a less-than-significant level.</p> <p><u>Lead-Based Paint (LBP)</u></p> <p>It is currently unknown if the existing on-site buildings contain LBP; however, due to the age of the structures, they are presumed to contain LBP. Nonetheless, as set forth in the mitigation measure presented in this section, all existing on-site structures would be required to undergo a lead-based paint survey and any LBP discovered would be abated prior to demolition. Compliance with Mitigation Measure F-5 would ensure that the potential impact related to accidental release of LBP would be reduced to a less than significant level.</p>	<p>undergo an asbestos survey to document the presence of any potential asbestos-containing materials (ACMs) within the structure. Any ACMs identified as part of this survey shall be abated in accordance with all applicable laws and regulations including without limitation applicable NESHAP provisions, OSHA worker safety regulations, and SCAQMD Rule 1403 as well as any other applicable city, state, and federal regulations.</p> <p>F-3. Prior to the issuance of a demolition permit for any existing on-site structure, the structure shall undergo a lead-based paint (LBP) survey to document the presence of any potential LBP within the structure. Any LBP identified as part of this survey shall be abated in accordance with all applicable city, state, and federal regulations.</p>	

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Previous site investigations concluded that the site contains contaminated soil and groundwater. Remediation is an on going process. Nonetheless, following completion of the soil vapor extraction (SVE) systems, a Health Risk Assessment will be conducted to determine if risks levels are considered acceptable. Acceptable risk levels must be achieved before the Project Site is open for construction and operation. Therefore, the Proposed Project would not have a potentially significant impact with respect to hazardous materials other than PCBs, ACMs, and LBP during the construction phase. Mitigation measures have been provided to ensure that the Project Site is adequately remediated prior to any construction of sensitive uses.</p> <p>The Project Site is undergoing remediation activities to reduce soil and groundwater contamination associated with former activities at the Project Site. This remediation also serves a dual purpose by reducing potential contaminants that may have migrated to the Project Site from nearby hazardous materials sites. Therefore, with the completed operation of the remedial activities, as set forth in the mitigation measures presented in this Section, the Proposed Project would reduce risks to future project residents, employees, and other visitors associated with contamination from former on-site activities, which would further reduce the less than significant impact associated with listed hazardous materials sites.</p> <p>The Project Site is not located within an airport land use plan nor is it located within two miles of an airport or private airstrip. The closest airport to the Project Site is Compton Airport located approximately 6.7 miles southwest of the Project Site. Therefore, the Proposed Project would not result in a safety hazard for people residing or working in the project area.</p> <p>Once operational, the Proposed Project would not interfere with the designated disaster route along Bellflower Boulevard. Therefore, impacts related to emergency</p>		

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<p>response and evacuation plans during operation of the Proposed Project would be less than significant.</p> <p>The Project Site is located within an urbanized setting that has been completely developed. There are no open wildlands within the vicinity of the Project Site that would represent a wildfire hazard. Therefore, the impact with respect to wildfire hazards would be less than significant.</p>		
<b>HYDROLOGY/WATER QUALITY</b>		
<p>Buildout of the Proposed Project would result in an increase in the amount of permeable surfaces on-site including an internal street tree network and open space. Because of the increase in permeable surfaces on-site, the total amount of stormwater runoff is likely to decrease compared to existing conditions as more stormwater would be able to infiltrate the subsurface areas on-site. Thus, development of the Project Site would not result in significant impact related to surface water runoff and stormwater quality.</p> <p>The Project Site is not located above the 100-year flood plain but within the 500-year flood plain area. Therefore, the future development of the Project Site would not result in or expose people or property to significant impacts related to flooding.</p> <p>The Tierra Luna Specific Plan limits subterranean excavation to 45 feet bgs. Thus, onsite excavation would not result in the alteration of groundwater flows beneath the Project Site. Further, because the Proposed Project would not be permitted to excavate down to the same depth as groundwater, no dewatering activities would be required. Thus, development of the Proposed Project would not result in the removal of groundwater. Ultimately, the Proposed Project would be subject to the design requirements set forth in the City of Downey Building Code and submitted to the</p>	<p>No mitigation measures are required.</p>	<p>The Proposed Project would result in less than significant impacts related to hydrology and water quality.</p>

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Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>City of Downey as part of the approval process for the Proposed Project. Therefore, impacts related to the potential loss of groundwater and alteration of groundwater flows would be less than significant.</p> <p>Approval of the Proposed Project would permit a variety of construction materials that are potential sources of stormwater pollution on the Project Site as the specific plan area is built out. Development of the Project Site would result in potentially significant short-term impacts with respect to water quality from construction materials. However, with implementation of the required Best Management Practices (BMPs), short-term impacts on water quality from construction materials would be less than significant.</p> <p>Soil erosion is the process by which soil particles are removed from the land surface by wind, water, and/or gravity. With implementation of BMPs, short-term impacts on water quality from site grading would be less than significant.</p> <p>Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze, or other fluids on the construction site are also common sources of stormwater pollution and soil contamination which would generate a potentially significant impact to water quality. With implementation of the required SWPPP, short-term impacts on water quality from equipment maintenance would be less than significant.</p> <p>With compliance with the SUSMP requirements, the Proposed Project's operational impacts on stormwater quality would be less than significant.</p>		

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Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<b>LAND USE AND PLANNING</b>		
<p><b>Community Division</b></p> <p>The Proposed Project would remove the existing media production uses and develop uses that are more similar to those of the surrounding area. Additionally, the Proposed Project would be designed to coordinate with adjacent uses to bring a more cohesive atmosphere to the area. As such, no significant impacts would result from the Proposed Project with regard to land use compatibility. Furthermore, as design of the Proposed Project includes enhancing the roadway network with additional routes through the Project Site, the Proposed Project would not physically divide an established community. No separation of uses or disruption of access between land use types would result from buildout of the Proposed Project and no impact would occur.</p> <p><b>Consistency with Land Use Plans, Policies, and Regulations</b></p> <p><i>Regional Comprehensive Plan and Guide</i></p> <p>The Proposed Project would generally conform to objectives set forth in the RCPG, including those objectives provided in the Growth Management, Regional Mobility, and Housing Chapters. Therefore, impacts would be less than significant.</p> <p><i>City of Downey General Plan (Downey Vision 2025)</i></p> <p>The Proposed Project will conform to the programs and policies identified in Downey Vision 2025. Therefore, impacts would be less than significant.</p>	<p>No mitigation measures are required.</p>	<p>With approval of the amendment to the Downey Landing Specific Plan, impacts with respect to land use regulations and compatibility as a result of development of the Proposed Project would be less than significant.</p>

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p><b><i>Downey Landing Specific Plan Amendment</i></b></p> <p>As previously described, the Downey Landing Specific Plan is presently the primary planning document for the Project Site. However, the Proposed Project involves an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site. The purpose of the Proposed Project is to promote the development of a mixed-use, urban infill, comprehensively-designed, and a coordinated development that implements state-of-the-art planning concepts and principles at the presently underutilized Project Site. The Proposed Project would become the governing land use regulation for the Project Site, if approved. Furthermore, the Proposed Project would include redevelopment of the Project Site, which is located along a major transit route, with a mix of uses including commercial, retail, and residential uses within the City of Downey.</p> <p>If the Proposed Project is approved, then development of the Project Site will, by definition, be consistent with the applicable Specific Plan regulations.</p> <p>In addition, as noted in Section IV.F of this EIR, the development of the Project Site into a mixed-use community that includes residential units will require several approvals to move forward. First, similar to Discovery Park and the Kaiser Downey Medical Center projects, any project within the Downey Landing Specific Plan area proposing a sensitive land use, e.g., residential, will have to obtain approval from the Regional Water Quality Control Board-Los Angeles Region (LARWQCB) that subsurface conditions (including soil vapor) beneath the Project Site are suitable for the intended land use. Project applicants may be required to have a human health risk assessment approved by LARWQCB and may be required to implement specific engineering and institutional controls to protect future site occupants. Further, land use covenants governing the Project Site require any mixed-use project with</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>residential units to be subject to approval by the current property owners at the former NASA Industrial Plant site; these owners include the City of Downey, Kaiser Permanente, and the owners of both the Downey Landing retail center and Downey Studios. The approval requirements do not preclude residential use, but only subject such uses to approval by LARWQCB and the current property owners at the NASA Industrial Plant site. Accordingly, development of residential uses pursuant to the applicable land use covenants would not conflict with any applicable land use plan, policy, or regulation or an agency with jurisdiction over the project and impacts would be less than significant.</p>		
<b>NOISE</b>		
<p>During construction of the Proposed Project, the noise levels generated by construction equipment on the Project Site would expose the off-site sensitive receptors to increased ambient exterior noise levels. According to Section 4606.5 of the DMC, construction activities are not to result in an exterior noise level exceeding 85 dBA across any property boundary. Additionally, construction activities are prohibited between the hours of 9:00 P.M. and 7:00 A.M. Thus, as construction noise generated by the Proposed Project could exceed the maximum level set forth in Section 4606.5 of the DMC, a significant construction-related impact would occur.</p> <p>Construction activities that would occur within the Project Site would include demolition and grading, which would have the potential to generate low levels of groundborne vibration. Vibration velocities could reach as high as approximately 0.089 inch per second PPV at 25 feet from the source activity, depending on the type of construction equipment in use. None of the sensitive receptors would result in an exceedance of the vibration thresholds at any of the identified off-site sensitive receptors, and impacts would be less than significant.</p>	<p>The following mitigation measures are recommended to address construction-related noise and vibration impacts, and operational-related noise impacts for the development of the Proposed Project:</p> <p><b>Construction Noise</b></p> <p>I-1. The Proposed Project shall comply with the City of Downey Municipal Code, Article IV, Chapter 6, and any subsequent ordinances, which prohibit the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.</p> <p>I-2. Construction activities shall be restricted to the hours of 7:00 A.M. to 7:00 P.M. and no</p>	<p>Project compliance with Section 4606.5 of the DMC and the implementation of the Mitigation Measures I-1 through I-8, would reduce construction-related noise impacts associated with the Proposed Project to the greatest extent feasible. Nevertheless, because construction noise levels are likely to exceed 85 dBA, construction noise impacts would be significant and unavoidable.</p> <p>The construction-related vibration impacts associated</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>In terms of human annoyance, the vibration levels forecasted to occur at the off-site sensitive receptors would not exceed the FTA’s threshold of 80 VdB. Therefore, vibration impacts associated with human annoyance would be less than significant.</p> <p>The Proposed Project would not cause the ambient noise levels at the property line of these affected uses to increase by 3 dBA CNEL. Consequently, the noise levels experienced at the analyzed roadway segments would not represent a substantial permanent increase in ambient noise levels, and impacts at these roadway segments would be less than significant.</p> <p>Upon completion and operation of the Proposed Project, on-site operational noise would be generated by heating, ventilation, and air conditioning (HVAC) units installed for the proposed uses at the Project Site. Nonetheless, in order to ensure that on-site operational noise would not adversely affect the new residents/guests at the Project Site, Mitigation Measure I-9 would be implemented to ensure that all new mechanical equipment associated with the Proposed Project would not exceed an increase of 3 dBA, while Mitigation Measure I-10 would be implemented to ensure that the residential units associated with the Proposed Project would be constructed in accordance with Title 24 insulation standards of the California Code of Regulations for residential buildings. Furthermore, implementation of Mitigation Measure I-11 would require all exterior windows associated with the proposed residential uses to be constructed such that sufficient sound insulation is provided to ensure that interior noise levels would be below a CNEL of 45 dBA in any habitable room.</p> <p>Noise would also be generated by activities within the Project Site by the proposed above-ground and subterranean parking structures. Noise impacts associated with</p>	<p>construction on Sundays and holidays.</p> <p>I-3. Noise and groundborne vibration construction activities whose specific location on the Project Site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses.</p> <p>I-4. Construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.</p> <p>I-5. To the extent feasible, the use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of drills, jackhammers, and pile drivers.</p> <p>I-6. Project contractor(s) shall use power construction equipment with state-of-the-art noise shielding and muffling devices.</p> <p>I-7. Barriers such as plywood structures or flexible sound control curtains shall be erected around</p>	<p>with the Proposed Project would be less than significant. Furthermore, with implementation of Mitigation Measure I-3, which serves to locate vibration-generating equipment and vehicles as far away from vibration-sensitive sites as possible, the construction-related vibration levels experienced by the existing off-site sensitive receptors surrounding the Project Site would be further reduced in magnitude. Overall, vibration impacts associated with the Proposed Project would be less than significant.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>these uses would be less than significant.</p>	<p>the Project Site to minimize the amount of noise on the surrounding off-site sensitive receptors to the maximum extent feasible during construction.</p> <p>I-8. All construction truck traffic shall be restricted to truck routes approved by the City of Downey, which shall avoid residential areas and other sensitive receptors to the extent feasible.</p> <p><i>Operational Noise</i></p> <p>I-9. All new mechanical equipment shall not exceed the ambient noise level on the premises of other occupied properties by more than three decibels.</p> <p>I-10. The Project Applicant shall comply with the Noise Insulation Standards of Title 24 of the California Code Regulations, which ensure an acceptable interior noise environment.</p> <p>I-11. All exterior windows within the residential units on the Project Site shall be constructed with double-pane glass and use exterior wall construction which provides a Sound</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
	Transmission Class of 50 or greater as defined in UBC No. 35-1, 1979 edition or any amendment thereto. The applicant, as an alternative, may retain an acoustical engineer to submit evidence, along with the application for a building permit, any alternative means of sound insulation sufficient to mitigate interior noise levels below a CNEL of 45 dBA in any habitable room.	
<b>POPULATION, HOUSING, AND EMPLOYMENT</b>		
<p>Construction of the Proposed Project would result in increased employment opportunities in the construction field, which could potentially result in increased permanent population and demand for housing in the vicinity of the Project Site. However, the employment patterns of construction workers in Southern California are such that it is not likely that they would relocate their households as a consequence of the construction employment associated with the Proposed Project.</p> <p>The Proposed Project would exceed the projections for population growth within the census tract. However, residents generated under the Proposed Project would be within the Citywide population projections (although representing a large portion thereof); therefore, the Proposed Project would be consistent with the population projections for the City of Downey within the GCCOG subregion. Also, as no residential units currently exist on-site, the Proposed Project would not result in the displacement of substantial numbers of people. Impacts related to population growth and population displacement would therefore be less than significant.</p> <p>The Proposed Project would result in an increase above projections by 1,352 units.</p>	No mitigation measures are required.	The Proposed Project would result in less than significant impacts related to population, housing, displacement, and employment.

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Therefore, the Proposed Project would be within the projections for housing unit growth Citywide though not within Census Tract 5511.00 and would therefore be consistent with the housing projections for the City of Downey and the GCCOG subregion. Further, because no residential units currently exist on-site, development of the Proposed Project would not remove existing housing; thus, no housing would be displaced. Additionally, the Proposed Project would redevelop land currently designated for a studio and office park development and would introduce high-density residential uses. As the Proposed Project would be considered an infill redevelopment project, it would recycle land for residential development as encouraged in the City of Downey General Plan Housing Element. Therefore, impacts related to housing growth and housing displacement would therefore be less than significant.</p> <p>The Proposed Project would likely provide employment for approximately 5,307 persons while resulting in the removal of existing uses that currently provide employment for approximately 45 people, creating an overall job increase of 5,262 on the Project Site, within the Census Tract, and within the City. Impacts upon employment related to the buildout of the Proposed Project would be less than significant.</p>		
<b>PUBLIC SERVICES - FIRE PROTECTION</b>		
<p>Construction activities have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to the street network and by partial lane closures during street improvements and utility installations. Project construction would not be expected to tax fire fighters and emergency services to the extent that there would be a need for new or expanded fire</p>	<p>The Proposed Project would be subject to DFD review and would be required to comply with all applicable construction-related and operational fire safety requirements of the DFD and the City of Downey in order to adequately mitigate fire protection impacts. For</p>	<p>With implementation of the mitigation measures listed, project impacts on fire protection service would be less than significant.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for the DFD. Therefore, construction-related impacts to fire protection services would be less than significant.</p> <p>The Proposed Project would introduce up to approximately 4,883 net new people on-site. Development of the Proposed Project would also increase the number of site visitors (i.e., at the proposed residences and retail, restaurant, and cinema uses) within the Project Site. This increase in residents, employees, and site visitors would generate an increase in the demand for fire protection services.</p> <p>The Project Site is approximately 0.7 miles from an Engine Company (Fire Station #2) and approximately 0.9 miles from an Engine and a Truck Company (Fire Station #1). Therefore, the project would be within the response distance identified by the City of Downey. However, the UFC adopted Fire Codes require commercial buildings over 3,600 square feet, residential buildings over 5,000 square feet, and related assembly buildings (theaters, churches, health clubs, etc.) to install automatic fire sprinklers.<sup>6</sup> As such, with the implementation of the required equipment, there would be no significant impact with regard to DFD response distance.</p> <p>Further, as indicated in Section IV.L, Traffic/Transportation/Parking, project traffic is expected to significantly impact four study intersections: Lakewood Boulevard/Gallatin Road – AM and PM Peak Hours, Lakewood Boulevard/ Stewart &amp; Gray Road – PM Peak Hour, Bellflower Boulevard/Imperial Highway – AM and</p>	<p>example, the Proposed Project would be required to assure that DFD access points remain clear during all demolition and construction activities. In addition, the adopted DMC requires that any commercial buildings over 3,600 square feet, residential buildings over 5,000 square feet, and assembly-related uses (such as theatres, churches, health clubs) install automatic fire sprinkler systems.</p> <p>K-1. The Applicant of the Proposed Project and all development projects constructed under the Tierra Luna Specific Plan’s framework shall submit a Master Plan to the Downey Fire Department prior to issuing building permits, for review and approval, which shall provide the capacity of the fire mains serving the Project Site. Any required upgrades shall be identified and implemented prior to the issuance of building permits for the Proposed Project and future developments.</p> <p>K-2. The Proposed Project and all future development projects pursuant to the Tierra</p>	

<sup>6</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5 Safety, adopted January 25, 2005, p. 5-12.*

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>PM Peak Hours, and I-605 Southbound Ramps/Firestone Boulevard – PM Peak Hour. Due to the location of the Fire Station #2, it is likely that emergency vehicles would travel through the intersection of Bellflower Boulevard and Imperial highway to gain access to the Project Site. However, with the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L, Traffic/Transportation/Parking) impacts at these intersections would be reduced to a level of less than significant. Therefore, impacts related to emergency response time would be less than significant.</p> <p>Access to the Proposed Project would continue to be provided via driveways along Lakewood and Bellflower Boulevards and Steve Horn Way. Therefore, impacts to emergency access would be less than significant.</p> <p>As identified in the City of Downey Municipal Code and implemented by the Downey Fire Department, the overall fire flow requirement for the Proposed Project would be required to be compliant with Appendix B of the 2006 International Fire Code, as adopted by ordinance by the City of Downey. Thus, Mitigation Measures K-1 through K-5 would be required to provide the necessary fire protection infrastructure, equipment, and staff to the Project Site. With implementation of the mitigation measures, impacts upon fire protection services would be less than significant.</p>	<p>Luna Specific Plan shall comply with all fire code and ordinance requirements for building construction, emergency access, water mains, fire flows, on-site automatic sprinklers, back flow devices, and hydrant placement. Prior to issuing permits for any phase of the project, the Applicants shall implement all fire code and ordinance requirements to the satisfaction of the Downey Fire Department.</p> <p>K-3. The design of the Proposed Project and all development projects constructed within the Tierra Luna Specific Plan framework shall provide adequate access for Downey Fire Department equipment and fire fighters onto and throughout the Project Site and future structures.</p> <p>K-4. The Proposed Project and all development projects constructed within the Tierra Luna Specific Plan’s framework shall provide adequate offsite public and onsite private fire hydrants as determined necessary by the Downey Fire Department.</p> <p>K-5. The project applicant shall provide for additional fire fighting equipment including one aerial ladder truck and fire fighters for the</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
	truck, one paramedic unit and two paramedics.	
<b>PUBLIC SERVICES – POLICE PROTECTION</b>		
<p>Construction sites can be sources of attractive nuisances, providing hazards and inviting theft and vandalism. The project applicant and developers of future projects pursuant to this Specific Plan will employ construction security features, such as fencing, which would minimize the need for DPD services. Therefore, demand for DPD services during construction periods would be less than significant.</p>	<p>K-6. The Proposed Project design shall be reviewed and approved by the Downey Police Department pursuant to General Plan Program 5.4.2.6. prior to the issuance of a building permit.</p>	<p>With implementation of the mitigation measures listed, impacts to police protection services would be less than significant.</p>
<p>Traffic generated by construction workers and trucks resulting from the Proposed Project and all development projects pursuant to the Specific Plan would occur primarily during off-peak hours. Although minor traffic delays may result from construction activities at times, these impacts would be temporary in nature and would be coordinated with local police and emergency officials. Therefore, these impacts would not be significant.</p>	<p>K-7. Prior to issuance of building permits, the Applicant shall complete an analysis of projected employee populations over two 24-hour (one day during the week and one during the weekend) periods. The number of projected employees will be added to the projected number of residents (approximately 4,883) and will be used to determine applicable shifts/periods of time to which police personnel could be added to ensure that a sufficient number of officers is on staff for the total projected population at the Project Site. The project Applicants shall pay fees for any additional police personnel determined to be required after such determination is made and shall enter into an agreement with the City of Downey and DPD for payment of such fees.</p>	
<p>The Proposed Project would provide adequate and strategically positioned lighting as “an integral element of the landscape design of a property.” In addition, the continuous visible and non-visible presence of residents at all times of the day would provide a sense of security during evening and early morning hours. Mitigation Measure K-6 shall be required to ensure adequate consideration is given to security in the design process.</p>		
<p>The full buildout of the Proposed Project would result in the addition of up to 4,883 permanent on-site residents. However, Mitigation Measure K-7 shall be implemented to ensure adequate police forces are available for the increased land use activity associated with the Proposed Project. With the implementation of the</p>	<p>K-8. Prior to the issuance of building permits, the</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
mitigation measures, impacts would be less than significant.	<p>Applicant shall provide an onsite security plan for the development, to be approved by the City of Downey and the Downey Police Department.</p> <p>K-9. Prior to the issuance of building permits, the Applicant shall provide an onsite police substation, and the project Applicant shall pay fees for any additional police personnel determined to be required after such determination is made and shall enter into an agreement with the City of Downey and DPD for payment of such fees.</p>	
<b>PUBLIC SERVICES - SCHOOLS</b>		
<p>Based on available student generation rates, the residential component of the Proposed Project would generate a total of approximately 911 students: 365 elementary, 225 middle, and 321 high school students. With the addition of 365 new elementary school students, these schools would exceed their capacities. Additionally, Sussman Middle School and East Middle School currently have excess student capacity of approximately 52 students. With the addition of 225 new middle school students, these schools would exceed their capacities. Further, Downey High School currently exhibits an excess student capacity of approximately 57 students. With the addition of 321 new high school students, Downey High School would exceed its capacity.</p> <p>The additional students generated by the Proposed Project would further contribute to the near capacity conditions at all of the identified elementary, middle, and high schools and thus constitute a significant impact upon DUSD schools. Therefore,</p>	<p>K-10. The Applicant of the Proposed Project and all developments constructed therein shall pay school fees to the satisfaction of the Downey Unified School District.</p>	<p>With implementation of the mitigation measure, project impacts upon school services and facilities would be less than significant.</p>

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
upon compliance with Mitigation Measure K-10, impacts to schools services would be less than significant.		
<b>PUBLIC SERVICES – RECREATION AND PARKS</b>		
Implementation of the Proposed Project would generate new on-site residents, creating an increased demand on existing and parks and recreational facilities. However, with implementation of Mitigation Measure K-11, project-related impacts to parks would be less than significant.	K-11. The project Applicant shall pay the applicable in-lieu park fees as determined by the City of Downey, which shall scale up on an annual basis with the increase in the Consumer Price Index (CPI) for the Los Angeles metropolitan area.	With implementation of the mitigation measure, project impacts on recreation and parks would be less than significant.
<b>PUBLIC SERVICES - LIBRARIES</b>		
Based on the State of California standards, the increase in on-site population would require an additional 2,442 square feet of library space (4,883 persons x 0.5 square feet) and 9,766 volumes of permanent collection (4,883 persons x 2 volumes). However, with the implementation of Mitigation Measure K-12, impacts on library services would be reduced to level of less than significant.	K-12. The Proposed Project Applicant shall pay a mitigation fee as determined by the City of Downey Public Library, based upon the projected employee and residential population of the development. The funds will be used for books, computers, and other library materials and information services.	With implementation of the mitigation measure listed, impacts on library services would be less than significant.
<b>TRAFFIC/TRANSPORTATION/PARKING</b>		
<b><i>Trip Generation</i></b>  The existing trips are based on peak hour traffic counts conducted at the existing driveways. Based on the observed driveway counts, the existing Downey Studios currently generates a total of 96 trips (80 inbound, 16 outbound) during the morning peak hour and 128 trips (44 inbound, 84 outbound) during the evening peak hour.  Upon project buildout, it is expected that the Proposed Project’s trip generation	<b><u>Intersection Improvements</u></b>  The various intersection improvements proposed to alleviate the significant impacts of the Tierra Luna Specific Plan Project are described in this section. Because the intersections analyzed in this study are geographically located in two governmental jurisdictions, the improvements have been organized in the following	The results of the implementation of the recommended improvements are summarized in Table IV.L-14. As indicated in the table, the recommended improvements would fully mitigate the project-related impacts at the four

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>would result in a net total of approximately 32,118 daily trips of which 1,714 trips (1,052 inbound, 662 outbound) would occur during the morning peak hour and 3,098 trips (1,363 inbound, 1,735 outbound) during the evening peak hour.</p> <p><b>Intersection Analysis</b></p> <p>Using the identified significance criterion, the traffic impacts at the analysis locations would be determined. Table IV.L-10 above summarizes the intersection impacts resulting from the Proposed Project before mitigation, during the AM and PM peak hours. Upon project buildout, two intersections during the AM peak hour and four intersections during the PM peak hour would be significantly impacted by the Proposed Project. These intersections include:</p> <ul style="list-style-type: none"> <li>• Lakewood Boulevard/Gallatin Road – AM and PM Peak Hours</li> <li>• Lakewood Boulevard/Stewart and Gray Road – PM Peak Hour</li> <li>• Bellflower Boulevard/Imperial Highway – AM and PM peak Hours</li> <li>• I-605 Southbound Ramps/Firestone Boulevard – PM Peak Hour</li> </ul> <p><b>Congestion Management Program</b></p> <p>None of the CMP arterial monitoring locations would be significantly impacted by the development of the Proposed Project.</p> <p>The freeway operating conditions within the study area were analyzed as per the CMP guidelines. This assessment includes the Santa Ana Freeway (I-5), Century Freeway (I-105), San Gabriel River Freeway (I-605), and Long Beach Freeway (I-710). The CMP freeway monitoring analysis locations include:</p>	<p>sections by jurisdiction.</p> <p>In order to address the projects impacts, the following mitigation measures are recommended for implementation by the project:</p> <p><u>City of Downey</u></p> <p>L-1. Lakewood Boulevard/Gallatin Road – Option 1: The improvement at this intersection includes a separate northbound right-turn lane. This improvement can be achieved by widening Lakewood Boulevard by two feet on the east side of the street for approximately 200 feet. The northbound approach would provide a left-turn lane, two through lanes, and a separate right-turn lane.</p> <p>L-2. Option 2: This improvement includes a second eastbound left-turn lane. This improvement can be achieved by restriping the existing eastbound through lane to a shared left-through lane. The eastbound approach would provide a left-turn lane, a shared left-through lane and a separate right-turn lane. The traffic signal would be modified to include split phasing operations for the eastbound and westbound Gallatin Road</p>	<p>impacted intersections.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<ul style="list-style-type: none"> <li>• I-5 Freeway at Lemoran Avenue</li> <li>• I-5 Freeway at Ferris Avenue</li> <li>• I-105 Freeway west of I-710 Freeway, east of Harris Avenue</li> <li>• I-105 Freeway east of Bellflower Boulevard, west of I-605 Freeway</li> <li>• I-605 Freeway north of SR-91 Freeway, south of Alondra Boulevard</li> <li>• I-605 Freeway north of Telegraph Road</li> <li>• I-710 Freeway north I-105 Freeway, north of Firestone Boulevard</li> </ul> <p>Table IV.L-11 identifies the future “Without Project” and “With Project” operating conditions at the study freeway segments. As shown, the Proposed Project would not have any significant impact during either the AM or PM peak hours.</p> <p><i>CMP Transit Analysis</i></p> <p>A transit impact analysis was performed based on the number of project-generated transit trips. There are a total of approximately 64 to 66 buses during the peak hour that serve the study area. The Metro Green Line is within ¼ to ½ mile of the Project Site. Assuming that approximately 33 percent of the existing transit bus seating capacity is available for project trips and that the proposed shuttle bus system provides the required connectivity as well as additional capacity, the anticipated transit demands on a system wide basis would be more than satisfied by the proposed plus existing supply.</p> <p><i>Parking and Vehicular Access</i></p> <p><i>Parking Supply</i></p> <p>Of the 5,615 spaces, 1,281 spaces would be on-street parking spaces. This includes</p>	<p>approaches.</p> <p>L-3. Lakewood Boulevard/Stewart &amp; Gray Road – The improvement at this intersection includes a separate eastbound right-turn lane. This improvement can be achieved by removing the median island on the west leg of the intersection and widening on the south side of Stewart &amp; Gray Road by two to four feet for approximately 125 feet. The eastbound approach would provide a left-turn lane, two through lanes and a separate right-turn lane.</p> <p>L-4. Bellflower Boulevard/Imperial Highway – The improvement at this intersection includes dual left-turn lanes on the northbound and southbound approaches. This improvement can be achieved by widening on the west side of Bellflower Boulevard (north of Imperial Highway) and on the east side of Bellflower Boulevard (south of Imperial Highway) by approximately two to twelve feet for approximately 250 feet. The northbound and southbound approaches would provide dual left-turn lanes, two through lanes and a separate right-turn lane.</p>	

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Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>parallel parking spaces, angled parking spaces and 90-degree parking spaces. Congressman Steve Horn Way, Central Plaza Drive, Market Street, Emsco Drive, Aviation Boulevard and Theater Street would provide parallel parking spaces. The angled parking spaces would be located along Studio Street, Congressman Steve Horn Way, Ardis Avenue, and Apollo Avenue, while the 90-degree spaces would be located along Main Street.</p> <p>Three surface parking lots containing approximately 400 spaces would be located adjacent to Lakewood Boulevard and 10 parking garages located within the Project Site would contain the remaining 3,930 parking spaces.</p> <p><i>Shared Parking Analysis</i></p> <p>Table IV.L-12 provides a summary of peak parking demand at the Proposed Project Site during weekdays and weekend days of different seasons. Therefore, the results of the parking demand analysis indicate that the Project would have an overall peak parking demand ranging from 4,200 spaces at 2:00 p.m. on a weekend day to 5,585 spaces at 2:00 p.m. on a weekday during the peak shopping season (month of December). The Proposed Project is providing 5,615 parking spaces (which is more spaces than the projected peak parking demand). Therefore, from a CEQA perspective, there would be no significant impact to parking onsite and in the surrounding area due to the Proposed Project.</p> <p><i>Access and Circulation Evaluation</i></p> <p>As shown, the street network is fully interconnected with several east-west and north-south streets within the Specific Plan area providing access and circulation. The north-south streets include Ardis Avenue, Center Street, Studio Street, Theater</p>	<p><u>City of Norwalk / CALTRANS</u></p> <p>L-5. I-605 Southbound Ramps/Firestone Boulevard – The improvement at this intersection includes a second westbound left-turn lane. This improvement can be achieved by restriping the existing painted chevron on the westbound approach. The westbound approach would provide dual left-turn lanes and two through lanes.</p> <p><u>Project Design Features</u></p> <p>One of the analyzed study intersections includes improvements that are part of the project design features.</p> <p>L-6. Bellflower Boulevard/Washburn Road – As part of the Tierra Luna Specific Plan, a fourth leg of the intersection, the west leg, will be constructed. The eastbound approach would provide a left-turn lane and a shared through-right turn lane.</p>	

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Street, and Apollo Street. The east-west streets include Central Plaza Drive, Main Street, Market Street, Emsco Drive, North Street, Aviation Boulevard, South Street and Discovery Alley. The east-west streets, with the exception of Emsco Drive, would provide connectivity between Lakewood Boulevard and Bellflower Boulevard. Clark Avenue, Washburn Road and Congressman Steve Horn Way are the major streets that connect the Specific Plan area uses to the external street system.</p> <p><i>Access Intersections Traffic Conditions</i></p> <p>Two access network scenarios were evaluated. Access Plan A involves limited right-turn in and right-turn out access at the intersection of Lakewood Boulevard/Central Plaza Drive. Access Plan B involves changes to Access Plan A at the intersections of Lakewood Boulevard/Central Plaza Drive and Lakewood Boulevard/Alameda Street. In this access scheme (Plan B), current left-turning traffic at the Lakewood Boulevard/Alameda Street intersection would be diverted and the intersection would be re-configured to operate as a right-turn in and right-turn out limited access intersection. The access intersection of Lakewood Boulevard/Central Plaza Drive will be controlled by a traffic signal to provide full access under this alternative Access Plan B.</p> <p><b>Access Plan A.</b> Under Access Plan A, the intersections of Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street would provide full access along the Lakewood Boulevard corridor. Traffic signals are recommended at these locations if signal warrants are satisfied. The intersection of Lakewood Boulevard/Central Plaza Drive would be stop-controlled and would be limited to right-turn in and right-turn out only. Along the Bellflower Boulevard corridor, full access</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>would be provided at Bellflower Boulevard/North Street-Washburn Avenue and Bellflower Boulevard/Congressman Steve Horn Way which are currently (and will remain) controlled by traffic signals. The intersections of Bellflower Boulevard/Aviation Boulevard and Bellflower Boulevard/South Street will be stop-controlled and will not provide full access. Along the Imperial Highway corridor, the intersections of Clark Avenue/Imperial Highway and Ardis Avenue/Imperial Highway would provide full access and are currently (and will remain) controlled by traffic signals.</p> <p>The Future (2020) with Project traffic volumes at these intersections and traffic controls are shown in Figure IV.L-14. These volumes were generated using the same methodology as described in Appendix IV.L-1. Since these are driveway locations, pass-by credit was not taken at these locations.</p> <p>Based on the projected traffic volumes, it is recommended that traffic signals be installed at Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street when signal warrants are satisfied. Traffic signal warrants were conducted at each of these locations and the warrants were satisfied.</p> <p><b>Access Plan B.</b> Under Access Plan B, current left-turning traffic at the Lakewood Boulevard/Alameda Street intersection are diverted and the intersection is re-configured to operate as right-turn in and right-turn out location. The access intersection of Lakewood Boulevard/Central Plaza Drive will be controlled by a traffic signal to provide full access. The remaining access locations would not change from Access Plan A.</p> <p>Due to full access at Lakewood Boulevard/Central Plaza Drive and the diverted left-turns from Lakewood Boulevard/Alameda Street, the traffic volumes under Access</p>		

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>Plan B were adjusted to reflect these access changes. The resulting traffic volumes are shown in Figure IV.L-15 and represent Future (2020) with Project traffic volumes. Similar to Access Plan A, these volumes were generated using the same methodology as described in Appendix IV.L-1 and pass-by credit was not taken at these access locations.</p> <p>Based on the projected traffic volumes, it is recommended that traffic signals be installed at Lakewood Boulevard/Central Plaza Drive, Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street when signal warrants are satisfied. Traffic signal warrants were conducted at each of these locations based on the assumption for access and distribution of uses and the warrants were satisfied.</p>		
<b>UTILITIES - WASTEWATER</b>		
<p>The Proposed Project is anticipated to generate approximately 512,700 gallons per day (gpd) of wastewater. This represents a net increase of 502,448 gallons of wastewater generated per day at the Project Site. There are no known sewer line deficiencies in the project vicinity. Construction activities required to connect project buildings to the existing infrastructure would involve construction of laterals within the Project Site. Impacts related to wastewater conveyance would be less than significant.</p> <p>The 502,448 gpd net increase in wastewater over the existing uses represents approximately 0.8 percent of the remaining capacity at the JWPCP. The JWPCP, therefore, has sufficient remaining capacity to accommodate the Proposed Project. Impacts upon wastewater treatment capacity therefore would be less than significant.</p>	No mitigation measures are required.	Impacts on wastewater conveyance and treatment capacity infrastructure would be less than significant.
<b>UTILITIES - WATER</b>		
Full buildout under the Proposed Project by 2020 would have a total projected water demand of approximately 654,960 gpd. This represents a net increase of 641,837	No mitigation measures are required.	Impacts on water supply and infrastructure would be less

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>gpd (approximately 719 AFY) after the water demand created by the existing uses is removed.</p> <p>As there are no known infrastructure deficiencies in the project vicinity, it is anticipated that the existing infrastructure system can adequately serve the Proposed Project. Construction activities required to connect project buildings to the existing infrastructure would involve construction of water mains and connections within the Project Site. Impacts related to local water infrastructure would be less than significant.</p> <p>The Proposed Project would be required to comply with requirements set forth in the City of Downey Municipal Code. Fire flow demand would be accommodated through construction of infrastructure within the Project Site that is capable of accommodating the City’s requirements. Therefore, impacts of the Proposed Project on fire flow would be less than significant.</p>		<p>than significant.</p>
<b>UTILITIES - SOLID WASTE</b>		
<p>Construction waste would be generated during demolition and construction activities. As AB 939 compliance requires that at least 50 percent of the construction and demolition waste be recycled/reused and the recycling of most of the solid waste generated by the construction and demolition phases, buildout of the Proposed Project would have less than significant short term construction impacts on landfills and solid waste services.</p> <p>Operation of the Proposed Project would result in the ongoing generation of solid waste. Over the long term, the Proposed Project would be expected to generate approximately 17,925 pounds or 9.0 tons of solid waste per day. This represents a net increase of approximately 13,425 pounds or 6.7 tons of solid waste per day over</p>	<p>No mitigation measures are required.</p>	<p>Impacts on solid waste services would be less than significant</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>existing uses.</p> <p>Additionally, operations within the City and on the Project Site would continue to be subject to the requirements set forth in AB 939 requiring each city and county to divert 50 percent of their solid waste from landfill disposal through source reduction, recycling, and composting. Furthermore, the Proposed Project would be required to comply with City Ordinance No. 07-1217, which requires that one hundred percent of inert debris (as defined previously) and 50 percent of the remaining construction and demolition debris generated be diverted and reused or recycled. The increase in solid waste generated by the Proposed Project would not result in the need for additional waste collection routes, recycling, or disposal facilities. Therefore, impacts associated with solid waste service would be less than significant.</p>		
<b>UTILITIES - ELECTRICITY</b>		
<p>The Proposed Project is estimated to consume approximately 129,555 KW-Hours of electricity per day. This represents a net increase of approximately 103,305 KW-Hours of electricity per day over existing uses. Additionally, energy conservation standards established by Title 24 of the California Code of Regulations, including but not limited to, glazing, lighting, shading, and water and space heating systems, would be incorporated into new buildings. As part of the building permit process, the Proposed Project will incorporate and exceed the Title 24 standards by five percent in order reduce the amount of electricity consumed by the Proposed Project. The applicant would thus be required to incorporate the energy conservation measures identified in Mitigation Measures M-1 through M-5 into the project design. As such, impacts on electricity supplies as related to buildout of the Proposed Project would be less than significant.</p> <p>SCE undertakes expansion and/or modification of electricity distribution</p>	<p>The Proposed Project’s impacts on electricity services would be less than significant. Nonetheless, the following mitigation measures are required to further reduce potential impacts.</p> <p>M-1. Design windows (e.g., tinting, double pane glass, etc.) to reduce thermal gain and loss and thus cooling loads during warm weather, and heating loads during cool weather.</p> <p>M-2. Install thermal insulation in walls and ceilings that exceed requirements established by the State of California Energy Conservation</p>	<p>With implementation of the above listed mitigation measures, impacts on electricity services would be less than significant.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

Environmental Impact	Mitigation Measures	Level of Impact After Mitigation
<p>infrastructure and systems to serve future growth in the City of Downey, and the rest of its customers, as required in the normal process of providing electrical service. There are currently no deficiencies in the distribution system, however, if it is determined that the existing distribution infrastructure is inadequate to deliver the Proposed Project’s estimated electricity consumption, SCE, as a regulated utility, is required to provide necessary upgrades to its facilities. As such, impacts on electricity distribution infrastructure would be less than significant..</p>	<p>Standards.</p> <p>M-3. Install high-efficiency lamps for all outdoor security lighting.</p> <p>M-4. Time control interior and exterior lighting. These systems must be programmed to account for variations in seasonal daylight times.</p> <p>M-5. Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and thus increase lighting efficiency.</p>	
<b>UTILITIES - NATURAL GAS</b>		
<p>The Proposed Project is estimated to consume approximately 428,850 cf of natural gas per day. This represents a net increase of approximately 378,600 cf of natural gas consumed per day over existing uses. Per the requirements of the City of Downey, the applicant would be required to incorporate the energy conservation measures identified in Mitigation Measure M-1 through M-5, which exceed Title 24 standards by five percent (see section IV.M. Utilities, 4. Electricity), into the project design. With modern energy efficient construction materials and implementation of these mitigation measure, development of the Proposed Project would be consistent with the City’s energy conservation standards also helping to reduce demand for natural gas. Therefore, impacts of the Proposed Project on natural gas supplies would be less than significant.</p>	<p>No mitigation measures are required.</p>	<p>Impacts on natural gas supplies and infrastructure would be less than significant.</p>

**Table I-1  
Summary of Environmental Impacts and Mitigation Measures**

<b>Environmental Impact</b>	<b>Mitigation Measures</b>	<b>Level of Impact After Mitigation</b>
<p>The Southern California Gas Company undertakes expansion and/or modification of the natural gas infrastructure to serve future growth within its service area as part of the normal process of providing service. Connection to existing infrastructure would occur within the Project Site. As such, impacts of the Proposed Project on natural gas distribution infrastructure would be less than significant.</p>		
<p><i>Source: Christopher A. Joseph &amp; Associates, November 2008.</i></p>		

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## II. PROJECT DESCRIPTION

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### A. PROJECT APPLICANT

The lead agency for the Proposed Project is the City of Downey located at 11111 Brookshire Avenue, Downey, California 90241.

### B. PROJECT LOCATION

The approximate 79-acre Project Site is located at 12214 Lakewood Boulevard in the Downey Landing Specific Plan area in the City of Downey, California. The Project Site is generally bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, Congressman Steve Horn Way to the south, and Clark Avenue and Lakewood Boulevard to the west (see Figure II-1, Regional and Project Vicinity Map).

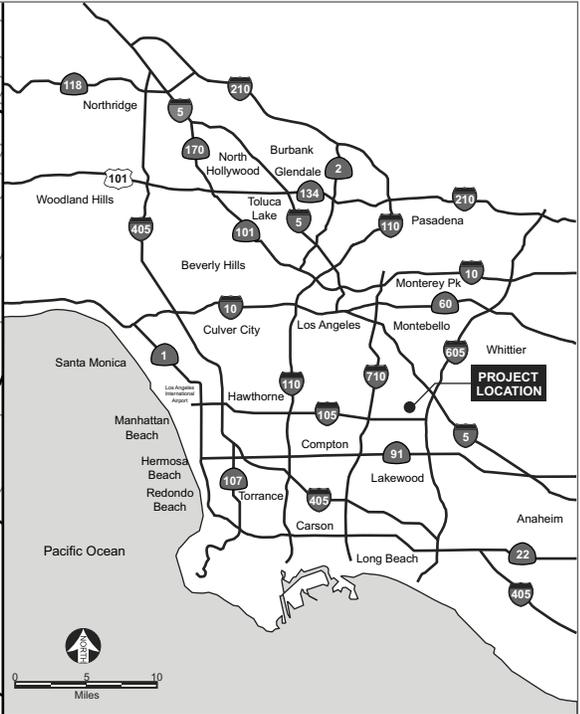
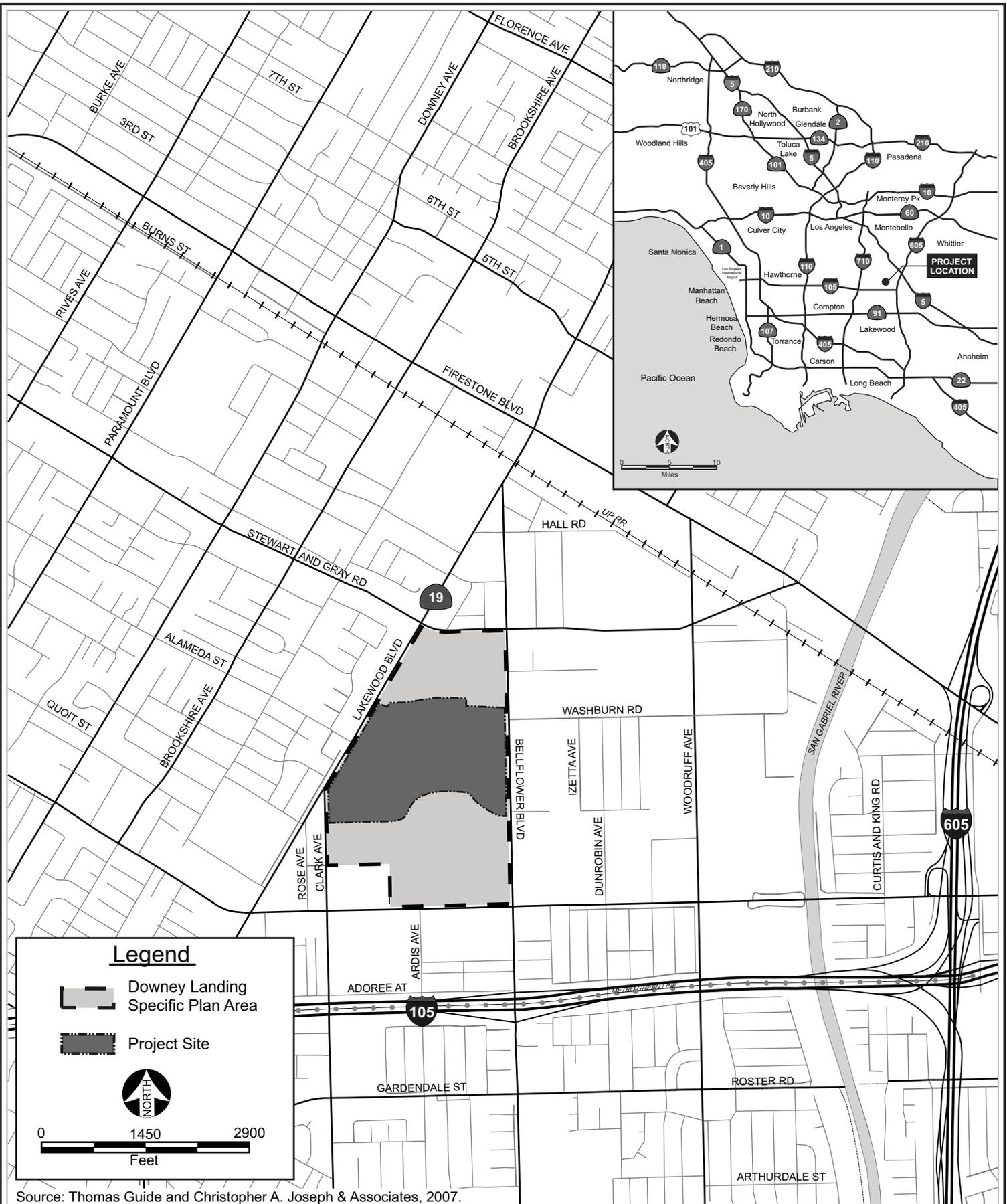
Regional access to the Project Site is provided via the Glenn Anderson (Century) Freeway (Interstate 105), approximately one mile to the southwest; San Gabriel River Freeway (Interstate 605), approximately 1.5 miles to the east; Santa Ana Freeway (Interstate 5), approximately 2.5 miles north; and the Long Beach Freeway (Interstate 710), approximately three miles to the west. The primary arterial roadways providing access to the Project Site are Lakewood Boulevard (State Route 19), which borders the Project Site's west side; Firestone Boulevard (State Route 42), approximately one mile to the north; Imperial Highway, approximately one-half mile to the south; and Bellflower Boulevard, which borders the Project Site's east side. The Metro Green Line's Lakewood Station is accessible from Lakewood Boulevard where the Glenn Anderson (Century) Freeway intersects, approximately one mile to the south of the Project Site. This line extends from the City of Norwalk at the Glenn Anderson (Century) Freeway and San Gabriel River Freeway intersection to the City of Redondo Beach at the Marine Avenue and Redondo Beach Avenue intersection. The Metro Green Line also provides access to the Metro Blue Line, which extends from the City of Long Beach to the City of Los Angeles, which in turn connects with the Metro Red and Purple Lines in downtown Los Angeles.

### C. PROJECT CHARACTERISTICS

#### Existing Uses

The Project Site is approximately 79 acres (approximately 3,441,240 square feet) and is comprised of three rectangular and irregular shaped parcels located south of Stewart and Gray Road and the Downey Landing Retail Center, west of Bellflower Boulevard, north of a Kaiser Permanente Hospital and Medical Center, and east of Lakewood Boulevard and Clark Avenue.

The Project Site is currently improved with the Downey Studios, a media facility including sound stages, studio, production, and office uses, an outdoor suburban street movie set, 20 acres of back lot industrial space, and associated parking lots. The Project Site is also a former aerospace manufacturing and National Aeronautics and Space Administration (NASA) industrial facility with connections to the U.S.



manned spaceflight program dating to the 1960s. A total of 25 buildings containing approximately 1.5 million square feet, including the aforementioned Downey Studios structures are presently located on the Project Site. Of the 1.5 million square feet of existing buildings, approximately 750,000 square feet is currently in use as television and movie studios, and associated office uses, 20-acre back lot. The surrounding area is relatively flat and developed with single- and multi-family residential units, commercial and retail uses, restaurant uses, auto mechanic uses, institutional and industrial uses, park space, as well as health care facilities.

### **Proposed Project**

The proposed project involves an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site (Proposed Project or Tierra Luna Specific Plan Project). The Proposed Project is intended to promote the development of a mixed-use, urban infill, comprehensively-designed and coordinated development that implements state-of-the-art planning concepts and principles at the presently underutilized Project Site. Of the 79 acres that constitute the site of the Proposed Project, roughly 20 acres of property owned by the City, which are located at the east side of the Project Site along Bellflower Boulevard, are envisioned largely for residential uses (City Property).

The Proposed Project would promote the creation and restoration of diverse, walkable, compact, and vibrant communities with a mix of uses, assembled in an integrated fashion. These contain work places, shops, entertainment, parks and may contain housing, along with civic facilities, all within easy walking distance of each other. Principles embodied within the community that would be implemented through the Proposed Project would include:

- Pedestrian Orientation;
- Mix of Land Uses;
- Infill Development;
- Interconnected Street System;
- Quality of Open Space;
- Diversity in Architectural Design, including historic industrial design;
- Housing Choice; and
- Circulation and Parking.

### ***Development Permitted Under the Proposed Specific Plan***

Development of the Proposed Project would involve the construction of up to 3,950,000 square feet of commercial, office, residential and public open space uses, including up to 675,000 square feet of commercial/office uses, up to 1,200,000 square feet of commercial/retail uses, up to 450 hotel rooms, and up to 1,700,000 square feet (up to 1,500 units) of residential uses to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of public open space (public parks, plazas and town squares), and would feature 850,000 square feet of parking facilities

dispersed among several multi-level parking structures, on-street parking, and surface parking lots. The Proposed Project would include improvements to the streetscape as well as environmental management standards and amenities related to stormwater management, energy consumption, and water conservation. The Proposed Project would develop its own internal street network, connected to surrounding arterials, with all necessary infrastructure and utility systems required to support development of the entire community. The Proposed Project would also involve demolition of most of the existing on-site structures, except for the front portion of Building One which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished.

### ***Development Zones***

The Proposed Project would establish three main zones within the Project Site: Center Zone, Corridor Zone, and Neighborhood General Zone (Figure II-2, Project Zones). Additionally, several “Park-Once” shared garages would be located throughout the Project Site. The Proposed Project would also include mechanisms to allow for the interchange of type, location, and character of the uses and facilities included within this Specific Plan, provided that total on-site development does not exceed the effects of the total buildout detailed above and evaluated in this EIR (see Figures II-3, Conceptual Buildout of the Proposed Project and II-4, Conceptual Buildout Plan 2 of the Proposed Project).

#### *Corridor Zone*

The Corridor Zone has been applied to areas adjacent to Lakewood Boulevard for the general purpose of corridor retail, office, restaurant, or hotel uses. The zone provides for a generally mixed-use environment with individual buildings in the Corridor Zone up to four stories in height. Non-residential parking is shared through a park-once system of on/off street spaces. Streetscapes and civic spaces are urban and planted in support of ground floor retail, office, and civic uses.

#### *Center Zone*

The Center Zone has been applied to areas roughly in the middle of the Project Site and intended for intense, mixed-use development close to or at the sidewalk. A wide variety of uses including retail, restaurant, residential, office, and civic and open space uses are allowed with a focus on ground floor specialty retail and restaurant activity. Buildings are two to eight stories and range from lined block to commercial block. Non-residential parking is shared through a park-once system of on/off street spaces. Streetscapes and open spaces are urban in character and designed to support ground floor retail and civic uses.

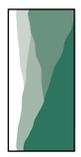
#### *Neighborhood General Zone*

The Neighborhood General Zone has been applied to areas near or adjacent to Bellflower Boulevard for a mix of uses, including commercial, office and residential, and open space development. Buildings are two to five stories set back from or near the sidewalk. Parking is located behind or below buildings and



**Legend**

--- Specific Plan Boundary



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Environmental Planning and Research

Source: Moule & Polyzoïdes, Architects and Urbanists, July 2008.

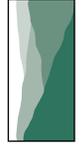


**Figure II-2**  
Project Zones



**Legend**

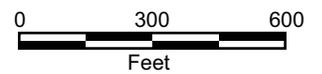
--- Specific Plan Boundary



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Source: Moule & Polyzoides, Architects and Urbanists, July 2008.

Figure II-3  
Conceptual Buildout of the Proposed Project



Source: Design Group, September 19, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure II-4  
Conceptual Buildout Plan 2  
of the Proposed Project

onstreet for visitors. Streetscapes and civic spaces are varied and urban in their detail in support of primarily housing with office uses allowed along Congressman Steve Horn Way.

### ***Landscaping and Open Space***

One goal of the Proposed Project is the creation of a landscaping and open space network. Each of the elements discussed above would incorporate its own landscaping vision including a variety of species of trees and shrubs to create a particular feeling associated with each element and based upon each species' formal qualities. Such species of tree include for example: the Medjool Date Palm, the California Fan Palm, the Chinese Flame Tree, the London Plane Tree, the Sunburst Honey Locust, the Deodar Cedar, and the Cape Chestnut. The internal roadway network would include a street tree program designed to tie different locations within the Project Site together and encourage pedestrian activity. These roadways would be landscaped according to their hierarchy ranging between regional boulevards and local-serving streets.

### ***Access***

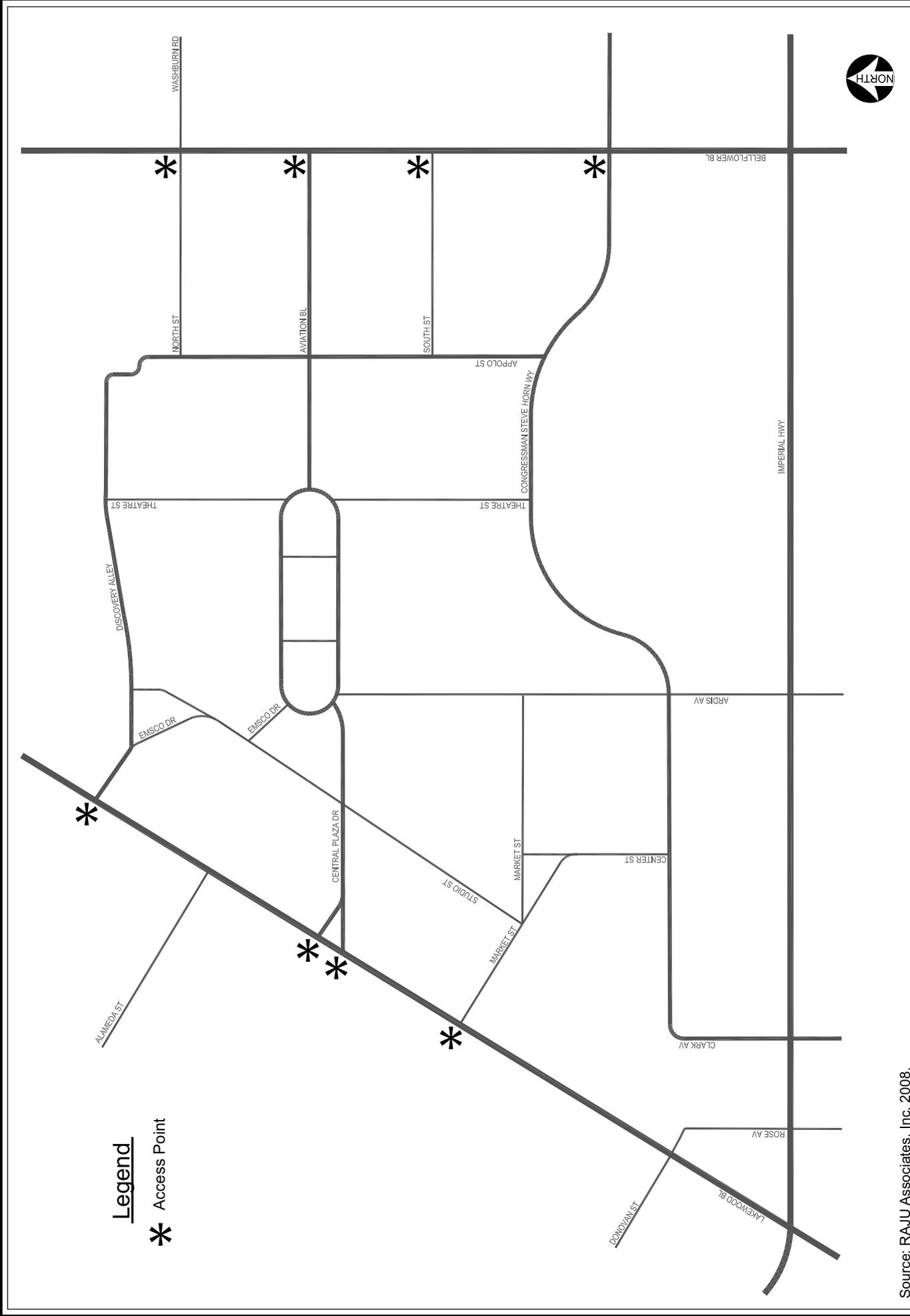
As part of the development of the Proposed Project, a new street system is planned for the Project Site. As part of the new street system, vehicular access to the Proposed Project would be available from Lakewood Boulevard and Bellflower Boulevard. Under both conceptual buildout plans, the Proposed Project would include three new entrances and exits from Lakewood Boulevard and four new entrances and exits from Bellflower Boulevard (see Figure II-5, Street Network Plan).

### ***Parking***

The Proposed Project would include development standards for parking, which would be provided in parking structures and lots as well as including onstreet parking dispersed throughout the entire Project Site. The mix of uses would take advantage of a shared parking ratio.

### ***Conceptual Buildout of the Proposed Project***

The Proposed Project would permit specific uses and densities to be developed within the Project Site and would establish development standards for building heights, locations, architecture, and signage. At present, no specific design plans for all or part of the Project Site have been proposed. For illustrative purposes, two conceptual buildout schemes have been included in this EIR to demonstrate the potential applications of the standards. These conceptual versions of the Proposed Project represent alternative scenarios for future development of the Project Site. Carrying out the development of each of the elements incrementally over a period of time may change many of the specific details, though the fundamental character, qualities, and intentions would remain intact. The conceptual buildouts are detailed below (see Figure II-6, Conceptual Rendering of the Corridor, Center and Neighborhood General Zones).



Source: RAJU Associates, Inc, 2008.

**CHRISTOPHER A. JOSEPH & ASSOCIATES**  
 Environmental Planning and Research

**Figure II-5**  
 Street Network Plan



Conceptual Rendering of the Corridor Zone

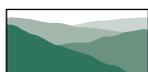


Conceptual Rendering of the Center Zone



Conceptual Rendering of the Neighborhood General Zone

Source: Moule & Polyzoides, Architects and Urbanists, July 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure II-6  
Conceptual Rendering of the Corridor,  
Center, and Neighborhood General Zones

### ***Implementation***

The Proposed Project would amend the existing Downey Landing Specific Plan as to the 79-acre Project Site. The Proposed Project would provide the sole source of standards for the future development of the Project Site. In general, parcels along the Lakewood Boulevard Corridor would be rezoned COR (Corridor Zone), while parcels in the central area of the Project Site would be rezoned C (Center Zone). Parcels at the eastern edge of the Project Site would be rezoned NG (Neighborhood General Zone).

Implementation of the sensitive uses contemplated for the Proposed Project will require compliance with the applicable land use covenants governing the development of sensitive uses, e.g., residential, on the Project Site including the Declaration of Covenants, Conditions and Environmental Restrictions.

The Proposed Project provides a procedure for the submittal and review of development and/or land use applications on the Project Site that would expedite applications that are in compliance with the standards for development of the Project Site.

### **D. PROJECT OBJECTIVES**

Section 15124 (b) of the CEQA Guidelines states that the project description shall contain a “statement of the objectives sought by the Proposed Project.” In addition, Section 15124 (b) of the CEQA Guidelines further states: “the statement of objectives should include the underlying purpose of the project.” The underlying purpose of the Proposed Project is to provide an integrated, mixed-use development, in a pedestrian-orientated environment that serves the needs of the local and regional communities while respecting the historic significance of the Project Site.

The specific objectives of the Proposed Project, as set forth by the project applicant are as follows:

- Create a new and unique regional destination for Downey.
- Transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- Facilitate development that is compatible with surrounding land uses.
- Achieve an environment reflecting a high level of concern for architecture, landscape, and urban design principles by developing of a high-quality, comprehensively-designed project.
- Provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- Create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.

- Provide unique new retail opportunities for Downey residents.
- Facilitate development of new and unique hotel uses that include conference and meeting space.
- Create new and good-paying jobs by facilitating development of modern office space.
- Positively impact the City of Downey's fiscal tax base.

## **E. DISCRETIONARY ACTIONS**

The City of Downey is the lead agency for the Proposed Project. In order to permit development of the Proposed Project, the City will need to approve one or more of the following discretionary actions:

- Amendment to the existing Downey Landing Specific Plan;
- Development Agreement;
- Subdivision Map Act Approval;
- SUSMP as well as Specific Plan Water, Wastewater, and Recycled Water Master Plan Approval;
- Conditional Use Permit(s);
- Other Actions from local, regional, state, and federal agencies; and
- Any additional actions as may be deemed necessary.

This EIR is intended to guide the decision making process with respect to the above approvals and all discretionary actions necessary for the development of the project depicted in the Proposed Project. Accordingly, in the interests of carrying out CEQA's mandate to commence environmental review "as early as feasible in the planning process to enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment" (CEQA Guidelines Section 15004, subd. (b)), this EIR presents a sufficiently detailed description of the intended plan and project details to constitute a project-level analysis. This EIR also is intended to cover all federal, State, and regional government discretionary approvals that may be required in conjunction with the Proposed Project, whether or not they are explicitly listed. Federal, State, and regional agencies that may have jurisdiction over specific activities associated with the Proposed Project include, but are not necessarily limited to:

- South Coast Air Quality Management District
- Regional Water Quality Control Board, Los Angeles Region

- California Department of Public Health (CDPH)
- Los Angeles County Department of Health Services (LACDHS)
- County Sanitation Districts of Los Angeles County (CSDLAC)

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### **III. ENVIRONMENTAL SETTING**

#### **A. OVERVIEW OF ENVIRONMENTAL SETTING**

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This section provides a brief overview of the Project Site's regional and local settings. Additional descriptions of the environmental setting as it relates to each of the environmental issues analyzed in this EIR are included in the environmental setting discussions contained within Sections IV.A through IV.M. A list of related projects, which is used as the basis for the discussion of cumulative impacts in Section IV (Environmental Impact Analysis), is also provided.

#### **Regional Setting**

The Project Site is located in the County of Los Angeles within the City of Downey (see Figure II-1, Regional and Project Vicinity Map). The Project Site is located approximately one mile south of Downey City Hall, 2.4 miles north of the City of Bellflower, 2.75 miles north of the City of Paramount, three miles south of the City of Bell Gardens, 3.25 miles west of the City of Norwalk, and 4.5 miles east of the City of South Gate.

Regional access to the Project Site is provided via the Glenn Anderson (Century) Freeway (Interstate 105), approximately one mile to the southwest; San Gabriel River Freeway (Interstate 605), approximately 1.5 miles to the east; Santa Ana Freeway (Interstate 5), approximately 2.5 miles north; and the Long Beach Freeway (Interstate 710), approximately three miles to the west. The primary arterial roadways providing access to the Project Site are Lakewood Boulevard (State Route 19), which borders the Project Site's west side; Firestone Boulevard (State Route 42), approximately one mile to the north; Imperial Highway, approximately one-half mile to the south; and Bellflower Boulevard, which borders the Project Site's east side. The light rail Metro Green Line's Lakewood Station is accessible from Lakewood Boulevard where the Glenn Anderson (Century) Freeway intersects, approximately one mile to the south of the Project Site. This line extends from the City of Norwalk at the Glenn Anderson (Century) Freeway and San Gabriel River Freeway intersection to the City of Redondo Beach at the Marine Avenue and Redondo Beach Avenue intersection. The Metro Green Line also provides access to the Metro Blue Line, which extends from the City of Long Beach to the City of Los Angeles, which in turn connects with the Metro Red and Purple Lines in downtown Los Angeles.

#### **History of the Project Site**

The Tierra Luna Specific Plan comprises a geographic area that was a key aerospace-related production facility for about 75 years. Aerospace activity at the site commenced in 1929, when the EM Smith Company constructed the first facility to produce commercial aircraft and continued through the 1930s and early 1940s, when Vultee Aircraft had firmly established itself at the site, and the production facilities had doubled in size. With the onset of World War II activities switched from commercial aircraft applications to the manufacturing of wartime aircraft, specifically focused on producing training aircraft for U.S. Army, Navy, and Air Force pilots.

After World War II, the Vultee Plant changed its direction from military aircraft production to development of long-range missile systems, including intercontinental guided missiles powered by rocket

engines. Vultee also began to coordinate its efforts with North American Aviation, another military contractor that produced aircraft for U.S. forces in WWII. In the mid to late 1950's, research and development at the Downey site was focused on jet aircraft, supersonic aerodynamics, and rocket propulsion. North American Aviation subsequently won a major Air Force contract for The Navajo Project, a rocket engine development program, and intended to carry out most of the research and development for it at the Vultee Plant, now called Air Force Plant 16 (AFP 16). From 1953 to 1964, the site saw development of new missile and missile-related technology projects. , North American Aviation, by then the primary contractor at AFP 16, was successful in winning an unprecedented two major contracts from the federal government: for the development of the Apollo spacecraft landing vehicle and a contract to provide the rocket technology to power the Apollo landing vehicle to the moon. After securing these contracts, North American ramped up production in Downey, eventually employing more than 35,000 employees in support of the space travel contracts. In 1964, Downey AFP 16 was transferred from the Air Force to NASA. In 1967, North American Aviation was merged with Rockwell and renamed North American Rockwell Corporation. Rockwell and the Downey Industrial Plant, as it was renamed by NASA, was the site of significant research, development, and production contributions to one of mankind's most significant peacetime accomplishments: successfully and safely landing a man on the moon.

During the mid to late 1970s through the late 1980's at the NASA Industrial Plant, Rockwell, in conjunction with NASA, developed, tested, and placed into service four space shuttle aircrafts, one test space shuttle, and one replacement craft as part of the U.S. Space Shuttle Program. .

With the scaling back and eventual end of the U.S. Space Shuttle Program, the NASA Industrial Plant also began to shrink in size. In 1996, the Boeing Corporation acquired Rockwell and reorganized operations; as a result of this, the Downey Industrial Plant was not a part of Boeing's future plans. Shortly after Boeing's actions, NASA declared the NASA Industrial Plant to be in excess of the government's needs and the U.S. government moved forward with disposing of the property. In 1998, the City of Downey purchased approximately 66 acres of the NASA Industrial Plant and in 2003 the City of Downey acquired the balance of the property (approximately 94 acres). In 2002, the City of Downey adopted the Downey Landing Specific Plan, which governs redevelopment of the former NASA Industrial Plant site from 2002 until today. The City of Downey has successfully facilitated the redevelopment of the former NASA Industrial Plant into an approximately 375,000 square foot commercial shopping center, a new Kaiser Permanente hospital and related medical office facilities, a new public park, the Columbia Memorial Space Science Learning Center, and Downey Studios, a television and movie production facility that includes multiple sound stages and filming locations.

### **Local Settings and Land Uses**

The Project Site is approximately 79 acres (approximately 3,441,240 square feet) generally bounded by an approximately 34-acre outdoor shopping complex known as the Downey Landing Retail Center to the north; Bellflower Boulevard to the east; a 13-acre city park consisting of recreational facilities, open space, and the Columbia Memorial Space Science Learning Center, and Kaiser Downey Medical Center

(currently under construction), and industrial and commercial uses to the south; and Lakewood Boulevard and Clark Avenue to the west (see Figure III-1, Aerial Photograph).

A total of 25 buildings related to the aircraft manufacturing and NASA eras exist on the Project Site along with current improvements related to Downey Studios. Downey Studios, which currently occupies the Project Site, is a 750,000 square-foot television and movie studio production facility with parking lots and 20 acres of back lot space including a 16-house suburban street. Currently on-site in the northern portion of the Project Site are existing studio uses and related surface parking lots operated by Downey Studios. Along Bellflower Boulevard, the eastern-most boundary of the Project Site, are various buildings that were once operated by the previous aircraft manufacturing use and NASA.

Downey Studios back-lot and outdoor suburban street movie set occupies the southern portion of the Project Site. The southwest portion of the Project Site currently is occupied by a surface parking lot associated with the Downey Studio. The western portion of the Project Site, fronting Lakewood Boulevard, currently is occupied by the parking lots and Kaufmann Wing of Downey Studios and an associated parking lot (see Figures III-2, III-3, III-4, Views of the Project Site).

### **Surrounding Land Uses**

The area surrounding the Project Site is developed with commercial uses, residential uses, public facilities, manufacturing, senior care facilities, and medical uses (see Figures III-5 through III-9).

Immediately north of the Project Site is the approximately 34-acre Downey Landing Retail Center with various commercial-retail uses, and restaurant uses. North of the retail center, across Stewart and Gray Road, are single-family residences (see Figure III-5).

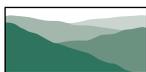
East of the Downey Landing Retail Center are multi-family residences, and east of the Project Site are industrial uses and administrative office complexes/buildings operated by Kaiser Permanente. Southeast of the Project Site, and east of the Kaiser Permanente complex, are commercial and industrial uses as well as the city-operated Independence Park, Skate Park, and Tennis Center (see Figure III-6).

South of the Project Site is the 13-acre city park consisting of: recreational facilities, open space, and the Columbia Memorial Space Science Learning Center, industrial and commercial uses, a Kaiser Permanente medical office building, and the under-construction Kaiser Downey Medical Center which includes approximately 600,000 entitled square feet of new development. Presently, 185,000 square feet of medical office building have been completed with an additional 600,000 square feet of Kaiser Permanente Hospital still under construction and scheduled to be complete in mid-2009. Currently, one medical office building and the hospital comprise part of this Kaiser Permanente complex. Immediately south of these structures, across Imperial Highway, are commercial, retail uses, Los Angeles County Administrative Offices, and a Kaiser Permanente distribution warehouse (see Figures III-7 through III-8).

To the west of the retail center and the Project Site, across Lakewood Boulevard, are multi-family residences and retail and commercial uses fronting Lakewood Boulevard between Stewart and Gray Road and Alameda Street as well as a Hindu temple named Shree Swaminarayan Mandir, Downey.



Source: Google Earth Pro and Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
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Figure III-1  
 Aerial Photograph



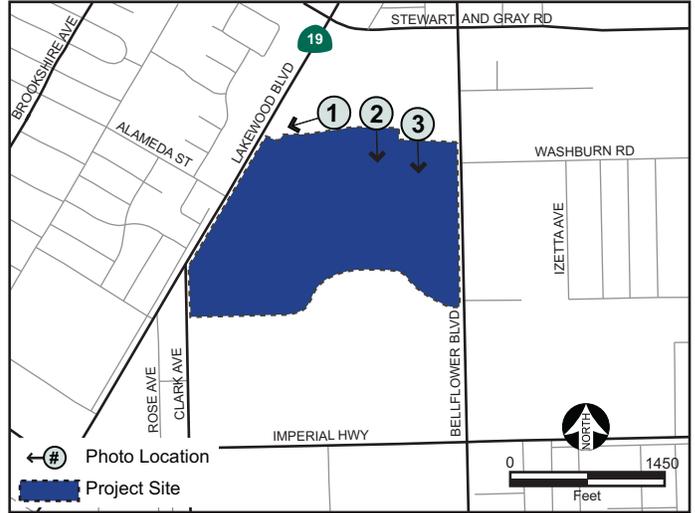
**View 1:** View looking west across the north portion of the project site toward the on-site structures to the south and the off-site retail/commercial structures of the Downey Landing Retail Center to the north.



**View 2:** View looking south across the northern portion of the project site toward existing studio structures. An off-site Kaiser Permanente structure can be seen in the background.



**View 3:** View looking south from the northern portion of the project site toward the existing outdoor suburban street movie set.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-2  
Views of the Project Site  
Views 1, 2 and 3



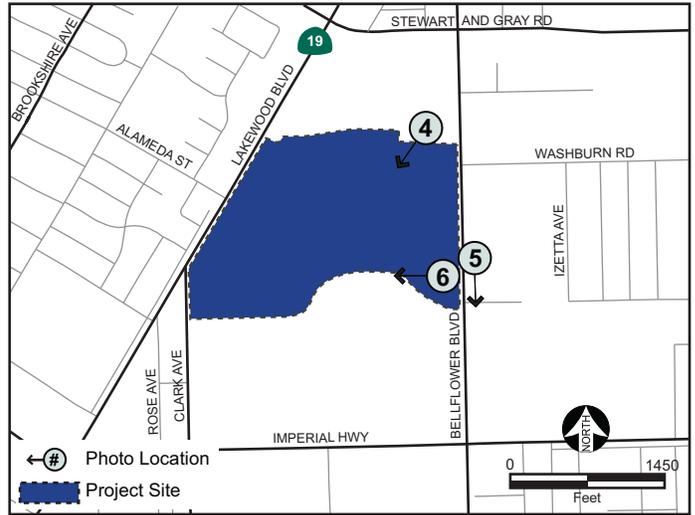
**View 4:** View looking southwest from the northeastern portion of the project site toward the existing studio structures.



**View 5:** View looking south along Bellflower Boulevard from the eastern portion of the project site toward existing studio structures.



**View 6:** View looking west from the eastern portion of the project site toward the outdoor suburban street movie set.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-3  
Views of the Project Site  
Views 4, 5 and 6



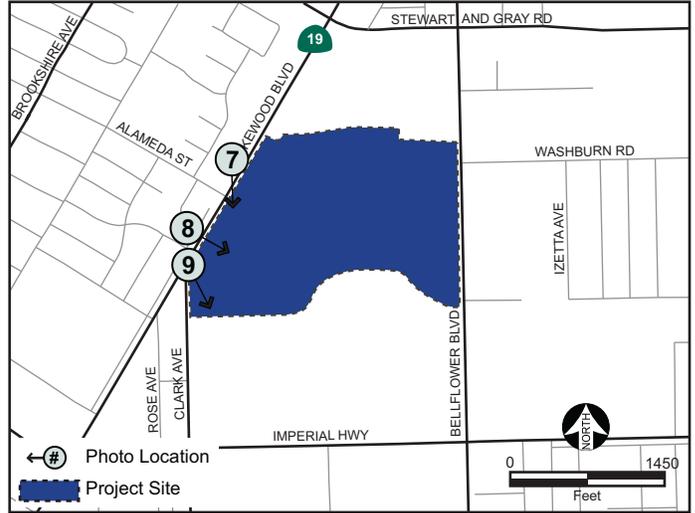
**View 7:** View looking southeast across Lakewood Boulevard toward the existing Kauffman Wing, which will remain and be integrated as part of the Proposed Project.



**View 8:** View looking east from Lakewood Boulevard toward the existing Downey Studios structure.

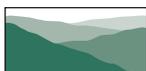


**View 9:** View looking southeast from Lakewood Boulevard toward the Downey Studios surface parking lot. The adjacent and under-construction Columbia Space Science Learning Center can be seen in the background.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-4  
Views of the Project Site  
Views 7, 8 and 9



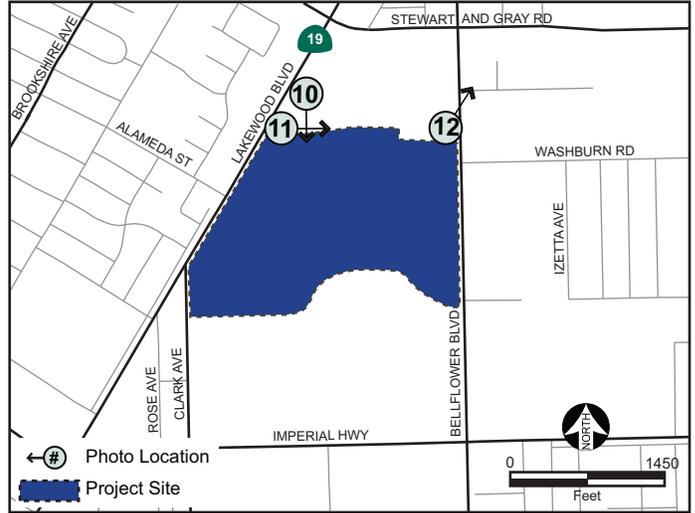
**View 10:** View looking east along the façade of the Downey Landing Retail Center which is located immediately north of the project site.



**View 11:** View looking east toward the rear of the Downey Landing retail Center and the northern portion of the project site.



**View 12:** View looking northeast across Bellflower Boulevard from the Downey Landing Retail Center ingress/egress toward multi-family residences.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-5  
Views of the Surrounding Land Uses  
Views 10, 11 and 12



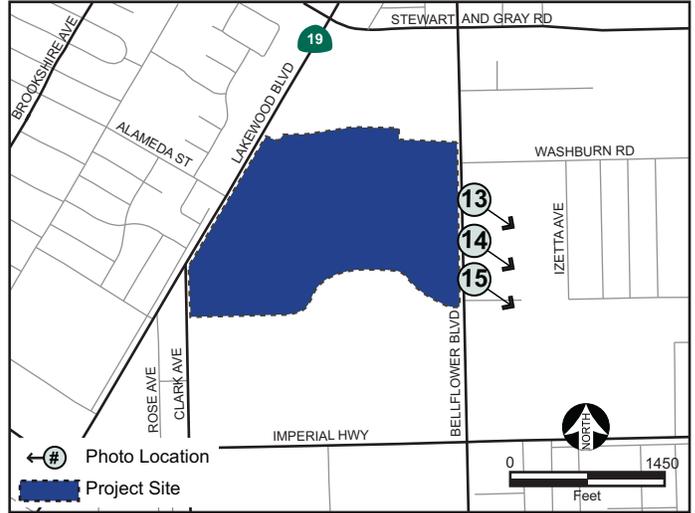
**View 13:** View looking southeast across Bellflower Boulevard toward multi-family residences.



**View 14:** View looking southeast across the Bellflower Boulevard and Washburn Road intersection toward industrial uses.



**View 15:** View looking southeast across Bellflower Boulevard toward the administrative office buildings operated by Kaiser Permanente.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-6  
Views of the Surrounding Land Uses  
Views 13, 14 and 15



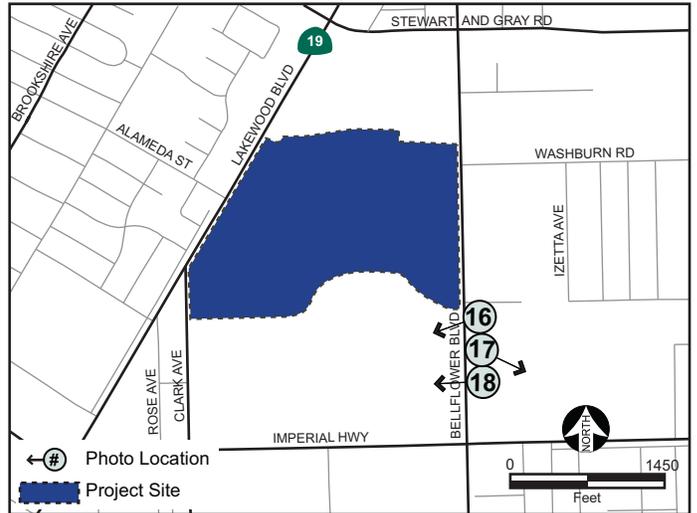
**View 16:** View looking southwest from Bellflower Boulevard toward the industrial use immediately south of the project site.



**View 17:** View looking southeast across Bellflower Boulevard toward the City-operated Independence Park, Skate Park, and Tennis Center.



**View 18:** View looking southwest from Bellflower Boulevard toward Kaiser medical office buildings.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-7  
Views of the Surrounding Land Uses  
Views 16, 17 and 18



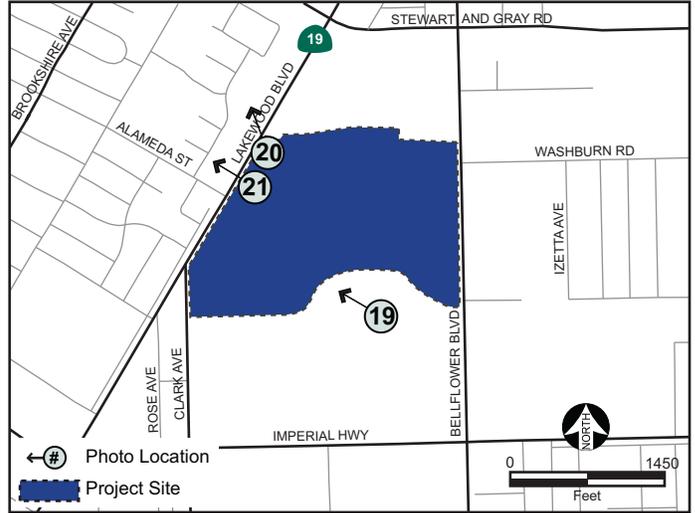
**View 19:** View looking west toward the Kaiser Permanente complex.



**View 20:** View looking northwest across Lakewood Boulevard toward retail and commercial uses.



**View 21:** View looking west across Lakewood Boulevard toward the Hindu Temple.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



**CHRISTOPHER A. JOSEPH & ASSOCIATES**  
Environmental Planning and Research

**Figure III-8**  
**Views of the Surrounding Land Uses**  
**Views 19, 20 and 21**

Immediately west of the retail, commercial, and religious uses are single-family residences. South of Alameda Street, and running south along Lakewood Boulevard, west of the Project Site, are single-family residences. Across Clark Avenue, also to the west of the Project Site, are commercial uses, three senior care facilities and multi-family residences (see Figure III-9).



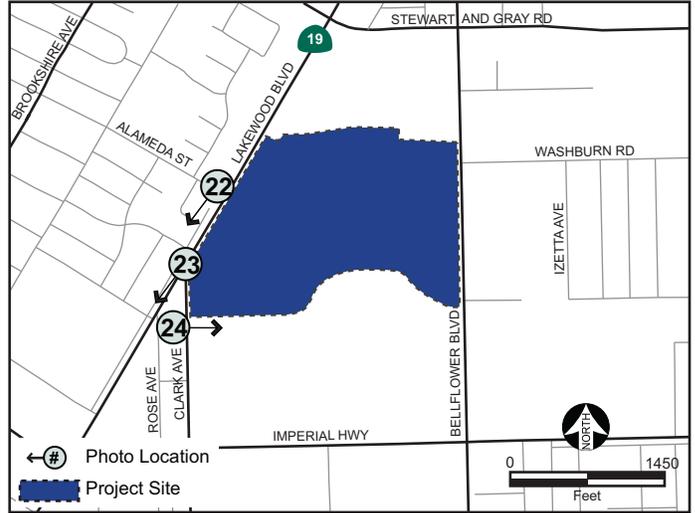
**View 22:** View looking southwest across Lakewood Boulevard toward single-family residences.



**View 23:** View looking south across Clark Avenue toward a retail use, with a hotel use and multi-family residences south of the retail use.



**View 24:** View looking east from Clark Avenue toward the Kaiser Permanente complex and the under-construction Columbia Space Science Learning Center.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure III-9  
Views of the Surrounding Land Uses  
Views 22, 23 and 24

### III. ENVIRONMENTAL SETTING

#### B. RELATED PROJECTS

Sections 15126 and 15130 of the State CEQA Guidelines require EIRs to consider the significant environmental effects of a Proposed Project as well as cumulative impacts. Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA Guidelines section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts [CEQA Guidelines section 15130 subdivision (b)(1)(A)].

All proposed, recently approved, under construction, or reasonably foreseeable projects that could produce a related or cumulative impact on the local environment, when considered in conjunction with the Proposed Project, are included in Table III-1, below. An analysis of the cumulative impacts associated with these related projects and the Proposed Project are provided under each individual environmental impact category in Chapter IV of this EIR. The locations of the related projects are shown in Figure III-10, Location of Related Projects.

**Table III-1  
List of Related Projects**

Map No.	Project Name	Location	Description	Size
<b>City of Santa Fe Springs</b>				
1	Villages at Heritage Springs <sup>a</sup>	Telegraph Rd/Clark Av./Bloomfield Av./Norwalk Bl.	Single-Family Homes	554 units
2	Carmenita Plaza <sup>a</sup>	10120 Carmenita Rd.	Multi-Tenant Commercial	6,500 sf
3	Felipe's Cabinets <sup>a</sup>	11790 Slauson Av.	Warehouse/Office	11,462 sf
4	McMaster Carr Supply Co. <sup>a</sup>	9630 Norwalk Bl.	Warehouse	85,000 sf
5	Kiewit Office Building <sup>b</sup>	10704 Shoemaker Av.	Office	23,500 sf
6	Golden Springs Development <sup>b</sup>	Carmenita Rd. & Foster Rd.	Industrial	200,000 sf
7	Petro Builders Industrial Building <sup>b</sup>	10145 Geary Av.	Maintenance Building	4,656 sf
<b>City of Commerce</b>				
8	Citadel Expansion <sup>c</sup>	5675 Telegraph Rd.	Retail Outlet Center Office Building	253,200 sf 30,000 sf
<b>City of Lynwood</b>				
9	Retail Building <sup>d</sup>	3801-3831 Martin Luther King Jr. Bl.	Retail	15,900 sf
10	Commercial Building <sup>d</sup>	3791 Martin Luther King Jr. Bl.	Office Building	4,140 sf
11	Oakwood Plaza <sup>d</sup>	3211 Oakwood Av.	Retail	14,800 sf
12	Commercial Retail Building <sup>d</sup>	10820 Atlantic Av.	Commercial Retail	17,670 sf

**Table III-1  
List of Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
13	Warehouse <sup>d</sup>	11298 Alameda St.	Warehouse	7,200 sf
<b>City of Paramount</b>				
14	Commercial Retail Center <sup>f</sup>	13729-33 Garfield Av.	Retail Center Super Market Fast Food Restaurant	4,800 sf 7,300 sf 2,670 sf
15	Masse Homes <sup>f</sup>	8415-8427 Adams St.	Single-Family Homes	7 units
16	Chanslor Investments, Inc. <sup>f</sup>	8329-8335 Somerset Bl.	Single-Family Homes	8 units
17	Felix Homes <sup>f</sup>	16603-16613 Indiana Av.	Single-Family Homes	6 units
18	Cerro Metals <sup>g</sup>	14900 Garfield Av.	Grocery Warehouse	551,821 sf
<b>City of South Gate</b>				
19	Elementary School No. 4 <sup>h</sup>	SW corner of Firestone Bl. & Dorothy Av.	Elementary School	950 students
20	Infill Project <sup>h</sup>	Tweedy Bl. between Atlantic Bl. & Pinehurst Av.	Shopping Center	46,600 sf
21	Calden Avenue Condominiums (Tierra del Rey) <sup>h</sup>	Southern Av. Between Calden Av. & Alameda St.	Condominiums Mini-Storage	107 units 100,000 sf
22	Firestone Mixed-Use Project (Firestone Village) <sup>h</sup>	Firestone Bl. between South Gate Av. & Greenview Av.	Shopping Center Single-Family Homes	18,090 sf 47 units
23	LAUSD Elementary School #9	Firestone Bl. between Long beach Bl. & Santa Fe Av.	Elementary School	650 students
24	LAUSD High School	Tweedy Bl. and Atlantic Bl.	High School	1,500 students
25	Industrial Building <sup>h</sup>	Southern Av. Between Rayo Av. & L.A. River	Industrial	75,000 sf
26	WAMU Center <sup>h</sup>	NW corner of Firestone Bl. & Long Beach Bl.	Bank	8,000 sf
27	Firestone Bl./Atlantic Av. Int. Improv. Project <sup>h</sup>	NW corner of Atlantic Av. & Firestone Bl.	City Hall Annex	8,000 sf
28	Food Market	NW corner of Firestone Bl. & State St.	Shopping Center	20,000 sf

**Table III-1  
List of Related Projects**

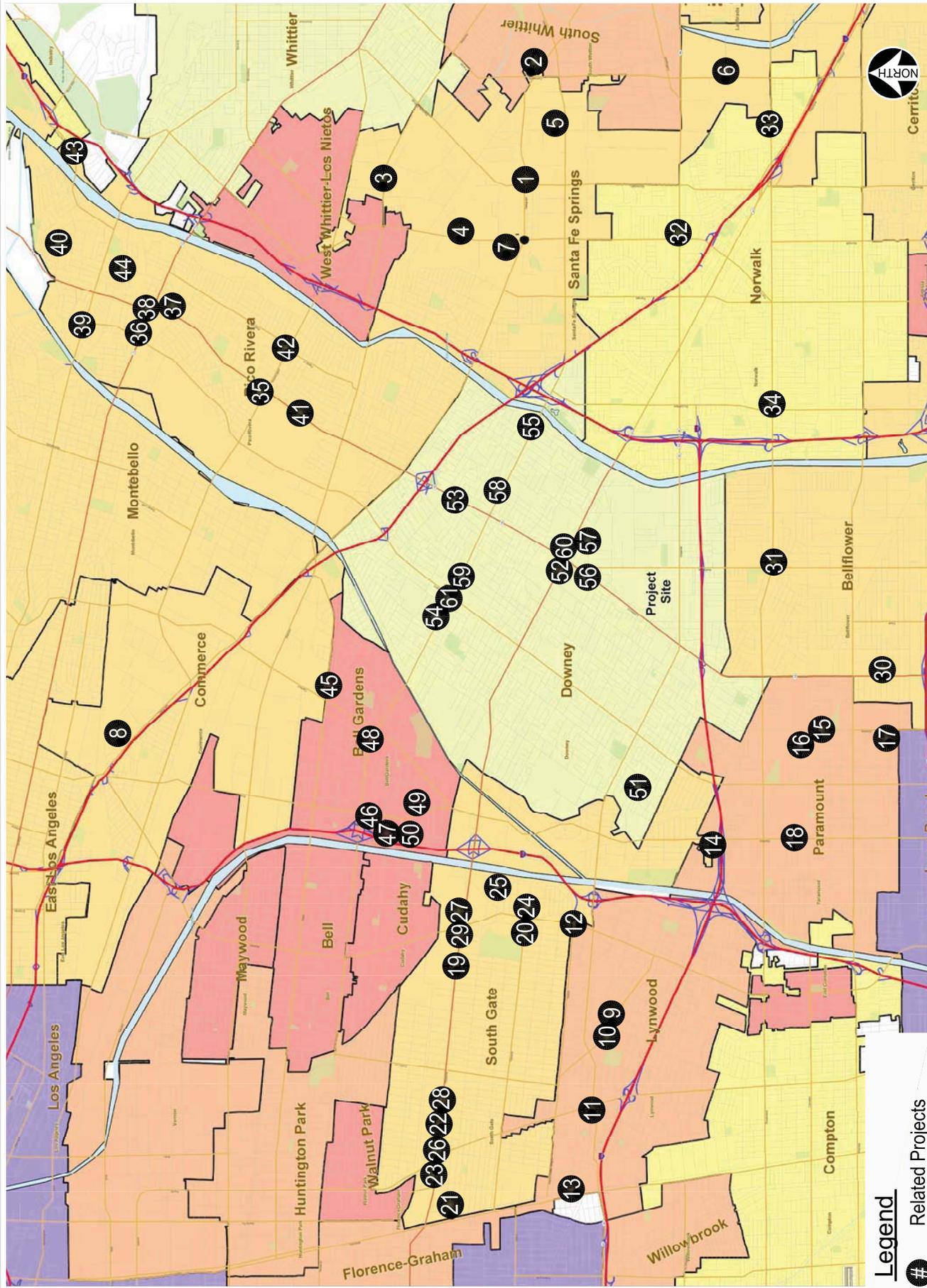
<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
29	The Gateway Retail Project (El Portal) <sup>i</sup>	NW corner of Atlantic Av. & Firestone Bl.	Shopping Center	600,000 sf
<b>City of Bellflower</b>				
30	Bellflower Vascular Access Center <sup>i</sup>	16506 Lakewood Bl.	Pharmacy/Medical Offices	13,000 sf
31	Seven-Eleven Store <sup>j</sup>	14300 Bellflower Bl.	Retail	2,052 sf
<b>City of Norwalk<sup>k</sup></b>				
32	Shopping Center Remodel	Imperial Hwy. & Shoemaker Rd.	Restaurant Retail Retail	5,490 sf 10,360 sf 4,890 sf
33	Industrial/Office Complex	Rosecrans Av. & Shoemaker Rd.	Retail Warehouse Manufacturing Restaurant Industrial Medical Office Industrial	11,954 sf 14,843 sf 14,730 sf 5,000 sf 3,332 sf 9,582 sf 19,536 sf
34	Fresh & Easy Market	Rosecrans Av. & Studebaker Rd.	Super Market	14,800 sf
<b>City of Pico Rivera<sup>L</sup></b>				
35	Pico Rivera Market Place	8909 Washington Bl.	Fitness Center Retail Building Retail	50,000 sf 35,000 sf 9,300 sf
36	Pico Rivera Village Walk 15	Whittier Bl. & Paramount Bl.	Movie/Retail Center	135,106 sf
37	Veranda Crest	5216 Rosemead Bl.	Condominiums	42 units
38	Target Center	8878 Whittier Bl.	Retail	7,050 sf
39	Used Car Sales Lot	8642 E. Beverly Bl.	Used Car Sales Lot	1,997sf
40	7 Single-Family Homes	Durfee Av. & Gallatin Rd.	Single-Family Homes	7 units
41	BNSF MOW Expansion	7427 Rosemead Bl.	Office Building	5,170 sf
42	Retail Center	9316 & 9332 Washington Bl.	Retail	11,400 sf
43	Industrial Building	San Gabriel River Pkwy	Industrial	2,600 sf
44	Office Building	9244 Beverly Rd.	Office Building	6,912 sf
<b>City of Bell Gardens</b>				
45	Shopping Center <sup>m</sup>	6420 Gate Av.	Retail Shopping Center	11,000 sf

**Table III-1  
List of Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
46	Casino Expansion <sup>m</sup>	7301 Eastern Av.	Event Center	12,000 sf
47	Tentative Parcel Map No. 063646 <sup>h</sup>	5614 Clara St.	Single-Family Homes	7 units
48	Office Building <sup>h</sup>	6244 Florence Av.	Office Building	2,710 sf
49	Tentative Tract Map No. 067931 <sup>h</sup>	5829 Muller St. and 5842-48 Quinn St.	Condominiums	10 units
50	Tentative Tract Map No. 069086 <sup>h</sup>	5517 Quinn St.	Condominiums	7 units
<b>City of Downey</b>				
51	Los Angeles County Data Center <sup>n</sup>	Erickson & Flores Street	Office Building	90 employees
52	Lakewood Boulevard Commercial Center <sup>g</sup>	SW corner of Lakewood Bl. & Firestone Bl.	Office Building	8,000 sf
53	Lakewood Retail/ Office Building	9637 Lakewood Bl.	Office and Retail	9,320 sf
54	Florence Retail Center	7877 Florence Av.	Retail	15,421 sf
55	Florence Medical Office Building 1 <sup>g</sup>	Florence Av.	Medical Office	31,500 sf
56	Desert Reign Church and Davita Dialysis Clinic <sup>g</sup>	11610 Lakewood Bl.	Church (570-seat sanctuary) Dialysis Clinic	27,528 sf 9,000 sf
57	Hall Road	9236 Hall Rd.	Industrial Condominiums	200,000 sf
58	Florence Condominiums	9100-9126 Florence Av.	Condominiums	17 units
59	Quinn Office Building	8129 Florence Av.	Office Building	4,308 sf
60	Walgreens	9020 Firestone	Retail	12,202 sf
61	Rodriguez Professional Building	8036 Florence Av.	Office Building	16,110 sf
<p><sup>a</sup> Information obtained from City of Santa Fe Springs Planning Department - Wayne Morrell, Principal Planner, 562-868-0511x7362, waynemorrell@santafesprings.org.</p> <p><sup>b</sup> Information obtained from City of Santa Fe Springs Website .</p> <p><sup>c</sup> Information obtained from City of Commerce Planning Department - Mercenia Lugo, Planning Div. mercenial@ci.commerce.ca.us, 323-722-4805x2811.</p> <p><sup>d</sup> Information obtained from City of Lynwood Planning Department.</p> <p><sup>e</sup> Information obtained from City of Lynwood Website.</p> <p><sup>f</sup> Information obtained from City of Paramount Planning Department - Wendy Macias, Community Dev. Planner, 562-220-2060, wmacias@paramountcity.com.</p> <p><sup>g</sup> Traffic Sensitivity Analysis for Rancho Los Amigos National Rehabilitation Center Project, Kaku Associates, January 2008.</p> <p><sup>h</sup> South Gate Gateway Project, Draft Environmental Impact Report (DEIR), November 14, 2007 - Alvie Betancourt, Senior Planner, 323-563-9526.</p> <p><sup>i</sup> Firestone Boulevard/Atlantic Avenue Intersection Improvements Project, Draft Environmental Impact Report (DEIR), July 10, 2007.</p>				

**Table III-1  
List of Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
<sup>j</sup>	<i>Information obtained from City of Bellflower Planning Department - Carlos Luis, Assist. Planner, 562-804-1424x2314, cluis@bellflower.org.</i>			
<sup>k</sup>	<i>Information obtained from City of Norwalk Planning Department - Community Dev. Dept., 562-929-5744, planning@ci.norwalk.ca.us.</i>			
<sup>l</sup>	<i>Information obtained from City of Pico Rivera Planning Department - Sergio Ruiz, Planning Div. 562-801-4332, sruiz@pico-rivera.org.</i>			
<sup>m</sup>	<i>Information obtained from City of Bell Gardens Planning Department - Mr. Hailes Soto, Planning Division, 562-806-7722, hsoto@bellgardens.org.</i>			
<sup>n</sup>	<i>Traffic Study for the County of Los Angeles Data Center Project , Raju Associates, Inc., April 2008.</i>			
<i>Source: Raju Associates, Inc., August 2008.</i>				
<i>Source (table): Christopher A. Joseph &amp; Associates, September 2008.</i>				



Source: Raju Associates, Inc., 2008.



**CHRISTOPHER A. JOSEPH & ASSOCIATES**  
Environmental Planning and Research

**Figure III-10**  
Location of Related Projects

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### A. IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

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This section addresses potential environmental resources for which the Proposed Project would not result in significant effects. California Public Resources Code Section 21003(f) states "...it is the policy of the State that...all persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in CEQA Guidelines ("Guidelines") sections 15126.2 subdivision (a), "(a)n EIR shall focus on the significant environmental effects of the Proposed Project" and 15143, "(t)he EIR shall focus on the significant effects on the environment." Although the Guidelines allow use of an Initial Study to document project effects which are less than significant, Guidelines section 15063 subdivision (a) provides that an Initial Study is not required if the lead agency can determine that an EIR will clearly be required for the project.

The City of Downey Planning Division has determined that the Proposed Tierra Luna Specific Plan (Proposed Project) would not result in potentially significant impacts related to the environmental topics listed below. Section 15128 of the CEQA Guidelines states:

*"An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR."*

There is no substantial evidence to support that the Proposed Project may result in significant environmental effects in the following areas, and no further environmental review of these issues is necessary for the reasons described below.

#### **Agricultural Resources**

The Project Site is located in a heavily urbanized area in the City of Downey. The California Department of Conservation, Division of Land Protection, lists Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under the general category of "Important Farmland." The Extent of Important Farmland Map Coverage maintained by the Division of Land Protection indicates that the Project Site is not included in the Important Farmland category.<sup>1</sup> The Project Site is designated as Mixed-Use under the General Plan and Media Center and Commerce Center under the Downey Landing Specific Plan. The Project Site is currently improved with buildings related to its former use by the NASA space program and for aircraft manufacturing, along with current improvements related to Downey Studios. The Project Site does not contain any state-designated agricultural lands, nor do any of the surrounding properties.

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<sup>1</sup> State of California Department of Conservation, Division of Land Resource Protection, *Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland Map, 1998, Map.*

Therefore, no portion of the Project Site is subject to a Williamson Act Contract. Furthermore, because the Project Site is already improved, the Proposed Project would not involve the conversion of agricultural land to another use. Therefore, no impacts to farmland or agricultural resources would occur as a result of the Proposed Project.

### **Biological Resources**

The Project Site is located in an urban area in the City of Downey and is currently designated Media Center, on the western portion of the Project Site, and Commerce Center, on the eastern portion, under the Downey Landing Specific Plan. The Project Site is currently developed with buildings related to its former use by the NASA space program and for aircraft manufacturing, along with current improvements related to Downey Studios. As such, roughly the entire Project Site is developed with surface parking lots and buildings. The Project Site does not contain 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 (Fish and Game) or U.S. Fish and Wildlife Service (USFWS). Furthermore, review of the National Wetlands Inventory identified no protected wetlands on the Project Site or in the immediate area as defined by Section 404 of the Clean Water Act.<sup>2</sup> There are no known locally designated natural communities on the Project Site or in the project vicinity; therefore, the Proposed Project would not conflict with the provisions of an adopted or proposed Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State habitat conservation plan.

Due to the urbanized surroundings, there are no wildlife corridors or native wildlife nursery sites in the project vicinity. The Proposed Project would not interfere with the movement of any resident or migratory fish or wildlife species. Nevertheless, the approximately 30 existing trees on the Project Site that will be removed could possibly serve as nesting areas for migratory birds under The Migratory Bird Treaty Act<sup>3</sup> (“MBTA”). The MBTA was enacted<sup>3</sup> in the early Twentieth Century between the governments of the United States and Great Britain (representing Canada), subsequently Mexico in 1936, Japan in 1972, and the Union of Soviet Socialist Republics in 1976. The MBTA expanded the definition of migratory birds to include virtually all birds found in the United States. It establishes provisions regulating take, possession, transport, and import of migratory birds, including nests and eggs. Some examples of work that may be subject to MBTA restrictions include tree trimming, ground or vegetation disturbing activities, and tree removal during the bird breeding season. Compliance with the MBTA typically prohibits demolition and construction within certain distances of trees during nesting season and prohibits tree removal during nesting season, unless trees are surveyed for active nests prior to construction, demolition or tree removal during nesting season. To avoid impacts to nesting birds, the following mitigation measure shall be implemented.

- A-1. To avoid impacting nesting birds, one of the following must be implemented:

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<sup>2</sup> National Wetlands Inventory, U.S. Fish & Wildlife Service, <http://www.nwi.fws.gov>, June 18, 2008.

<sup>3</sup> United States Code Title 16, Chapter 7, Subchapter II, the Migratory Bird Treaty Act of 1918.

- (a) Conduct vegetation removal and/or grading activities from September 1 through January 31, when birds are not likely to be nesting on the site;

- OR -

- (b) Conduct pre-construction surveys for nesting birds if construction is to take place during the nesting season. A qualified wildlife biologist shall conduct a pre-construction nest survey no more than five days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity (at least 300 feet around the Project Site). If active nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by the qualified biologist verifying that (1) no active nests are present, or (2) that the young have fledged, shall be submitted to the City prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur.

## Mineral Resources

The Project Site is currently improved with buildings related to its former use by the NASA space program and for aircraft manufacturing, along with current improvements related to Downey Studios. As such, roughly the entire Project Site is developed with surface parking lots and buildings. No classified or designated mineral deposits of statewide or regional significance are known to occur on the Project Site or in the vicinity of the Project Site. Furthermore, the City's General Plan does not include the Project Site as part of a mineral resource recovery site.

The Project Site is not located on an oil field or in an oil-drilling district; however, there are four plugged and abandoned oil wells in the vicinity of the Project Site. The nearest well is approximately 0.3 mile (1,830 feet) to the south of the Project Site, the second well is approximately 0.7 mile (3,730 feet) to the northwest, the third well is approximately 0.7 mile (3,760 feet) to the southwest, and the fourth well is approximately 0.8 mile (4,020 feet) to the southwest.<sup>4</sup> The wells are listed as dry holes and all have been

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<sup>4</sup> State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, *Oil, Gas & Geothermal – District Map Index, Digital Well Locations*, [http://www.conservation.ca.gov/dog/maps/Pages/goto\\_welllocation.aspx](http://www.conservation.ca.gov/dog/maps/Pages/goto_welllocation.aspx), June 18, 2008.

plugged and abandoned according to maps by the California Department of Conservation.<sup>5</sup> Therefore, the Proposed Project would not cause the permanent loss of or access to any significant oil reserves and no impacts on oil or mineral resources would occur.

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<sup>5</sup> State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Oil, Gas & Geothermal – District 1 Maps, W1-5, [http://www.conservation.ca.gov/dog/maps/Pages/d1\\_index\\_map1.aspx](http://www.conservation.ca.gov/dog/maps/Pages/d1_index_map1.aspx), June 18, 2008.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### B. AESTHETICS

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#### INTRODUCTION

This section evaluates the potential impacts of the Proposed Project on aesthetics, views and vistas, light and glare, and shade and shadows in the vicinity of the Project Site. Aesthetics refers to visual resources and the quality of what can be seen or overall visual perception of the environment, and may include such characteristics as building height and mass, development density, design character, and landscaping. Views, refers to visual access and obstruction of prominent visual features, including both specific visual landmarks and panoramic vistas. Lighting means the effects of nighttime illumination and daytime glare on adjacent land uses. Shading is concerned with the shading effects of shadows cast by existing or proposed structures on adjacent uses.

#### ENVIRONMENTAL SETTING

##### **Existing Visual Character of the Project Site**

The Project Site is an irregularly shaped area of land consisting of approximately 79 acres located within the Downey Landing Specific Plan Area in the City of Downey. The Project Site is generally bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, the Kaiser Permanente Downey Medical Center to the south, and Clark Avenue and Lakewood Boulevard to the west (see Figure II-1).

The topography of the Project Site is relatively flat and is currently occupied by the Downey Studios production facility, which includes sound stages, media, production, and office uses, and associated parking lots. Landscaping and onsite vegetation includes various ornamental trees, shrubs, ground cover, and large swaths of overgrowth throughout the Project Site and along the surrounding sidewalks. Figures IV.B-1 through IV.B-3 depict the existing visual environment of the Project Site.

##### **Visual Character of the Surrounding Locale**

There are no surface water features in the immediate vicinity. The topography of the surrounding locale is relatively flat. The area surrounding the Project Site is developed with single- and multi-family residential uses, commercial/retail uses, restaurant uses, auto-related uses, religious structures, industrial uses, park space, as well as health care facilities.

The area surrounding the Project Site is developed with commercial uses, residential uses, public facilities, manufacturing, senior care facilities, and medical uses.

Immediately north of the Project Site is the approximately 34-acre Downey Landing Retail Center with various commercial-retail uses, and restaurant uses. North of the retail center, across Stewart and Gray Road, are single-family residences.



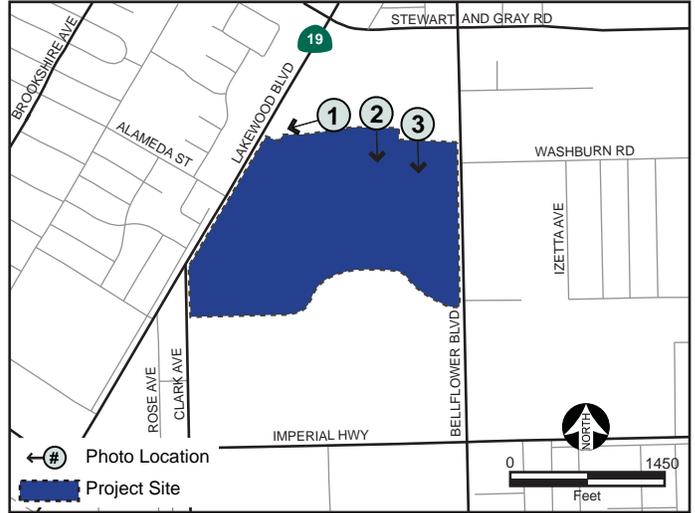
**View 1:** View looking west across the north portion of the project site toward the on-site structures to the south and the off-site retail/commercial structures of the Downey Landing Retail Center to the north.



**View 2:** View looking south across the northern portion of the project site toward existing studio structures. An off-site Kaiser Permanente structure can be seen in the background.



**View 3:** View looking south from the northern portion of the project site toward the existing outdoor suburban street movie set.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.B-1  
Views of the Project Site  
Views 1, 2 and 3



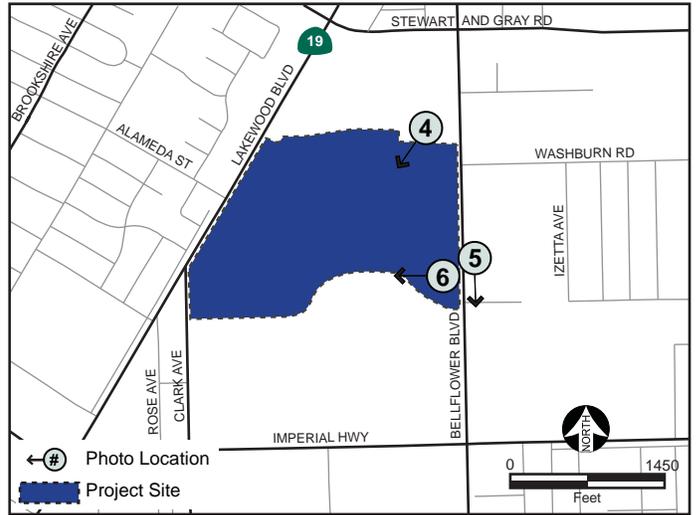
**View 4:** View looking southwest from the northeastern portion of the project site toward the existing studio structures.



**View 5:** View looking south along Bellflower Boulevard from the eastern portion of the project site toward existing studio structures.



**View 6:** View looking west from the eastern portion of the project site toward the outdoor suburban street movie set.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



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Environmental Planning and Research

Figure IV.B-2  
Views of the Project Site  
Views 4, 5 and 6



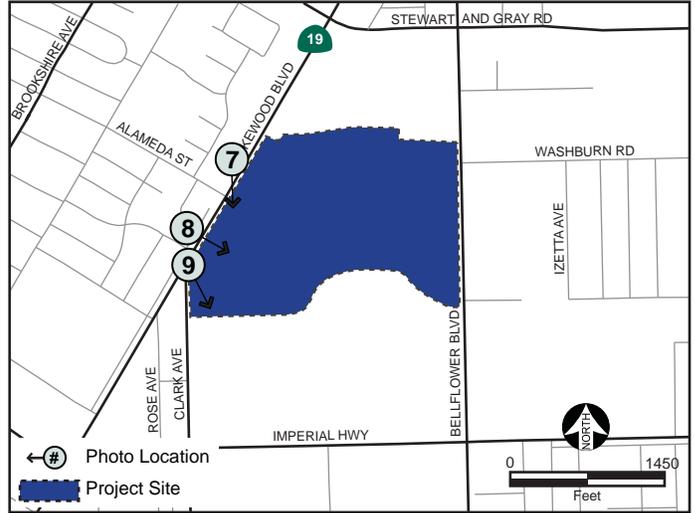
**View 7:** View looking southeast across Lakewood Boulevard toward the existing Kauffman Wing, which will remain and be integrated as part of the Proposed Project.



**View 8:** View looking east from Lakewood Boulevard toward the existing Downey Studios structure.



**View 9:** View looking southeast from Lakewood Boulevard toward the Downey Studios surface parking lot. The off-site and under-construction Columbia Space Science Learning Center can be seen in the background.



**PHOTO LOCATION MAP**

Source: Christopher A. Joseph & Associates, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.B-3  
Views of the Project Site  
Views 7, 8 and 9

East of the Downey Landing Retail Center are multi-family residences, and east of the Project Site are industrial uses and administrative office complexes/buildings operated by Kaiser Permanente. Southeast of the project site, and east of the Kaiser Permanente complex, are commercial and industrial uses as well as the city-operated Independence Park, Skate Park, and Tennis Center.

South of the Project Site is the 13-acre city park consisting of: recreational facilities, open space, and the Columbia Memorial Space Science Learning Center, industrial and commercial uses, a Kaiser Permanente medical office building, and the under-construction Kaiser Downey Medical Center which includes approximately 600,000 entitled square feet of new development. Presently, 185,000 square feet of medical office building have been completed with an additional 600,000 square feet of Kaiser Permanente Hospital still under construction and scheduled to be complete in mid-2009. Currently, one medical office building and the hospital comprise part of this Kaiser Permanente complex. Immediately south of these structures, across Imperial Highway, are commercial, retail uses, Los Angeles County Administrative Offices, and a Kaiser Permanente distribution warehouse.

To the west of the retail center and the Project Site, across Lakewood Boulevard, are multi-family residences and retail and commercial uses fronting Lakewood Boulevard between Stewart and Gray Road and Alameda Street as well as a Hindu temple named Shree Swaminarayan Mandir, Downey. Immediately west of the retail, commercial, and religious uses are single-family residences. South of Alameda Street, and running south along Lakewood Boulevard, west of the Project Site, are single-family residences. Across Clark Avenue, also to the west of the Project Site, are commercial uses, three senior care facilities and multi-family residences.

### **Scenic Resources**

As stated above, the Project Site is located in a developed urban area of the City of Downey. There are no significant natural features (such as rock outcroppings, bodies of water, substantial stands of native vegetation, etc.) or native trees of particular aesthetic value (including trees of significant size or trees of historical or cultural significance) on the Project Site.<sup>1</sup> While there are several species of trees onsite, no significant trees, as identified by the City of Downey, currently exist on the Project Site. There are no natural open spaces or significant features onsite. The City of Downey designates as open space an existing Union Pacific Railroad line that traverses the City from northwest to southeast and bisects the city. Further, Independence Park, located approximately 0.06 miles to the southeast across Bellflower Boulevard, is the only scenic resource in proximity to the Project Site. Under existing conditions, the Project Site is not currently visible from the Union Pacific Railroad right of way due to the existing development in the area, but the Project Site is visible from Independence Park. Onsite, historic buildings exist along the Lakewood Boulevard frontage and represent an aesthetically significant feature of the Proposed Project. Although limited, interrupted views of the San Gabriel Mountains are available to the

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<sup>1</sup> *City of Downey, General Plan, Downey Vision 2025, Chapter 4, Conservation Element, Tree Preservation, pg. 4-10.*

north along streets adjacent to the Project Site, these views do not constitute scenic resources because of their limited availability and distance from the Project Site.

### **Existing Viewsheds**

Viewsheds refers to the visual qualities of a geographic area that are defined by the horizon, topography, and other natural features that give an area its visual boundary and context, or by development that has become a prominent visual component of the area. Public views are those that can be seen from vantage points that are publicly accessible, such as streets, freeways, parks, and vista points. These views are generally available to a greater number of persons than are private views. Private views are those that can be seen from vantage points located on private property. Private views are not considered to be impacted when interrupted by land uses on adjacent blocks, specifically if the project complies with the zoning and design guidelines applicable to the site. The existing viewsheds are defined primarily by retail, commercial, residential, and public facilities developments along Bellflower and Lakewood Boulevards.

### **Views of and to the Project Site**

The Project Site is currently developed with media production facilities, including office uses, and associated parking lots. A total of 25 buildings related to media production exist on the Project Site. The generally tall nature of the existing development provides prominent visual features on the Project Site. Most of the existing buildings are low-rise (one to two stories). The Downey Studios building (Figure IV.B-3, View 8, above) is a visually prominent, approximately 80-foot high, former aircraft hangar located in the central portion of the Project Site. Approximately 30 trees are located throughout the Project Site. Views of the Project Site are only available from the surrounding roadways and residential uses when in proximity to the Project Site due to the relatively flat nature of the area around the Project Site.

### **Views through the Project Site**

Due to the location of the Project Site and the arrangement of the existing onsite improvements, views of the Project Site from passing motorists and pedestrians exist along the service delivery aisleway on the north of the Project Site, Bellflower Boulevard, Clark Avenue, and Lakewood Boulevard. Views from the driveway through the Project Site are in a southerly direction, views from Bellflower Boulevard through the Project Site are in a westerly direction, views from Clark Avenue through the Project Site are in an easterly and northerly direction, and views from Lakewood Boulevard through the Project Site are in an easterly direction. Limited views of the San Gabriel Mountains sitting low on the horizon are available through the Project Site looking northerly from Clark Avenue. Limited views of these mountains are also potentially available from the residential uses along the west side of Clark Avenue. However, substantial interruptions in the views of the San Gabriel Mountains exist due to nearby trees and existing development. As such, these view lines do not constitute views of a scenic resource.

## **Light and Glare**

Ambient light consists primarily of natural light conditions and the light emanating from existing structures and security lighting. The Project Site contains structures, a backlot area, and surface parking areas with regular onsite lighting uses for security purposes and sign illumination. Ambient light emanating from the Project Site contributes to the moderate ambient light level in the area around the Project Site consistent with the existing commercial and residential development. Lighting associated with the surrounding uses in the project vicinity consists of light generated by vehicle headlights, streetlights, and commercial and residential uses along the service delivery aisleway associated with the Downey Landing Retail Center and along Bellflower Boulevard, Clark Avenue, and Lakewood Boulevard. The areas adjacent to the Project Site generally experience moderate ambient lighting levels.

Glare is largely a daytime phenomenon, occurring when sunlight is reflected off the surfaces of buildings, objects (e.g., vehicle windshields), or by vehicle headlights on adjacent roadways. Excessive glare not only restricts visibility but also increases the ambient heat reflectivity in a given area. The existing parking lots on the Project Site, when occupied with vehicles, can be a substantial source of glare from sunlight reflecting off windshields. Most of the onsite buildings do not contain expansive areas of glass.

## **City of Downey Sign Regulations**

The City of Downey currently regulates the placement, construction, and modification of all exterior signs and sign support structures through Section 9148 of Article IX of the City of Downey Municipal Code. Sign permits must be obtained from the Planning and Building and Safety Divisions for any proposed signs. Specific Municipal Code requirements and restrictions are dependent upon zoning districts and the length of building frontages, regulating design, construction, materials, and location are also applicable.

## **Shade and Shadow**

The issue of shade and shadow pertains to the blockage of direct sunlight by onsite buildings, which affects adjacent properties. Shading is an important environmental issue because the users or occupants of certain land uses, such as residential, recreational, churches, schools, outdoor restaurants, and pedestrian areas have expectations for direct sunlight and warmth from the sun. These land uses are termed shadow-sensitive. The area around the Project Site was surveyed for shadow-sensitive uses. The shadow-sensitive uses identified are described below.

Shadow lengths are dependent on the height and size of the building from which it is cast and the angle of the sun. The angle of the sun varies to the rotation of the earth (i.e., time of day) and elliptical orbit (i.e., change in seasons). The longest shadows are cast during the winter months while the shortest shadows are cast during the summer months.

## ***Summer and Winter Solstice***

Solstice is defined as either of the two points on the ecliptic that lie midway between the equinoxes (separated from them by an angular distance of 90 degrees). At the solstices, the sun's apparent position

on the celestial sphere reaches its greatest distance above or below the celestial equator, about 23.5 degrees of the arc. At the time of summer solstice, about June 22, the sun is directly overhead at noon at the Tropic of Cancer. In the northern Hemisphere, the longest day and shortest night of the year occur on this date, marking the beginning of summer. At winter solstice, about December 22, the sun is overhead at noon at the Tropic of Capricorn; this marks the beginning of winter in the northern Hemisphere. Measuring the shadow lengths for the winter and summer solstices represents the extreme shadow patterns that occur throughout the year. Shadows cast on the summer solstice are the shortest shadows during the year, becoming progressively longer until winter solstice when the shadows are the longest they are all year. None of the existing structures would be expected to cast shadows on any sensitive receptors.

### ***Existing Shadow Pattern***

The area around the Project Site was surveyed for shadow-sensitive uses. Several senior living centers are located west across Lakewood Boulevard near the northwest corner of the Project Site. Further south, a residential neighborhood is located along Lakewood Boulevard behind an approximately six-foot high retaining wall; the retaining wall separates this neighborhood from Lakewood Boulevard. Additional residential uses and a hotel use are located southwest of the project site along Clark Avenue with another residential neighborhood to the northeast of the Project Site across Bellflower Boulevard, while Kaiser medical, the Kaiser Downey Facility, and the city park and learning center exist to the south of the Project Site. All of the existing onsite structures are between four and six stories tall and would not cast shadows out from the Project Site beyond the surrounding roadways.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### ***Appendix G of the State CEQA Guidelines***

In accordance with Appendix G of the State CEQA Guidelines, a project may have a significant environmental impact if it were to:

- (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 scenic highway;
- (c) Substantially degrade the existing visual character or quality of the site and its surroundings;  
or
- (d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

## **Project Impacts**

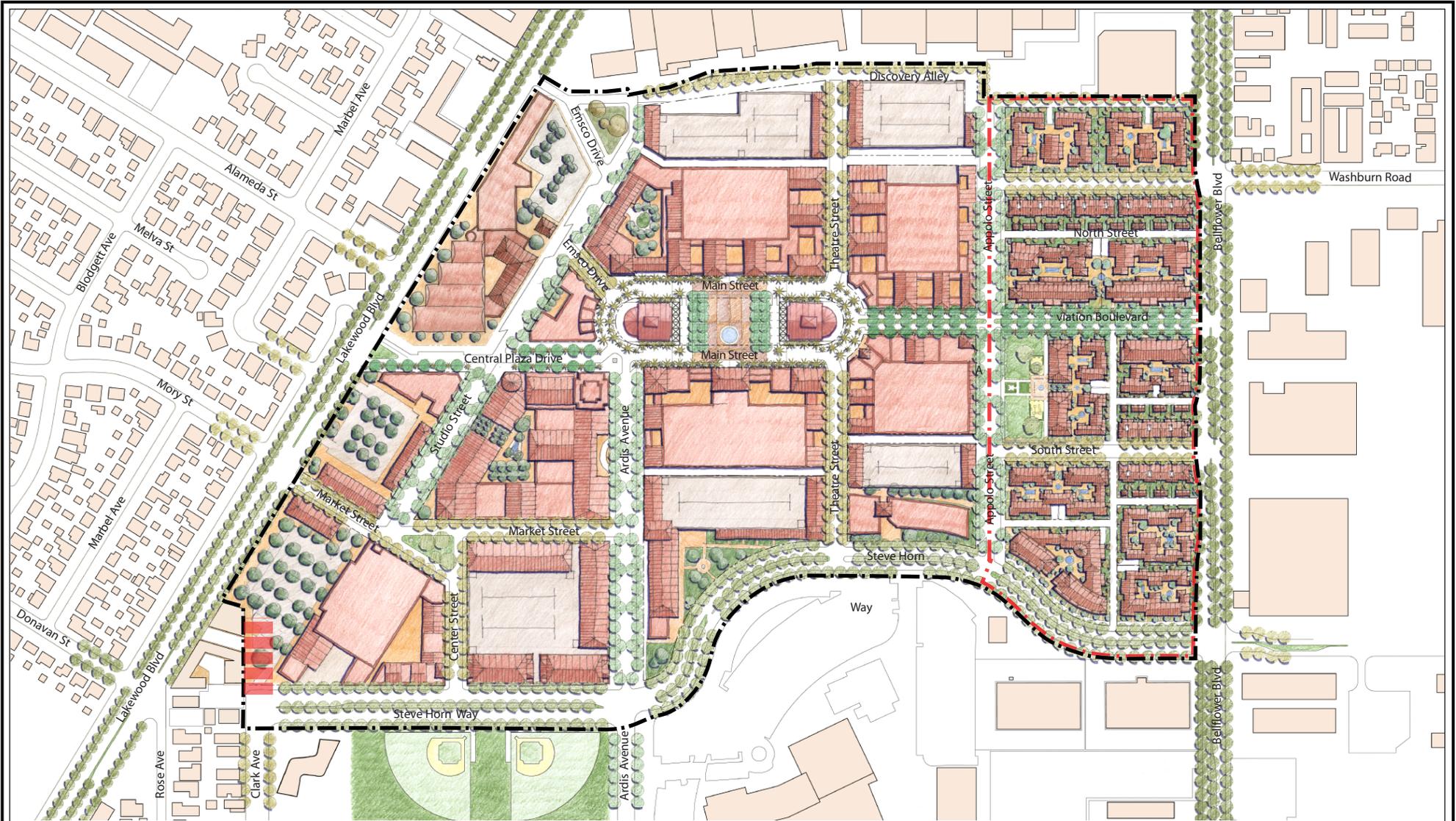
### ***Views of the Project Site***

The Proposed Project would establish the Tierra Luna Specific Plan on a site currently developed with media production and abandoned industrial uses. The Proposed Project would result in the demolition of most of those existing structures and the establishment of a framework for the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses. The front portion of Building One which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished. The Proposed Project would direct the development of a community that would substantially change the current appearance and increase the amount of development and visibility of the Project Site. Development of the individual elements of the Proposed Project would be visible from the surrounding roadways as well as from various commercial, retail, residential, and open space uses located along nearby streets. Views of the Project Site would likely be available from more offsite locations than at present because of the increased height and mass permitted under full realization of the Proposed Project. See Figure IV.B-4 for a rendering of the conceptual buildout of the Tierra Luna Specific Plan.

The development associated with the Proposed Project would be consistent with the urbanized commercial and residential character of the surrounding area (see Figures IV.B-5 and IV.B-6). To the north, these land uses include a two-story retail shopping center., To the east, there are one and two-story residential, administrative office, manufacturing, and public facility uses across Bellflower Boulevard. To the south, there are one to six-story medical, industrial, and public facility uses. To the west, there are one- to three-story commercial uses three senior care and assisted living facilities, and residential uses across Lakewood Boulevard and Clark Avenue. The Proposed Project would result in the construction of many buildings achieving varying heights throughout the Project Site.

General heights and masses of buildings are set forth in the proposed Tierra Luna Specific Plan. Parcels designated Center district are those that exist in the center of the Project Site and do not front either Lakewood Boulevard or Bellflower Boulevard. In this area, parcels are intended to act as the center of activity on the Project Site. As such, intense mixed-use development with building heights of up to eight stories is permitted. The maximum allowable height in the Center district would generally be taller than the surrounding uses in the area around the Project Site. However, as these parcels exist relatively far from surrounding uses, the maximum allowable height of eight stories would not result in the placement of taller buildings near shorter ones. Further, as part of the Kaiser Downey Medical Center construction to the south of the Project Site, a six-story hospital is under development. Because this structure is nearly the same height as the maximum height allowed in the Tierra Luna Specific Plan's Center district, any future Center district structures would be generally similar in height and massing to this existing structure.

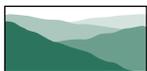
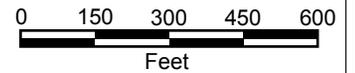
Parcels designated the Corridor district are those that provide frontage along Lakewood Boulevard. In this area, it is understood that parcels exist along a major transportation corridor. As such, small amounts of density are allowed achieving permitted buildings heights of up to four stories. This area is intended to



**Legend**

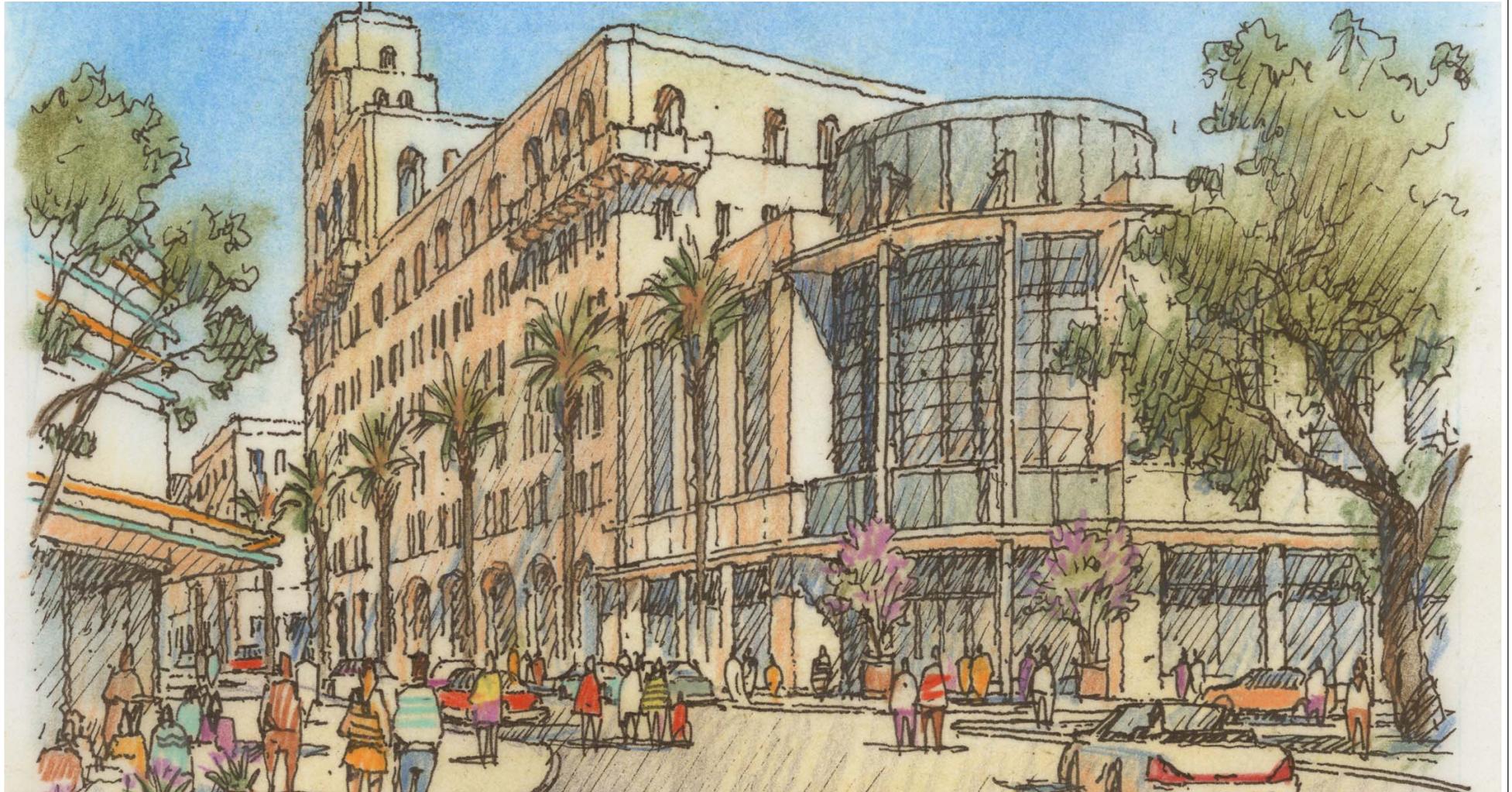
--- Specific Plan Boundary

Source: Moule & Polyzoides, Architects and Urbanists, July 2008.

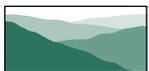


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Figure IV.B-4  
Conceptual Buildout of the Proposed Project



Source: Moule & Polyzoides, Architects and Urbanists, July 2008.



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Figure IV.B-5  
Rendering of Central Plaza Retail



Conceptual Rendering of the Corridor Zone

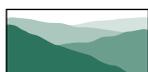


Conceptual Rendering of the Center Zone



Conceptual Rendering of the Neighborhood General Zone

Source: Moule & Polyzoides, Architects and Urbanists, July 2008.



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Figure IV.B-6  
Conceptual Rendering of the Corridor,  
Center, and Neighborhood General Zones

feature development that is less dense than the parcels in the Center district though denser than the commercial and residential uses located across Lakewood Boulevard, which provides a western buffer between the two areas. The maximum allowable height in the Corridor district would be generally similar to the surrounding uses to the west of the Project Site as these surrounding uses range between one and three stories in height.

Parcels designated Neighborhood General district are those that provide frontage along Bellflower Boulevard. In this area, the parcels are generally across Bellflower Boulevard from a few existing residential uses. As such, the Neighborhood General district would allow for the development of a mix of land uses, mostly residential including courtyard housing, hybrid courts, and rowhouses. The maximum allowable height in the Neighborhood General district would be up to five stories. Similar to the Corridor district, this area is also intended to act as a buffer, operating between the few residential uses to the east across Bellflower Boulevard and the intensive commercial core of the Proposed Project. Landscaping on the Project Site would include various species of trees located throughout the Project Site based on a street tree program and approximately 125,000 square feet of public open space.

Overall, the Proposed Project would enhance the visual appearance of the Project Site, converting an underutilized, deteriorating and blighted site, to an integrated part of the existing urban fabric. Impacts related to the change in the visual appearance and character of the Project Site would be less than significant, as viewed from adjacent streets and the commercial, residential, and public facility uses in the surrounding area.

### ***Views through the Project Site***

The Proposed Project would be up to eight stories in the Center district, up to four stories in the Corridor district, and up to five stories in the Neighborhood General district. Because the San Gabriel Mountains lie low on the horizon, development of structures within the Corridor district parcels could potentially block views through the Project Site of these mountains from Clark Avenue and its adjacent sidewalks. However, because of the intermittent nature of these views and the distance from the Project Site, these view lines do not represent views of a scenic resource and any such view blockage would be less than significant.

### ***Light***

Ambient lighting emanating from the existing uses on the Project Site contributes to the moderate ambient lighting levels in the surrounding area. As the Proposed Project would increase the amount of development on the Project Site, project implementation therefore would incrementally increase the amount of nighttime lighting emanating from the Project Site over existing conditions. The Project Site would be illuminated with lighting from the office, retail, residential, and hotel portions of the Proposed Project as well as from roadway lighting along the new internal road network, security lighting along pedestrian routes and in parking facilities, and lighting associated with the Central Plaza and the Neighborhood Green. In compliance with the lighting requirements of the Tierra Luna Specific Plan,

these lights would be required to be permanently shielded and focused on the Project Site to prevent spillover and light pollution upon the nearby light-sensitive uses (i.e., residences).

Further, the Project Site is located along several major commercial corridors and adjacent to a large retail center already exhibiting moderate ambient lighting levels. As the Tierra Luna Specific Plan would require the containment of all possible light pollution, urban glow emanating from the Proposed Project would be reduced to the maximum extent possible. However, as there are minimal light sources currently onsite, development of the Proposed Project would constitute a substantial source of additional light in the area. However, to the maximum extent feasible, all lighting would be shielded and focused on the Project Site and directed away from the neighboring land uses. Therefore, the Proposed Project would not result in a substantial amount of light that would adversely affect the day or nighttime views in the project vicinity. Impacts related to the increase in onsite light would result in potentially significant impacts. However, with implementation of Mitigation Measures B-1 and B-2, lighting impacts would be reduced to a less than significant level.

### *Glare*

The existing surface parking lots on the Project Site are a substantial source of glare from sunlight reflecting off vehicle windshields. Development of the Proposed Project would demolish these expansive parking lots and would include the development of structures with architectural features and facades that have a low level of reflectivity.

Further, proposed signage would not be constructed of reflective materials. The Tierra Luna Specific Plan, as with project-related lighting levels, provides signage regulations related to the placement, type, construction, and modification of all exterior signs and sign support structures including light emitting levels derived from any such signage. The Proposed Project would eliminate the existing source of glare emanating from car windshields in the onsite parking lots and replace these lots with smaller surface parking lots and street parking along the new internal road network. The Proposed Project would also construct many new buildings with glass windows that have the potential to reflect light. The increased amount of building development onsite may result in a higher level of glare emanating from onsite structures depending on the type of building surfaces; while, the demolition and replacement of the existing expansive surface parking lots with smaller lots and street parking would result in a reduction in the amount of glare existing at the Project Site. Further, the Proposed Project includes a detailed street tree program intended to plant trees throughout the Project Site. The location of trees throughout the Project Site would assist in the reduction of glare derived from onsite cars and windows. Development of the Proposed Project may include architectural features and facades that have a low level of reflectivity depending on the type of building surfaces. The Proposed Project includes glass windows, which could result in some transitory conditions of glare during the day. However, with implementation of Mitigation Measure B-3, impacts related to glare would be reduced to a level that is less than significant.

### ***Signage Regulations and Policies***

The Tierra Luna Specific Plan will regulate the placement, type, construction, lighting, and modification of all exterior signs and sign support structures allowed within the Project Site as established by Chapter 4, Section 7.0, Sign Standards. Directional/instructional and real estate signs are subject to the regulations present in the City of Downey Municipal Code. Sign permits must be obtained from the Planning and Building and Safety Divisions for any proposed sign.

Signage to be incorporated on the Project Site would be located on many of the structures to be developed on the Project Site. Signs could be located internal to the Project Site as well as along the edges of the Project Site adjacent to Lakewood and Bellflower Boulevards. The Tierra Luna Specific Plan incorporates a sign regulation component allowing for varying types of signs designed to encourage "...the vibrant, mixed-use, pedestrian environment envisioned in...this Specific Plan..." Sign regulations apply to signs in all zones established by Section 2.0 (Regulating Plan and Zones), except directional/instructional and real estate signs.

The signage would be made up of project identity signs, address signs, major tenant and commercial/retail identities, public signs, and emergency signs. The most visible signage permitted by the proposed Tierra Luna Specific Plan would be project identification signs (media tower signs) on the perimeter of the Project Site on Lakewood and Bellflower Boulevards and Congressman Steve Horn Way. Signage internal to the Project Site would not likely be visible from adjacent roadways. Signage along the roadways could be visually prominent to motorists and to uses located immediately across the street from the Tierra Luna Specific Plan area. Signage associated with the buildout of the Proposed Project would be subject to design review by the City of Downey. Signage would incorporate specific design requirements, such as continuation of the type and scale of materials used for the structure onto which it would be attached and the prohibition of the use of animated or moving signs and reflective materials, intended to mitigate visual impacts such as light and glare and hazards to motorists. In addition, signage would occur within the context of a concentration of urban development and high levels of existing large scale signage (e.g., Downey Landing Retail Center). As such, project impacts related to onsite signage development would be less than significant.

### ***Shade and Shadow***

The Proposed Project would achieve a maximum of four stories in the Corridor district, eight stories in the Center district, and five stories in the parcels zoned Neighborhood General district. On the winter solstice, any structure developed in the Corridor district would cast shadows toward the northwest in the morning, due north toward the Downey Landing Retail Center around noon, and toward the northeast in the evening. None of these structures would be tall enough to cast any shadows on shadow-sensitive uses at any of these times during the day.

On the winter solstice, any structure developed in the Center district would cast shadows toward the northwest in the morning, due north toward the Downey Landing Retail Center around mid-day, and toward the northeast in the evening. At a maximum height of eight stories, no structure to be developed

as part of the Proposed Project would cast shadows long enough to reach the shadow-sensitive uses to the northwest in the morning or to the northeast in the evening. Shadows would likely be cast upon portions of the Downey Landing Retail Center to the north. However, these retail locations are not considered shadow-sensitive uses.

On the winter solstice, any structure developed in the Neighborhood General district would cast shadows to the northwest across a portion of the Project Site and toward the Downey Landing Retail Center, to the north toward structures in the Downey Landing Retail Center around mid-day, and toward the northeast in the evening toward a nearby residential neighborhood. At a maximum height of five stories, no structure to be developed under this portion of the Proposed Project could cast shadows long enough to reach the shadow-sensitive uses to the northeast.

Although the Proposed Project's structures would reach approximately eight stories at the tallest location, there are no shadow-sensitive uses located near the Project Site that would be impacted by long shadows generated from the Center district. Therefore, no shadow impacts from the Proposed Project would occur due to the lack of shadow sensitive uses in close enough proximity to the Project Site.

As discussed above, shadows cast on the summer solstice are shorter than at any other time of the year. As such, shadows cast by future structures developed on the Project Site would be shorter on the summer solstice than on the winter solstice. As such, shadows cast on the summer solstice would be cast in the same direction as on the winter solstice but would not extend out as far. Under the assumption that all future development would be constructed up to the maximum allowable height in each zone, shadows cast by these structures would not impact nearby sensitive uses on the winter solstice. Because summer solstice shadows would be shorter, future structures would also not impact nearby sensitive receptors on the summer solstice. Impacts would be less than significant.

## **CUMULATIVE IMPACTS**

Development of the Proposed Project in conjunction with the related projects, identified in Section III. Environmental Setting, would result in a mix of new development and redevelopment, or infilling, of residential, educational, industrial, medical, and commercial land uses in the City of Downey as well as neighboring communities. There are no related projects adjacent to the Project Site that would contribute to a cumulatively significant aesthetic impact. However, development of the related projects throughout the City of Downey, and in particular in the project vicinity, in conjunction with the Proposed Project would result in a substantial change to the visual environment. No substantial scenic resources are located in the area surrounding the Project Site that could be affected by a cumulatively considerable reduction in views. While views of the San Gabriel Mountains are intermittently available from various locations in the project area, they are not considered a substantial scenic resource due to the brevity and limited availability of these views. Furthermore, the development of the related projects is expected to be consistent with the height, mass, and visual character of the existing urban Downey community. Therefore, the Proposed Project, in conjunction with the related projects, would not result in a significant impact related to the aesthetic and visual character of the area.

There are no related projects adjacent to the Project Site that would contribute to a substantial increase in the amount of light and glare in the project area. Further, development of the Proposed Project, in conjunction with the related projects, is not anticipated to substantially change overall ambient light levels. Furthermore, any additional glow from the related projects would be subject to City review regarding reflective materials usage, which would limit the amount of reflective surface areas and materials that can be used for any given project. The potential glare created from these related projects would not be cumulatively considerable.

Development of the Proposed Project, in conjunction with the related projects would not result in an increase of shading impacts on the Project Site or in the vicinity of the Project Site as there are no related projects adjacent to the Project Site. There are no related projects in the immediate vicinity of the Project Site that would increase the shading of the sensitive uses adjacent to the Project Site. Therefore, no cumulatively considerable shading impacts would occur.

## **MITIGATION MEASURES**

As all structures developed pursuant to the guidelines of the Tierra Luna Specific Plan would be required to meet the lighting standards codified under the Tierra Luna Specific Plan, light pollution emanating from the Project Site would be limited to the maximum extent possible. The following two mitigation measures would be required to further reduce lighting impacts to a less than significant level.

- B-1. Project lighting shall be directed onto the Project Site, and all lighting shall be shielded from adjacent roadways and off-site properties.
- B-2. Atmospheric light pollution shall be minimized by utilizing lighting fixtures that cut-off light directed to the sky.

The following mitigation measure is required to reduce glare impacts to a less than significant level.

- B-3. The proposed buildings shall incorporate non-reflective exterior building materials (such as plaster and masonry) in their design. Any glass to be incorporated into the façade of the building shall be either of low-reflectivity, or accompanied by a non-glare coating. Reflective materials such as mirrored glass shall not be permitted.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project development would result in less than significant impacts related to scenic views, the visual character of the project area, new sources of light and glare, and shade and shadow impacts.

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## **IV. ENVIRONMENTAL IMPACT ANALYSIS**

### **C. AIR QUALITY**

#### **1. CRITERIA POLLUTANTS**

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#### **INTRODUCTION**

This section examines the Proposed Project's potential effects on air quality. This section analyzes short-term construction emissions occurring from activities such as site grading and haul truck trips, as well as long-term effects related to the ongoing operation of the Proposed Project. The analysis contained herein focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. Emissions refers to the actual quantity of pollutant measured in pounds-per-day (ppd). Concentrations refers to the amount of pollutant material per volumetric unit of air and is measured in parts per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

The potential for the Proposed Project to conflict with or obstruct implementation of the applicable air quality plan, to violate an air quality standard or contribute substantially to an existing or projected air quality violation, to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment status, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people is also discussed. Documents used in the preparation of this section include the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook and the 2007 Air Quality Management Plan (AQMP), as amended, as well as federal and state regulations and guidelines.

#### **ENVIRONMENTAL SETTING**

The Project Site is located within the South Coast Air Basin (Basin), named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys below. This Basin includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by a wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry – and meteorology.

#### **Air Pollutants**

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples of point sources are boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbeque lighter fluid and hair spray. "Mobile sources" are emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road.

On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, racecars, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and State governments have established ambient air quality standards for outdoor concentrations of various pollutants to protect public health and welfare. These pollutants are referred to as criteria air pollutants as a result of the specific standards, or criteria, that have been adopted for them. The national and state standards have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The criteria air pollutants most relevant to current air quality planning and regulation in the Basin include ozone ( $O_3$ ), carbon monoxide (CO), nitrogen dioxide ( $NO_2$ ), respirable particulate matter ( $PM_{10}$ ), fine particulate matter ( $PM_{2.5}$ ), sulfur dioxide ( $SO_2$ ), and lead (Pb). In addition, toxic air contaminants (TACs) are also of concern in the Basin. The characteristics of each of these pollutants are briefly described below.

- $O_3$  is a highly reactive and unstable gas formed when reactive organic gases (ROGs) and nitrogen oxides ( $NO_x$ ), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight.  $O_3$  concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike  $O_3$ , motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- $PM_{10}$  and  $PM_{2.5}$  consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- $NO_2$  is a nitrogen oxide compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of  $NO_x$  compounds,  $NO_2$  is the most abundant in the atmosphere. As ambient concentrations of  $NO_2$  are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of  $NO_2$  than those indicated by regional monitors.

- $SO_2$  is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When  $SO_2$  oxidizes in the atmosphere, it forms sulfates ( $SO_4$ ). Collectively, these pollutants are referred to as sulfur oxides ( $SO_x$ ).
- *Pb* occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne *Pb* in the Basin. The use of leaded gasoline is no longer permitted for on road motor vehicles, so the majority of such combustion emissions are associated with off-road vehicles such as racecars. However, because leaded gasoline was emitted in large amounts from vehicles when leaded gasoline was used for on-road motor vehicles, *Pb* is present in many urban soils and can be re-suspended in the air. Other sources of *Pb* include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.
- *TACs* refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. *TACs* include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. *TACs* are different than “criteria” pollutants in that ambient air quality standards have not been established for them, largely because there are hundreds of air toxics and their effects on health tend to be felt on a local scale rather than on a regional basis.

### ***Health Effects of Criteria Pollutants***

The health effects of the criteria pollutants (i.e.,  $O_3$ , CO,  $PM_{10}$  and  $PM_{2.5}$ ,  $NO_2$ ,  $SO_2$ , and *Pb*) and *TACs* are described below.<sup>1</sup> In addition, a summary of the harmful effects of each criteria pollutant is provided in Table IV.C.1-1, Summary of Health Effects of Criteria Pollutants.

#### *Ozone*

Individuals exercising outdoors, children and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for  $O_3$  effects. Short-term exposures (lasting for a few hours) to  $O_3$  at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated  $O_3$  levels are

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<sup>1</sup> *The descriptions of the health effects of the criteria pollutants are taken from Appendix C (Health Effects of Ambient Air Pollutants) of SCAQMD’s “Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning” document.*

**Table IV.C.1-1  
Summary of Health Effects of Criteria Pollutants**

<b>Pollutants</b>	<b>Primary Health and Welfare Effects</b>
<b>Ozone (O<sub>3</sub>)</b>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory and cardiovascular diseases</li> <li>• Reduced lung function</li> <li>• Increased cough and chest discomfort</li> </ul>
<b>Carbon Monoxide (CO)</b>	<ul style="list-style-type: none"> <li>• Aggravation of some heart disease (angina)</li> <li>• Reduced tolerance for exercise</li> <li>• Impairment of mental function</li> <li>• Impairment of fetal development</li> <li>• Death at high levels of exposure</li> </ul>
<b>Fine Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>)</b>	<ul style="list-style-type: none"> <li>• Reduced lung function</li> <li>• Aggravation of respiratory and cardio-respiratory diseases</li> <li>• Increases in mortality rate</li> <li>• Reduced lung function growth in children</li> </ul>
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory illness</li> </ul>
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	<ul style="list-style-type: none"> <li>• Aggravation of respiratory diseases (asthma, emphysema)</li> <li>• Reduced lung function</li> </ul>
<b>Lead (Pb)</b>	<ul style="list-style-type: none"> <li>• Behavioral and hearing disabilities in children</li> <li>• Nervous system impairment</li> </ul>
<i>Source: SCAQMD, Guidance Document for Air Quality Issues in General Plans and Local Planning, 2005.</i>	

associated with increased school absences. In recent years, a correlation between elevated ambient O<sub>3</sub> levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high O<sub>3</sub> communities.

O<sub>3</sub> exposure under exercising conditions is known to increase the severity of the above-mentioned observed responses. Animal studies suggest that exposures to a combination of pollutants that include O<sub>3</sub> may be more toxic than exposure to O<sub>3</sub> alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

#### *Carbon Monoxide*

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving

heart and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reduction in birth weight and impaired neurobehavioral development has been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities. Additional research is needed to confirm these results.

#### *Particulate Matter*

A consistent correlation between elevated ambient PM<sub>10</sub> and PM<sub>2.5</sub> levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality (particularly from lung cancer) and reduction in life span.

Daily fluctuations in PM<sub>10</sub> and PM<sub>2.5</sub> concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to PM<sub>10</sub> and PM<sub>2.5</sub>.

The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of PM<sub>10</sub> and PM<sub>2.5</sub>.

#### *Nitrogen Dioxide*

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO<sub>2</sub> at levels found in homes with gas stoves that are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO<sub>2</sub> in healthy individuals. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO<sub>2</sub> considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O<sub>3</sub> exposure increases when animals are exposed to a combination of O<sub>3</sub> and NO<sub>2</sub>.

#### *Sulfur Dioxide*

A few minutes exposure to low levels of SO<sub>2</sub> can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in

breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO<sub>2</sub>. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO<sub>2</sub>.

Animal studies suggest that despite SO<sub>2</sub> being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with PM<sub>10</sub> and PM<sub>2.5</sub> show a similar association with ambient SO<sub>2</sub> levels. In these studies, efforts to separate the effects of SO<sub>2</sub> from those of PM<sub>10</sub> and PM<sub>2.5</sub> have not been successful. It is not clear whether the pollutants act synergistically or one pollutant alone is the predominant factor.

### *Sulfates*

Most of the health effects associated with PM<sub>10</sub> and PM<sub>2.5</sub> and SO<sub>2</sub> at ambient levels are also associated with SO<sub>4</sub>. Thus, both mortality and morbidity effects have been observed with an increase in ambient SO<sub>4</sub> concentrations. However, efforts to separate the effects of SO<sub>4</sub> from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

### *Lead*

Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence levels. In adults, increased Pb levels are associated with increased blood pressure.

Pb poisoning can cause anemia, lethargy, seizures and death. It appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to the breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental lead exposure of their mothers.

### *Toxic Air Contaminants*

TACs are a broad class of compounds known to cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects. As discussed previously, effects from TACs may be both chronic and acute on human health. Acute health effects are attributable to

sudden exposure to high quantities of air toxics. These effects include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which requires a period of 10 to 30 years after exposure to develop.

TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resources Board (ARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB, and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The United States Environmental Protection Agency (U.S. EPA) has adopted low sulfur diesel fuel standards that will reduce diesel particulate matter substantially. These went into effect in June 2006.

### **Existing Regional Air Quality**

Ambient air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, as well as the size, topography, and meteorological conditions of a geographic area. The Basin has low mixing heights and light winds, which help to accumulate air pollutants. The most current average daily emissions inventory for the entire Basin and the Los Angeles County portion of the Basin is summarized in Table IV.C.1-2, 2006 Estimated Average Daily Regional Emissions.<sup>2</sup> As shown, exhaust emissions from mobile sources generate the majority of volatile organic compounds (VOCs), CO, NO<sub>x</sub>, and SO<sub>x</sub> in the Basin and the Los Angeles County portion of the Basin.

Area-wide sources generate the most airborne particulates (i.e., PM<sub>10</sub> and PM<sub>2.5</sub>) in both the Basin and Los Angeles County.

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

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<sup>2</sup> *The estimated annual average emissions for 2006 are the most recent data provided by the ARB.*

**Table IV.C.1-2  
2006 Estimated Average Daily Regional Emissions**

Emissions Source	Emissions in Tons per Day					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>South Coast Air Basin</b>						
Stationary (Point) Sources	101.9	58.3	55.4	19.3	20.9	13.7
Area-wide Sources	148.3	25.6	110.3	0.8	210.3	51.2
Mobile Sources	425.8	866.5	3,580.0	28.1	48.4	39.0
Natural (non-anthropogenic) Sources	86.5	5.0	164.2	1.5	16.6	14.1
Total Emissions	762.5	955.4	3,909.9	49.7	296.2	118.0
<b>Los Angeles County – South Coast Air Basin</b>						
Stationary (Point) Sources	65.16	42.41	37.50	18.00	14.44	10.22
Area-wide Sources	90.39	15.87	50.50	0.41	134.12	30.29
Mobile Sources	264.45	587.17	2,212.77	35.00	32.93	27.12
Natural (non-anthropogenic) Sources	40.55	1.94	64.99	0.6	6.56	5.56
Total Emissions	460.55	647.39	2,365.76	54.01	188.05	73.19

*Source: California Air Resources Board, June 2007.*

The U.S. EPA and the ARB use different standards for determining whether the Basin is in attainment. Federal and State standards are summarized in Table IV.C.1-3, Ambient Air Quality Standards.

**Table IV.C.1-3  
Ambient Air Quality Standards**

Air Pollutant	Averaging Time	State Standard	Federal Standard
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm	--
	8 Hour	0.07 ppm	0.08 ppm
Carbon Monoxide (CO)	1 Hour	20.0 ppm	35.0 ppm
	8 Hour	9.0 ppm	9.0 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1 Hour	18 ppm	--
Sulfur Dioxide (SO <sub>2</sub> )	1 Hour	0.25 ppm	--
	24 Hour	0.04 ppm	0.14 ppm
Particulate Matter 10 (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Particulate Matter 2.5 (PM <sub>2.5</sub> )	24 Hour	--	35 µg/m <sup>3</sup>

*Note: The Pb standard is not listed because of the phase-out of leaded gasoline.  
Source: California Air Resources Board, Ambient Air Quality Standards, website:  
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, November 2, 2007.*

The attainment status for the Los Angeles County portion of the Basin with regard to the national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) is shown in Table IV.C.1-4, Attainment Status for the South Coast Air Basin (Los Angeles County Portion).

**Table IV.C.1-4  
Attainment Status for the South Coast Air Basin (Los Angeles County Portion)**

Pollutant	Attainment Status	
	NAAQS	CAAQS
Carbon Monoxide	Serious Non-Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Ozone	Extreme Non-attainment	Non-attainment
PM <sub>10</sub>	Serious Non-Attainment	Non-attainment
PM <sub>2.5</sub>	Non-Attainment	Non-attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
<i>Source: California Air Resources Board: State Area Designation Maps found at <a href="http://www.arb.ca.gov/desig/adm">http://www.arb.ca.gov/desig/adm</a>, May 2008.</i>		

### Existing Local Air Quality

The SCAQMD divides the Basin into 38 source receptor areas (SRAs) in which 38 monitoring stations operate to monitor the various concentrations of air pollutants in the region. The Project Site is located within the City of Downey and is located within SRA 5, which covers the southeast Los Angeles County area.<sup>3</sup> However, the SCAQMD is currently not conducting routine air quality monitoring in this SRA. As such, air quality data collected by SCAQMD Station No. 084, which is the next nearest monitoring station to the Project Site, is used to represent the general ambient air quality in the vicinity of the Project Site. This station currently monitors emission levels of O<sub>3</sub>, CO, NO<sub>2</sub>, and PM<sub>2.5</sub>. Table IV.C.1-5, Summary of Ambient Air Quality in the Proposed Project Vicinity, identifies the national and State ambient air quality standards for the relevant air pollutants, along with the ambient pollutant concentrations that were measured at the SCAQMD Station No. 084 between 2005 and 2007.<sup>4</sup>

According to the air quality data from the SCAQMD Station No. 084 shown in Table IV.C.1-5, the national one-hour O<sub>3</sub> standard was not exceeded from 2005 to 2007, while the State one-hour O<sub>3</sub> standard was exceeded a total of two days from 2005 to 2007. The national 8-hour O<sub>3</sub> standard was not exceeded from 2005 to 2007, while the State 8-hour O<sub>3</sub> standard has been exceeded a total of three days from 2005 to 2007. For PM<sub>2.5</sub>, the national 24-hour standard was not exceeded from 2005 to 2007. Furthermore, no national or State standards for CO or NO<sub>2</sub> have been exceeded from 2005 to 2007.

<sup>3</sup> SCAQMD, website: <http://www.aqmd.gov/telemweb/areamap.asp>, July 1, 2007.

<sup>4</sup> The most current air quality data available pertaining to ambient pollutant concentrations over a three-year period provided by the SCAQMD is from 2005 to 2007.

**Table IV.C.1-5  
Summary of Ambient Air Quality in the Project Vicinity**

Air Pollutants Monitored <sup>a</sup>	Year		
	2005	2006	2007
<b>Ozone</b>			
Maximum one-hour concentration measured	0.111 ppm	0.09 ppm	0.102 ppm
Days exceeding national 0.12 ppm one-hour standard	0	0	0
Days exceeding State 0.09 ppm one-hour standard	1	0	1
Maximum 8-hour concentration	0.081 ppm	0.066 ppm	0.077 ppm
Days exceeding national 0.08 ppm 8-hour standard	0	0	0
Days exceeding State 0.07 ppm 8-hour standard	1	0	2
<b>Fine Particulate Matter (PM<sub>2.5</sub>)</b>			
Maximum national 24-hour concentration measured	54.6 µg/m <sup>3</sup>	55.0 µg/m <sup>3</sup>	49.0 µg/m <sup>3</sup>
Number of days exceeding national 65.0 µg/m <sup>3</sup> 24-hour standard	0	0	0
Maximum State 24-hour concentration measured <sup>b</sup>	54.6 µg/m <sup>3</sup>	55.0 µg/m <sup>3</sup>	49.0 µg/m <sup>3</sup>
<b>Carbon Monoxide (CO)</b>			
Maximum one-hour concentration measured	7.0 ppm	8.0 ppm	8.0 ppm
Days exceeding national 35.0 ppm one-hour standard	0	0	0
Days exceeding State 20.0 ppm one-hour standard	0	0	0
Maximum 8-hour concentration measured	5.9 ppm	6.4 ppm	5.1 ppm
Days exceeding national & State 9.0 ppm 8-hour standard	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
Maximum one-hour concentration measured	0.11 ppm	0.14 ppm	0.10 ppm
Days exceeding State 0.25 ppm one-hour standard	0	0	0
Annual Arithmetic Mean (AAM)	0.0312 ppm	0.0306 ppm	0.0291 ppm
Does measured AAM exceed national 0.0534 ppm AAM standard?	No	No	No
<i>Note: ppm = parts per million by volume µg/m<sup>3</sup> = micrograms per cubic meter</i>			
<sup>a</sup> As the SCAQMD currently does not conduct routine air quality monitoring in SRA 3, the air quality data from the SCAQMD monitoring Station 084, which is the next nearest monitoring station to the Project Site, is used in this table.			
<sup>b</sup> There is no separate 24-hour PM <sub>2.5</sub> standard in California.			
<i>Source: South Coast Air Quality Management District, 2004, 2005, 2006.</i>			

### Existing Air Pollutant Emissions in Local Vicinity

Air pollutant emissions are generated in the local vicinity of the Project Site by stationary and area-wide sources, such as space and water heating, landscape maintenance from leaf blowers and lawn mowers, consumer products, and mobile sources, primarily automobile traffic. Overall, motor vehicles are the primary source of pollutants in the Project Site vicinity.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO hotspots. The SCAQMD considers CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots. The SCAQMD defines typical sensitive receptors as residences, schools, playgrounds, childcare centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive

receptors to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they could be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

The SCAQMD recommends the use of CALINE4, a dispersion model for predicting CO concentrations, as the preferred method of estimating localized pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds to ambient CO air concentrations roadway-specific CO emissions calculated from peak-hour turning volumes. For this analysis, localized CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and accepted by the SCAQMD. The simplified procedure is intended as a screening analysis, which identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. The emission factors used in the analysis are from the ARB's "EMission FACTors" (EMFAC) 2007 model, which is the most recent model used to calculate emission rates from all motor vehicles operating on highways, freeways, and local roads in California.

Maximum one-hour and 8-hour CO concentrations were calculated for six study intersections that would experience the greatest increase in traffic volumes associated with the Project. The results of these calculations are presented in Table IV.C.1-6, Existing (2008) Localized Carbon Monoxide Concentrations, for representative receptors located at each roadway edge as well as at 25, 50, and 100 feet from each roadway. The distances of 25, 50, and 100 feet from each roadway were selected because they represent locations where a person may be living or working for more than eight hours at a time. The national one-hour CO ambient air quality standard is 35.0 ppm, and the State one-hour CO ambient air quality standard is 20.0 ppm. The 8-hour national and state standards for localized CO concentrations are 9.0 ppm.

As shown in Table IV.C.1-6, existing CO concentration levels at the study intersections currently do not exceed the national and State one-hour and 8-hour CO standards. Therefore, CO hotspots do not exist near these intersections.

### **Existing Site Emissions**

The Project Site is currently improved with the Downey Studios, an approximately 750,000 square-foot media and production facility including back lot space, office space, and parking lots. The Project Site is also a former aircraft manufacturing and National Aeronautics and Space Administration (NASA) industrial facility with connections to the U.S. manned spaceflight program dating to the 1960s. A total of 25 buildings, totaling approximately 1,457,268 square feet of development, related to this industry and the aforementioned Downey Studios structures exist on the Project Site.

**Table IV.C.1-6  
Existing (2008) Localized Carbon Monoxide Concentrations**

Intersection	CO Concentrations in Parts per Million <sup>a</sup>							
	Roadway Edge		25 feet		50 feet		100 feet	
	one-hour	8-Hour	one-hour	8-Hour	one-hour	8-Hour	one-hour	8-Hour
Lakewood Boulevard & Stewart and Gray Road	9.9	6.4	9.3	6.0	9.1	5.8	8.8	5.6
Bellflower Boulevard & Imperial Highway	12.1	8.0	10.8	7.0	10.2	6.7	9.6	6.2
Lakewood Boulevard & Gallatin Road	11.4	7.5	10.0	6.5	9.6	6.2	9.1	5.9
Paramount Boulevard & I-5 Southbound Ramps	12.9	8.5	10.9	7.1	10.2	6.7	9.6	6.2
Paramount Boulevard & Stewart and Gray Road	10.2	6.7	9.4	6.1	9.1	5.9	8.8	5.6
Stewart and Gray Road & Firestone Boulevard	11.9	7.8	10.3	6.7	9.8	6.4	9.3	6.0

<sup>a</sup> The national one-hour CO ambient air quality standard is 35.0 ppm, and the State one-hour CO ambient air quality standard is 20.0 ppm. National and State 8-hour standards are 9.0 parts per million.  
Traffic Information Source: RAJU Associates Inc., August 2008.  
Source: Christopher A. Joseph & Associates, 2008. Calculation data and results are provided in Appendix IV.C-1.

Air pollutant emissions are generated at the Project Site by stationary sources, such as space and water heating and architectural coatings (painting), and mobile vehicle traffic traveling to and from the site. The average daily emissions generated by the existing uses at the Project Site have been estimated utilizing the URBEMIS 2007 computer model recommended by the SCAQMD.<sup>5</sup> The results of these calculations are shown in Table IV.C.1-7, Existing (2008) Daily Operational Emissions at Project Site. Currently, the operational emissions of VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at the Project Site do not exceed the SCAQMD thresholds for operational emissions associated with these pollutants. As shown in Table IV.C.1-7, motor vehicles are the primary source of air pollutant emissions associated with existing uses at the Project Site.

### Regulatory Framework

Air quality in the United States is governed by the Federal Clean Air Act (CAA). In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, the CAA is administered by

<sup>5</sup> As the URBEMIS 2007 model does not have a land use entry for studio production facilities, the land use category of "general light industry" was used in the model run to estimate the existing Project Site emissions, with all applicable parameters modified to reflect that of the existing uses.

**Table IV.C.1-7  
Existing (2008) Daily Operational Emissions at Project Site <sup>a</sup>**

Emissions Source	Emissions in Pounds-per-Day					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Summertime (Smog Season) Emissions</b>						
Water and Space Heating	0.71	9.72	8.16	0.00	0.02	0.02
Architectural Coating	8.53	-	-	-	-	-
Motor Vehicles	24.26	12.67	155.34	0.12	21.29	4.05
<b>Total Emissions</b>	<b>33.50</b>	<b>22.39</b>	<b>163.50</b>	<b>0.12</b>	<b>21.31</b>	<b>4.07</b>
<b>Wintertime (Non-Smog Season) Emissions</b>						
Water and Space Heating	0.71	9.72	8.16	0.00	0.02	0.02
Architectural Coating	8.53	-	-	-	-	-
Motor Vehicles	19.14	15.66	150.11	0.10	21.29	4.05
<b>Total Emissions</b>	<b>28.38</b>	<b>25.38</b>	<b>158.27</b>	<b>0.10</b>	<b>21.31</b>	<b>4.07</b>
<sup>a</sup> As the URBEMIS 2007 model does not have a land use entry for studio uses, the land use category of "general office" was used in the model run to represent the existing uses at the Project Site. Source: Christopher A. Joseph & Associates, 2008. Computer sheets are provided in Appendix IV.C-1.						

the U.S. EPA. In California, the CCAA is administered by the ARB at the State level and by the Air Quality Management Districts at the regional and local levels.

Air quality within the Basin is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

### **Federal**

#### **U.S. EPA**

The U.S. EPA is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

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

## ***State***

### ***ARB***

The ARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the ARB conducts research, sets CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

### ***Off-Road Diesel Engines***

Off-road diesel vehicles, which include construction equipment, are also regulated by the ARB for both in-use (existing) and new engines. There have been four sets of standards implemented by the ARB for new off-road diesel engines, known as Tiers. Tier 1 standards began in 1996. Tier 2 and 3 were adopted in 2000 and were more stringent than the first tier. Tier 2 and 3 standards were completely phased in by 2006 and 2008, respectively. On December 9, 2004, the ARB adopted the Tier 4 or fourth phase of emission standards for late model year engines. These emission standards are nearly identical to those finalized by the US EPA in May 2004. These standards are designed to decrease PM and NO<sub>x</sub> emissions 90 percent below current levels beginning in 2011.

Since most off-road vehicles today have no emission controls and can last 30 years or longer, the ARB approved, on July 26, 2007, a regulation to reduce emission from existing (in-use) off-road diesel vehicles used in construction and other industries. It was approved by the California Office of Administrative Law (OAL) on May 16, 2008 and it became effective on June 15, 2008. This regulation includes an anti-idling limit of five minutes for all off-road vehicles 25 horsepower and up. This regulation also establishes emission rates targets that decline over time to accelerate turnover to newer, cleaner engines and require exhaust retrofits to meet these targets. The regulation will take affect on the larger fleets first with average compliance dates in 2010 while medium and small fleet requirements will achieve compliance in 2013 and 2015, respectively. This regulation also includes the Surplus Off-Road Opt-in for NO<sub>x</sub> (SOON) program. The local air districts may opt into the SOON program to reduce NO<sub>x</sub> emissions beyond what is required by the regulation. Staff at the SCAQMD proposed Rule 2449, which would implement the SOON program. This rule was adopted at the May 2, 2008 board meeting. Opting into this program is anticipated to achieve a 12 ton per day reduction in NO<sub>x</sub> by 2014.

## ***Regional***

### ***Southern California Association of Governments***

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. It is a regional planning agency

and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCPG was adopted in 1994 (amended in 1996) and is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2015, and beyond. Policies within the RCPG include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

### *SCAQMD*

The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, the SCAQMD, a regional agency, works directly with SCAG, county transportation commissions, and local governments, and cooperates actively with all State and federal government agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and provides regulatory enforcement through such measures as educational programs or fines, when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources to meet federal and State ambient air quality standards. It has responded to this requirement by preparing a series of AQMPs. The most recent of these was adopted by the Governing Board of the SCAQMD on June 1, 2007. This AQMP, referred to as the 2007 AQMP, was prepared to comply with the federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. The 2007 AQMP identifies the control measures that will be implemented over a 20-year horizon to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Basin. As discussed on pages 2 through 6 of the 2007 AQMP, the level of ambient pollutants monitored in the Basin has decreased substantially since 1985.

The future air quality levels projected in the 2007 AQMP are based on several assumptions. For example, the SCAQMD assumes that general new development within the Basin will occur in accordance with population growth and transportation projections identified by SCAG in its most current version of the RCPG, which was adopted in March 1996. The 2007 AQMP also assumes that general development projects will include feasible strategies (i.e., mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations which are designed to address air quality impacts and pollution control measures.

The 2007 AQMP incorporates new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling. General development projects would be affected in the form of applicable rules and regulations – if any – that are adopted as a result of the 2007 AQMP.

Although the SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the Basin. Instead, the SCAQMD has prepared the *CEQA Air Quality Handbook* to assist Lead Agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Basin.

### ***Local***

#### *City of Downey*

Local jurisdictions, such as the City of Downey, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Downey is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies on the expertise of the SCAQMD and utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

#### City of Downey General Plan

The City of Downey General Plan (Downey Vision 2025), which was adopted on January 25, 2005, contains goals, policies, and programs that are intended to guide land use and development decisions. The General Plan consists of a Land Use Designation Map and the following eight elements, or chapters, which together fulfill the state requirements for a General Plan:

- Land Use
- Circulation
- Conservation
- Noise
- Safety

- Open Space
- Design
- Economic Development

The issue of air quality is addressed as a sub-chapter within the Conservation Chapter of the Downey General Plan. The Conservation Chapter sets forth the goals, policies, and programs to guide the City in the implementation of its air quality improvement programs and strategies. The Conservation chapter acknowledges that local agencies can promote improvements to air quality through land use decisions that discourage uses that are major contributors to air pollution; by providing sufficient areas for land uses to serve residents locally, thereby reducing the length of vehicle trips; promoting the use of alternative fuel vehicles; and encouraging alternative modes of travel, such as walking, biking, and public transit. The goals and policies applicable to the area of air quality relative to the Proposed Project are as follows:

Goal 4.5. Encourage activities that improve air quality.

Policy 4.5.1. Pursue all available means and opportunities to reduce air particulate and pollutants within the City and region.

Policy 4.5.2. Improve air quality through land use decisions

## **ENVIRONMENTAL IMPACTS**

### **Methodology**

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the Proposed Project. Air pollutant emissions associated with the Proposed Project would result from project operations and from project-related traffic volumes. Construction activities would also generate air pollutant emissions at the Project Site and on roadways resulting from construction-related traffic. The net increase in Project Site emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to thresholds of significance recommended by the SCAQMD (see Project Impacts subheading, below).

### ***Construction Emissions***

The regional construction emissions associated with the Proposed Project are calculated using the URBEMIS 2007 computer model developed for the ARB by estimating the maximum types and number of pieces of equipment that would be used daily during the most intensive construction activities within the 79-acre Project Site over the 20-year buildout period. Because the timing and sequencing of the development of the proposed land uses within the Project Site have not been determined at this time, an analysis of the projected worst-case scenario for construction activity at the Project Site is performed for the purpose of this analysis by evaluating an estimated time period where the most intensive work is expected to occur at the site. The construction emissions are analyzed according to the regional thresholds established by the SCAQMD and published in the CEQA *Air Quality Handbook*. The various

construction activities associated with the Proposed Project that would occur throughout the Project Site over the 20-year buildout period would cause diesel emissions and generate emissions of dust. Construction equipment within the Project Site that would generate criteria air pollutants could include equipment such as excavators, graders, dump trucks, and loaders. In addition, emissions generated during construction activities would also include export truck trips offsite to remove debris and delivery truck trips during demolition and building activities, respectively. It is assumed that all of the construction equipment used at the site for the Proposed Project would be diesel-powered.

To determine whether or not construction activities associated with the Proposed Project would create significant adverse localized air quality impacts on nearby sensitive receptors located offsite, the emissions contribution from the Proposed Project during the most intensive construction activities at the Project Site over the 20-year buildout period is also analyzed according to SCAQMD's localized significance threshold (LST) methodology. Under this methodology, projects that are greater than five acres in size should perform air quality dispersion modeling to determine whether construction activities would cause or contribute to adverse localized air quality impacts. The criteria pollutants that are required to be analyzed include  $\text{NO}_x$ , CO,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$ . In terms of  $\text{NO}_x$  emissions, the two principal species of  $\text{NO}_x$  are nitric oxide (NO) and  $\text{NO}_2$ , with the vast majority (95 percent) of the  $\text{NO}_x$  emissions being comprised of NO. However, because adverse health effects are associated with  $\text{NO}_2$ , not NO, the analysis of localized air quality impacts associated with  $\text{NO}_x$  emissions is focused on  $\text{NO}_2$  levels. NO is converted to  $\text{NO}_2$  by several processes, the two most important of these are (1) the reaction of NO with  $\text{O}_3$ , and (2) the photochemical reaction of NO with hydrocarbons. When modeling  $\text{NO}_2$  emissions from combustion sources, the SCAQMD assumes that the conversion of NO to  $\text{NO}_2$  is complete at a distance of 5,000 meters from the source. For the purpose of conducting a worst-case analysis, this analysis will assume that all of the  $\text{NO}_x$  emissions generated at the Project Site are  $\text{NO}_2$ .

Prior to the development of any new land uses within the Project Site, the existing buildings onsite, with the exception of the front section of the original EMSCO building and the two Kauffman wings, would first be demolished. As demolition activities would occur across the entire Project Site, air dispersion modeling of the emissions from the demolition activities was performed within the perimeter boundary of the 79-acre site to determine the pollutant concentrations at the surrounding off-site receptors. In terms of the construction activities that would be performed for the development of new land uses onsite involving grading, excavation, and building activities, a different modeling approach was used because development of the proposed land uses within the Project Site over the course of the Project's 20-year buildout period would be market driven such that development within the site would occur in response to the existing and future needs of Downey's residential and commercial markets. Due to this nature of the Proposed Project, it is not possible to determine at this time exactly when and where new development would occur over the 20-year buildout period within the 79-acre Project Site. Construction of new land uses could either occur at one particular development area within the Project Site or concurrently at more than one development area within the site. Thus, for the purpose of conducting conservative air quality dispersion modeling for the Proposed Project, the various areas within the 79-acre Project Site where development could potentially occur were broken down into 13 individual module areas that were modeled separately for localized air quality impacts on off-site receptors. For modeling purposes, the construction emissions representing a worst-case construction day scenario associated with the Proposed

Project for grading, excavation, and building work were estimated, and these resulting emissions were then applied to each of the 13 module areas for separate modeling. Although actual construction of the Proposed Project may not occur distinctively at these 13 module areas, this dispersion modeling method allows for the worst-case pollutant concentration levels at all of the surrounding off-site receptors resulting from construction of the Proposed Project to be identified. The 13 modules within the site that were used for modeling are shown in Figure IV.C-1, Air Dispersion Modeling Modules for Proposed Project.

In accordance with the SCAQMD's LST methodology, volume sources were set up and used to model the exhaust (i.e., combustion) emissions from construction equipment while area sources were used to model the fugitive dust emissions of the Proposed Project. For each criteria pollutant (i.e., NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>), the highest mass emission level for that pollutant resulting from the various construction activities (e.g., demolition, grading/excavation, and building) was used for modeling of local air quality impacts on off-site receptors. Meteorological data provided by the SCAQMD for Lynwood, which is nearest SCAQMD monitoring station to the Project Site, was used to run the dispersion model for the Proposed Project.

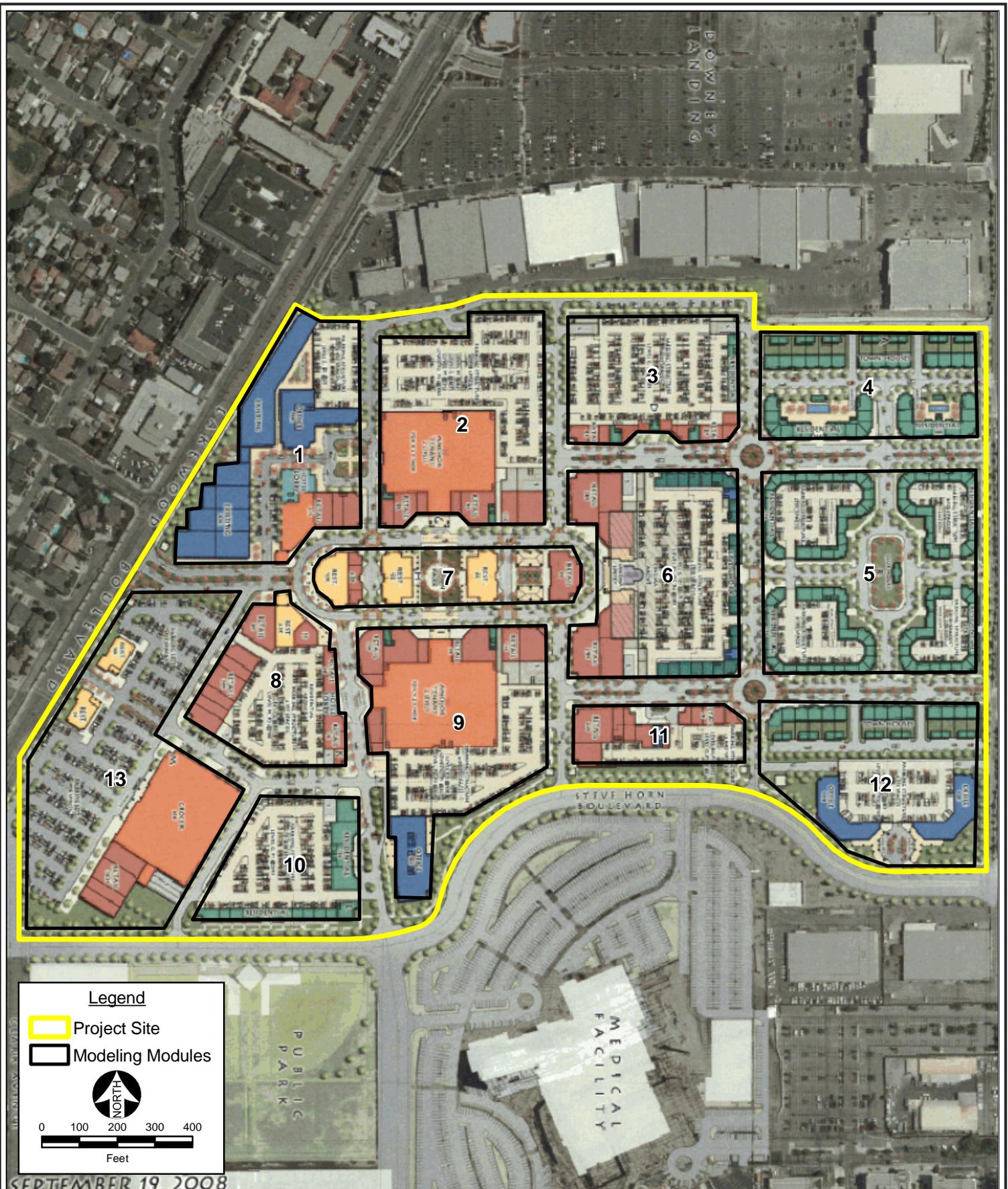
Estimated peak concentration levels of NO<sub>2</sub> and CO that would be generated by construction activities associated with the Proposed Project were added to their respective ambient concentrations to determine whether the most stringent applicable State and/or federal ambient air quality standards were exceeded for each pollutant. If the most stringent State and/or federal ambient air quality standards for NO<sub>2</sub> and CO were exceeded, then it was concluded that significant localized air quality impacts associated with these pollutants would occur. As shown in Table IV.C.1-5, the most current peak background concentrations for NO<sub>2</sub>, one-hour CO, and 8-hour CO are 0.10 ppm, 8.0 ppm, and 5.1 ppm, respectively.

The determination of localized air quality impacts associated with PM<sub>10</sub> and PM<sub>2.5</sub> generated during construction was done differently than CO and NO<sub>x</sub>, since nearly the entire Basin exceeds the State or federal PM<sub>10</sub> and PM<sub>2.5</sub> standards.<sup>6</sup> As such, determining the background PM<sub>10</sub> and PM<sub>2.5</sub> concentrations were unnecessary. For PM<sub>10</sub> and PM<sub>2.5</sub>, the peak concentration levels of these pollutants determined from air quality dispersion modeling of the Proposed Project were analyzed to determine whether the concentrations would exceed the established threshold set by the SCAQMD. If the established threshold was exceeded, then it was determined that a significant adverse localized air quality impacts associated with PM<sub>10</sub> and PM<sub>2.5</sub> would occur.

For the purposes of a CEQA analysis for localized air quality impacts, the SCAQMD considers a sensitive receptor to be a receptor where it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the SCAQMD's definition of sensitive receptors because employees do not typically remain onsite for a full 24 hours, but are present for shorter periods of

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<sup>6</sup> SCAQMD, *Final Localized Significance Threshold Methodology*, June 2003, Revised July 2008.



Source: Development Design Group, Inc., County of Los Angeles and Christopher A. Joseph & Associates; October 2008.



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Environmental Planning and Research

Figure IV.C-1  
Air Dispersion Modeling  
Modules for Proposed Project

time, such as eight hours. Thus, according to the SCAQMD, the LSTs for PM<sub>10</sub> and PM<sub>2.5</sub> that are based on a 24-hour averaging period are appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors. Additionally, since a sensitive receptor is considered to be present onsite for 24 hours, LSTs based on shorter averaging times, such as the one-hour NO<sub>2</sub> or the one-hour and 8-hour CO ambient air quality standards also apply when evaluating localized air quality impacts on sensitive receptors. However, LSTs based on shorter averaging periods, such as the NO<sub>2</sub> and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that workers at these sites could be present for periods of one to eight hours.<sup>7</sup> Therefore, this analysis evaluates localized air quality impacts from construction activities associated with the Proposed Project on sensitive receptors for NO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>, and on “non-sensitive” receptors (e.g., industrial or commercial facilities) for NO<sub>2</sub> and CO.

### ***Operational Emissions***

Operational emissions associated with the Proposed Project were estimated using the URBEMIS 2007 computer model developed for the ARB and the information provided in the traffic study prepared for the Proposed Project. Operational emissions would be comprised of mobile source emissions and area source emissions. Mobile source emissions would be generated by the increase in motor vehicle trips to and from the Project Site associated with operation of the Proposed Project. Area source emissions would be generated by natural gas consumption for space and water heating, and landscape maintenance equipment. To determine if a regional air quality impact would occur, the increase in emissions was compared with the SCAQMD’s recommended regional thresholds for operational emissions.

As for localized air quality impacts associated with operational emissions generated by the Proposed Project, the SCAQMD indicated that the LST methodology would typically not apply to the operational phase of a project because emissions are primarily generated by mobile sources traveling on local roadways over potentially large distances or areas. As such, the LST methodology would apply to the operational phase of a project if the project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site, such as warehouse/transfer facilities.<sup>8</sup> In terms of stationary sources, operational emissions associated with these sources are typically analyzed if their operation requires permitting by the SCAQMD (e.g., boilers, combustion equipment, large HVAC units, etc.).<sup>9</sup> Such stationary sources are usually associated with manufacturing and industrial land uses. As the Proposed Project would not include the development of any distribution centers or warehouse/transfer facilities, and would not involve the use of stationary sources that generate high levels of emissions, localized air quality impacts associated with operational emissions generated by the Proposed Project were not analyzed in this document.

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<sup>7</sup> *Ibid.*

<sup>8</sup> SCAQMD, *Final Sample Construction Scenario Report*, February 2005.

<sup>9</sup> *Phone correspondence with James Koizumi, Air Quality Specialist, SCAQMD, April 25, 2007.*

### ***Localized CO Concentrations***

Localized CO concentrations associated with the Proposed Project were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District and accepted by the SCAQMD. The simplified model is intended as a screening analysis, and identifies a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. The emission factors used in the simplified CALINE4 model were updated to EMFAC2007. The resulting emissions were compared with adopted national and State ambient air quality standards.

### **Thresholds of Significance**

In accordance with Appendix G to the State CEQA Guidelines, the project would have a significant air quality impact if it would cause any of the following to occur:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including release in emissions which exceed quantitative thresholds for O<sub>3</sub> precursors);
- d) Expose sensitive receptors to substantial pollutant concentrations; or
- e) Create objectionable odors affecting a substantial number of people.

### ***Consistency with the Applicable AQMP***

For general development projects, the SCAQMD recommends that consistency with the current AQMP be determined by comparing the population generated by the project to the population projections used in the development of the AQMP. Exceeding the AQMP population projections could jeopardize attainment of the air quality conditions projected in the AQMP, and would potentially result in a significant impact.

### ***Violation of Air Quality Standards or Substantial Contribution to Air Quality Violations***

#### ***Construction Period Emissions – Regional Mass Daily Emissions***

The SCAQMD's regional emission thresholds apply to all federally regulated air pollutants except lead, which is not exceeded in the Basin. Table IV.C.1-8, SCAQMD's Regional Emission Thresholds of Significance, shows the thresholds of significance published by the SCAQMD for construction and operational emissions that apply to development projects.

**Table IV.C.1-8  
SCAQMD's Regional Emission Thresholds of Significance**

Pollutant	Construction	Operation
	pounds/day	pounds/day
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO <sub>x</sub> )	150	150
Respirable Particulate Matter (PM <sub>10</sub> )	150	150
Fine Particulate Matter (PM <sub>2.5</sub> )	55	55
Nitrogen Oxides (NO <sub>x</sub> )	100	55
Reactive Organic Gases (ROG)	75	55

*Source: SCAQMD CEQA Air Quality Handbook, 1993, website: <http://aqmd.gov/ceqa/handbook/signthres.doc>, July 7, 2008.*

The SCAQMD also recommends that any construction-related and operational emissions from individual development projects that exceed the construction and operational thresholds, shown in Table IV.C.1-8, to be considered cumulatively considerable. These thresholds apply to individual development projects only; they do not apply to the combined emissions generated by a set of cumulative development projects.

*Construction Period Emissions – Localized Daily Pollutant Concentrations*

The SCAQMD currently recommends that projects with site-specific construction-related emissions that generate the following localized pollutant concentrations at existing human receptors be considered significant:

- 10.4 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of PM<sub>10</sub> averaged over a 24-hour period; or
- 10.4 micrograms per cubic meter of PM<sub>2.5</sub> averaged over a 24-hour period.

Because the Basin is currently in attainment of the national and State ambient air quality standards for NO<sub>2</sub> and CO, the SCAQMD currently recommends that projects with construction-related emissions that cause the following ambient air quality standards to be exceeded or contributes substantially to an exceeded standard at existing human receptors should be considered significant:

- 0.18 parts per million NO<sub>2</sub> averaged over a one-hour period (State standard);
- 20 parts per million of CO averaged over a one-hour period (State standard); or
- 9.0 parts per million of CO averaged over an 8-hour period (national and State standard).

*Cumulatively Considerable Net Increase of Criteria Pollutants*

The SCAQMD's *CEQA Air Quality Handbook* identifies several methods to determine the cumulative significance of land use projects (i.e., whether the contribution of a project is cumulatively considerable).

However, the SCAQMD no longer recommends the use of these methodologies. Instead, the SCAQMD recommends that any construction-related emissions and operational emissions from individual development projects that exceed the project-specific mass daily emissions thresholds identified above also be considered cumulatively considerable.<sup>10</sup> The SCAQMD neither recommends quantified analyses of the emissions generated by a set of cumulative development projects nor provides thresholds of significance to be used to assess the impacts associated with these emissions.

### ***Exposure of Sensitive Receptors to Substantial Pollutant Concentrations***

#### *Localized Pollutant Concentrations*

The SCAQMD currently recommends that impacts to sensitive receptors be considered significant when a project generates localized pollutant concentrations of NO<sub>2</sub>, CO, PM<sub>10</sub>, or PM<sub>2.5</sub> at sensitive receptors near a Project Site that exceed the localized pollutant concentration thresholds listed above or when a project's traffic causes CO concentrations at sensitive receptors located near congested intersections to exceed the national or State ambient air quality standards. The roadway CO thresholds would also apply to the contribution of emissions associated with cumulative development.

### **Project Impacts**

#### ***AQMP Consistency***

The 2007 AQMP, discussed previously, was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, and to return clean air to the region. Projects that are considered to be consistent with the AQMP would not interfere with attainment, because the growth associated with the project is included in the projections used to formulate the AQMP. Therefore, projects, land uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Projects that are consistent with the projections of population forecasts identified in the Growth Management Chapter of the RCPG are considered consistent with the AQMP growth projections, since the Growth Management Chapter forms the basis of the land use and transportation control portions of the AQMP.

As discussed in Section IV.J. Population, Housing, and Employment, construction of the Proposed Project is expected to result in approximately 4,883 net new permanent residents in the City of Downey. Based on SCAG's projection for the City of Downey, population is anticipated to increase by 8,024 between 2003 and 2020 (anticipated Project buildout year). Thus, the addition of an estimated 4,883 new

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<sup>10</sup> *White Paper on Regulatory Options for Addressing Cumulative Impacts from Air Pollution Emissions, SCAQMD Board Meeting, September 5, 2003, Agenda No. 29, Appendix D, p. D-3.*

residents under the Proposed Project would be within SCAG's projections, representing 60.9 percent of the anticipated Citywide total growth for the period of 2003 to 2020. As the Proposed Project would be within the projections for population growth within the City, the Proposed Project would be consistent with the population projections for the Gateway Cities Council of Governments (GCCOG) Subregion. Consequently, the Proposed Project would not jeopardize attainment of State and national ambient air quality standards in the Basin and the Los Angeles County portion of the Basin.

Another measurement tool to determine consistency with the AQMP is to assess how a project accommodates the expected increase in population or employment. Generally, if a project is planned in a way that results in the minimization of vehicle miles traveled (VMT) both within the Project Site and the community in which it is located, and consequently the minimization of air pollutant emissions, that aspect of the project is consistent with the AQMP.

The Proposed Project involves the development of an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site that is intended to promote the development of a mixed-use, urban infill, comprehensively designed, and coordinated development that implements state-of-the-art planning concepts and principles to promote a diverse, walkable, compact, and vibrant, mixed-use community. One of the primary intentions of the Proposed Project is to strategically locate new residential, commercial, office, and public open space uses on the Project Site such that each land use transitions into another so as to promote the development of a walkable community where alternative modes of travel, such as walking and cycling, to vehicle use is encouraged. In addition, several bus lines and one rail line operated by the Los Angeles County Metropolitan Transportation Authority (MTA) and the City of Downey currently serve the immediate vicinity of the Proposed Project. Bus lines operating in proximity to the Project Site include MTA lines 115/315, 117, 121, 127, 265, and 266. All of these bus lines run everyday, including holidays. The Metro Green Line, which has a station at the intersection of Lakewood Boulevard and the Century Freeway, is located approximately 0.25 miles southwest of the Project Site and provides services between Redondo Beach and Norwalk while also providing connectivity to the Metro Blue Line and Harbor Transit-way. The Downey Link South East Line, which begins and ends at the Downey Depot Transportation Center, is a local line that provides service to southeast Downey. This line travels primarily along Firestone Boulevard, Bellflower Boulevard, Stewart & Gray Road, Washburn Road, and Woodruff Avenue within the study area. Thus, the Proposed Project is planned in a way that would result in the minimization of VMT both within the project area and the community in which it is located, thereby, minimizing the amount of air pollutant emissions. Therefore, the Proposed Project would be consistent with the goals of the AQMP for reducing the emissions associated with new development. Based on this information, the Proposed Project would not impair implementation of the AQMP, and this impact would be less than significant.

### ***Construction Impacts***

Development of the Proposed Project involves the demolition of most of the on-site structures (the front portion of Building 1 which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished), and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses, including up to

675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project also includes development of up to 125,000 square feet of open space, 850,000 square feet of parking facilities dispersed among several multi-level parking structures, on-street parking, and surface parking lots.

Three basic types of activities would occur and generate construction-related emissions at the Project Site during the development of the Proposed Project. Prior to the construction of new structures within the Project Site, demolition of the existing on-site structures (with the exception of the front portion of Building 1 which includes the front section of the original EMSCO building and the Kauffman wings) across the entire Project Site would occur. The debris from the demolished structures would be exported to a landfill. Secondly, the construction locations where new structures associated with each of the new land uses proposed under the Proposed Project would be excavated to accommodate the building foundation for the proposed buildings/structures, and the excavated soil would be exported. Finally, the proposed buildings/structures would be constructed. Overall, construction activities associated with the development of the new land uses proposed under the Proposed Project at the Project Site would occur over an approximate 20-year period, with the first construction activity estimated to begin some time in 2009.<sup>11</sup>

Construction activities associated with each new development at the Project Site would generate pollutant emissions from the following construction activities: (1) demolition, grading, and excavation; (2) construction workers traveling to and from the Project Site; (3) delivery and hauling of construction supplies to and debris from the Project Site; (4) the fuel combustion by onsite construction equipment; and (5) building construction, including the application of architectural coatings. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. Construction activities involving site preparation and grading would primarily generate PM<sub>10</sub> emissions. Mobile source emissions (use of diesel-fueled equipment onsite, and traveling to and from the Project Site) would primarily generate NO<sub>x</sub> emissions. The application of architectural coatings would primarily result in the release of ROG emissions. The amount of emissions generated on a daily basis would vary, depending on the amount and types of construction activities occurring at the same time.

### *Regional Air Quality Impacts*

The analysis of regional daily construction emissions was prepared utilizing the URBEMIS 2007 computer model recommended by the SCAQMD. Due to the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each phase of the proposed construction activities. In addition, the timing

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<sup>11</sup> *The use of 2009 as the construction start year at the Project Site is an arbitrary date that was selected for the sole purpose of conducting a quantitative analysis for the Proposed Project. It should be noted that the timing of the first construction activity for the Proposed Project has not been determined at this time, and so construction may very well occur at a later time after 2009.*

and sequencing of the development of the proposed land uses within the Project Site have not been determined at this time as the development of the proposed land uses within the Project Site would be market driven such that development within the site would occur in response to the existing and future needs of Downey's residential and commercial markets over a 20-year period. However, for the purpose of this analysis, the construction emissions for a worst-case construction day scenario at the Project Site were estimated using a conservative mix of construction equipment and hours of operation to calculate peak day emissions. The modeling parameters for this worst-case construction day scenario are set forth in detail in Appendix IV.C-1 to this Draft EIR.

Table IV.C.1-9, Estimated Peak Daily Emissions for Construction Activities at Project Site, identifies daily emissions that are estimated to occur on peak construction days associated with each of the different construction activities (demolition, grading/excavation, building, etc.) at the Project Site. These calculations assume that appropriate dust control measures would be implemented during each phase of development as required by SCAQMD Rule 403—Fugitive Dust.

**Table IV.C.1-9  
Estimated Peak Daily Emissions for Construction Activities at Project Site**

Emissions Source	Emissions in Pounds-per-Day					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Demolition Phase</b>						
Fugitive Dust	0.00	0.00	0.00	0.00	126.89	26.39
Off-Road Diesel	8.18	69.04	33.43	0.00	3.37	3.10
On-Road Diesel	15.39	204.95	78.65	0.24	9.41	8.16
Worker Trips	0.14	0.27	4.51	0.01	0.04	0.02
<b>Total Emissions</b>	<b>23.71</b>	<b>274.26</b>	<b>116.59</b>	<b>0.25</b>	<b>139.71</b>	<b>37.67</b>
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	Yes	No	No	No	No
<b>Site Grading/Excavation Phase</b>						
Fugitive Dust	0.00	0.00	0.00	0.00	365.00	76.23
Off-Road Diesel Equipment	4.20	31.88	15.69	0.00	1.97	1.81
On-Road Diesel Equipment	8.31	110.59	42.44	0.13	5.08	4.40
Worker Trips	0.05	0.10	1.69	0.00	0.01	0.01
<b>Total Emissions</b>	<b>12.56</b>	<b>142.57</b>	<b>59.82</b>	<b>0.13</b>	<b>372.06</b>	<b>82.45</b>
Dust Control Measures <sup>a</sup>	0.00	0.00	0.00	0.00	(253.49)	(52.94)
<b>Total Emissions after Mitigation</b>	<b>12.56</b>	<b>142.57</b>	<b>59.82</b>	<b>0.13</b>	<b>118.57</b>	<b>29.51</b>
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	No	Yes	No	No	No	No
<b>Building Construction Phase</b>						
Building Construction Off-Road Diesel Equipment	5.05	22.71	16.11	0.00	1.75	1.61
Building Construction Vendor Trips	0.85	9.79	7.73	0.02	0.47	0.40
Building Construction Worker Trips	1.27	2.38	40.39	0.05	0.36	0.19
Architectural Coatings	97.33	0.00	0.00	0.00	0.00	0.00
Architectural Coatings Worker Trips	0.06	0.11	1.83	0.00	0.02	0.01

**Table IV.C.1-9  
Estimated Peak Daily Emissions for Construction Activities at Project Site**

Emissions Source	Emissions in Pounds-per-Day					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Paving Off-Gas	0.71	0.00	0.00	0.00	0.00	0.00
Paving Off-Road Diesel	2.83	17.11	9.81	0.00	1.49	1.37
Paving On-Road Diesel	0.23	3.05	1.17	0.00	0.14	0.12
Paving Worker Trips	0.07	0.12	2.10	0.00	0.02	0.01
<b>Total Emissions</b>	<b>108.40</b>	<b>55.27</b>	<b>79.14</b>	<b>0.07</b>	<b>4.25</b>	<b>3.71</b>
SCAQMD Thresholds	75.00	100.00	550.00	150.00	150.00	55.00
Significant Impact?	<b>Yes</b>	No	No	No	No	No

<sup>a</sup> Dust control measures as required by SCAQMD Rule 403—Fugitive Dust.  
Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix IV.C-1.

As shown in Table IV.C.1-9, construction-related daily emissions that were analyzed for the worst-case construction scenario would exceed SCAQMD significance thresholds for NO<sub>x</sub> during the site demolition and site grading and excavation phases, while the peak daily emissions of the other five construction-related emissions (ROG, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) would not exceed SCAQMD significance thresholds during these two phases. The exceedance of the SCAQMD significance threshold for NO<sub>x</sub> during the site demolition and site grading and excavation phases is primarily due to the number of off-site haul truck trips that would occur on an estimated peak construction day at the Project Site during these two phases. As such, the regional air quality impact associated with NO<sub>x</sub> emissions would be significant. The regional air quality impacts associated with ROG, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions during the demolition and grading/excavation phases would be less than significant.

The construction-related daily emissions generated during the building phase at the Project Site would exceed the regional emission threshold recommended by the SCAQMD for ROG, while the other criteria pollutants (CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) would not exceed their respective SCAQMD regional significance thresholds. The exceedance of the SCAQMD significance threshold for ROG during the building phase is primarily due to the emissions generated during the application of architectural coatings for the new on-site buildings on an estimated peak construction day at the Project Site. As such, the regional air quality impact associated with ROG emissions would be significant. The regional air quality impacts associated with CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions during the building phase would be less than significant.

#### *Local Air Quality Impacts*

The daily construction emissions generated by the Proposed Project also were analyzed to determine whether or not they would result in significant adverse localized air quality impacts on nearby sensitive receptors located offsite. In accordance with SCAQMD's methodology for analyzing localized air quality impacts, air quality dispersion modeling was performed for the Proposed Project to determine whether construction activities at the Project Site would cause or contribute to adverse localized air quality impacts on nearby off-site sensitive receptors. Given that the timing and sequencing of the development

of the proposed land uses within the Project Site have not been determined at this time, an analysis of the projected worst-case scenario for construction activity at the Project Site, similar to that done for the regional air quality analysis, was performed for the purpose of this analysis. As discussed previously, the criteria pollutants that are required to be analyzed include NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

For air quality dispersion modeling purposes, the input data related to the construction emissions generated at the Project Site is required to be more precise than the mass daily emissions calculated by URBEMIS. To generate more precise construction emissions for a project, the SCAQMD recommends that their sample scenario LST spreadsheets be used for this purpose.<sup>12</sup> The individual LST spreadsheets showing the calculations of NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions during each phase of construction are available in Appendix IV.C-1 to this Draft EIR.

The estimated peak daily emissions generated by the projected worst-case construction scenario for each of the on-site construction activities (e.g., demolition, grading/excavation, building, etc.) from the LST spreadsheets are shown in Table IV.C.1-10, Peak On-Site Construction Emissions from SCAQMD Sample LST Spreadsheets. The emission levels for the criteria pollutants shown in Table IV.C.1-10 were inputted into the dispersion model to determine the pollutant concentrations at the nearby off-site receptors. The data sheets from the dispersion modeling software are provided in Appendix IV.C-1.

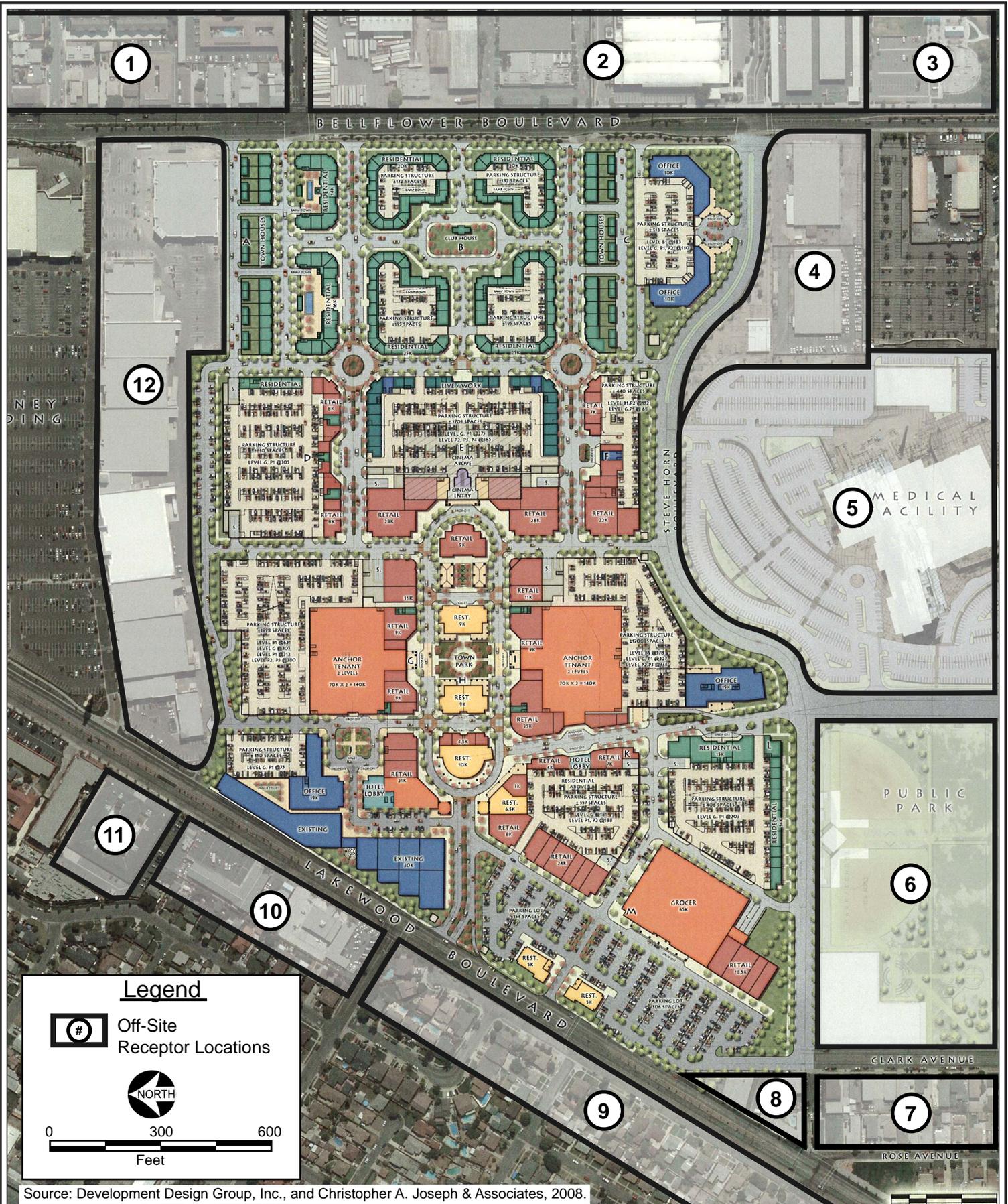
**Table IV.C.1-10**  
**Peak On-Site Construction Emissions**  
**from SCAQMD Sample LST Spreadsheets**

Construction Activity	Total On-Site Construction Emissions in lbs/day			
	CO	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition	78.90	162.53	13.55	9.65
Site Grading and Excavation	23.19	54.15	6.21	3.56
Building	21.00	40.63	2.52	2.32
Architectural Coating and Paving	15.40	27.88	1.98	1.82

*Source: Christopher A. Joseph & Associates, October 2008. Sample LST spreadsheet: Appendix E – Five Acre Site Example, included in Appendix IV.C-1 to this DEIR.*

Figure IV.C-2, Nearest Off-Site Receptor Locations, shows the nearest off-site uses (both existing and proposed) surrounding the Project Site, including sensitive and non-sensitive (e.g., commercial and industrial uses) receptors, that could potentially be subject to localized air quality impacts associated with the projected worst-case construction scenario for the Proposed Project. The pollutant concentrations at

<sup>12</sup> *Sample LST spreadsheet: Appendix E – Five Acre Site Example, SCAQMD website: <http://www.aqmd.gov/ceqa/handbook/LST/LST.html>, July 28, 2008.*



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Figure IV.C-2  
Nearest Off-Site  
Receptor Locations

these off-site receptors resulting from the various construction activities at the Project Site are shown in Table IV.C.1-11, Estimated Worst-Case Daily Construction Pollutant Concentrations at Off-Site Receptors.

**Table IV.C.1-11  
Estimated Worst-Case Daily Construction Pollutant Concentrations at Off-Site Receptors**

Off-Site Receptor Location	Existing/Proposed Land Use <sup>b</sup>	Construction Activity	Pollutant Concentrations Pounds-per-Day <sup>a</sup>				
			one-hour NO <sub>2</sub> (ppm)	one-hour CO (ppm)	8-Hour CO (ppm)	24-Hour PM <sub>10</sub> (µg/m <sup>3</sup> ) <sup>c</sup>	24-Hour PM <sub>2.5</sub> (µg/m <sup>3</sup> ) <sup>c</sup>
1	Residential	Demolition	<b>0.42</b>	8.26	5.18	4.78	3.12
		Grading/Excavation	<b>0.73</b>	8.44	5.25	<b>16.55</b>	3.11
		Building	<b>0.60</b>	8.41	5.24	7.20	2.17
		Architectural Coating and Paving	<b>0.42</b>	8.29	5.20	5.28	1.59
2	Industrial	Demolition	<b>0.55</b>	8.36	5.15	N/A	N/A
		Grading/Excavation	<b>0.51</b>	8.29	5.20	N/A	N/A
		Building	<b>0.42</b>	8.27	5.19	N/A	N/A
		Architectural Coating and Paving	<b>0.31</b>	8.19	5.17	N/A	N/A
3	Park	Demolition	<b>0.43</b>	8.26	5.13	2.73	1.83
		Grading/Excavation	<b>0.40</b>	8.21	5.14	5.35	2.91
		Building	<b>0.34</b>	8.20	5.14	2.32	2.02
		Architectural Coating and Paving	<b>0.25</b>	8.14	5.13	1.70	1.49
4	Industrial	Demolition	<b>0.53</b>	8.34	5.16	N/A	N/A
		Grading/Excavation	<b>0.41</b>	8.22	5.19	N/A	N/A
		Building	<b>0.34</b>	8.20	5.18	N/A	N/A
		Architectural Coating and Paving	<b>0.26</b>	8.14	5.16	N/A	N/A
5	Hospital	Demolition	<b>0.36</b>	8.21	5.15	4.56	2.58
		Grading/Excavation	<b>0.45</b>	8.24	5.17	9.11	4.74
		Building	<b>0.38</b>	8.23	5.17	3.96	3.30
		Architectural Coating and Paving	<b>0.28</b>	8.16	5.15	2.91	2.42
6	Park	Demolition	<b>0.60</b>	8.40	5.18	7.57	4.03
		Grading/Excavation	<b>0.63</b>	8.37	5.31	<b>26.87</b>	<b>13.80</b>
		Building	<b>0.52</b>	8.35	5.30	<b>11.68</b>	9.61
		Architectural Coating and Paving	<b>0.37</b>	5.25	5.24	8.57	7.06
7	Residential	Demolition	<b>0.50</b>	8.32	5.15	4.64	2.68
		Grading/Excavation	<b>0.68</b>	8.41	5.18	<b>10.40</b>	5.83
		Building	<b>0.56</b>	8.38	5.18	4.52	4.06
		Architectural Coating and Paving	<b>0.40</b>	8.27	5.16	3.32	2.98

**Table IV.C.1-11**  
**Estimated Worst-Case Daily Construction Pollutant Concentrations at Off-Site Receptors**

Off-Site Receptor Location	Existing/Proposed Land Use <sup>b</sup>	Construction Activity	Pollutant Concentrations Pounds-per-Day <sup>a</sup>				
			one-hour NO <sub>2</sub> (ppm)	one-hour CO (ppm)	8-Hour CO (ppm)	24-Hour PM <sub>10</sub> (µg/m <sup>3</sup> ) <sup>c</sup>	24-Hour PM <sub>2.5</sub> (µg/m <sup>3</sup> ) <sup>c</sup>
8	Hotel	Demolition	<b>0.70</b>	8.48	5.17	7.34	3.50
		Grading/Excavation	<b>0.56</b>	8.33	5.19	<b>11.14</b>	6.12
		Building	<b>0.47</b>	8.30	5.19	4.84	4.26
		Architectural Coating and Paving	<b>0.34</b>	8.22	5.16	3.55	3.13
9	Residential	Demolition	<b>0.58</b>	8.38	5.21	7.64	4.44
		Grading/Excavation	<b>0.57</b>	8.33	5.22	<b>13.53</b>	8.42
		Building	<b>0.47</b>	8.31	5.21	5.88	5.86
		Architectural Coating and Paving	<b>0.34</b>	8.22	5.18	4.31	4.30
10	Commercial	Demolition	<b>0.50</b>	8.32	5.19	N/A	N/A
		Grading/Excavation	<b>0.48</b>	8.27	5.22	N/A	N/A
		Building	<b>0.40</b>	8.25	5.21	N/A	N/A
		Architectural Coating and Paving	<b>0.30</b>	8.18	5.18	N/A	N/A
11	Alzheimer's and Dementia Care Center	Demolition	<b>0.40</b>	8.24	5.16	4.35	3.02
		Grading/Excavation	<b>0.50</b>	8.28	5.18	10.35	5.92
		Building	<b>0.42</b>	8.26	5.17	4.50	4.13
		Architectural Coating and Paving	<b>0.31</b>	8.19	5.15	3.30	3.03
12	Retail	Demolition	<b>0.48</b>	8.30	5.21	N/A	N/A
		Grading/Excavation	<b>0.63</b>	8.37	5.25	N/A	N/A
		Building	<b>0.52</b>	8.35	5.24	N/A	N/A
		Architectural Coating and Paving	<b>0.37</b>	8.25	5.20	N/A	N/A

<sup>a</sup> The values shown in bold represent pollutant concentrations that exceed the SCAQMD's recommended construction-related levels at receptors.

<sup>b</sup> Currently the uses identified as off-site receptors at Receptor Location 5 (hospital) and Receptor Location 6 (public park) have yet to be developed. However, because these uses may be developed prior to the construction of the Proposed Project, the localized air quality impacts at these off-site locations have been included to provide a conservative analysis.

<sup>c</sup> As discussed previously, the LSTs for PM<sub>10</sub> and PM<sub>2.5</sub> are based on a 24-hour averaging period. According to the SCAQMD, these LSTs would apply to sensitive receptors and locations where it is possible that an individual could remain for 24 hours. Typical sensitive receptors that are defined by the SCAQMD include residences, schools, playgrounds, childcare centers, athletic facilities, hospitals, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. Land uses such as commercial and industrial uses are not defined by the SCAQMD to be sensitive uses. As such, while the LSTs for PM<sub>10</sub> and PM<sub>2.5</sub> would be appropriate to evaluate the localized air quality impacts of a project on nearby sensitive receptors, they are not usually applied to receptors such as industrial or commercial uses. Therefore, this analysis only evaluates localized air quality impacts from construction activities associated with the Proposed Project on sensitive receptors for PM<sub>10</sub> and PM<sub>2.5</sub>.

Source: Christopher A. Joseph & Associates, 2008. Calculation sheets are provided in Appendix IV.C-1.

As discussed previously, the thresholds recommended by the SCAQMD for construction-related pollutant concentrations at receptors are:

- 0.18 ppm of NO<sub>2</sub> averaged over a one-hour period;
- 20 ppm of CO averaged over a one-hour period;
- 9.0 ppm of CO averaged over an 8-hour period;
- 10.4 µg/m<sup>3</sup> of PM<sub>10</sub> averaged over a 24-hour period; and
- 10.4 µg/m<sup>3</sup> of PM<sub>2.5</sub> averaged over a 24-hour period.

As discussed previously, for the purpose of conducting a worst-case analysis, this analysis assumes that all of the NO<sub>x</sub> emissions generated at the Project Site are NO<sub>2</sub>. Based on the dispersion modeling results shown in Table IV.C.1-11, the maximum one-hour NO<sub>2</sub> concentration generated by construction of the Proposed Project would exceed the 0.18 ppm threshold at all of the identified off-site receptors (both sensitive and non-sensitive) during all phases of construction. Thus, the localized air quality impacts associated with NO<sub>2</sub> concentrations at these off-site receptors would be significant.

In terms of construction-related CO emissions, the highest one-hour CO concentration (8.48 ppm) would occur at Receptor Location 8, which is the existing hotel located west of the Project Site, while the highest 8-hour CO concentration (5.31 ppm) would occur at Receptor Location 6, which would be eventually developed into a public park. Overall, none of the one-hour and 8-hour CO concentrations at the identified off-site receptors would exceed the 20 ppm and 9.0 ppm thresholds, respectively. Thus, the localized air quality impacts associated with CO concentrations during construction of the Proposed Project would be less than significant.

Based on the dispersion modeling results for PM<sub>10</sub>, the maximum localized emissions of PM<sub>10</sub> generated during Project construction would exceed the SCAQMD's 10.4 µg/m<sup>3</sup> significance threshold at Off-Site Receptor Locations 1, 6, 7, 8, and 9, while the PM<sub>10</sub> concentrations at the remaining off-site receptors would not exceed this threshold. The PM<sub>10</sub> concentrations shown in Table IV.C.1-11 assume that appropriate dust control measures would be implemented during the grading and excavation phase of construction as required by SCAQMD Rule 403 - Fugitive Dust. As PM<sub>10</sub> concentrations would exceed the SCAQMD's significance threshold at the off-site receptors identified above, impacts associated with PM<sub>10</sub> concentrations at these receptors would be significant.

Based on the dispersion modeling results for PM<sub>2.5</sub>, the maximum localized emissions of PM<sub>2.5</sub> generated during Project construction would only exceed the SCAQMD's 10.4 µg/m<sup>3</sup> significance threshold at Off-Site Receptor Location 6, while the PM<sub>2.5</sub> concentrations at the remaining off-site receptors would not exceed this threshold. Therefore, because PM<sub>2.5</sub> concentrations would exceed the SCAQMD's significance threshold at the off-site receptor identified above, localized air quality impacts associated with PM<sub>2.5</sub> concentrations at this receptor would be significant.

It should be noted that the pollutant concentrations identified at the off-site receptor locations in Table IV.C.1-11 represent those that may occur on a maximum (worst-case) construction day, and are not meant to represent the average daily pollutant concentrations that would occur at the off-site receptors throughout the entire construction period at the Project Site. Depending on the normal day-to-day variability in construction activities, there would be days when the construction-related pollutant

concentrations at the off-site receptors would be substantially lower than those shown in Table IV.C.1-11 and, in the case of NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions, fall below the significance thresholds recommended by the SCAQMD. Due to the difficulty in precisely quantifying the daily pollutant emissions associated with each phase of the proposed construction activities at the Project Site, the information presented in Table IV.C.1-11 is strictly provided for the purpose of conducting a conservative analysis.

### **Operational Impacts**

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities on the Project Site after occupation. Stationary area source emissions would be generated by the consumption of natural gas for cooking and space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions would be generated by the motor vehicles traveling to and from the Project Site.

The analysis of daily operational emissions from the Proposed Project after buildout in 2020 were prepared utilizing the URBEMIS 2007 computer model recommended by the SCAQMD. The URBEMIS air quality model is a land-use based model that generates air emissions based on the type and density of the proposed land uses, and is influenced by other factors such as trip generation rates, proximity to mass transit, local demographics, and the extent of pedestrian friendly amenities. Factors such as the mixed-use and pedestrian-oriented nature of the Proposed Project, the Project's location within an urbanized area of the City of Downey, the Project's proximity to public transit, etc., serve to minimize the air emissions that would be generated by the Proposed Project. The results of these calculations, and associated SCAQMD thresholds, are presented in Table IV.C.1-12, Estimated Future (2020) Daily Operational Emissions.

**Table IV.C.1-12  
Estimated Future (2020) Daily Operational Emissions**

Emissions Source	Emissions in Pounds-per-Day					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Summertime (Smog Season) Emissions</b>						
<b>Future With Project Emissions</b>						
Water and Space Heating, and Cooking Appliances	2.57	34.41	22.81	0.00	0.06	0.06
Landscape Maintenance Equipment	0.49	0.08	6.18	0.00	0.02	0.02
Consumer Products	76.95	--	--	--	--	--
Architectural Coatings	14.85	--	--	--	--	--
Mobile (Vehicle) Sources	156.71	122.71	1,527.65	2.90	505.71	96.98
<b>Total Emissions</b>	<b>251.57</b>	<b>157.20</b>	<b>1,556.64</b>	<b>2.90</b>	<b>505.79</b>	<b>97.06</b>
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>
<b>Wintertime (Non-Smog Season) Emissions</b>						
Water and Space Heating, and Cooking Appliances	2.57	34.41	22.81	0.00	0.06	0.06

**Table IV.C.1-12  
Estimated Future (2020) Daily Operational Emissions**

Emissions Source	Emissions in Pounds-per-Day					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Consumer Products	76.95	--	--	--	--	--
Architectural Coatings	14.85	--	--	--	--	--
Mobile (Vehicle) Sources	169.85	149.93	1,471.97	2.29	505.71	96.98
<b>Total Emissions</b>	<b>264.22</b>	<b>184.34</b>	<b>1,494.78</b>	<b>2.29</b>	<b>505.77</b>	<b>97.04</b>
SCAQMD Thresholds	55.00	55.00	550.00	150.00	150.00	55.00
Significant Impact?	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	<b>Yes</b>	<b>Yes</b>

*Source: Christopher A. Joseph & Associates, July 2008. Calculation sheets are provided in Appendix IV.C-1.*

As shown in Table IV.C.1-12, the operational emissions associated with the Proposed Project would exceed the established SCAQMD threshold levels for ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>, while the threshold levels for SO<sub>x</sub> would not be exceeded. The exceedance of the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> would occur during both the summertime (smog season) and wintertime (non-smog season), and is primarily due to the net increase in motor vehicles traveling to and from the Project Site (i.e., the Proposed Project would generate a net increase of 32,118 vehicle trips per day to the Project Site).

The net increase of 32,118 vehicle trips generated by the Proposed Project already includes adjustments to account for internal trips, transit trips, and pass-by trips that would result from the mixed-use and pedestrian-oriented nature of the Proposed Project as well as the existing public transportation available to serve the Project Site. Despite accounting for these factors, the operational emissions of the Proposed Project would still exceed the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. As such, this impact would be significant.

#### **Localized CO Impacts**

The localized CO concentration impacts associated with the Proposed Project were evaluated with the addition of traffic growth associated with cumulative development.

As was done to assess existing CO concentrations, the simplified CALINE4 screening procedure was used to predict future CO concentrations at the six study-area intersections in the vicinity of the Project Site in the year 2020 with cumulative development in order to provide a worst-case analysis of future conditions. The results of these calculations are provided in Table IV.C.1-13, Future (2020) Localized Carbon Monoxide Concentrations.

As shown in Table IV.C.1-13, future one-hour and 8-hour CO concentrations near the six study intersections that would experience the greatest increase in traffic volumes associated with the Project would not exceed their respective national or State ambient air quality standards (i.e., the national one-

**Table IV.C.1-13  
Future ( 2020) Localized Carbon Monoxide Concentrations**

Intersection	CO Concentrations in Parts per Million <sup>a</sup>							
	Roadway Edge		25 feet		50 feet		100 feet	
	one-hour	8-Hour	one-hour	8-Hour	one-hour	8-Hour	one-hour	8-Hour
Lakewood Boulevard & Stewart and Gray Road	9.3	6.0	8.9	5.7	8.7	5.6	8.5	5.5
Bellflower Boulevard & Imperial Highway	9.6	6.2	9.1	5.8	8.9	5.7	8.6	5.5
Lakewood Boulevard & Gallatin Road	9.6	6.2	9.0	5.8	8.7	5.6	8.5	5.5
Paramount Boulevard & I-5 Southbound Ramps	9.7	6.3	9.0	5.8	8.8	5.7	8.6	5.5
Paramount Boulevard & Stewart and Gray Road	9.0	5.8	8.6	5.5	8.5	5.4	8.4	5.3
Stewart and Gray Road & Firestone Boulevard	9.9	6.4	9.1	5.9	8.9	5.7	8.6	5.5

<sup>a</sup> The national one-hour CO ambient air quality standard is 35.0 ppm, and the State one-hour CO ambient air quality standard is 20.0 ppm. National and State 8-hour standards are 9.0 parts per million.  
Traffic Information Source: RAJU Associates Inc., August 2008.  
Source: Christopher A. Joseph & Associates, 2008. Calculation data and results are provided in Appendix IV.C-1.

hour CO ambient air quality standard is 35.0 ppm, and the State one-hour CO ambient air quality standard is 20.0 ppm; the 8-hour national and State standards for localized CO concentrations are 9.0 ppm). Therefore, implementation of the Proposed Project would not expose any possible sensitive receptors (such as residential uses, schools, hospitals) located in proximity to these intersections to substantial localized pollutant concentrations. This would be a less-than-significant impact regarding the exposure of sensitive receptors to substantial pollutant concentrations.

### **Objectionable Odors**

Objectionable odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. As the Proposed Project involves no elements related to these types of activities, no objectionable odors are anticipated.

During the construction phase, activities associated with the application of architectural coatings and other interior and exterior finishes may produce discernible odors typical of most construction sites. Such odors would be a temporary source of nuisance to adjacent uses, but because they are temporary and intermittent in nature, would not be considered a significant environmental impact. Therefore, impacts associated with objectionable odors would be less than significant.

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## CUMULATIVE IMPACTS

### AQMP Consistency

Cumulative development can affect implementation of the 2007 AQMP. The 2007 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Growth considered to be consistent with the 2007 AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified by SCAG, implementation of the 2007 AQMP will not be obstructed by such growth and cumulative impacts would be less than significant. Additionally, since the Proposed Project is consistent with SCAG's growth projections, and would minimize the VMT within the community in which the Proposed Project is located, it would not have a cumulatively considerable contribution to this impact regarding a potential conflict with or obstruction of the implementation of the applicable air quality plan. Thus, cumulative impacts related to conformance with the 2007 AQMP would be less than significant.

### Construction Impacts

Because the Basin is currently in non-attainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, cumulative development could violate an air quality standard or contribute to an existing or projected air quality violation. This is considered to be a significant cumulative impact. With respect to determining the significance of the Proposed Project's contribution to regional emissions, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. According to the SCAQMD, individual construction projects that exceed the SCAQMD recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in non-attainment. As discussed previously, the most intensive construction activities occurring at the Project Site over the 20-year buildout period for the Proposed Project would exceed the SCAQMD's threshold of significance for ROG and NO<sub>x</sub>. Therefore, the ROG and NO<sub>x</sub> emissions would be cumulatively considerable without mitigation. With respect to CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions, construction of the Proposed Project during all phases of construction would not exceed the SCAQMD significance thresholds for these criteria pollutants. As such, the daily construction emissions associated with these criteria pollutants generated by the Proposed Project would not be cumulatively considerable. Therefore, the cumulative impact of the Proposed Project for these construction emissions (i.e., CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) would be less than significant.

### Operational Impacts

Due to the non-attainment of O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> standards in the Basin, the generation of daily operational emissions associated with cumulative development would result in a cumulative significant impact associated with the cumulative net increase of any criteria pollutant for which the region is in non-attainment. With respect to operational emissions, the SCAQMD has indicated that if an individual

project results in air emissions of criteria pollutants (CO, ROG, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) that exceed the SCAQMD recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the Proposed Project region is in non-attainment under an applicable federal or state ambient air quality standard. As discussed previously, operational emissions associated with the Proposed Project would exceed the SCAQMD's thresholds of significance for ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>, but would not exceed the SCAQMD's thresholds of significance for SO<sub>x</sub>. Consequently, the contribution of daily operational emissions of ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> by the Proposed Project would be cumulatively considerable without mitigation.

### **Localized CO Impacts**

Cumulative development is not expected to expose sensitive receptors to substantial pollutant concentrations. As discussed previously, the future one-hour and 8-hour CO concentrations at the analyzed study intersections in 2020 are based on the projected future traffic volumes from the study intersections contained in the traffic study for the Proposed Project, which takes into account emissions from the Proposed Project, future ambient growth, and related projects in the project area. As shown in Table IV.C.1-13, future one-hour and 8-hour CO concentrations near the six study intersections that are nearest to the Project Site that have sensitive receptors located in proximity to the roadways would not exceed their respective national or State ambient air quality standards. Therefore, CO hotspots would not occur near these intersections in the future, and this cumulative impact would be less than significant. Further, no significant project cumulative impact would occur for CO. It is also unlikely that future projects will result in long-term future exposure of sensitive receptors to substantial pollutant concentrations because CO levels are projected to be lower in the future due to improvements in vehicle emission rates predicted by the ARB. Therefore, the cumulative impact of the Proposed Project is considered to be less than significant.

## **MITIGATION MEASURES**

### **Construction-Related Project Impacts**

The following measures are recommended to reduce the potential emissions associated with construction activities to the maximum extent feasible:

- C-1. The Project Developer(s) shall implement measures to reduce the emissions of pollutants generated by heavy-duty diesel-powered equipment operating at the Project Site throughout the Project construction phases. The Project developer(s) shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and recommended include the following:

- Keep all construction equipment in proper tune in accordance with manufacturer's specifications.

- Use late model heavy-duty diesel-powered equipment at the Project Site to the extent that it is readily available in the South Coast Air Basin (meaning that it does not have to be imported from another air basin and that the procurement of the equipment would not cause a delay in construction activities of more than two weeks).
  - Limit truck and equipment idling time to five minutes or less.
  - Rely on the electricity infrastructure surrounding the construction sites rather than electrical generators powered by internal combustion engines to the extent feasible.
- C-2. The Project Developer(s) shall implement fugitive dust control measures in accordance with SCAQMD Rule 403. The Project Developer(s) shall include in construction contracts the control measures required and recommended by the SCAQMD at the time of development. Examples of the types of measures currently required and recommended include the following:
- Use watering to control dust generation during demolition of structures or break-up of pavement.
  - Water active grading/excavation sites and unpaved surfaces at least three times daily.
  - Cover stockpiles with tarps or apply non-toxic chemical soil binders.
  - Limit vehicle speed on unpaved roads to 15 miles per hour.
  - Sweep daily (with water sweepers) all paved construction parking areas and staging areas.
  - Provide daily clean-up of mud and dirt carried onto paved streets from the site.
  - Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
  - Suspend excavation and grading activity when winds (instantaneous gusts) exceed 15 miles per hour over a 30-minute period or more.
  - An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.
- C-3. The Project Developer(s) shall require by contract specifications that all heavy-duty diesel-powered construction equipment used onsite would be retrofitted with either lean-NO<sub>x</sub> or diesel

- oxidation catalysts that would reduce NO<sub>x</sub> emissions by 40 percent to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin (meaning that the cost of the equipment use is not more than 20 percent greater than the cost of standard equipment and that the equipment does not have to be imported from another basin). (This measure does not apply to diesel-powered trucks traveling to and from the Project Site.)
- C-4. The Project Developer(s) shall require by contract specifications that all heavy-duty diesel-powered equipment operating and refueling at the Project Site, excluding haul trucks, would be equipped with diesel particulate filters that would reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions by 85 percent to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin (meaning that the cost of the equipment use is not more than 20 percent greater than the cost of standard equipment and that the equipment does not have to be imported from another basin). (This measure does not apply to diesel-powered trucks traveling to and from the Project Site.).
- C-5. The Project Developer(s) shall include in construction contracts the required application of paints and primer at the Project Site during construction to have a VOC rating of 125 grams per liter or less, and that only a maximum of 214 liters (57 gallons) of such paints can be used on any given day.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Implementation of Mitigation Measure C-1 would serve to reduce the potential emissions associated with construction activities to the maximum extent feasible, while implementation of Mitigation Measure C-2 would ensure that the fugitive dust control measures associated with SCAQMD Rule 403 would be implemented at the Project Site.

The Proposed Project's impacts on regional air quality resulting from construction activities would be potentially significant for NO<sub>x</sub> emissions during the site demolition and site grading and excavation phases, which exceeds the SCAQMD's threshold of significance. Implementation of Mitigation Measure C-3, which would require that all heavy-duty diesel-powered construction equipment used onsite to be retrofitted with either lean-NO<sub>x</sub> or diesel oxidation catalysts to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, would reduce the amount of NO<sub>x</sub> emissions generated during the site demolition and site grading and excavation phases. The NO<sub>x</sub> emissions resulting from the site demolition and site grading and excavation phases at the Project Site after implementation of Mitigation Measure C-3 are shown in Table IV.C.1-14, Estimated Daily Construction NO<sub>x</sub> Emissions With Mitigation During Demolition and Grading/Excavation Phases. As shown, although the total amount of NO<sub>x</sub> emissions are reduced with implementation of Mitigation Measure C-3, the regional NO<sub>x</sub> impacts would still exceed the SCAQMD's threshold of significance. As such, this impact would be significant and unavoidable.

**Table IV.C.1-14**  
**Estimated Daily Construction NO<sub>x</sub> Emissions with Mitigation**  
**During Demolition and Grading/Excavation Phases**

Emissions Source	Emissions in Pounds-per-Day
	NO <sub>x</sub>
<b>Demolition Phase</b>	
Fugitive Dust	0.00
Off-Road Diesel Equipment	42.77
On-Road Diesel Equipment	204.95
Worker Trips	0.27
<b>Total Emissions</b>	<b>247.99</b>
SCAQMD Thresholds	100.00
Significant Impact?	<b>Yes</b>
<b>Site Grading/Excavation Phase</b>	
Fugitive Dust	0.00
Off-Road Diesel Equipment	19.13
On-Road Diesel Equipment	110.59
Worker Trips	0.10
<b>Total Emissions</b>	<b>129.82</b>
SCAQMD Thresholds	100.00
Significant Impact?	<b>Yes</b>
<i>Source: Christopher A. Joseph &amp; Associates, August 2007. Calculation sheets are provided in Appendix IV.C-1.</i>	

The Proposed Project's impacts on regional air quality resulting from demolition and grading and excavation construction activities with respect to ROG, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be less than significant without mitigation.

During the building phase, the Proposed Project's impacts on regional air quality resulting from construction activities would be potentially significant for ROG emissions. Implementation of Mitigation Measure C-5, which would require that all paints and primer used at the Project Site during construction to have a VOC rating of 125 grams per liter or less and that only a maximum of 214 liters (57 gallons) of such paints can be used on any given day, would reduce the amount of ROG emissions generated during the building phase. The ROG emissions resulting from the building phase at the Project Site after implementation of Mitigation Measure C-5 are shown in Table IV.C.1-15, Estimated Daily Construction ROG Emissions with Mitigation During Building Phase. As shown, the total amount of ROG emissions would be reduced with implementation of Mitigation Measure C-5 to a level that would not exceed the SCAQMD's threshold of significance. As such, this impact would be less than significant.

**Table IV.C.1-15  
Estimated Daily Construction ROG Emissions with Mitigation  
During Building Phase**

Emissions Source	Emissions in Pounds-per-Day
	ROG
<b>Building Phase</b>	
Building Construction Off-Road Diesel Equipment	5.05
Building Construction Vendor Trips	0.85
Building Construction Worker Trips	1.27
Architectural Coatings	57.57
Architectural Coatings Worker Trips	0.06
Paving Off-Gas	0.71
Paving Off-Road Diesel	2.83
Paving On-Road Diesel	0.23
Paving Worker Trips	0.07
<b>Total Emissions</b>	<b>68.64</b>
SCAQMD Thresholds	75.00
Significant Impact?	<b>No</b>
<i>Source: Christopher A. Joseph &amp; Associates, August 2007. Calculation sheets are provided in Appendix IV.C-1.</i>	

The Proposed Project's impacts on regional air quality resulting from building activities with respect to CO, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> would be less than significant without mitigation.

As shown in Table IV.C.1-11, the Proposed Project's impacts on local air quality resulting from construction activities would be potentially significant for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. The Project's construction-related NO<sub>2</sub> emissions would exceed the SCAQMD's 0.18 ppm threshold of significance at all of the surrounding off-site receptors during all the construction activities, while the PM<sub>10</sub> and PM<sub>2.5</sub> emissions would exceed the SCAQMD's 10.4 µg/m<sup>3</sup> threshold of significance at some of the off-site receptors primarily during the grading and excavation activities. With implementation of Mitigation Measure C-3, which would require that all heavy-duty diesel-powered construction equipment used onsite to be retrofitted with either lean-NO<sub>x</sub> or diesel oxidation catalysts to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, and Mitigation Measure C-4, which would require that all heavy-duty diesel-powered equipment operating and refueling at the Project Site (excluding haul trucks) be equipped with diesel particulate filters to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, the overall pollutant concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions would be reduced during Project construction. The reductions in NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> concentrations resulting from implementation of Mitigation Measures C-3 and C-4 are shown in Table IV.C.1-16, Estimated Worst-Case Daily Construction Pollutant Concentrations for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at Off-Site Receptors with Mitigation.

As shown in Table IV.C.1-16, despite the reductions in NO<sub>2</sub> concentrations due to implementation of Mitigation Measure C-3, the NO<sub>2</sub> concentrations would still exceed the SCAQMD's threshold of 0.18

**Table IV.C.1-16**  
**Estimated Worst-Case Daily Construction Pollutant Concentrations**  
**for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at Off-Site Receptors with Mitigation**

Off-Site Receptor Location	Existing/Proposed Land Use	Construction Activity	Pollutant Concentrations <sup>a</sup>		
			one-hour NO <sub>2</sub> (ppm)	24-Hour PM <sub>10</sub> (µg/m <sup>3</sup> )	24-Hour PM <sub>2.5</sub> (µg/m <sup>3</sup> )
1	Residential	Demolition	<b>0.30</b>	2.06	0.82
		Grading/Excavation	<b>0.53</b>	<b>10.58</b>	1.31
		Building	<b>0.40</b>	1.09	0.33
		Architectural Coating and Paving	<b>0.30</b>	0.85	0.25
2	Industrial	Demolition	<b>0.38</b>	N/A	N/A
		Grading/Excavation	<b>0.38</b>	N/A	N/A
		Building	<b>0.30</b>	N/A	N/A
		Architectural Coating and Paving	<b>0.23</b>	N/A	N/A
3	Park	Demolition	<b>0.31</b>	1.18	0.48
		Grading/Excavation	<b>0.30</b>	3.42	1.22
		Building	<b>0.24</b>	0.35	0.31
		Architectural Coating and Paving	<b>0.19</b>	0.28	0.24
4	Industrial	Demolition	<b>0.37</b>	N/A	N/A
		Grading/Excavation	<b>0.31</b>	N/A	N/A
		Building	<b>0.25</b>	N/A	N/A
		Architectural Coating and Paving	<b>0.20</b>	N/A	N/A
5	Hospital	Demolition	<b>0.27</b>	1.97	0.68
		Grading/Excavation	<b>0.34</b>	5.83	2.00
		Building	<b>0.27</b>	0.60	0.51
		Architectural Coating and Paving	<b>0.21</b>	0.47	0.39
6	Park	Demolition	<b>0.41</b>	3.26	1.06
		Grading/Excavation	<b>0.46</b>	<b>17.18</b>	5.82
		Building	<b>0.35</b>	1.77	1.47
		Architectural Coating and Paving	<b>0.27</b>	1.38	1.12
7	Residential	Demolition	<b>0.35</b>	2.00	0.71
		Grading/Excavation	<b>0.49</b>	6.65	2.46
		Building	<b>0.38</b>	0.69	0.62
		Architectural Coating and Paving	<b>0.28</b>	0.54	0.48
8	Hotel	Demolition	<b>0.48</b>	3.16	0.93
		Grading/Excavation	<b>0.42</b>	7.12	2.58
		Building	<b>0.32</b>	0.74	0.65
		Architectural Coating and Paving	<b>0.24</b>	0.57	0.50
9	Residential	Demolition	<b>0.40</b>	3.29	1.17
		Grading/Excavation	<b>0.42</b>	8.65	3.55
		Building	<b>0.32</b>	0.89	0.90
		Architectural Coating and Paving	<b>0.25</b>	0.70	0.69

**Table IV.C.1-16**  
**Estimated Worst-Case Daily Construction Pollutant Concentrations**  
**for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at Off-Site Receptors with Mitigation**

Off-Site Receptor Location	Existing/Proposed Land Use	Construction Activity	Pollutant Concentrations <sup>a</sup>		
			one-hour NO <sub>2</sub> (ppm)	24-Hour PM <sub>10</sub> (µg/m <sup>3</sup> )	24-Hour PM <sub>2.5</sub> (µg/m <sup>3</sup> )
10	Commercial	Demolition	0.35	N/A	N/A
		Grading/Excavation	0.36	N/A	N/A
		Building	0.28	N/A	N/A
		Architectural Coating and Paving	0.22	N/A	N/A
11	Alzheimer's and Dementia Care Center	Demolition	0.29	1.88	0.80
		Grading/Excavation	0.37	6.62	2.50
		Building	0.29	0.68	0.63
		Architectural Coating and Paving	0.23	0.53	0.48
12	Retail	Demolition	0.34	N/A	N/A
		Grading/Excavation	0.46	N/A	N/A
		Building	0.35	N/A	N/A
		Architectural Coating and Paving	0.27	N/A	N/A

*Source: Christopher A. Joseph & Associates, August 2007. Calculation sheets are provided in Appendix IV.C-1.*

ppm at all of the off-site receptors. As such, the localized air quality impact associated with NO<sub>2</sub> concentrations at the off-site receptors would be significant and unavoidable.

With implementation of Mitigation Measure C-4, the PM<sub>10</sub> concentrations would be reduced at Off-Site Receptor Locations 7, 8, and 9 to levels below the SCAQMD's 10.4 µg/m<sup>3</sup> threshold for PM<sub>10</sub>, while the concentrations at Off-Site Receptor Locations 1 and 6 would remain above 10.4 µg/m<sup>3</sup>. As such, the localized air quality impact associated with PM<sub>10</sub> concentrations at these off-site receptors would be significant and unavoidable. However, under the circumstances where implementation of Mitigation Measure C-4 is determined to be infeasible (i.e., meaning that the cost of the equipment use is more than 20 percent greater than the cost of standard equipment and that the equipment has to be imported from another basin), then the localized air quality impact associated with PM<sub>10</sub> concentrations at Off-Site Receptor Locations 7, 8, and 9 would be significant and unavoidable.

In terms of PM<sub>2.5</sub>, implementation of Mitigation Measure C-4 would reduce the concentration at Off-Site Receptor Location 6, which was found to be significant prior to mitigation, to below the SCAQMD's 10.4 µg/m<sup>3</sup> threshold. As such, the localized air quality impact associated with PM<sub>2.5</sub> concentrations during Project construction would be less than significant. However, under the circumstances where implementation of Mitigation Measure C-4 is determined to be infeasible (i.e., meaning that the cost of the equipment use is more than 20 percent greater than the cost of standard equipment and that the equipment has to be imported from another basin), then the localized air quality impact associated with PM<sub>2.5</sub> concentrations at Off-Site Receptor Location 6 would be significant and unavoidable.

The Proposed Project's impacts on regional air quality resulting from operational activities would be potentially significant for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> emissions. The exceedance of the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> would occur during both the summertime (smog season) and wintertime (non-smog season), and is primarily due to the net increase in motor vehicles traveling to and from the Project Site (i.e., the Proposed Project would generate a net increase of 32,118 vehicle trips to the Project Site). The net increase of 32,118 vehicle trips generated by the Proposed Project already includes adjustments to account for internal trips, transit trips, and pass-by trips that would result from the mixed-use nature of the Proposed Project as well as the existing public transportation available to serve the Project Site. Consequently, unless the 32,118 vehicle trips generated by the Proposed Project are reduced, the operational emissions would exceed the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub>. Currently there is no feasible mitigation available to further reduce the number of vehicles trips generated by the Proposed Project, and consequently the emissions associated with these trips. Thus, the regional air quality impact associated with ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> emissions generated during Project operation would be significant and unavoidable.

The Proposed Project's impacts on air quality resulting from localized levels of CO at the study intersections would be less than significant without mitigation.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**C. AIR QUALITY**  
**2. GREENHOUSE GASES, GLOBAL WARMING**  
**AND CLIMATE CHANGE**

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**INTRODUCTION**

This section addresses greenhouse gases, global warming and climate change issues and is based on the *Global Warming Technical Report* prepared by CTG Energetics, Inc. for the Project, dated January, 2009. The full text of the report is included as Appendix IV.C-2 to this EIR.

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. GHGs are those compounds in the Earth's atmosphere that play a critical role in determining the Earth's surface temperature. Specifically, GHGs allow high-frequency solar radiation to enter the Earth's atmosphere, but trap the low frequency, long wave energy that is radiated back from the Earth to space, resulting in a warming of the atmosphere. The earthward movement of this long wave radiation is known as the "greenhouse effect."

Studies indicate that the effects of global climate change may include rising surface temperatures, loss of snow pack, sea level rise, more extreme heat days per year, and more drought years.<sup>1</sup> Understanding of the fundamental processes responsible for global climate change has improved over the past decade and predictive capabilities are advancing. However, scientific uncertainties remain surrounding the response of the Earth's climate system to combinations of changes, particularly at regional and local scales. Consequently, the scientific community has systematically developed a range of scenarios reflecting a range of social and economic responses and considered them with multiple, independent computer simulation models. The result is a range of potential future conditions given differences in social and economic conditions and the response of the Earth's climate system to anthropogenic perturbations, such as continued emissions of heat-trapping GHGs.

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<sup>1</sup> Existing climate change models also show that climate warming portends a variety of impacts on agriculture, including loss of microclimates that support specific crops, increased pressure from invasive weeds and diseases, and loss of productivity due to changes in water reliability and availability.

The six most globally important GHGs are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), haloalkanes (HFCs), and perfluorocarbons (PFCs).<sup>2</sup> Carbon dioxide is the most abundant GHG. These gases have different potentials for trapping heat in the atmosphere, called global warming potential (“GWP”). When dealing with an array of emissions, the gases are converted to their carbon dioxide equivalents for comparison purposes and typically are measured in metric tons of carbon dioxide equivalent (“CO<sub>2</sub>e”) units. For example, one pound of methane has 21 times more heat capturing potential than one pound of carbon dioxide; nitrous oxide has 310 times more heat capturing potential than one pound of carbon dioxide; and sulfur hexafluoride has 3,200 times more heat capturing potential than one pound of carbon dioxide. The GWPs for common GHGs are shown in Table IV.C.2-1.

GHGs are the result of both natural and human-influenced activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooling are the primary sources of GHG emissions. Without human intervention, the Earth maintains an approximate balance between the emission of GHGs into the atmosphere and storage of GHGs in oceans and terrestrial ecosystems. Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years. As reported by the California Energy

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<sup>2</sup> *California Health & Safety Code §38505(g) recognizes the six listed gases as greenhouse gases (GHGs). Recently, some groups have advocated for the inclusion of “black carbon” in analyses of climate change under CEQA. Black carbon is a form of particulate air pollution that is most often produced from the burning of biomass, cooking with solid fuels, and diesel exhaust. Some studies have implicated black carbon as a source of global climate change. However, the potential impact of black carbon on climate change is currently under substantial dispute. Some studies indicate that less than 15 percent of the man-made portion of global warming is due to black carbon. Black carbon is not assessed in this report for three primary reasons. First, no regulatory authority has classified black carbon as a GHG, and black carbon is not regulated under Assembly Bill (AB 32), the primary legislation designed to reduce California’s impact on climate change or any other law implemented to address global climate change. Second, no tools are available to quantify black carbon emissions at this time. Emissions factors for black carbon have not been published by the California Air Resources Board (CARB), the Federal Environmental Protection Agency (USEPA), or other reputable bodies. Although some calculation methodologies have been postulated, the methodologies have not been confirmed by actual measurements of sources. Third, no guidance on the importance, evaluation, or mitigation of black carbon has been provided by the agencies leading the climate change issue. The South Coast Air Quality Management District (SCAQMD) has not included black carbon in their discussion of GHG significance thresholds. No guidance appears to have been provided in recent guidelines released by the California Office of Planning and Research (OPR) or the California Air Pollution Control Officers Association (CAPCOA). Additionally, black carbon does not appear to be addressed in current efforts to implement AB 32, the primary legislation designed to reduce California’s impact on climate change. Thus, although the Project would generate some black carbon, the quantities are indeterminable at this time, and therefore, the potential impact of black carbon emissions on climate change is also unknown at this time. As such, black carbon is not analyzed herein.*

**Table IV.C.2-1  
Global Warming Potentials**

Gas	Atmospheric Lifetime (years)	Global Warming Potential (CO <sub>2</sub> e)
Carbon Dioxide	50 - 200	1
Methane	12	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF <sub>4</sub> )	50,000	6,500
PFC: Hexafluoroethane (C <sub>2</sub> F <sub>6</sub> )	10,000	9,200
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	23,900

*Sources: EPA 2006. Non CO<sub>2</sub> Gases Economic Analysis and Inventory, December 2006; CTG Energetics, Inc., 2009.*

Commission (CEC), California contributes 1.4 percent of global and 6.2 percent of national GHG emissions.<sup>3</sup> Approximately 80 percent of GHGs in California are from fossil fuel combustion, and over 70 percent of GHG emissions are carbon dioxide emissions. The GHG inventory for California is presented in Table IV.C.2-2.

**Table IV.C.2-2  
California GHG Emissions and Sinks Summary  
(Million Metric Tons of CO<sub>2</sub> Equivalence)**

Categories Included in the Inventory	1990	2004
<b>ENERGY</b>	<b>386.41</b>	<b>420.91</b>
<b>Fuel Combustion Activities</b>	<b>381.16</b>	<b>416.29</b>
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
<b>Fugitive Emissions from Fuels</b>	<b>5.25</b>	<b>4.62</b>
Oil and Natural Gas	29.94	2.54
Other Emissions from Energy Production	2.31	2.07
<b>INDUSTRIAL PROCESSES &amp; PRODUCT USE</b>	<b>18.34</b>	<b>30.78</b>
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88

<sup>3</sup> California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, CEC-600-2006-013, October 2006. Source: California Air Resources Board, 2007. Draft California Greenhouse Inventory by IPCC Category, August 2007 (available at [http://www.arb.ca.gov/cc/ccei/inventory/tables/rpt\\_inventory\\_ipcc\\_sum\\_2007-11-19.pdf](http://www.arb.ca.gov/cc/ccei/inventory/tables/rpt_inventory_ipcc_sum_2007-11-19.pdf)).

**Table IV.C.2-2  
California GHG Emissions and Sinks Summary  
(Million Metric Tons of CO<sub>2</sub> Equivalence)**

<b>Categories Included in the Inventory</b>	<b>1990</b>	<b>2004</b>
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
<b>AGRICULTURE, FORESTRY, &amp; OTHER LAND USE</b>	<b>19.11</b>	<b>23.28</b>
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO <sub>2</sub> Emissions Sources on Land	7.26	9.17
<b>WASTE</b>	<b>9.42</b>	<b>9.44</b>
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
<b>EMISSION SUMMARY</b>		
<b>Gross California Emissions</b>	<b>433.29</b>	<b>484.4</b>
<b>Sinks and Sequestrations</b>	<b>-6.69</b>	<b>-4.66</b>
<b>Net California Emissions</b>	<b>426.60</b>	<b>479.74</b>
<i>Source: CTG Energetics, Inc., 2009.</i>		

## ENVIRONMENTAL SETTING

### Regulatory Setting

#### *Federal*

##### *Federal Clean Air Act*

The US Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007) that CO<sub>2</sub> and other GHGs are pollutants under the Federal Clean Air Act that the USEPA must regulate if it determines they pose an endangerment to public health or welfare. To date, the USEPA has not made such a finding or developed a regulatory program for GHG emissions.

##### *Federal Corporate Average Fuel Economy Standards*

The Energy Independence and Security Act of 2007 creates new Federal requirements for increases in fleet-wide fuel economy for passenger vehicles and light trucks. The Federal legislation requires a fleet-wide average of 35 miles per gallon (mpg) to be achieved by 2020. The National Highway Traffic Safety Administration is directed to phase-in requirements to achieve this goal. Analysis by the California Air Resources Board (CARB) suggests that this will require an annual improvement of approximately 3.4 percent between now and 2020.<sup>4</sup> California has petitioned USEPA to allow more stringent standards and

<sup>4</sup> *California Air Resources Board comparison between Pavley AB 1493 and the Federal 2007 CAFE standards* ([http://www.arb.ca.gov/cc/ccms/ab1493\\_v\\_cafe\\_study.pdf](http://www.arb.ca.gov/cc/ccms/ab1493_v_cafe_study.pdf)).

California executive agencies have repeated their commitment to higher mileage standards, but to date, the required waiver from the USEPA has not been secured. Consequently, this analysis utilizes a conservative assumption and only incorporates Federal Corporate Average Fuel Economy (CAFE) standards to estimate California fleet fuel economy in 2020.

### ***State***

California's major initiatives for reducing climate change or GHG emissions are outlined in the discussion below. The main strategies for making these reductions are outlined in the *Climate Change Draft Scoping Plan* also discussed in greater detail below.

#### *Assembly Bill 1493*

Assembly Bill 1493 (AB 1493), adopted September 2002, required the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State.

#### *Executive Order S-3-05*

Executive Order S-3-05, issued June 2005, established GHG emissions targets for the State, as well as a process to ensure the targets are met. As a result of this Executive Order, the California Climate Action Team, led by the Secretary of the California Environmental Protection Agency, was formed. The California Climate Action Team reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.<sup>5</sup> The GHG targets are as follows:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and
- By 2050, reduce to 80 percent below 1990 levels.

#### *California Global Warming Solutions Act of 2006 (Assembly Bill 32)*

The California Global Warming Solutions Act of 2006 (also known as Assembly Bill 32 [AB 32]) committed the State to achieving the following:

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<sup>5</sup> *California Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.*

- 2000 GHG emission levels by 2010 (which represents an approximately 11 percent reduction from “business-as-usual”); and<sup>6</sup>
- 1990 levels by 2020 (approximately 30 percent below “business-as-usual”).

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved.

#### *Climate Change Draft Scoping Plan*

In 2008, CARB released a *Climate Change Draft Scoping Plan*, as required by AB 32. The *Climate Change Draft Scoping Plan* proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment and enhance public health, reduce dependence on oil, diversify energy sources and use energy more efficiently, while creating new jobs and enhancing growth in California’s economy.<sup>7</sup> The *Climate Change Draft Scoping Plan* indicates that “reducing greenhouse gas emissions to 1990 levels means cutting approximately 30 percent from “business-as-usual” emission levels projected for 2020, or about 10 percent from today’s [absolute] levels.”

#### *California Renewables Portfolio Standard*

The California Renewables Portfolio Standard (RPS) program (2002, Senate Bill 1078 [SB 1078]) requires 20 percent renewable energy by 2017. In 2006, Senate Bill 107 (SB 107) advanced the 20 percent deadline to 2010, a goal that was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II. These mandates apply directly to investor-owned utilities, including Southern California Edison (SCE), which provides electrical service to the City of Downey.<sup>8</sup>

#### *Senate Bill 1368*

Senate Bill 1368 (SB 1368), a companion bill to AB 32, requires the California Public Utilities Commission (CPUC) and CEC to establish GHG emission performance standards for the generation of electricity. These standards will also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32. On January 25, 2007, the CPUC

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<sup>6</sup> The California Air Resources Board defines “business-as-usual” as emissions in the absence of any GHG reduction measures discussed in the *Climate Change Proposed Scoping Plan* (refer to subsection 2.1.2.3.1, *Climate Change Draft Scoping Plan*).

<sup>7</sup> *Climate Change Proposed Scoping Plan*, California Air Resources Board, October 2008. Available at <http://www.arb.ca.gov/cc/scopingplan/document/draftscopingplan.pdf>.

<sup>8</sup> SCE Renewable Energy, website: <http://www.sce.com/PowerandEnvironment/renewables/>.

adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO<sub>2</sub> per megawatt-hour (MW/hr). Further, on May 23, 2007, the CEC adopted regulations that establish and implement an identical EPS of 1,100 pounds of CO<sub>2</sub> per MW/hr.

#### *Senate Bill 97*

Senate Bill 97 (SB 97), passed in August 2007, is designed to work in conjunction with California Environmental Quality Act (CEQA) and AB 32. SB 97 requires the Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These guidelines must be transmitted to the Resources Agency by July 1, 2009, to be certified and adopted by January 1, 2010. The OPR and the Resources Agency shall periodically update these guidelines to incorporate new information or criteria established by CARB. SB 97 will apply retroactively to any Environmental Impact Report (EIR), negative declaration, mitigated negative declaration, or other document required by CEQA, which has not been finalized. Under SB 97, transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, and projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 are exempted from analyzing the effects of GHGs in an EIR, negative declaration, mitigated negative declaration, or other CEQA document.

#### *Senate Bill 375*

Senate Bill 375 was passed by the State Assembly on August 25, 2008, by the State Senate on August 30, 2008, and signed by the Governor on September 30, 2008. This legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating housing closer to jobs, retail, and transit. Under the bill, each Metropolitan Planning Organization would be required to adopt a sustainable community strategy to encourage compact development so that the region will meet a target, created by CARB, for reducing GHG emissions.

### ***Local***

#### *South Coast Air Quality Management District*

The South Coast Air Quality Management District (SCAQMD) adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan (AQMP). In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

## ENVIRONMENTAL IMPACTS

### Significance Thresholds

Until the passage of AB 32, CEQA documents did not generally evaluate GHG emissions or impacts on global climate change. The primary focus of air pollutant analysis in CEQA documents was the emission of criteria pollutants, or those identified in the State and Federal Clean Air Acts as being of most concern to the public and government agencies. With the passage of AB 32, a more detailed analysis of GHG emissions is recommended in CEQA documents. However, the analysis of GHGs is different from the analysis of criteria pollutants. Since the half-life of CO<sub>2</sub> is approximately 100 years, GHGs affect the global climate over a relatively long timeframe. Conversely, for criteria pollutants, significance thresholds/impacts and are based on daily emissions; determination of attainment or non-attainment are based on the daily exceedance of applicable ambient air quality standards (e.g., one-hour and eight-hour exposures).

The OPR, in its June 19, 2008 Technical Advisory, recognizes that CEQA Guidelines have not been adopted to provide guidance as to how climate change is to be addressed under CEQA. OPR also notes that it is continuing to consult with CARB technical staff regarding appropriate thresholds of significance to use for climate change analysis, but that such guidance is not yet available. OPR has provided the following “informal guidance” regarding the following steps for addressing climate change impacts under CEQA:

- (1) Identify and quantify the GHG emissions;
- (2) Assess the significance of the impact on climate change; and
- (3) If significant, identify alternatives and/or mitigation measures that will reduce impacts below significance.<sup>9</sup>

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<sup>9</sup> OPR Technical Advisory, p. 5.

Although GHG emissions can be calculated, no air agency, including the SCAQMD, or municipality, including the City of Downey, has yet established project-level significance thresholds for GHG emissions.<sup>10</sup> Nor have state or local agencies established significance thresholds for the analysis of GHG emissions under CEQA. The thresholds of significance set forth in Appendix G of the *CEQA Guidelines* are not appropriate for use in the analysis of GHG emissions. Appendix G addresses criteria pollutants that are regulated by the AQMP and other state and federal regulations and standards. GHGs are not criteria pollutants, and therefore, the thresholds in Appendix G are not applicable.

Additionally, due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, it is speculative to identify the specific impact, if any, to global climate change from one project's incremental increase in global GHG emissions. As such, the project GHG emissions and the resulting significance of potential impacts are more properly assessed on a cumulative basis. Assessing the significance of a project's contribution to cumulative global climate change involves: (1) determining an inventory of project GHG emissions, and (2) considering project consistency with applicable emission reduction strategies and goals, such as those set forth by AB 32.

Based on these considerations, the Proposed Project would have a significant impact if:

- Project-wide emissions reduction goals do not constitute an equivalent or larger break from “business-as-usual” than has been determined by CARB to be necessary to meet the state AB 32 goals (approximately 30 percent for 2020); and
- Project-wide emission reduction strategies would not be consistent with the state's strategies to reduce GHG emissions.

## **Methodology**

### ***Scope of GHG Emissions Inventory***

The California Climate Action Registry (CCAR) General Reporting Protocol (GRP) provides basic procedures and guidelines for calculating and reporting GHG emissions from a number of general and industry-specific activities.<sup>11</sup> Although no numerical thresholds of significance have been developed, and no specific protocols are available for land use projects, the CCAR GRP provides a basic framework for calculating and reporting GHG emissions from the Project. The information provided in this section is consistent with the CCAR GRP's minimum reporting requirements.

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<sup>10</sup> The SCAQMD has formed a GHG Significance Threshold Working Group. More information on this Working Group is available at <http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html>.

<sup>11</sup> California Climate Action Registry, *General Reporting Protocol Version 3, April 2008*. [http://www.climateregistry.org/resources/docs/protocols/grp/GRP\\_V3\\_April2008\\_FINAL.pdf](http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf).

The CCAR GRP recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel);
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam; and
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.<sup>12</sup>

### ***Sources of GHG Emissions***

The existing site and the Proposed Project are associated with direct and indirect GHG emissions that cut across different types of industries and emissions sources, including the following:

- **Building operations**: emissions associated with space heating and cooling, water heating, and lighting.
- **Studio operations**: emissions associated with the studio production operations.
- **Transportation**: emissions associated with residential, service and commercial vehicles, and transit.
- **Construction**: emissions associated with site preparation, excavation, grading, construction.
- **Water**: emissions associated with energy used to pump, convey, treat, deliver, and re-treat water (embodied energy of water).
- **Solid waste**: emissions associated with residential and commercial waste streams (embodied energy of materials).
- **Materials**: emissions associated with the production and distribution of materials (embodied energy of materials).
- **Land cover conversion**: emissions associated with changes in carbon sequestration associated with the conversion of pre-development land cover to post-development land cover.

Conventional GHG emissions accounting protocols spread the ownership and control of emissions across many actors (e.g., land owners, vehicle owners, construction contractors, utilities, etc.). However, as

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<sup>12</sup> *Embodied energy refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service. Source: [http://en.wikipedia.org/wiki/Embodied\\_energy](http://en.wikipedia.org/wiki/Embodied_energy).*

suggested by the *Climate Change Draft Scoping Plan*, this analysis recognizes that buildings and land use represent a nexus that brings these factors together and offer opportunities to reduce emissions through changes in transportation, land use, and building design, construction, and operations.

### ***Consistency With AB 32 (“Business-as-Usual”)***

As discussed previously, there currently are no adopted significance thresholds for GHG emissions. Based on the currently available guidance, this section assesses whether the Project’s GHG impacts are significant based on the Project’s consistency with California’s goals to reduce GHG emissions under AB 32. A particularly illustrative method to determine consistency with AB 32, and one that has the co-benefit of being based on quantification of emissions, is to compare a project’s emissions as proposed to that project’s emissions if it were to be built utilizing “business-as-usual” design, methodology, and technology. If a project constitutes an equivalent or larger break from “business-as-usual” than has been determined by CARB to be necessary to meet AB 32’s goals (approximately 30 percent for 2020), then that project can be considered consistent with AB 32 and, therefore, will not have a significant impact on the environment due to its GHG emissions. This is the average level of emissions reduction performance that would need to be achieved across all sectors of the economy to meet AB 32 goals (i.e., applied to both new and existing GHG emissions sources), and the CARB and other state agencies have indicated that specific sectors of the economy may be required to contribute greater levels of reduction. This section utilizes this “break from ‘business-as-usual’” method to determine consistency with AB 32. This approach mirrors concepts used in CARB’s *Climate Change Draft Scoping Plan* for the implementation of AB 32.

This essentially requires two GHG emissions inventories (as follows):

- “Business-as-usual” project GHG emissions without state mandates; and
- “As proposed” project GHG emissions with project design features and with state mandates for 2020.

### ***“Business-as-Usual” Without State Mandates***

The project includes replacement of the existing structures with a mixed-use development including 1,500 residential dwelling units, 675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel rooms, 125,000 square feet of open space, and 850,000 square feet of parking. The circumstances associated with this Project are similar to those associated with many large developments. For this project, “business-as-usual” is defined as a project matching the general land use characteristics of the Proposed Project, yet lacking in design features that contribute to GHG emissions reductions. For example, it is assumed that new buildings would be constructed in compliance with Title 24 (2005) energy code. Other sources of emissions track local or regional average conditions. In some cases, this requires professional judgment about typical development standards. “Business-as-usual” specifications include the following:

- Minimum compliance with Title 24 (2005) energy code;

- Average rates of domestic and landscape water consumption;
- Average rates of solid waste and recycling for the region (approximately 50 percent diversion); and
- Trip generation rates and trip lengths typical of conventional development in the region.

*“Business-as-Usual” with State Actions and Mandates for 2020*

“Business-as-usual” scenarios described above provide a basis for evaluating the performance of a project. It is useful to consider the performance of the “business-as-usual” project and the “as proposed” Project with respect to both current and anticipated future regulatory conditions. Consideration of the Project’s performance under current regulatory conditions provides a conservative upper bound on project emissions, as future regulatory action is expected to result in a range of infrastructure changes that will reduce emissions over time. Consideration of the Project’s performance under regulatory conditions anticipated for 2020 provides a more realistic measure of actual emissions associated with the Project in operation. Assuming full implementation of current state mandates by 2020 provides a relative lower bound on the Project’s emissions. Estimates for Project performance at 2020 mandates are designed for use in conjunction with estimates based on current conditions to bracket a plausible range of actual project performance given changing circumstances. California and the Federal government have established a number of mandates that will help reduce GHG emissions from the Project and State overall by 2020. Two of the most important quantifiable factors include California’s statewide RPS and the Federal Corporate Average Fuel Economy (CAFE) fuel economy standards.

The CCAR GRP separates GHG emissions into three categories (Scopes) that reflect different aspects of ownership or control over emissions. They include:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel);
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam;
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy of water.

Table IV.C.2-3 summarizes “business-as-usual” GHG emissions by Scope as defined by the California Climate Action Registry General Reporting Protocol, with and without 2020 mandates. Construction emissions are an episodic, Scope 3 source. The total for all construction phases is reported on a separate line to distinguish them from all other emissions that reflect annual operational emissions for Project build out in 2030.

**Table IV.C.2-3  
“Business-as-Usual” Emissions by Scope**

	<b>Emissions without Low Carbon Fuel Standard (LCFS), RPS, and CAFE</b>	<b>Percent</b>	<b>Emissions with LCFS, RPS, and CAFE</b>	<b>Percent</b>
Scope 1: Direct combustion	3,674	1.2%	3,674	1.6%
Scope 2: Purchased electricity	10,307	3.2%	9,816	5.0%
Scope 3: Transportation	297,640	93.6%	202,493	90.5%
Scope 3: Water	592	0.2%	592	0.3%
Scope 3: Solid waste	6,297	2.0%	6,297	2.8%
<b>TOTAL</b>	<b>318,511</b>		<b>222,873</b>	
Scope 3: Construction	11.121			
<i>Note: All net new emissions are in metric tons CO<sub>2</sub>e. Construction emissions are an episodic emission and are reported separately to distinguish them from operational emissions (i.e., emissions per year). Source: CTG Energetics, 2009.</i>				

### ***Quantifying GHG Emissions***

Downey Studios is a unique combination of land uses, including office buildings and studio operation uses. Based on how natural gas and electricity are metered, it is difficult to isolate existing energy use for individual land uses. For example, offices and studio activities are likely to have significantly different energy use characteristics. However, both types of land uses are recorded on a single electricity meter.

Direct combustion GHG emissions (Scope 1) are associated with a variety of liquid fuels, including diesel, gasoline, propane, and natural gas. These fuels are used to various studio operations.

Historically, SCE has supplied electricity to the Project Site. SCE electricity emits approximately 0.29 metric tons of CO<sub>2</sub>e per MW/hr. This compares to a California average of 0.366 metric tons for MW/hr.

The Project would result in the demolition of nearly all onsite buildings and ceasing studio operations. A “business-as-usual” scenario includes the assumption that all new buildings would meet minimum Title 24 energy code requirements in effect at the time of construction. Under the Proposed Project scenario, buildings that meet or exceed Title 24 (2005) by 15 percent (assumed to approximately equivalent to Title 24 [2008]) would replace older buildings. As a result, the Project would reduce energy use intensity by replacing older buildings with new buildings that meet or exceed current energy code.

The detailed methodology for estimating GHG emissions for the Proposed Project land uses is contained in Appendix IV.C-2 to this EIR.

### ***Project Impacts - Analysis of Project Design Features***

The Project is designed to represent a substantial break from business-as-usual. This is achieved through a combination of project design features that work together to reduce the relative rate of GHG emissions associated with the project. The information below provides details about emissions-reducing project design features associated with each component of the Project.

#### *Hotel Uses*

As the specific designs of the hotel uses are not known at this time, energy savings opportunities were evaluated with respect to the building type performance data in the EnergyPro database. Typical hotel uses are expected to generate demand of approximately 7.61 kwhr per square-foot-per-year and 0.19 therms per square-foot-per-year. The Project would reduce energy consumption by 10 percent relative to Title 24 (2005). This could be accomplished through a combination of energy efficiency and green power purchasing. Design features may include measures such as low E windows, low solar heat gain curtain walls, and high efficiency water source heat pumps.

#### *Residential Uses*

The project is a new mixed-use residential development. “Business-as-usual” for the residential uses is defined as buildings meeting the minimum requirements of the Title 24 (2005) energy code and typical design, construction, and operational practices. The Project includes two general construction types: multi-story flats and condos and low-rise row homes and carriage units.

Residential uses would be designed to exceed Title 24 (2005) by 15 percent. These emissions reductions for residential land uses could be achieved through a combination of existing technologies. The bullets listed below describe the combinations of features that can achieve the specified targets for each residential land use category with existing technology. As described previously, these packages of features are based on whole-building energy simulations. They represent only one of many possible combinations of design features, and over time, it is likely that new technologies and building techniques may provide alternative strategies to reach the same performance levels. That is, this list is meant to be representative of the ways in which the project would achieve the specified energy performance targets relative to Title 24 (2005).

- Multi-story flats and condos would be designed to exceed Title 24 (2005) by 15 percent with features that may include the following:
  - R-19 Optimum Value Engineered Framing;
  - Radiant barriers;
  - High performance windows (0.33 U-Value, 0.35 SHGC); and
  - Sealed and tested ducts.

- Row homes and carriage units would be designed to exceed Title 24 (2005) by 15 percent with features that may include the following:
  - R-19 Optimum Value Engineered Framing;
  - Radiant barriers;
  - High performance windows (0.33 U-Value, 0.35 SHGC);
  - Sealed and tested ducts; and
  - Window overhangs (shading).

### *Infrastructure*

The broad category of infrastructure provides numerous opportunities for energy savings and emissions reductions. These include the design and operation of subterranean parking garages. Technologies exist to improve substantially over standard practice.

#### Subterranean Garages

Underground parking facilities use a surprising amount of electricity and are associated with a corresponding amount of GHG emissions. The proposed infrastructure would include the following emissions reducing features:

- Demand control ventilation: Ventilation provided in response to actual number of occupants and occupant activity; and
- Efficient lighting.

### *Water*

The Project can achieve energy savings and emissions reductions through a number of indoor and outdoor water conservation measures. Reducing potable water use is consistent with the goal of reducing potable water use outlined in the Proposed Scoping Plan.

#### Project Design Features Reducing Outdoor Water Use

“Business-as-usual” water consumption for landscaped outdoor areas was defined with respect to past use on the site and conditions anticipated in the Water Supply Assessment prepared for the Project included as Appendix IV.M-2 to this Draft EIR. Emissions reductions would be achieved through the following:

- “Smart” Irrigation Controller: A “Smart” irrigation controller (a.k.a. weather-based controller, evapotranspiration controller, or ET controller) automatically adjusts the irrigation

schedule based on plant evapotranspiration requirements and current weather conditions. This saves significant water compared to traditional timer-based irrigation controllers;

- Efficient Drip Irrigation: There is a significant variation in how efficiently different sprinkler systems distribute water. A base case irrigation efficiency of 63 percent (typical of conventional automatic sprinkler systems) is compared to a high-efficiency scenario (e.g., extensive use of drip irrigation and good design practices) with 90 percent irrigation efficiency; and
- Efficient Landscaping Palette: The use of water efficient, drought tolerant landscaping palettes (e.g., MWD's "California Friendly" landscaping program, xeriscaping, etc.) can save significant water. The impacts of reducing the plant species factor (Ks) by 0.3 (representative of specifying a "California Friendly" landscaping design versus typical southern California landscaping design) are examined.

#### Project Design Features Reducing Indoor Water Use

"Business-as-usual" water consumption for indoor applications was defined using fixture and flow rates specified in the National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances outlined in the Energy Policy Act of 1992, 2005. Project emissions reductions targets would be achieved by specifying indoor water fixtures that meet or exceed the following performance levels:

- High-Efficiency Water Heaters: The use of code-compliant standard efficiency tank type water heaters versus efficient water heaters is examined;
- Low-Flow Showers: The use of low-flow showers with a flow rate of 1.8 gallons per minute (gpm) versus 2.5 gpm are analyzed in Residences and Hotels;
- Low-Flow Kitchen Sinks: The use of low-flow kitchen sinks with a flow rate of 1.8 gpm versus 2.5 gpm are analyzed;
- Low-Flow Lavatories: The use of low-flow bathroom sinks with a flow rate of 1.8 gpm versus 2.5 gpm are analyzed in Residences and Hotels. Current code already requires very low flow aerators on commercial lavatories.
- Low-Flow Urinals: The use of low-flow 0.5 gallons per flush (gpf) versus standard 1.0 gpf urinals are analyzed; and
- Efficient Toilets (1.1 gpf): The use of very efficient low-flow toilets is examined. This analysis assumes an average flush volume of 1.1 gpf, typical of some of the high efficient toilets currently on the market (e.g., Sloan Flushmate IV equipped toilets and some dual-flush toilets). Current code requirement is 1.6 gpf.

By implementing the above indoor water conserving fixtures, the Project will reduce potable and recycled water consumption by 33 percent (equivalent to the performance level required to achieve the US Green Building Council LEED for New Construction [version 2.2] Water Efficiency credit 3.1) and reduce wastewater generation by 29 percent.

### Solid Waste

The “business-as-usual” scenario for the project includes the regional solid waste diversion rate of 50 percent. The Project as proposed does not set a solid waste diversion target beyond the 50 percent “business-as-usual” scenario for operational waste. The Project would also establish a construction waste diversion program to divert up to 50 percent of construction related waste. In addition, recycling centers would be provided in readily accessible areas within the building for depositing, storage, and collection of non-hazardous materials for recycling.

### Transportation

GHG emissions reductions from the Project can be evaluated in two respects. First, they can be considered with respect to the goals of the CalTrans Climate Action Plan. Second, they can be considered with respect to reductions anticipated through implementation of the Project’s Transportation Demand Management (TDM) program.

#### *CalTrans Climate Action Plan*

The GHG emissions reduction performance of transportation-related project features can be evaluated with respect to the CalTrans Climate Action Plan. The CalTrans plan suggests that local project design features may be able to influence approximately 10 to 30 percent of overall GHG emissions through so-called Smart Land Use and Intelligent Transportation Systems. CalTrans identifies the goal of these measures as the reduction in per capita vehicle travel, relief from congestion, and improvement in travel time in congested corridors and result in “...more compact, accessible, multi-modal communities where travel distances are shorter, people have more travel options, and it is possible [to] walk and bicycle to more destinations...”

The CalTrans action plan calls for “Local Development/Intergovernmental Review” that ensures that local land use planning and development decisions include the provision of the following:

- Transportation choices: transit, intercity rail, passenger service, air service, walking, biking.
- Land use design: urban infill development, mixed used development, transit oriented development.

The Project includes a number of features that support the CalTrans climate action plan goals. The Project’s location as a regional in-fill site and the association of jobs, housing, and transit are consistent with the CalTrans intent to promote transportation choices, urban infill, mixed-use, and transit oriented development.

The comparison to the CalTrans goals provides a qualitative measure of the consistency of the Project with state plans for emissions reduction.

#### *Transportation Demand Management Program*

The Project is a mixed-use, urban infill, comprehensively-designed, and coordinated development that is consistent with the goal of promoting higher density mixed-used development that provides a variety of multi-modal transportation choices. The Project's TDM plan is a set of strategies that would encourage Project employees and patrons to reduce vehicular traffic on street and freeway systems during the most congested time periods of the day by promoting non-auto travel through pedestrian-friendly design and orientation that facilitates transit use.

The value of TDM strategies for reducing auto-related GHG emissions reduction can be evaluated with the following equation:

$$\text{Transportation GHG emissions} = (\text{Miles traveled}) \times (\text{mpg}) \times (\text{GHG per gallon})$$

This equation can be adapted to consider the implications of non-auto transit modes. The following bullets evaluate the components of the TDM project with respect to their potential impact on GHG emissions:

- Flexible work schedules and telecommuting programs
  - *Impact on GHG emissions: Reduce miles traveled*
- Alternative work schedules
  - *Impact on GHG emissions: Reduce miles traveled*
- Mixed-used development
  - *Impact on GHG emissions: Reduced miles traveled*
- Bicycle and pedestrian-friendly environment
  - *Impact on GHG emissions: Reduce miles traveled*
- Rideshare/carpool/vanpool promotion and support
  - *Impact on GHG emissions: Increase (net) mpg*
- Shuttle buses operated residential homeowner's association
  - *Impact on GHG emissions: Increase (net) mpg*

- Transit passes for employees and residents
  - *Impact on GHG emissions: Increase (net) mpg*
- Education and information on alternative modes
  - *Impact on GHG emissions: Reduce miles traveled, potentially increase net mpg (e.g., rideshare/carpool/vanpool)*
- Transportation Information Center
  - *Impact on GHG emissions: Reduce miles traveled, potentially increase net mpg (e.g., rideshare/carpool/vanpool)*
- Transportation Management Association
  - *Impact on GHG emissions: Reduce miles traveled, potentially increase net mpg (e.g., rideshare/carpool/vanpool)*

In addition to the proposed TDM, the Project proposes a Transit Mitigation Program. The premise of the Project's Transit Mitigation Program is to maximize the utilization of the existing transit through provision of improved connectivity, better and improved transit speeds and facilitation of coordinated transfers between and to these transit infrastructure elements. In addition, viable and practical connections to pedestrian and bicycle networks and provision of kiosks offering real-time information regarding location, schedule adherence, and service provisions for trip planning purposes are all proposed as part of the Transit Improvement Program for the project.

The Project would provide a potentially intelligent demand-responsive shuttle system to serve residents, employees, visitors, and the surrounding community, focusing on providing coordinated connections to the regional mass transit stations for transfers to Metro Green Line, Blue Line, and the Metrolink trains. The connections to the regional transit service would be provided at the Lakewood Green Line Station, Firestone Blue Line Station, and Norwalk Metrolink Station.

The shuttles will be low-emission or zero emission busses sized appropriate to their role within the project. These shuttles would be equipped with GPS or other vehicle tracking system devices and communication system in order to be able to provide locational and schedule status information and to potentially respond to calls from the service areas on a real-time basis. Patrons at bus stops outside of the central system core will also have the ability to call for a shuttle bus at the bus stops on-site. Information on the status of the shuttle and wait-time will be given to the patron

The transportation study for the Project concludes that the TDM program and transit proximity can be credited with a 27 percent reduction in trip generation, including a reduction in trip length, and by extension a reduction in transportation-related GHG emissions. The average trip distance anticipated for this Project is 5.0 miles, a 33 percent reduction from the regional average of 7.5 miles per trip. Due to the

Proposed Project's proximity to the Metro Green Line Station located within half a mile from the Project Site and the anticipated rerouting of local bus routes through the Project Site, the reduction in trip length is calculated at 33 percent. This reduction is reflected as an emissions reduction project design feature in the GHG emissions calculation presented herein.

*Summary of GHG Emissions Reduction from Project Design Features*

The following summary illustrates emissions reductions possible with the proposed combination of energy efficiency measures and green power purchasing from utilities. Table IV.C.2-4 illustrates the Project's annual operating greenhouse gas emissions. These calculations reflect the potential reductions associated with the implementation of the combination of project design features described in the preceding sections and the full implementation of current state mandates. Actual performance may vary based on a number of factors, including the details of the developed land use, mixture of building sizes and types, and available technologies. As shown in Table IV.C.2-4, an overall reduction of 63 percent from "business as usual" would be achieved by the Proposed Project, which would exceed the reduction of approximately 30 percent that has been determined by CARB to be necessary to achieve the AB32 2020 goals for GHG reductions.

**Table IV.C.2-4**  
**Operational GHG Emissions Summary**  
**(in metric tons of CO<sub>2</sub>e/year)**

Description <sup>1</sup>	"Business-as-Usual" Project Emissions	"Business-as-Usual" Project Emissions with State Action <sup>2</sup>	Proposed Project	Reduction due to PDFs
Residential	4,032	3,936	3,415	-13%
Hotel/Commercial	9,950	9,555	7,538	-21%
Water	592	592	497	-16%
Solid waste	6,297	6,297	6,297	0%
Transportation	297,640	202,493	98,547	-51%
Subtotal buildings and infrastructure only	22,312	21,371	18,953	-13%
Subtotal transportation-only	297,640	202,493	98,547	-51%
<b>TOTAL EMISSIONS</b>	<b>318,511</b>	<b>222,873</b>	<b>116,294</b>	
Total reduction from "business-as-usual" based on state actions and PDFs			63%	
Reduction from state action			95,638	
Reduction from PDFs			106,579	
<sup>1</sup> Construction emissions are episodic and not considered operational emissions. They are reported on Table IV.C.2-4.				
<sup>2</sup> State actions include 20 percent Renewables Portfolio Standard, Federal CAFE Fuel economy standards, and California Low Carbon Fuel Standard.				
Source: CTG Energetics, Inc., 2009.				

### ***Project Impacts – Impacts of Changing Climatic Conditions***

The *Global Warming Technical Report* emphasizes the relationship between the Project and GHG emissions, the primary drivers of anthropogenic climate change and the focus of California's climate change policy. However, the climatic conditions experienced by the Proposed Project over its designed lifetime are likely to be substantially different from those observed over the past century. Consequently, it is useful to consider the implications of changing climatic conditions for Project performance. Scenarios<sup>13</sup> for 2100 modeled in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (FAR) include:

#### *Temperature Increase*

- Low Emissions Scenario: 1.8°C (best estimate), with a range of 1.1°C to 2.9°C
- High Emissions Scenario: 4.0°C (best estimate), with a range of 2.4°C to 6.4°C

#### *Sea Level Rise*

- Low Emissions Scenario: 0.18 to 0.38 meters (range)
- High Emissions Scenario: 0.26 to 0.59 meters (range)

Potential implications for the Proposed Project include:

*Sea level:* Rising sea levels are unlikely to directly impact the Proposed Project due to its distance from the coast and relative elevation.

*Temperature:* Rising temperatures could have a variety of impacts, including stress on sensitive populations (e.g., sick and elderly), additional burden on building systems (e.g., demand for air conditioning), and, indirectly, increasing emissions of greenhouse gases and criteria pollutants associated with energy generation. It is not possible to reliably quantify these risks at local and regional scales at this time.

*Precipitation:* Climate change is expected to alter seasonal and inter-annual patterns of precipitation. These changes continue to be one of the most uncertain aspects of future scenarios. For this Project, the

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<sup>13</sup> *Future GHG emissions are the product of very complex dynamic systems, determined by driving forces such as demographic development, socio-economic development, and technological change. Their future evolution is highly uncertain. Scenarios are alternative images of how the future might unfold and are an appropriate tool with which to analyze how driving forces may influence future emission outcomes and to assess the associated uncertainties. They assist in climate change analysis, including climate modeling and the assessment of impacts, adaptation, and mitigation. The possibility that any single emissions path will occur as described in scenarios is highly uncertain. More information on the IPCC's selection of scenarios is available at <http://www.ipcc.ch/ipccreports/sres/emission/index.htm>.*

most relevant direct impacts are likely to be changes in the timing and volume of stormwater runoff and changes in demand for irrigation. It is not possible to reliably quantify the implications of these changes at local and regional scales at this time.

*Wildfire:* Changes in temperature and precipitation may combine to alter risks of wildfire. Changes in wildfire hazard have little potential to impact the Project given the relative distance to undeveloped, non-irrigated open space.

*Water supply reliability:* Changes in temperature and precipitation may also influence seasonal and inter-annual availability of water supplies. Consequently, it is reasonable to consider that climate change may affect water supply reliability. It is not possible to reliably quantify these risks for the Project at this time. For more information on the Project's water supply, please refer to the Water Supply Assessment in the EIR.

## CUMULATIVE IMPACTS

Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHGs from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be relatively very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The Project's GHG emissions would not be considered to be substantial when compared to statewide GHG emissions. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, it is speculative to identify the specific impact, if any, to global climate change from one project's incremental increase in global GHG emissions. As such, a project's GHG emissions and the resulting significance of potential impacts are more properly assessed on a cumulative basis. Therefore, the significance of potential impacts from the Project's GHG emissions is determined on a cumulative basis.

The State has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce is predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. However, currently there are no significance thresholds, specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative level. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions.

Table IV.C.2-4, above, illustrates that the Project's project design features would contribute to GHG reductions. These reductions represent a break from "business-as-usual" and support State goals for emissions reduction. The methods used to establish this relative reduction are consistent with the approach used in CARB's *Climate Change Draft Scoping Plan* for the implementation of AB 32 through

2020. The Project also identifies appropriate circumstances for the consideration of specific Early Action measures described by the California Climate Action Team.

The California Attorney General's Office has taken an active role in addressing climate change via CEQA, including, but not limited to: submitting comment letters on draft CEQA documents; filing CEQA lawsuits; and entering into related settlement agreements. In particular and most pertinent for our purposes here, the Attorney General's Office has created and routinely updates a Fact Sheet listing project design features to reduce GHG emissions.<sup>14</sup> The Attorney General's Office created this Fact Sheet primarily for the benefit of local agencies processing CEQA documents, acknowledging that "local agencies will help to move the State away from 'business-as-usual' and toward a low-carbon future."<sup>15</sup> The Fact Sheet explains that the listed "measures can be included as design features of a project," but emphasizes that they "should not be considered in isolation, but as part of a larger set of measures that, working together, will reduce GHG emissions and the effects of global warming."<sup>16</sup>

The Project is consistent with the Fact Sheet and plans to utilize many of the measures listed therein. As recommended by the Attorney General, the Project does not consider design features in isolation, and the Project explicitly includes an integrated set of emissions reducing features addressing each land use type proposed for the Project. The result will be reduction in GHG emissions in comparison to "business-as-usual." The Project also considered and described specific combinations of current technologies and construction techniques that can achieve targeted emissions reductions under current conditions. However, the Project also explicitly recognizes that the construction practices and energy-related technologies are changing quickly. Consequently, it is necessary and prudent to provide flexibility to select the most cost-effective options available to meet emissions reduction targets when each phase of development actually takes place. This flexible approach is consistent with the recommendations of the Attorney General, aspirations expressed by the Governor, and AB 32.

The Project is consistent with the approach outlined in CARB's *Climate Change Draft Scoping Plan*, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. The location and design of the Project reflect and support these core objectives. For example, the Project demonstrates this through its consistency with the CalTrans Climate Action Plan goals and its performance-based targets for emissions reduction that would be achieved through energy efficiency and green power purchasing.

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<sup>14</sup> CA Attorney General's Office Fact Sheet, The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level, [http://ag.ca.gov/globalwarming/pdf/GW\\_mitigation\\_measures.pdf](http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf).

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

Given the Project's consistency with State regulatory actions and City goals and objectives, the contribution to the cumulative impact of global climate change would be less than significant.

### **MITIGATION MEASURES**

Impacts related to climate change would be less than significant, and no mitigation measures are recommended or required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the Project's design features and emission reduction features, impacts with regards to climate change would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### D. CULTURAL RESOURCES

#### 1. HISTORIC RESOURCES

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#### INTRODUCTION

This section describes the impacts the Proposed Project may have on historic, archaeological, and paleontological resources. The following discussion of historic resources is based on information contained in the Tierra Luna Specific Plan Historic Resources Report (“Historic Resources Report”) prepared by Teresa Grimes, Senior Architectural Historian, and Christina Chiang, Architectural Historian, July 28, 2008 at Christopher A. Joseph & Associates. The Tierra Luna Specific Plan Historic Resources Report, which is incorporated herein by this reference, is included in its entirety as Appendix IV.D-1 to this Draft EIR.

#### ENVIRONMENTAL SETTING

The property, currently known as Downey Studios, has been called by a variety of names and is associated with the history of the American aeronautics and aerospace industries. Originally constructed on farmland, the earliest buildings were constructed in 1929 by E.M. Smith Company (EMSCO), an emerging aircraft company at the time. The property mushroomed in size during the late 1930s and early 1940s under the control of Vultee Aircraft Inc. and its successor company, Convair. Buildings were added and expanded to produce aircraft for WWII. After WWII, the use of the property shifted to defense-related research and development and aerospace programs.

#### **Building 1**

Building 1 was constructed between 1929 and 1966. It is associated with the early use of the property by EMSCO, a small aircraft company. E.M. Smith, a wealthy industrialist and aircraft enthusiast, founded EMSCO in 1911. The company manufactured transmission belting, rubber products, and hydraulic break linings. Among other things, Smith owned the EMSCO asbestos products factory in Downey and the newly purchased Albatross Company, a small aircraft company in Long Beach. Envisioning a landing field that could be used by both commercial and private pilots, Smith purchased a 73-acre tract of land in Downey owned by James Hughan. At the time of the purchase, Hughan was farming the land – largely orange groves and castor beans – and there were a few farm buildings standing. Smith organized and financed the EMSCO Aircraft Company at the Downey site to manufacture a complete line of land and water aircraft and hired W.A. “Billy” Williams, a well known World War I test pilot, to be his sales manager. The facility consisted of two hard surface runways, a main assembly plant, and various shop buildings.

The main assembly plant was the genesis of Building 1. It was a long rectangular shaped building with an east-west orientation. The main entrance was located on the west elevation, which faces Lakewood Boulevard. This elevation is still visible and sheathed in brick laid in a Flemish bond pattern. Thin pilasters divide the elevation into four bays. The main entrance was located in the third bay from the north. It has since been closed. The first, second, and fourth bays were identical in design and featured

three sets of steel sash windows on the first and second stories. The brick wrapped around the corners of the building for the narrow portion that was used as office space. The vast majority of the building that extended to the east was used for aircraft manufacturing. It was covered by a sawtooth roof with clearstory windows facing north, corresponding to the four bays (see Appendix IV.D-1). For all intents and purposes, this building no longer exists. Additions were made to the north, south, and east elevations (discussed below). In so doing, the exterior walls were entirely removed. All that remains is the west elevation and the roof.

Sufficiently capitalized, EMSCO continued to build airplanes after the stock market crash. By 1931, however, there was little work due to the Depression. Eight bombers were ordered by the Mexican government, and a special stunt plane was built for Prince Ionel Ghica of Rumania; but otherwise production was slow. Nonetheless, EMSCO was still serious about its place in the aircraft industry, and in 1931, the company hired Gerald “Jerry” Vultee away from Lockheed to be their chief design engineer.

Vultee stayed with EMSCO for one year, and in February 1932, the company leased the plant to Champion Aircraft Corporation of America, and Vultee moved to Glendale to organize his own aircraft company. Champion was only in business for a short while before turning the property over to Security National Aircraft Corporation. Between 1933 and 1936, the Baker Oil Tools Company leased the original buildings constructed for EMSCO. Leased under Baker Oil Tools Company in 1936, under the leadership of Jerry Vultee, a new kind of aircraft production was brought to the plant. Vultee began to utilize the original EMSCO Building 1 for his production of V-11 military aircraft. However, at this time the American military was uninterested in his aircraft, so he was forced to direct his production and sales efforts towards foreign markets. While Vultee was creating prototypes and producing aircraft for foreign countries, additional space was needed.

In 1936, Vultee began modifications and construction on the Downey plant. By the end of 1937, Vultee had built another section of what would later be considered part of Building 1. This new building was a 46,000 square foot hangar that sat east of the original EMSCO building. It was a long rectangular structure with a north-south orientation. The roof was significantly higher than the original EMSCO building, but also had a sawtooth pattern with clerestory windows facing north. The steel framed structure was sheathed in steel panels and had no window openings, but doors on all four sides.

Early in 1938, Jerry Vultee and his wife were killed in a plane crash over Nevada. At this time, Richard W. Miller succeeded Jerry Vultee and renamed the company Vultee Aircraft Inc. Soon after Vultee’s death, the American Army Air Corps placed its first order for the V-II-GBs. Under Miller the need for additional modifications to Vultee’s aircraft were required in order to keep up with the market. Building 1 was utilized for prototype manufacturing and testing at the time. In 1939 the V-12 was on the market.

Due to the onset of a large market for aircraft, Miller recognized that additional space would be required. He decided to add on to Building 1 again. To accommodate the addition, many existing buildings, including Buildings 11 and 25, had to be moved to new locations. In 1939, three new areas were added to Building 1. The first part of the construction in 1939 was a 90,000 square foot addition on the south façade of the original EMSCO building. This new rectangular structure had a steel frame and truss

system. This new area would be used entirely as factory space. The second area of construction was to connect the original EMSCO building with that of the structure built under the Aviation Manufacturing Corporation in 1936. This new 42,000 square foot rectangular addition would connect all of the areas of Building 1 to make it one building. The third area of construction was an addition onto the east façade of Building 1. This new 48,000 square foot rectangular structure was built to match the existing portions of Building 1 constructed under the Aviation Manufacturing Corporation. This new section is taller than the rest of Building 1. By the end of 1939, Building 1 would consist of a single, 300,000 square foot metal-framed structure (see Appendix IV.D-1.)

At the onset of WWII, the demand for military aircraft increased greatly. Vultee would play a critical role in the manufacturing of large quantities of aircraft. In 1940, Vultee continued to grow and the space in Building 1 was still not adequate for the increased production. Another addition was made to Building 1 in four stages. The first stage was a 208,000 square foot addition on the north side of the original EMSCO building. This required the closure of the road and the relocation of several buildings that occupied this space.

The second stage of construction would take place at the east façade of Building 1. Built in 1939, the east façade was taller than the rest of the existing Building 1; therefore, the new 128,000 square foot area being constructed during the second stage of construction in 1940, would match the taller building height. This made the entire east portion of Building 1 taller than the west portion. This new east section of Building 1 is significant because it is the location of two Ferguson doors of nearly 200 feet. “At the time of installation, it was one of the largest one-piece doors in the world.”

The third stage of construction was on the south façade of Building 1. At this location an additional 53,000 square feet was added. This section was mainly factory space, but a small area was also designated as the service hangar. This new addition would cause Building 11 to become connected on its south façade. The last stage of construction on Building 1, in 1940, was again on the south façade; however this new 24,000 square foot addition would also connect Building 1 to the west façade of Building 11.

The original EMSCO building was constructed in 1929. Between 1936 and 1940 it grew to a million square foot building. The same construction techniques were used to build the various additions. The entire building is constructed with steel beams that support a steel truss system used to support the metal vaulted roofs. The only areas of Building 1 that vary in style is the 71,000 square foot area known as the Kauffman wings, in honor of the architect Gordon Kauffman. However, only the southern wing can be definitively attributed to the architect. In 1939, Kauffman was hired to design an addition to house administrative office and engineering space. It is located south of the original EMSCO building, facing Lakewood Boulevard. It varies in height from one to two stories and is designed in the Art Moderne style.

Constructed of brick laid in a common bond pattern, the building has five distinct components. The main entrance is located on the ground floor of a two-story rotunda (see Figure 5). A reception room is located within and still contains the terrazzo insignia of the Consolidated Vultee Aircraft Corporation on the

floor. In the center of the insignia is a bronze benchmark on which the Kaufmann wing was aligned to true north. The benchmark is also the “zero point” from which the plant’s grid system is arranged. A flat canopy divides the first story from the second, and at one point in time metal letters were perched on the edge spelling the name of the company. On the second story was a shallow balcony, which is no longer used and a band of steel-framed windows. The second story was an executive office suite. To the south are four identical one-story bays each progressively longer than the next. The southernmost bay was not part of the original construction and was probably added around 1941. The bays have an east-west orientation and curve at the corners. Steel-framed sash windows, five-panes high are distributed regularly across the street-facing elevation. The raised flat parapets disguise the bow truss roofs over each bay. The current owner remodeled this portion of the Kaufmann wing into office space and conference rooms. A new entry area has been added to the south elevation. The wood truss roof system has been exposed and the floors are polished concrete. The Kauffman wing is connected to the remainder of Building 1 through the original EMSCO building, which is described above.

North of the original EMSCO building is another wing. It has been attributed to Gordon Kauffman, although there is no evidence to support such a conclusion. The wing is two stories in height, constructed of board-formed concrete, and sits parallel to Lakewood Boulevard (see Figure 6). The date of construction is unknown, but a comparison of historic photographs places the date around 1941 (see Figure 3). On the first and second stories, steel-framed sash windows, three panes high and three sections wide, are evenly distributed along the length of the street-facing elevation. Between the windows the concrete is scored into narrow bands. At each end of the wing is a protruding concrete frame. At the south end it is filled with fixed steel-framed windows that light the staircase within. It appears that the north end once contained an entryway.

At the beginning of 1942, Vultee Aircraft Inc. purchased 34 percent operating control over Consolidated Aircraft Corporation and renamed the company Convair or Consolidated Vultee Aircraft Corporation. Convair would continue to sell Vultee aircraft during WWII. Just prior to the end of WWII, the production of military aircraft was winding down and the Navy brought a new area of interest to the site. This new program would be the research and development of an anti-aircraft missile called LARK. However, the program was quickly cancelled. After WWII, Convair continued to build aircraft for select markets as well as the production of prefabricated, two-bedroom homes.

In 1947 North American Aviation leased space from Convair at the Downey plant. Building 1 was used for the production of the first four-jet airplanes developed in the United States and the first jet bomber to fly non-stop across the Pacific Ocean. Also brought to the Downey plant was North American Aviations’ Aerophysics Laboratory, which was involved in the research and development of missiles. However, this program was terminated towards the end of 1948. Prior to the program being cancelled, an area of Building 1 was renovated to incorporate new offices, laboratories, and machine shops for development and research of missiles. North American Aviation would also construct additional buildings on the site.

In 1950 North American Aviation bought the Downey plant from Convair in order to produce their trainer aircraft and operation tactical missiles. In 1951, the facility became known as MACE (for Missile, Airframe, and Control Equipment). However, in 1953 the plant was transferred under the Air Force and

was renamed Air Force Plant 16. North American Aviation still worked on the Downey site; however, they were no longer in charge of it.

The Air Force used North American Aviation in a contract for the Navaho program. This was the development of a new missile concept. During this period, Building 1 was remodeled into new research and development areas. Also many missile concepts were tested inside Building 1. The new process of chemical milling was created at Downey and the research and development of chemical milling was conducted in Building 1. The Navaho program functioned on the Downey site from 1953 until 1957. The technology developed under the Navaho program would play a critical role in subsequent space vehicles.

In 1957 the Navaho program was terminated and the Hound Dog Air-to-Ground Missile program was introduced. This program utilized the site from 1958 until 1963. Also during this period, the Downey plant was contracted to produce the Little Joe Launch Vehicle to test the Mercury space capsules. Large areas of Building 1 were dedicated to the production of the Little Joe Launch Vehicle, while the rest of the building was utilized for the research and development of the Hound Dog program.

In 1960 the Missile Division of the Downey plant was coming to an end and a new interest in space was brought to the site. After the launch of the Russian Sputnik 1 in 1958, Congress passed the National Aeronautics and Space Act that established NASA and the race for space began. In 1961 NASA contracted North American Aviation to work on three programs: NASA S-II (1962-1969), the Project Apollo Spacecraft Development Program (1963-1975), and the Skylab Space Program (1961-1975). With these three programs Downey became the industrial center for America's lunar missions. During this period Building 1 was converted from research and development work areas into factory type hangar for the production of spacecraft. The key areas of Building 1 were utilized as follows: the northeast corner was manufacturing and assemble area, the southwest corner was the location of the space shuttle mock-up area, and the north and southwest corners were office support areas. In 1964 the site was transferred from the Air Force to NASA and renamed the NASA Industrial Plant, Downey.

### **Building 6**

North American Aviation constructed building 6 in 1955. Due to the progress of the Navaho program, which was accelerated to compete with the Soviets, North American Aviation created three new operating divisions in 1955: Autonetics, Propulsion, and Missile. Building 6 was constructed for the Autonetics Division, which was formed to concentrate on missile guidance. Three projects were based here: from 1955 to 1957 the Navaho and from 1958 to 1963, the Hound Dog Air-to-Ground Missile program or GAM program (GAM77), and the Little Joe Launch Vehicle that tested the Mercury capsules.

Building 6 is two-story structure, encompassing 209,216 square feet. It is located on the southwest section of the Downey plant. The structure has a steel frame with sheet metal and 6 inch-tilt-up concrete walls. The steel truss roof spans 40 feet and consists of a metal deck covered with 4 1/2 inches of concrete. The roof supports suspended ceilings. Twelve-foot caisson footings support different sized W-shaped steel columns that support the roof. The boiler room had an additional 3 inches of concrete deck

to support the mechanical systems. The floors are mostly concrete with a laminate flooring system. Due to the nature of the research and development done here, the building has no windows. There are four pedestrian entrances and five commercial doors and openings.

Though the functions of the building changed according to the programs that needed space at the time, the floor plan generally remained the same over the years. The work areas had gypsum plaster walls dividing the spaces. The offices were built on the borders of the rectangular space. Identical managerial offices were on the north edge. Administrative offices were on the east side of the first and second floors. The west border had classrooms or training rooms. The south border had training rooms on the first floor and utility rooms on the southeast corner. The utility rooms had soundproof walls. The second floor was in the same configuration as the first floor; except there were also executive offices there. The area in the center of the building was known as the “bullpen” and had steel columns.

From 1955 to 1960, the building housed the Autonetics Division, which filled the bullpen with desks divided by cubicle partitions for the engineers. Historically, the most significant part of the building during this time was the second floor where the test facilities were housed. The southeast part of second floor was used as a laboratory for radar testing. This program was very important to the use of radar in flight and for the missile program. On the south wall of Building 6 were two large garage doors. Autonetics engineers opened up the doors and tested radar outside, aiming at specific signs in the distance.

By 1960, Lee Atwood, then Corporate President of North American Aviation, realized that while the last of the Hound Dogs were being produced, there was no prospective missile work. He began to redirect the company away from missile production and toward space exploration. In 1960, the main division, Missile, was renamed the Space and Information Systems Division (S&ID). North American Aviation still worked on the Hound Dog missile until the program was transferred to Tulsa, Oklahoma on July 24, 1964 and the Little Joe booster wasn't launched with a dummy Apollo spacecraft until August 28, 1963.

However, the creation of the S&ID division marked the shifting of work at the Downey plant to the space program. On May 1, 1967, S&ID was renamed the Space division. Atwood assembled a team for the S&ID division. He transferred to Downey the development team of the X-15 rocket plane from the company's Los Angeles division and the advanced programs management personnel from the Columbus, Ohio division. He also recruited launch vehicle experts from Rocketdyne and hired about fifty scientists from various corporate laboratories.

In 1961, President John F. Kennedy made a speech to Congress where he set out the goal of putting a man on the moon before the end of the decade. That same year, NASA put out for bid two space program contracts. The first was for the Saturn S-II, the second stage of a launch vehicle system (the Saturn V Lunar Launch Vehicle) designed to send payloads into space. The second was for the Project Apollo Spacecraft Development Program, including the command module that carried the crew and equipment as well as an attached service module for propulsion, electrical power and storage. The command/service module is significant to the space program, because it was one of the two spacecraft (the other being the

lunar module) used to land astronauts on the moon. In an unprecedented award, the S&ID won both contracts: the Saturn S-II on September 11, 1961 and the Apollo on November 28, 1961.

In 1963, the northwest corner of first floor became the site of the Mission Support Area. The Mission Support Area housed telemetry support identical to the ones at Johnson Space Center in Houston, Texas and Kennedy Space Center in Cape Canaveral, Florida. Telemetry involves the readings from the various instruments and sensors on the shuttle transmitted by radio. The 5,600 square foot support area had one main room of approximately 1,625 square feet and eleven smaller rooms. During this time, the bullpen area was open and full of drafting tables for the engineers. The engineers provided real-time support for all Apollo and Space Shuttle launches until the end of the program in 1999.

The main room had television monitors, time zone clocks and telecommunications systems. A conference table allowed the program manager, chief engineer and others to watch the television and computer monitors that directly communicated with the Apollo and Space Shuttle systems. A continuous white board along the entire east wall was used by engineers to track and clock all incidents starting fifteen days prior to launches and extending through the orbit and the landing. Teleconferences with the President of the United States and high-level space officials also were held in this room.

There were smaller rooms along the west side. Engineers used a conference room that had a sightline into the main room and its monitors to work out issues discovered in the main room. A computer support room housed the mainframe computers running the telemetry programs and feeds to the other NASA centers. This room had raised floors to accommodate the electrical and mechanical systems and to cool and ventilate these rooms. A “customer viewing” room gave policymakers and others with clearance to observe the mission support area and to watch the activities through a glass panel and on a large television monitor. Opposite the glass paneled wall was a raised deck with padded chairs for NASA officials, A Department of Defense room or “war room” was used to track top-secret flights and events of the Defense Department and was only occupied occasionally. Only individuals with the highest level of clearance were allowed in this room. It had thicker walls, encrypted data cabling, and ciphered locks to protect the information. The walls had extra sheathing to prevent radio waves from penetrating the room. It also had its own power system for the security. Small rooms called support rooms were dedicated to computer tape and disk storage and a Support Panels Room. The Support Panel Room was a switchboard of sorts to connect all communications devices from different parts of the Mission Support Area. It stored racks of communications equipment and headsets used by the engineers on the support teams.

One of the most significant rooms in the Downey plant is the stand-up room of the Mission Support Area. It was located adjacent to the “customer viewing” room and had walls covered with magnetic boards and a wall with a timeline. A meeting was held in this room every morning to review the location of vehicles in space and to check project milestones on the timeline.

The northeast corner of the first floor of Building 6 was remodeled in 1965 for the Clean Room Area. A 9,950 square foot area was created from a portion of the bullpen area on the first floor. It was here where the fabrication and assemblage of critical Apollo hardware took place. Then from 1972 to 1999, the Clean Room was used for the design and testing of Space Shuttle Orbiters. The Clean Room Area was a

class 100,000 clean room with limited capabilities up to class 10,000. In a class 100,000 room (the lowest class) the air contained no more than 100,000 particles per cubic meter. To maintain this condition, Building 6 had mechanical systems with large-scale HEPA filters. Entering the Clean Room entailed walking through the guarded entry, then a “man cleaner” to blow away dust and debris, three more blowers, and the “air lock” area to pick up sanitized coats and hats. There was a locker room to store clothing and personal items. As a precaution, only a few people could be in the room at one time, so observation glass was used throughout the room to let people observe without being in the room itself.

An assembly, tube facility, and support area were part of the Clean Room complex. These rooms were used to build the Apollo Reaction Control System panels. The assembly area had electrical feeds hanging from the ceiling to allow power and coaxial cables to be at the individual workstations where equipment was being tested. The tube facility was a 9,000 square foot area for brazing and welding of the tubing to components and assembly installation to panels. The support area had radiography of spacecraft hardware and components, pressure testing and fluid flush cleaning. Radiography was done in a two-room X-ray facility with lead-lined walls and next door was the X-ray film processing room.

On September 22, 1967 North American Aviation and Rockwell Standard merged into North American Rockwell (NAR). Then on February 15, 1973, NAR merged with Rockwell Manufacturing Company to form Rockwell International. In 1985, a section of the existing Clean Room area and several offices were converted into a computer center called the Rockwell Operational Software Engineering System (ROSES) Software Development Area. It was located along the east wall of the first floor. The approximately 8,500 square foot centers was where engineers created the software, such as flight and ground equipment design software, and the instrumentation for the Space Shuttle. There were administrative offices and support rooms. The ROSES area also had vaults, where magnetic computer data tapes were stored on handcranked racks. The print station, separated from the ROSES area by glass panels, had printers to print out the data on the tapes.

The ROSES Area had a large simulation conference and training room or “marketing room” with back panel screen and rear projection systems. The engineers met clients in this room to review software programs in progress. Engineers landed software development contracts with the National Transportation Agency to develop AMTRAK, the Interior Department to develop programs for the Forest Department, and the Coast Guard to develop software to enhance the drug interdiction network. Work done in the ROSES Area contributed not only to the aerospace industry, but also to other industries that needed systems integration and information technology. Building 6 was retrofitted in the mid-1990s and work in the ROSES Area continued until 1999. The current owner gutted the ground floor of the building.

### **Building 290**

Building 290 was constructed in 1965 by North American Aviation to support the Apollo space program (see Figure 7). It is on the west side of Building 6 and the proximity of the two buildings allowed coordination between their associated activities. In 1967, Building 290 was attached to Building 6 by the addition of roofing over the alleyway between the buildings. Like Building 6, Building 290 also handled the NASA Saturn S-II Program (1962-1969) and the Project Apollo Spacecraft Development Program

(1963-1975). Building 290 also exclusively housed the Skylab Space Program (1961-1975). Skylab was the first space station of the United States and Apollo astronauts visited it three times (May 25-July 4, 1973, July 28-October 5, 1973, and November 16-February 8, 1974). After a few mergers North American Aviation became Rockwell International and the Downey plant became involved with the Space Shuttle orbiters contract awarded to the company while it was still North American Rockwell in July 1972. The Space Shuttle program developed reusable spacecraft. Building 290 was used for Space Shuttle orbiters design and assembly areas until 1999. The two-story steel-framed building has reinforced concrete, protected metal exterior walls and a flat metal roof. Its 170,000 square feet rectangular plan consists of four main north-south sections. On the east side is the east wing, a two-story, approximately 68,000 square foot area. On the west side is the west wing, a two-story, 60,000 square foot area. In between these two wings are two bays. The taller eastern side (60 feet bay, 63 x 320 feet) was called the Hi-bay and a shorter western side (40 feet bay, 50 by 320 feet) called the Lo-bay. Pedestrian entrances and industrial doors are at ground level on the north, west and east sides. There are industrial doors and loading docks at the upper level and some triple metal windows at the upper level west side.

The entryway starts at the hallway between Building 6 and 290 that leads through double doors into the main hallway. The main hallway had a staff elevator to the second floor. From here there was access to the Clean Room area and the rest of the east wing. A pass-through window in the main hallway connected to the Clean Room of Lo-bay. Documents would be placed in the window and then a person inside the clean room could pick them up easily. The hallway also opened to an underground tunnel that went under the Clean Room and connected the east and west wings. This way people could walk from one side of the building without the having to cross the Clean Room. However, it was considered creepy and eventually converted into a fall-out shelter in case of bomb attacks.

The most important part of Building 290 was the Clean Room on the northeast corner of the first floor of the east wing. It was a certified, class 100,000 capacity clean room 113 x 320 feet large. The area was made of several smaller rooms. Before entering the Clean Room area, workers proceeded into a mini airlock, through the “man-cleaner” to get debris blown off and then enter a locker room to change into protective clothing before entering the Clean Room area. The Clean Room area was filled with stations for the Apollo program. They were called receiving areas because they would remove packaging on small parts and test components here before the material was transferred to the assembly area in the Hi- and Lo-bays.

In this pre-assembly area was an x-ray area. Many parts were being assembled and sometimes they had to be x-rayed to ensure that they were properly welded together and had no leaks. In the 1980s, a portion of the Clean Room area was converted into the first virtual dome flight simulator, the Video Simulation laboratory. A rear projection screen showed simulations of the Space Shuttle flights. Computer consoles were along the wall and people sat on a platform structure resembling a theater. Engineers also created, designed and tested virtual prototypes here before actually building them.

Besides the Clean Room area, the east wing consisted of the support area. The support area is on the southeast corner of first floor and contained Apollo subcontractor operations, bench maintenance, system support, ground support equipment and manufacturing ready rooms. The bench maintenance area was a

7,000 square feet area for functional testing, malfunction isolation and minor repairs of Apollo systems and subsystems. The southeast area housed astronauts from the Apollo program when they were at the Downey plant for training and testing before the missions. They also worked with the engineers and technicians on the modules. This southeast space was used similarly for the Space Shuttle program, except that the dormitories moved to the northwest section on the second floor. The Space Shuttle program also used the southeast corner for a chemical laboratory, astronaut ready room, space-suit clean room and building equipment rooms.

The east wing also had a second floor work area located on the east wall of Building 290. The southeast corner had a large utility room with soundproof walls to mute the noise from the mechanical equipment. This area held the equipment needed to filter the air in the clean rooms. It also had boilers and water systems. Adjacent to the utility rooms was the engineering design area, a carpeted open area with soft partitions and portable cubicles for the engineers. In the northeast corner were the quality engineering offices and conference rooms. Quality engineering was the quality control branch of the Downey plant. The conference rooms had viewing windows to allow people to see the work being produced below in the Hi-and Lo-bays.

To the west of the east wing, the Lo-bay was used for fabrication and critical assembly of Apollo and Space Shuttle hardware. It also housed automatic welding equipment for welding operations. Both the Lo-and Hi-bays are clean rooms, which was necessary to assemble a spacecraft without dust. In space, dust floats in the air and can damage equipment. Both are class 100,000 clean rooms. They had high-gloss epoxy paint on the walls and ceilings to prevent cracking that would create contaminants. The Hi-bay also had an easy-to-clean concrete floor. The north and south airlocks helped maintain the integrity of the Lo-bay clean room. On the north side of the Lo-bay, the north airlock was a room between the outside and the clean room. The interior doors would be closed to separate the outside air from the air in the clean room. The large exterior doors would be opened for the materials and equipment to be delivered. The doors would close on all sides. In the airlock, the materials and equipment would be unpackaged while the air in the airlock was being cleaned and filtered. When the air in the airlock had equalized to match the standards used in the clean room, the interior door of the airlock would open. Then the equipment could be taken to the right place to be assembled and tested. On the southeast side of the Lo-bay, the south airlock was a lot larger than the north airlock to allow large tractor-trailers to load the completed modules. The south airlock worked similarly to that in the north airlock.

To the west of the Lo-bay, the Hi-bay was used for systems Integration and a checkout facility for the Apollo and Space Shuttle programs. Here is where the final assembly for the Apollo service and command modules happened, as well as the Space Shuttle crew modules and aft thrust structures. In 1969, along the west wall of the Hi-bay, blue steel support structures were constructed to extend out from the wall. They were used for the construction and testing of the modules. The large test stands allowed the modules to be dropped down and worked on from any direction. Being connected to the wall, the stands allowed wires and cable runs from the other side of the wall to directly connect to the equipment.

On the southwest side, a 40-50 feet deep and 70 feet high pit was constructed. During the Apollo program, it was used to test ground support equipment and pressure testing. Working in the pit kept the

clean room area of the Hi-bay protected if anything happened to explode and spray debris. During the Space Shuttle program, the pit held a mock-up shuttle built in 1977. It was used to test payload sizes and wiring to see if the payload would fit in the real shuttle. A basement supported the activities in the pit. The basement including the area of the pit was approximately 6,000 square feet.

The west wing is entered through a flat-roof canopied main entrance. The western façade is distinguished by “spider”-like legs that are vertical beams evenly spaced out, but only attached to the wall by rectangular panels at the top and middle. The sides have double beams and the center where the entrance is has single beams. All the beams are a little taller than the building itself. Inside, the building has offices, conference rooms, support areas and the Acceptance Checkout Equipment facilities (ACE) on its first floor. The ACE is in the center of the first floor and has a control and computer room cabled to a common terminal facility room. So from the ACE, any control computer room could be patched to any vehicle checkout stations in the Hi-bay. Adjacent to the ACE are support areas with servicing equipment to support the spacecraft test stations in the Hi-bay. Along the west wall and northwest corner of the first floor are administrative offices and conference rooms. These were used for clients and engineers to discuss the Apollo and Space Shuttle programs.

The west wing second floor had temporary astronaut dormitories, conference rooms, computers rooms and communication rooms. It had suspended ceilings, carpeted floors and gypsum board walls. In the 1980s, the Space Shuttle program housed astronauts here. The quality conference rooms had viewing windows that allowed people in meetings to look down at work being done in the Hi-and Lo-bays. In the 1980s, the Department of Defense converted a section into a proposal area for top-secret programs by adding solid wall partitions, sealed areas, and siphoned locks. The communication room controlled communications between people in the clean rooms and people in other areas of the building.

Three other notable historic artifacts are surrounding Building 290. The first one is on top of the northwest wall and original to when the building opened in 1965. It is a lighted sign featuring the emblem of North American Aviation. The other two artifacts are connected to the Space Shuttle program. Memorial plaques on west façade list the names of the astronauts that participated in the Space Shuttle program. On the northeast side, in front of the building are astronaut and crew signatures on a concrete walkway lined with brick. Each mission from 1971 to 1983 is represented by one square.

## **Building 11**

Building 11 is composed of seven buildings that were constructed between 1929 and 1942, and brought together in 1942 to form one large building. It is now 48,000 square feet in size. The oldest two portions of Building 11 are wood-framed structures with a wood truss system supporting gabled roofs. Later portions of Building 11 have steel-framed structures with steel truss systems supporting vaulted roofs. The entire building is sheathed in metal. All of the various buildings making up Building 11 had their own function and use; however, Building 11 has generally been used for heavy manufacturing, prototype development, chemical processing, logistics, office, and data storage.

**Building 36**

Building 36 was constructed in 1942 when the Downey plant was being expanded to accommodate increased production of military aircraft. It is a concrete brick building approximately 400 square feet in size. Used as a pump house, the building lies over a subterranean, circular concrete reservoir (holding tank) originally designed as an emergency reservoir for fire fighting. There are ribbon windows on each façade that have nine sashes centered at the upper third of each of façade. The only entrance to the building is through the metal door centered on the east façade. Built to fight fires, Building 36 was designed to collect water from the site and bring it back to the reservoir. This was a very efficient form of recycling water.

**Building 39**

From the time it was constructed in 1940 through 1955, Building 39 was used as a recycling facility and storage area. It was originally a rectangular pavilion with wide overhanging eaves and few walls. When a new building was needed to support missile research and development, Building 39 was moved to its current location just southeast of Building 1. After the move in approximately 1955, the sides were enclosed and the interior space was utilized as offices and storage. Also at this time, a second floor was added to provide offices to support ongoing programs.

**Building 108**

Building 108 is a shed attached to Building 1.

**Building 123**

Building 123 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. Building 123 was used as a pyrotechnic test laboratory. It is an irregular shaped concrete block and steel structure. It has a low-pitched shed steel roof and incorporates 4,000 square feet.

**Building 125**

Building 125 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. Building 125 is used as a cryogenic test laboratory and hazardous materials storage unit. It is rectangular in shape with a flat roof and incorporates an area of 1,125 square feet.

**Building 126**

Building 126 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. Building 126 is used a hazardous materials storage unit. It is a single-story concrete structure with a flat roof and incorporates 1,060 square feet. Small ventilation

openings line the south façade, near the roofline. A pedestrian entrance on the north façade provides access to the building.

### **Building 127**

Building 127 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. Building 127 is used as a mechanical testing laboratory. It is a rectangular concrete structure with a flat roof. It incorporates 1,060 square feet. Fenestration includes a series of glazed pedestrian doors as well as small ventilation holes along the roofline.

### **Building 128**

Building 128 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. It is used as a propellant test laboratory. Building 128 is a steel-framed concrete block structure that is L-shaped in plan and incorporates 1,515 square feet.

### **Building 130**

Building 130 was constructed in 1941 when the Downey plant was constructing bomb shelters and other buildings for explosives testing and storage. It is used as an ultra-high temperature facility. Building 130 is a single-story concrete structure with a flat roof. It is roughly L-shaped in plan and incorporates 1,005 square feet. At the north corner of the west façade is a small metal awning covered stoop.

### **Conclusion**

The aforementioned buildings are historic resources subject to CEQA as they have been determined by consensus to be eligible for listing in the National Register.

### **Previous Evaluation of Historic Significance**

In 1992, NASA's Program Operational Plan contained budget directives to reduce real estate holdings, and as a result, in 1993, the Downey Industrial Plant was declared excess to NASA's needs. At that time, the plant encompassed 166.1 acres. For ease of transfer, the site was divided into six parcels, with Parcels III, IV, V, and VI being offered for immediate excess. They were then transferred to the City of Downey.

Initially, Parcels I and II were retained for continued use by Boeing for the Space Shuttle program. However, the company was restructured in 1998, which led to a redistribution and consolidation of its holdings. As a result the Downey Industrial Plan was no longer needed. In turn, NASA declared Parcels I and II excess to their needs as well.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, NASA initiated a historic assessment of the property. The Section 106 process involves the identification of historic resources that may be affected by a particular project. Historic resources are properties that are listed or eligible for listing in the National Register. The Section 106 review for the property was conducted in November of 1999. At the time, the property was occupied by 123 buildings or structures on 97.7 acres. The 19

buildings and structures listed in Table I were identified as potentially eligible for listing in the National Register. A complex or group of buildings is usually analyzed as a historic district. The boundaries of the potential historic district were not identified, but were presumably the site itself, i.e. the combined boundaries of Parcels I and II. Furthermore, Buildings 1 and 6/290 were identified as potentially eligible for individual listing. The Section 106 review should have led to a formal determination of eligibility, but that does not appear to be the case. None of the buildings on the Project Site are included in the California Historic Resource Inventory System or the National Register Information System.

A Memorandum of Agreement (MOA) was established between the City of Downey, NASA, the State Office of Historic Preservation, and the United States General Services Administration regarding the disposal of property. The MOA acknowledged that the transfer of the property to the City of Downey may have an adverse effect on the buildings and structures identified as National Register eligible. The MOA stipulated the following:

- The front portion of Building 1 shall be preserved and rehabilitated according to the Secretary of the Interior's Standards for the Treatment of Historic Buildings.
- The brick-lined concrete walkway panels in front of Building 290 shall be preserved, although they may be relocated.
- The future development of the property shall incorporate interpretative displays highlighting the significant events and persons associated with the property.

Before the property was transferred to the City of Downey, these restrictions were recorded as covenants. In addition, the MOA included the following mitigation measures:

- In the event that the remainder of Building 1 is substantially altered not in conformance with the Secretary of the Interior's Standards or demolished, it shall be documented in accordance with Level I HABS/ Historic American Engineering Record (HAER) documentation.
- In the event that the other buildings on the Project Site identified as National Register eligible are substantially altered not in conformance with the Secretary of the Interior's Standards or demolished, it shall be documented in accordance with Level II HABS/HAER documentation.
- The documentation shall be accepted by the National Park Service and offered to a variety other repositories.
- NASA shall transfer to the City all known historical documents, records, photographs found on the property to facilitate the documentation. Copies of this information shall be made available to SHPO, the Historical Society, the Foundation, and appropriate archives designated by the General Services Administration.
- The City shall in cooperation with NASA develop an educational program in order to foster awareness of the property and its impact on the city of Downey and the American aeronautics and

aerospace industries. The City may establish a new non-profit organization to oversee and be responsible for the educational program.

The site is currently owned by Industrial Realty Group, which has leased space to Downey Studios. Many of the ancillary structures and small buildings at the site have been demolished, including some that were identified as potentially eligible for listing in the National Register. HAER reports have been prepared for Buildings 1, 6, 11, 36, 39, and 290. The history and description of these buildings found in section 2.2 of this report are drawn from the HAER reports.

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact if it were to result in one or more of the following:

- (a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.
  - “Substantial adverse change in the significance of an historical resource” means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
  - The significance of an historical resource is materially impaired when a project: (A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, the California Register of Historical Resources; (B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code, or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or (C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.<sup>1</sup>

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<sup>1</sup> *State CEQA Guidelines, Section 15064.5.*

The State CEQA Guidelines also state that impacts on historic resources would be generally considered mitigated to a less-than-significant level if the project conforms to the Secretary of the Interior's Standards for the Rehabilitation and Guidelines for Rehabilitating Historic Buildings.<sup>2</sup>

In enacting the California Register, the Legislature amended CEQA to clarify which properties are significant, as well as which project impacts are considered to be significantly adverse. A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.<sup>3</sup> A substantial adverse change means demolition, destruction, relocation, or alteration of the resource such that the significance of a historical resource is materially impaired.<sup>4</sup> The State CEQA Guidelines include a slightly different definition of "substantial adverse change:"

Substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired.<sup>5</sup> The Guidelines go on to state that "the significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that convey its significance and that justify its inclusion in or eligibility for inclusion in the California Register, local register, or its identification in a historic resources survey."<sup>6</sup>

### ***Secretary of the Interior's Standards***

Projects, which may affect historic resources, are considered to be mitigated to a less-than-significant level, if they conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties ("Standard").<sup>7</sup> Projects with no other potential impacts qualify for a Class 31 exemption under CEQA if they meet the Standards.<sup>8</sup> The Standards were issued by the National Park Service. They were not intended to be prescriptive, but to "...promote responsible preservation practices that help protect our

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<sup>2</sup> *Ibid.*

<sup>3</sup> *Public Resource Code Section 21084.1.*

<sup>4</sup> *Public Resource Code Section 5020.1(q).*

<sup>5</sup> *14 CCR Section 15064.5(b)(2)(A).*

<sup>6</sup> *14 CCR Section 15064.5(b)(2).*

<sup>7</sup> *14 CCR Section 15126.4(b).*

<sup>8</sup> *14 CCR Section 155331.*

Nation's irreplaceable cultural resources."<sup>9</sup> The Standards are accompanied by Guidelines for four types of treatments for historic buildings: preservation, rehabilitation, restoration, and reconstruction.

The definition of rehabilitation assumes that at least some repair or alteration of the historic building will be needed to provide for an efficient contemporary use; however these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the building's historic character. Projects, which may affect historic resources, are considered to be mitigated to a less-than-significant level, if they conform to the Standards.<sup>10</sup> Projects with no other potential impacts qualify for a Class 31 exemption under CEQA if they meet the Standards.<sup>11</sup> The Standards were issued by the National Park Service. They were not intended to be prescriptive, but to "...promote responsible preservation practices that help protect our Nation's irreplaceable cultural resources."<sup>12</sup> The Standards are accompanied by Guidelines for four types of treatments for historic buildings: preservation, rehabilitation, restoration, and reconstruction. The definition of rehabilitation assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the building's historic character.

The Standards are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired significance in their own right will be retained and preserved.

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<sup>9</sup> U.S. Department of the Interior, *Factors to Consider When Selecting An Appropriate Treatment*, website: [http://www.nps.gov/history/HPS/hli/landscape\\_guidelines/factors.htm](http://www.nps.gov/history/HPS/hli/landscape_guidelines/factors.htm), January 28, 2008.

<sup>10</sup> 14 CCR Section 15126.4(b).

<sup>11</sup> 14 CCR Section 155331.

<sup>12</sup> U.S. Department of the Interior, *Factors to Consider When Selecting An Appropriate Treatment*, website: [http://www.nps.gov/history/HPS/hli/landscape\\_guidelines/factors.htm](http://www.nps.gov/history/HPS/hli/landscape_guidelines/factors.htm), January 28, 2008.

5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The primary application of the Standards is in connection with approval of rehabilitation work for the 20 percent federal rehabilitation tax credit. Projects only receive the 20 percent credit if they meet the Standards. The State Office of Historic Preservation reviews tax credit projects and the National Park Service makes final certification.

### **Project Impacts**

All of the historic resources on the site would be demolished, with the exception of the front portion of Building 1. The historic resources to be demolished include Buildings 6, 11, 36, 39, 108, 123, 125, 126, 127, 128, 130, and 290. The portion of Building 1 that will be preserved includes the front section of the original EMSCO building (1929), the Kauffman wing (1939-41), and another wing attributed to Kauffman (1941). Some has already been rehabilitated according to Secretary of the Interior's Standards and the rest will be reused as office or retail. However, additional alterations on this portion of Building 1 would need to be mitigated by compliance with the Secretary of the Interior's Standards.

As a federal agency and as the property owner of the 160-acre NASA Industrial Plant, NASA was required under Section 106 of the National Historic Preservation Act (NHPA) to evaluate potential effects on structures on-site that are older than 50 years or that may have been associated with significant events in the past. This required study of NASA's transfer of the Project Site to the City of Downey included an evaluation of the buildings' historic significance and potential eligibility for the National Register of Historic Places. The *Final Historic Buildings and Structures Inventory and Evaluation* was prepared for

NASA by Earthtech (2000) for the purposes described above and determined, based on a review of historical literature (e.g., text maps and photographs), interviews with individuals having knowledge of the property's/plant's history and physical inspection and evaluation of the entire plant and its associated properties, that a complex of 19 structures and features on the Project Site, identified as property numbers 1, 6, 10, 11, 25, 36, 39, 41, 42, 108, 120, 123, 125, 126, 127, 128, 130, 288 and 290, is potentially eligible for listing in the National Register based on their individual merit as principal historic resources of the property.

The California State Office of Historic Preservation (SHPO) concurred with the findings of the Earthtech evaluation. Consequently, the project's potential effects on some of these structures (i.e., demolition) were regarded as adverse effects, pursuant to Section 106 of the National Historic Preservation Act. These effects would also constitute a significant impact under Section 15064.5 of the State CEQA Guidelines. To mitigate this impact, NASA previously entered into a Memorandum of Understanding with the City of Downey, the federal General Services Administration (GSA) and SHPO, as discussed above.

The HAER documentation was done in 2006 by Onyx Architects and was accepted by the National Park Service in 2007. The educational program was supposed to be done within 5 years of the MOA. The City currently is working with the Columbia Memorial Space Science Learning Center in Downey to develop the educational program. The MOA was executed by NASA, GSA, SHPO and the City. Compliance with the requirements of the MOA would reduce impacts of the proposed Tierra Luna Specific Plan to a less-than-significant level.

## **CUMULATIVE IMPACTS**

Cumulative impacts on historic resources evaluate whether impacts of the Project and related projects, when taken as a whole, substantially diminish the number of historic resources within the same or similar context or property type. Impacts to historic resources, if any, tend to be site-specific. No historic resources were identified in the immediate vicinity of the Project Site. There are no other historic resources in the City of Downey significant for their association with the American aeronautical or aerospace industries. Therefore, the impacts to historic resources on the Project Site would not affect the historic resources in the immediate vicinity within the same or similar context or property type. Moreover, it is anticipated that historic resources that are potentially affected by related projects would also be subject to the same requirements of CEQA. These determinations would be made on a case-by-case basis and the effects of cumulative development on historic resources would be mitigated to the extent feasible in accordance with CEQA and other applicable legal requirements.

## **MITIGATION MEASURES**

CEQA requires the Lead Agency to examine and impose mitigation measures that would avoid or minimize any impacts or potential impacts to historic resources. The following mitigation measures are recommended:

**Documentation**

- D-1. Historic American Engineering Record (HAER) reports were prepared for all of the historic resources on the Project Site in 2006. These reports were prepared as mitigation pursuant to the Memorandum of Agreement (MOA). However, the HAER report for Building 1 did not document that portion planned for preservation. Although the Project will preserve that same portion of Building 1, the report should be completed so that the entirety of Building 1 is documented. Prior to the commencement of the Project, Level II Historic American Buildings Survey (HABS) documentation shall be prepared for that portion of Building 1 planned for preservation. One original copy of the report as specified above shall be assembled and offered to the National Park Service, State Office of Historic Preservation, and the City of Downey.

**Compliance with the Secretary of the Interior's Standards**

- D-2. The rehabilitation of the remaining historic resources on the Project Site shall comply with the Secretary of the Interior's Standards. According to the schematic plans, the Project appears to comply with the Standards. However, the plans are expected to evolve to a greater level of detail, including construction materials and treatment of features. As such, a qualified historic architect shall monitor the design and the construction of the Project to ensure that it continues to comply with the Standards. The historic architect shall prepare a report at the conclusion of the design and development phase of the Project analyzing compliance with the Standards. That report shall be submitted to the City of Downey for review and approval.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The mitigation measures listed above are consistent with the Memorandum of Agreement and would reduce impacts to historic resources to less-than-significant.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**D. CULTURAL RESOURCES**  
**2. ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES**

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**ENVIRONMENTAL SETTING**

**Regulatory Framework**

Federal, State, and local laws and guidelines govern the treatment of archaeological resources. There are specific criteria for determining whether prehistoric or historic sites and objects are significant and/or protected by law. Federal and State significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal, State, and local laws and regulations that seek to mitigate impacts to significant prehistoric or historic resources are summarized below.

*National Historic Preservation Act of 1996*

The National Historic Preservation Act established the National Register of Historic Place (NRHP) to recognize resources associated with the country's history and heritage. Criteria for listing on the NRHP pursuant to Title 26, Part 63 of the Code of Federal Regulations are: significance in American history, architecture, archaeology, engineering, and culture as presented in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that are either: (a) associated with events that have made a significant contribution to the broad patterns of our history; (b) associated with the lives of persons significant in our past; (c) embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or (d) have yielded, or may be likely to yield information important to history. Criterion (d) is usually reserved for either archaeological or paleontological resources. Eligible properties must meet at least one of the criteria and exhibit integrity as determined by the degree to which the resource retains its historic properties, conveys its historic character, the degree to which the original fabric has been retained, and the reversibility of non-historic changes to the property.

*California Register of Historical Resources*

The California Register of Historical Resources (CRHR) was created to identify resources deemed worthy of preservation on a State level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP but focus on resources of Statewide, rather than national, significance. The CRHR automatically includes any resource listed, or formally designated as eligible for listing, on the NRHP.

The State Historic Preservation Office (SHPO) maintains the CRHR, which also includes properties designated under local ordinances or identified through local historical resources surveys.

**California Senate Bill 297 (1982)**

California Senate Bill 297 addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; established procedures to be implemented if Native American remains are discovered during construction of a project; and establishes the authority of the Native American Heritage Commission to resolve disputes regarding the disposition of such remains. The bill has been incorporated into Section 15064.5(c) of the State CEQA Guidelines.

**California Public Resources Code**

According to Section 21083.2(g) of the California Public Resources Code, a “unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

**Archaeological Resources on the Project Site**

The Project Site is located in an urbanized area and is has been previously paved and developed. According to an Environmental Assessment prepared in May of 2000, previous archaeological surveys have been conducted in the area. However, none of these surveys were conducted on-site, although two of them were carried out within ½ mile of the Project Site. During these surveys, no prehistoric or historic archaeological resources were identified. Further, according to this Environmental Assessment, no archaeological properties are listed in the National Register, no California Historical Landmarks, and no California Points of Historical Interest are situated within one mile of the Project Site.<sup>13</sup> The Environmental Assessment also attempted to identify the existence of any traditional cultural properties (TCPs) on-site. TCPs “can include archaeological sites, burial sites, ceremonial areas, caves, mountains, water sources, plant habitat or gathering areas, or any other natural area important to a culture for religious or heritage reasons.” As of the writing of the Environmental Assessment, no TCPs are identified on-site.

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<sup>13</sup> *Environmental Assessment for the Disposal and Reuse of NASA Industrial Plant, Downey, California, Prepared by NASA, May 2000.*

## **Paleontological Resources on the Project Site**

The Project Site is located in an urbanized area and is has been previously paved and developed. According to an Environmental Assessment prepared in May of 2000, previous archaeological surveys have been conducted in the area. Although none of these surveys were conducted on-site, two of them were carried out within ½ mile of the Project Site. During these surveys, no prehistoric or historic archaeological resources were identified. The Environmental Assessment attempted to identify the existence of any TCPs on-site. As of the writing of the Environmental Assessment, no TCPs are identified on-site.<sup>14</sup>

## **Human Remains**

No known human burials have been identified within the Project Site or within recorded resources in the vicinity. The Project Site is located in an urbanized area which has been disturbed by previous development.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

##### *Archaeological Resources*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant archaeological impact if it were to result in one or more of the following:

- (a) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; or
- (b) Disturb any human remains, including those interred outside of formal cemeteries.

##### *Paleontological Resources*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant paleontological impact if it were to result in one or more of the following:

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<sup>14</sup> *Environmental Assessment for the Disposal and Reuse of NASA Industrial Plant, Downey, California, Prepared by NASA, May 2000.*

- (a) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## **Project Impacts**

### ***Archaeological Resources***

The Project Site is located in an urbanized area and has been previously disturbed by development. Any archaeological resources that may have existed on the Project Site have likely been previously unearthed or disturbed. Excavation for the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater infrastructure. While it is unlikely that archaeological resources would be discovered during project development activities, should any such resources be encountered, full realization of the Proposed Project would result in significant impacts to archaeological resources. However, with the implementation of mitigation measures listed below, impacts from the buildout of the Proposed Project on any archaeological resources would be reduced to a less-than-significant level.

### ***Paleontological Resources***

There are no known paleontological resources on the Project Site. Any paleontological resources that may have existed on the Project Site have likely been previously unearthed or disturbed. The anticipated excavation activities associated with the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater infrastructure. While it is unlikely that paleontological resources would be discovered during project development activities, should any such resources be encountered, full realization of the Proposed Project would result in significant impacts to paleontological resources. However, with the implementation of mitigation measures listed below, impacts from the buildout of the Proposed Project on any paleontological resources would be reduced to a less-than-significant level.

### ***Human Remains***

No known human burials have been identified on the Project Site. The anticipated excavation activities associated with the Proposed Project would be required for the installation of future foundations, utilities, subterranean parking, and stormwater BMP infrastructure, including stormwater retention facilities, identified in the Tierra Luna Specific Plan. While it is possible that human remains could be discovered during construction activities, with the implementation of mitigation measures listed below, impacts from the realization of the Proposed Project on the human remains would be reduced to a less-than-significant level.

## **CUMULATIVE IMPACTS**

Development of the Proposed Project in combination with the 61 related projects listed in Section III. Environmental Setting, would result in the increased potential for encountering archaeological and paleontological resources in the project vicinity. The potential that one or more of these related projects

might encounter archaeological or paleontological resources during the course of development is determined by such factors as whether prehistoric human presence had occurred at any given related Project Site, and the type of proposed development activities at the site. However, not all archaeological resources are of equal scientific value. While some have the potential to be scientifically important due to rarity of their ability to provide new information, many of these resources are common and have little scientific value. Therefore, the significance of cumulative impacts to archaeological and paleontological resources is not determined simply by the frequency of the encounter, but by the nature of that encounter.

The mere fact of an encounter does not imply an adverse impact. With appropriate mitigation, such an encounter may lead to the recovery of scientifically important archaeological resources that would not have been exposed without these activities. Considering that the discovery of archaeological resources is a fairly rare event, the discovery of a scientifically important archaeological resource is even more rare an event; the fact that discovery of rare resources may lead to their recovery rather than their destruction, it is not anticipated that there would be a significant adverse cumulative impact to archaeological resources. Further, CEQA requirements for protecting archaeological resources are applicable to development in the City of Downey as are other local cultural resource protection ordinances. If subsurface cultural resources are protected upon discovery as required by law, impacts to those resources would be cumulatively less than significant.

## **MITIGATION MEASURES**

### **Archaeological Resources**

- D-3. If any archaeological materials are encountered during the course of development of all future projects constructed pursuant to the Tierra Luna Specific Plan, the project shall be halted. The services of an archaeologist shall be secured by contacting the Center for Public Archaeology – California State University at Fullerton, or a member of the Society of Professional Archaeologists (SOPA) or a SOPA-qualified archaeologist to assess the resources and evaluate the impact. Copies of the archaeological survey, study or report shall be submitted to the UCLA Archaeological Information Center. A covenant and agreement shall be recorded before grading resumes.

### **Paleontological Resources**

- D-4. If any paleontological materials are encountered during the course of development of all future projects constructed pursuant to the Tierra Luna Specific Plan, the project shall be halted. The services of a paleontologist shall be secured by contacting the Center for Public Paleontology – University of Southern California (USC), University of California at Los Angeles (UCLA), California State University at Los Angeles, California State University at Long Beach, or the Los Angeles County Natural History Museum to assess the resources and evaluate the impact. Copies of the paleontological survey, study, or report shall be submitted to the Los Angeles County Natural History Museum.

### **Human Remains**

- D-5. If human remains are discovered at the Project Site during construction for future projects pursuant to the Tierra Luna Specific Plan, work at the respective construction site shall be suspended, and the City of Downey and County Coroner shall be immediately notified. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment or disposition of the remains.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the mitigation measures listed above, the Proposed Project would have a less than significant impact with respect to archaeological and paleontological resources.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### E. GEOLOGY/SOILS

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#### INTRODUCTION

This section evaluates potential impacts related to geology, including seismicity, and soils associated with development of the Proposed Project. The following analysis is based on the Geotechnical Evaluation for EIR, Proposed Tierra Luna Specific Plan, prepared by MACTEC on August 22, 2008. The Geotechnical Evaluation for EIR Proposed Downey Studios Specific Plan is included as Appendix IV.E-1 of this Draft EIR.

#### ENVIRONMENTAL SETTING

The Project Site, consists of approximately 79 acres, is generally bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, Congressman Steve Horn Way to the south, Clark Avenue to the southwest, and Lakewood Boulevard to the west. The Project Site is relatively flat and is currently developed with approximately 1.5 million square feet of movie and television studio uses.

#### Geological Conditions and Topography

Regionally, the Project Site is located in the northern portion of the Peninsular Ranges Geomorphic Province in a northwest-trending alleviated lowland plain, sometimes called the Coastal Plain of Los Angeles. The Peninsular Ranges are characterized by northwest-trending blocks of mountain ridges and sediment-floored valleys between Baja California and the Los Angeles Basin and westerly into the offshore area, including the Santa Catalina, Santa Barbara, San Clemente, and San Nicolas islands. The Transverse Ranges represent the northern boundary of the province and are located along the Malibu, Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults. The dominant geologic structural features of the province are the elongated, northwest-trending mountain ranges separated by sediment-filled valleys and basins that are oriented roughly parallel to these mountain ranges. The northwest trend is also reflected in the direction of the northwest to west-northwest trending folds and faults.<sup>1</sup>

Locally, the Project Site is located in the Los Angeles Basin, 11 miles east of the Pacific Ocean. The Los Angeles Basin is a coastal plain between the Santa Monica Mountains to the north, the Puente Hills and Whittier fault to the east, the Palos Verdes Peninsula and Pacific Ocean to the west, and the Santa Ana Mountains and San Joaquin Hills to the south. The basement surface within the central portion of the basin extends to a maximum depth of 32,000 feet below sea level (bsl). The prominent structural features within the Los Angeles Basin include the central lowland plain, the uplifted Palos Verdes Hills, and the northwest trending line of low hills and mesas underlain by the Newport-Inglewood fault zone.

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<sup>1</sup> *Geotechnical Evaluation for EIR Proposed Tierra Luna Specific Plan, prepared by MACTEC, August 22, 2008.*

The Project Site is situated at an approximate elevation of 100 feet above mean sea level (msl). The topography of the Project Site and vicinity is generally flat, but slopes gently to the south.

### **Soil Conditions**

The Project Site is underlain by Holocene age alluvial deposits. This alluvium extends to an approximate depth of 130 feet. As encountered in those explorations, the alluvium generally consists of interlayered silty sand, sandy silt, and clay of various consistencies.

The Holocene age alluvium is underlain by sediments of the late Pleistocene age Lakewood Formation. Materials of this formation consist of marine and continental gravel, sand, sandy silt, silt, and clay that extend to a depth of approximately 350 feet beneath the site. The Lakewood Formation is underlain by gravel, sand silt, and clay deposit materials of the early Pleistocene age San Pedro Formation. These materials are approximately 600 feet thick and are underlain by Tertiary age sedimentary rocks.

### **Ground Water**

The Project Site is located within the Central Hydrologic Subarea in the Los Angeles – San Gabriel River Hydrologic Unit. In October 2007, groundwater was measured at depths ranging between 53 and 88 feet below ground surface (bgs) at ground water wells around the Project Site. The range in ground water depths is attributed to shallower ground water measured to the north of the Project Site than toward the east or west of the site. The Project Site is located along the northern edge of the original artesian area of the late 1800s, delineated by Mendenhall. However, the Project Site is longer within the artesian area as later identified by Mendenhall in 1905. Since the early 1900s, the artesian area has become much smaller, due to increased pumping of the ground water and a decrease in irrigation from farming in the area. Based on ground water contours published by the California Division of Mines and Geology, the historic high ground water level at the Project Site is approximately eight feet bgs. However, as the ground water level is not expected to return to the historic high level, the highest future ground water level would be 40 feet bgs.

### **Seismic Conditions**

The entire Southern California region is considered to be a seismically active region. The region has numerous active, potentially active, inactive faults, and buried thrust faults. The criteria for these groups were developed by the California Geological Survey (previously the California Division of Mines and Geology) for the Alquist-Priolo Earthquake Fault Zoning Program. An active fault is defined as a fault that has shown evidence of surface displacement within the Holocene age (roughly the last 11,000 years). A potentially active fault is a fault that has demonstrated evidence of surface displacement within the Quaternary age (roughly the last 1.6 million years). Inactive faults are faults that show no evidence of movement in the last 1.6 million years. Buried thrust faults are faults that show no evidence of surface expression but are a significant source of seismic activity. Due to the buried nature of these faults, their existence usually remains unknown until they produce an earthquake. It is inferred that the risk for surface rupture of these faults is low. The seismic risk of these faults is not well established, thus, the potential for surface rupture at magnitudes higher than 6.0 cannot be precluded. The active faults closest

to the Project Site include: the Whittier fault, the nearest fault, located approximately seven miles northeast of the Project Site; the Cherry Hill fault, located approximately seven miles southwest of the Project Site; the Raymond fault, located approximately 13 miles north of the Project Site; and the San Andreas fault, which is located approximately 39 miles northeast of the Project Site.

Additionally, there are several known buried thrust faults that underlie the Los Angeles Basin. These faults have no surface expression and are typically identified at depths of greater than three kilometers. These faults do not present a potential for surface fault rupture. The following faults are considered active and potentially active for future earthquakes: the Puente Hills Blind Thrust fault extends eastward from downtown Los Angeles to Brea; the Upper Elysian Park fault is a blind thrust that overlies the Los Angeles and Santa Fe Springs segments of the Puente Hills Thrust (the vertical surface projection is approximately seven miles north of the Project Site); the San Joaquin Hills fault is believed to be parallel to the Newport-Inglewood fault with a vertical surface projection approximately 20 miles southeast of the Project Site; and the Northridge fault, whose vertical surface projection is approximately 25 miles northwest of the Project Site.

In addition to active and buried thrust faults, the Project Site is in the vicinity of several potentially active faults. The nearest such fault is the Norwalk fault located approximately 2.3 miles southeast of the Project Site. Other potentially active faults include: the Los Alamitos Fault located approximately 5.6 miles south of the Project Site and the MacArthur Park Fault located approximately 11 miles northwest of the Project Site.

The State Alquist-Priolo Special Studies Zone Act mitigated fault rupture hazards by prohibiting the location of most structures for human occupancy across traces of active faults. The Project Site is not located within an Alquist-Priolo Earthquake Fault Zone.

Ground rupture is defined as surface displacement occurring along the surface trace of a causative fault during an earthquake. Based on available geologic data, no active or potentially active faults with the potential for surface rupture are known to be located directly beneath or projecting toward the Project Site.

### **Landslides**

Landslides may be triggered by earthquakes, rainstorms, or construction-related activities (e.g., improper grading, structural design, landscaping, etc.). Topographically, the Project Site is relatively flat. This precludes both stability problems and the potential for lurching. Further, according to the Seismic Safety Element of the City of Downey General Plan and the Seismic Safety Element of the County of Los Angeles General Plan, the Project Site is not located within an area identified as having potential for slope instability or landslide.<sup>2</sup> No known landslides have occurred near the Project Site.

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<sup>2</sup> City of Downey, *Downey Vision 2025 General Plan, Safety Element, and the Los Angeles County Draft 2008 General Plan, Safety Element, Seismic Hazards*.

## **Liquefaction**

Liquefaction is the process in which loose granular soils below the groundwater table temporarily lose strength during strong ground shaking as a consequence of increased pore pressure associated with seismic events such as earthquakes and thereby, reduced effective stress. As a result, the soils may acquire a high degree of mobility, which can lead to lateral spreading, consolidation and settlement of loose sediments, ground oscillation, flow failure, loss of bearing strength, ground fissuring, sand boils, and other damaging deformations. After liquefaction has developed, it can propagate upward into overlying, non-saturated soils as excess pore water escapes. The vast majority of liquefaction hazards are associated with sandy soils and silty soils of low plasticity. Potentially liquefiable soils (based on composition) must be saturated or nearly saturated to be susceptible to liquefaction. Significant factors that affect liquefaction include water level, soil type, particle size and gradation, relative density, confining pressure, intensity of shaking, and duration of shaking. Liquefaction potential has been found to be greatest where the groundwater level is shallow and submerged loose, fine sands occur within a depth of about 50 feet or less. Liquefaction potential has been found to be the lowest with cohesive, clayey soil materials.

According to the County of Los Angeles Seismic Safety Element, the Project Site is within an area identified as having a very low potential for liquefaction. Further, according to the Safety Element of the General Plan of the City of Downey, the Project Site, along with the majority of the City, is located in an identified liquefaction zone. As such, the alluvium that underlies the Project Site may be loose and susceptible to liquefaction in the event of an earthquake. As stated above, because the Project Site exhibits a relatively low ground water level, the liquefaction potential on-site is considered relatively low.

## **Seismically-Induced Settlement**

Seismically-induced settlement is often caused by loose to medium-dense granular soils densified during ground shaking. At the current groundwater levels, the potential for seismically-induced settlement is moderate.

## **Subsidence and Expansive Soils**

Subsidence is the downward settling of the earth's surface as a result of fluid withdrawal from deep geologic formations. Unless these voids are refilled, they may collapse causing subsidence in the shallower earth layers between the ground surface and pumped geologic units. The Project Site is not located within an area known to be affected by subsidence associated with fluid withdrawal, peat oxidation, or hydrocompaction.

Expansive soils are clay based soils that tend to expand (increase in volume) as they absorb water and shrink (lessen in volume) as water is drawn away. If soils consist of expansive clays, foundation movement and/or damage can occur if wetting and drying of the clay does not occur uniformly across the entire area. On-site soils have been found to possess a low to moderate expansion potential.

## **Tsunamis, Seiches, and Flooding**

Tsunamis are large ocean waves resulting from sudden water displacement due to a submarine earthquake, landslide, or volcanic eruption. Seiches, caused by the seismic ground shaking associated with earthquakes, are oscillations generated within enclosed bodies of water. The Project Site is not located in a coastal area as the Pacific Ocean is identified approximately 11 miles west of the Project Site. Therefore, tsunamis are not considered likely.

The Project Site is located within a potential inundation area. According to the Seismic Safety Element of the General Plan of the County of Los Angeles, flooding may occur on-site due to an earthquake dam failure at the Whittier Narrows Dam.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact if it were to result in one or more of the following conditions:

- (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);
  - ii) Strong seismic ground shaking;
  - iii) Seismic-related ground failure, including liquefaction; or
  - iv) Landslides;
- (b) Result in substantial soil erosion or the loss of topsoil;
- (c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- (d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risks to life or property;

- (e) 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.

## **Project Impacts**

### ***Soil Stability***

The Proposed Project would be developed with up to 3,950,000 square feet of residential, commercial, and office, and public open space.

As described above, the Project Site is underlain by Holocene age alluvial deposits. This alluvium extends to an approximate depth of 130 feet. As encountered in those explorations, the alluvium generally consists of interlayered silty sand, sandy silt, and clay of varying consistency. The Holocene age alluvium is underlain by sediments of the late Pleistocene age Lakewood Formation. Materials of this formation consist of marine and continental gravel, sand, sandy silt, silt, and clay that extend to a depth of approximately 350 feet beneath the site. The Lakewood Formation is underlain by gravel, sand silt, and clay deposit materials of the early Pleistocene age San Pedro Formation. These materials are approximately 600 feet thick and are underlain by Tertiary age sedimentary rocks.

Construction of the Proposed Project would require mass excavation across the majority of the Project Site (with the exception of the buildings fronting on Lakewood Boulevard). Local excavation and earthwork would be conducted to provide footings, foundations, and subterranean walls to support the proposed parking structures and buildings. Based on the results of the Geotechnical Engineering Investigation, the existing on-site alluvium would be unsuitable for support of new foundations and slabs. Where uncertified fill soils and loose surficial soils are present, overexcavation and recompaction of these materials are recommended beneath the structures unless a structural first floor slab is utilized. However, it is expected that on-site soils not impacted by contamination from prior on-site activities or remediated to applicable regulatory standards would be suitable for use as fill. The existing alluvium beneath the Project Site would be unsuitable for support of new foundations or slabs. Therefore, impacts related to soil stability could be potentially significant. However, with the implementation of Best Management Practices (BMP's), impacts associated with soil stability and caving during the excavation of the Project Site would be reduced to a level of less than significant.

Additionally, wastewater disposal infrastructure is provided and maintained by the Los Angeles County Sanitation Districts (the City of Downey is located within the boundaries of District No. 2) and the City of Downey Department of Public Works. Thus, septic tanks and alternative waste water disposal systems are not in use within the City of Downey. Therefore, no further investigation of question (e) above is necessary.

## ***Erosion and Topsoil***

### *Construction*

The Project Site is currently improved with approximately 750,000 square feet of media production studio uses. These uses would be removed during development of the Proposed Project. During construction activities, particularly during excavation for the subterranean levels, installation of foundations and utilities, and grading, the amount of impervious surfaces would be reduced, increasing the potential for wind-borne erosion. Additionally, there is a potential for erosion to occur during the grading process during periods of heavy precipitation, which could generate potentially significant erosion impacts. Regulatory measures are required to be implemented during construction periods to minimize wind and water-borne erosion (see Section IV.C, Air Quality and IV.G, Hydrology and Water Quality). All grading activities require grading permits from the City of Downey Department of Building and Safety, which include requirements and standards designed to limit potential impacts to acceptable levels. In addition, all on-site grading and site preparation would comply with applicable provisions of Chapters 8 and 9 of the City of Downey Municipal Code, which address grading and seismic regulations.

The majority of the area surrounding the Project Site is completely developed and would not be susceptible to indirect erosional processes (e.g., uncontrolled runoff) caused by the project. During construction, the Proposed Project would be required to prevent the transport of sediments from the Project Site by storm water runoff and winds through the use of appropriate Best Management Practices (BMPs). These BMPs would be detailed in a Storm Water Pollution Prevention Program (SWPPP) and are required to be acceptable to the City Engineer and in compliance with the latest Nation Pollutant Discharge Elimination System (NPDES) Storm Water Regulations. With implementation of the required construction BMPs, impacts to erosion or loss of topsoil would be reduced to a level of less than significant.

### *Operation*

Long term operation of the Proposed Project would not result in substantial soil erosion or loss of topsoil. The majority of the Project Site would be covered by structures and paved surfaces while the remainder would be covered with irrigated landscaping. No exposed areas subject to erosion would be created or affected by the Proposed Project. With implementation of the applicable grading and building permit requirements and the application of Best Management Practices, impacts with respect to erosion or loss of topsoil would be less than significant.

## ***Seismic Hazards***

### *Ground Shaking*

The principal seismic hazard to the Project Site is moderate-to-strong ground shaking caused by earthquakes produced by local or regional faults. Modern, well-constructed buildings are designed to resist ground shaking through the use of shear walls and reinforcements. The proposed construction would be consistent with all applicable provisions of the City of Downey Building Code, as well as the

seismic design criteria contained within the Uniform Building Code. As previously discussed, the Project Site is located approximately seven miles southwest of the Whittier Fault; however, the Project Site is also located within proximity to many other faults. Thus, on a regional level, the potential seismic hazard to the Proposed Project would not be higher than in most areas of the City of Downey or elsewhere in the region. Therefore, the risks from seismic ground shaking are considered to be less than significant.

#### *Fault Rupture*

The Project Site is located in the seismically active region of Southern California. Numerous active and potentially active faults with surface expressions (fault traces) have been mapped adjacent to, within, and beneath the County of Los Angeles. However, there are no active surface fault traces or Alquist-Priolo Special Study Zones known to be present on or near the Project Site.<sup>3</sup> Therefore, the possibility of surface fault rupture affecting the Project Site would be considered remote. The Proposed Project would not present any adverse impacts with respect to exposing people or property to hazardous conditions resulting from rupture of a known earthquake fault on the Project Site. Therefore, project impacts with respect to fault rupture would be less than significant.

#### *Landslides*

The topography at the Project Site and vicinity is relatively flat. The Project Site is not located near any foothills or mountains, and the possibility of landslides occurring on the Project Site is minimal. Additionally, the Proposed Project would be subject to the design requirements set forth in the 2007 California Building Code. Therefore, impacts associated with landslides would be less than significant.

#### *Liquefaction*

According to the City of Downey Safety Element, the Project Site is within a liquefaction zone. Because the Project Site is located in an identified potential liquefaction zone, development of the Proposed Project may subject persons or property to a risk resulting from liquefaction. However, as with seismic conditions, because the risk of liquefaction on-site would be no greater than many other places in the region and with compliance with modern building practices and the State of California Building Code, development of the Proposed Project would not expose people or property to a substantial adverse effect. Therefore, impacts with respect to liquefaction, including seismic settlement and differential compaction, would be less than significant.

#### *Subsidence and Expansive Soils*

Groundwater and petroleum are not currently being extracted from the Project Site and would not be extracted as part of the Proposed Project. Therefore, subsidence as a result of such activities would not

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<sup>3</sup> *Geotechnical Evaluation for EIR Proposed Downey Studios Specific Plan, prepared by MACTEC, August 22, 2008.*

occur. Thus, earth materials underlying the Project Site are not subject to hydrocompaction or subsidence. Therefore, risk of subsidence would be less than significant.

The alluvium underlying the project area exhibits low to moderate expansion potential, which could be potentially significant. The Proposed Project would comply with the requirements of the City of Downey Building Code and BMPs. Therefore, impacts with respect to expansive soils would be less than significant.

### ***Tsunamis, Seiches, and Flooding***

As previously discussed, tsunamis are large ocean waves caused by sudden water displacement as a result of submarine seismic activity. The Federal Emergency Management Agency (FEMA) identifies areas at greatest risk for tsunamis as those that are less than 25 feet above sea level and located within one mile of the shoreline.<sup>4</sup> According to the Geotechnical Investigation prepared for the Proposed Project, the Project Site is located approximately 100 feet above sea level while the closest shoreline is approximately 11 miles from the Project Site. Therefore, the Proposed Project would not subject persons or property to hazards related to tsunamis and impacts would be less than significant.

Seiches are oscillations generated within an enclosed body of water caused by seismic ground shaking associated with earthquakes and result in flooding of downstream areas. The Project Site is located within a potential inundation area. According to the Seismic Safety Element of the General Plan of the County of Los Angeles, flooding may occur on-site due to an earthquake dam failure at the Whittier Narrows Dam. However, this dam, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the United States Army Corps of Engineers) to guard against the threat of dam failure. The possibility of dam failures during an earthquake has been addressed by the California Geological Survey in the earthquake planning scenarios for a magnitude 8.3 earthquake on the San Andreas Fault zone and a magnitude 7.0 earthquake on the Newport-Inglewood fault zone. Catastrophic failure of a major dam as a result of a scenario earthquake is regarded as unlikely. Current design and construction practices, as well as ongoing programs of review, modification, or total reconstruction of existing dams, are intended to ensure that all dams are capable of withstanding the maximum credible earthquake (MCE) for the site. Therefore, the potential for inundation at the Project Site as a result of an earthquake-induced dam failure is considered low and impacts would be less than significant.

## **CUMULATIVE IMPACTS**

Development of the Proposed Project in conjunction with the related projects listed in Section III. Environmental Setting, would result in further infilling of various land uses in the City of Downey as well as surrounding cities. Geological hazards are site-specific and there is little, if any, cumulative

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<sup>4</sup> Federal Emergency Management Agency, *Tsunami*, website: <http://www.fema.gov/hazard/tsunami/index.shtm>, August 21, 2008.

relationship between development of the Proposed Project and the related projects. As such, construction of the related projects is not anticipated to combine with the Proposed Project to cumulatively expose people or structures to such geologic hazards as earthquakes, ground shaking, liquefaction, landslides, flooding, unstable soils, or expansive soils, or result in substantial soil erosion or the loss of topsoil. Therefore, no cumulatively considerable geological impacts are anticipated to occur from development of the Proposed Project and the related projects.

### **MITIGATION MEASURES**

No mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Proposed Project would result in less than significant impacts related to geology and soils.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### F. HAZARDS AND HAZARDOUS MATERIALS

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#### INTRODUCTION

This section evaluates potential impacts related to hazards and hazardous materials associated with development of the Proposed Project. It discusses whether the Proposed Project would create a significant hazard to the public or the environment due to its proximity to hazardous conditions and/or hazardous materials. This analysis is based on the findings of the following documents:

- *Central Parcel Area Screening Assessment Soil Gas Survey Report, Former NASA Industrial Plant, 12214 Lakewood Boulevard, Downey California*, prepared by ARCADIS, February 28, 2008 (Appendix IV.F-1).
- *In-Situ Reactive Zone Interim Measure Source Reduction Remedial Action Plan*, prepared by ARCADIS, May 20, 2003 (Appendix IV.F-2).
- *Addendum to the In-Situ Reactive Zone Interim Measure Source Reduction Remedial Action Plan*, prepared by ARCADIS, August 22, 2005 (Appendix IV.F-3).
- *Soil Remedial Action Plan, Former NASA Industrial Plant, Downey California*, prepared by ARCADIS, December 12, 2006 (Appendix IV.F-4).

#### ENVIRONMENTAL SETTING

##### Existing Uses

The Project Site is currently being operated as Downey Studios, a television and movie studio production facility that includes approximately 750,000 square feet of structures presently used for media, studio production, office uses, an outdoor suburban street movie set, 20 acres of back lot space, and associated parking lots. A number of structures on the Project Site remain from the former aircraft manufacturing and National Aeronautics and Space Administration (NASA) industrial operations associated with the U.S. manned spaceflight program dating to the 1960s. A total of 25 buildings related to this industry exist on the Project Site.

##### Surrounding Uses

The surrounding area is relatively flat and developed with single- and multi-family residential, commercial and retail uses, restaurant uses, auto mechanic uses, religious structures, industrial uses, and park space, as well as health care facilities. Immediately north of the Project Site is the approximately 34-acre Downey Landing Retail Center with various retail and commercial uses, and north of the retail center, across Stewart and Gray Road, are single-family residences. To the west of the retail center and the Project Site, across Lakewood Boulevard, are multi-family residences and retail and commercial uses fronting Lakewood Boulevard between Stewart and Gray Road and Alameda Street as well as a Hindu temple named Shree Swaminarayan Mandir, Downey. Immediately west of the retail, commercial, and

religious uses are single-family residences. South of Alameda Street, and running south along Lakewood Boulevard, west of the Project Site, are single-family residences. Furthermore, across Clark Avenue, also to the west of the Project Site, are commercial uses and multi-family residences.

South of the Project Site is the 13-acre city park consisting of recreational facilities, open space, and the Columbia Memorial Space Science Learning Center, industrial and commercial uses and the Kaiser Downey Medical Center and offices. The Kaiser Downey Medical Center is scheduled to be complete in mid-2009. Currently, a medical office building, a hospital, and parking structures comprise the Kaiser complex. Immediately south of these structures, across Imperial Highway, are industrial, commercial, and retail uses.

East of the Downey Landing Retail Center are multi-family residences, and east of the Project Site are industrial, commercial, and medical uses operated by Kaiser Permanente. Southeast of the Project Site, and east of the Kaiser complex, are commercial and industrial uses as well as the city-operated Independence Park, which includes a skate park and tennis center.

## **Existing Site Conditions**

### ***Site History***

The Project Site is an approximately 79-acre section of the former federally-owned, 160-acre National Aeronautics and Space Administration (“NASA”) Industrial Plant site. This facility was used by aircraft manufacturers and associated government contractors, including Boeing and Rockwell that designed, manufactured, and assembled aerospace vehicles, instruments, and components from approximately 1929 until the mid 1990s. In 1996, after Boeing reorganized itself and shut down most operations in Downey, the United States Government declared the NASA Industrial Plant site in excess of the government’s needs. The United States Government subsequently sold approximately 66 acres of the site to the City of Downey in 1998 and approximately 94 acres to the City of Downey in 2003. The Project Site was part of the 94-acre acquisition.

Before the acquisition of the 94-acre site by the City of Downey from the US government, contamination in both the soil and the groundwater was discovered at the 94-acre site. The primary chemical contaminants discovered in the soil and groundwater were the volatile organic compounds (“VOCs”) trichloroethylene (“TCE”) and tetrachloroethylene or perchloroethylene (“PCE”), both of which are solvents historically used for degreasing metal parts in many manufacturing processes. Pursuant to federal law, the groundwater and soil contamination issues at the 94-acre site had to be addressed sufficiently enough that the Governor of California would approve the transfer of the property from NASA to the City of Downey. The City of Downey, working with the federal government, put together a transaction structure allowing sales proceeds from the City of Downey to be used to implement the remediation of the soil and groundwater. Further, the City of Downey entered into an environmental assumption agreement dated as of November 2, 2003, with International Risk Assumption Downey, LLC (“IRAD”), an environmental remediation firm, whereby IRAD agreed to assume corrective action responsibility related to historic impacts to soil and groundwater, obtain sufficient environmental liability

insurance, and implement corrective action on historic groundwater and soil contamination at the former NASA Industrial Plant site subject to additional terms and conditions described in the associated agreement (“IRAD Agreement”). In exchange for these services, IRAD would be paid from the aforementioned sales proceeds based on achieving certain cleanup milestones. The IRAD Agreement requires certain approvals (not unreasonably withheld) by IRAD and potentially by its environmental insurer prior to any Sensitive Use or any Regulated Storage, Use, or Handling of any Hazardous Material (as defined in the IRAD Agreement) at the subject property. The approval process also is set forth in the Declaration of Covenants, Conditions and Environmental Restrictions (“CC&Rs”) recorded in the Official Records of the County of Los Angeles, State of California, on November 21, 2003, as document no. 033518855.

The former NASA Industrial Plant is under the regulatory oversight of the Regional Water Quality Control Board-Los Angeles Region (LARWQCB). During the 1990s and continuing until 2002, NASA conducted a number of site assessment and remediation activities under the oversight of the LARWQCB, Department of Toxic Substances Control (DTSC), and the Los Angeles County Department of Public Works (LACDPW). LACDPW was the permitting agency for diesel underground storage tank removals and closures. Except as indicated below, LARWQCB has not required additional assessment related to current land uses and remediation.

The Project Site is located within the area of the former NASA Industrial Plant known as the Central Parcel Area (CPA). The *Central Parcel Area Screening Assessment Soil Gas Survey Report* (Soil Gas Survey Report, Appendix IV.F-1 to this EIR) contains an overview of the previous investigations conducted for the CPA. A summary of this information is presented below.

### ***Groundwater Contamination***

In September 2002, LARWQCB directed NASA to initiate groundwater remediation at the property. An *In-Situ Reactive Zone Interim Measure Source Reduction Remedial Action Plan* (RAP, Appendix IV.F-2 to this EIR) was prepared and approved by LARWQCB in 2003. An addendum to the RAP was prepared and approved by LARWQCB in 2005 (Appendix IV.F-3). Groundwater remediation activities have been conducted within the CPA since 2006. Much of the groundwater contamination under the former NASA Industrial Plant and the Project Site appears to be emanating from two areas of concern also located near two former NASA buildings and also under the parking lot of the Downey Landing commercial center, not on the Project Site. The groundwater VOC plume has been defined and traverses a large portion of the entire former NASA Industrial Plant site (refer to Figure IV.F-1, Groundwater Plume).



Source: ARCADIS, April 9, 2008.

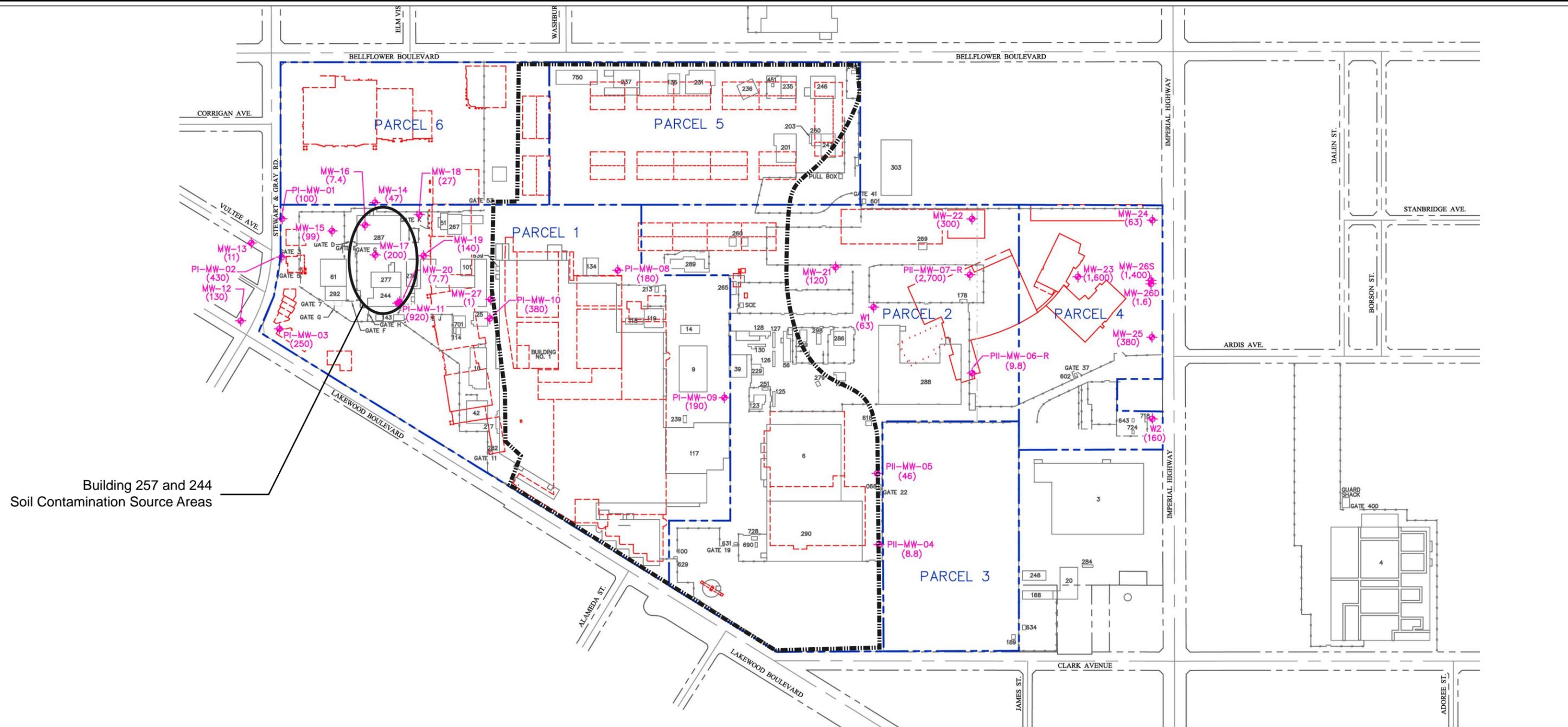
### ***Soil Contamination***

In addition, soil contamination was discovered north of the Project Site in two sections of the parking lot of the adjacent Downey Landing commercial center, in an area that is not part of the Project Site. Two soil contamination source areas were identified in the vicinity of former NASA Buildings 287 and 244 (Figure IV.F-2). Before 2003, NASA began corrective action of the VOC contamination to the north of the Project Site in the shallow soils of the source areas i.e., soils approximately 40 feet below the surface. LARWQCB previously accepted NASA's remedial action plan for the shallow soils to the north of the Project Site (Soil RAP, Appendix IV.F-4), but required that an additional corrective action program be implemented to address VOCs in the deeper soils of the Downey Landing portion of the former NASA Industrial Plant site, not on but to the north of the Project Site.

### ***Current Remediation and Site Characterization Activities***

IRAD is currently performing corrective action on the soil and groundwater to the north of the Project Site in accordance with an interim groundwater RAP and soil RAP. Remedial activities on shallow soils to the north of Project Site are scheduled to be completed, pursuant to the IRAD environmental assumption agreement, by 2013. The remediation of the soil contamination, specifically the two known source areas located north of the Project Site, began in 2004 using a soil vapor extraction ("SVE") system. The SVE system has been removing VOCs from the soil to the north of the Project Site, at a known source area, and will continue to operate until specific cleanup objectives established by LARWQCB have been achieved. Once the cleanup objectives have been achieved, the remediation system will be shut down and rebound testing will be performed. Following this, confirmation soil samples will be obtained to assure that the soil concentrations have stabilized at acceptable cleanup levels. If contamination levels in the soil remain below the cleanup objectives approved by LARWQCB, the remediation will have met its objective and LARWQCB the Regional Board may issue a no further action ("NFA") letter. The RAPs for soil and groundwater at the former NASA Industrial Plant site, including the Project Site, set forth cleanup objectives that facilitate reuse and redevelopment of the site for commercial and industrial uses. As discussed further below in this Section, development of sensitive, e.g., residential, uses at the Project Site would require additional approvals.

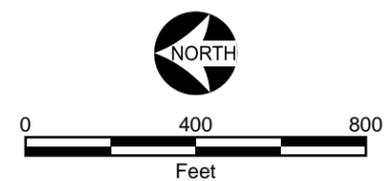
Groundwater contamination beneath the former NASA Industrial Plant site discovered to date appears to be limited to the shallow aquifer. Significant vertical migration of the contaminants to the deeper aquifers is not suspected at this time, based on available deep zone (100-130 feet below ground surface) data. It should be noted that the City of Downey uses groundwater as its exclusive source of potable water for the city. The 20 active potable water wells in the City of Downey use water that is pumped from approximately 800 feet below the surface, well below the apparent influence of the groundwater VOC plume. IRAD is also currently implementing an interim groundwater RAP approved by the Regional Board for the NASA Industrial Plant site, of which the Project Site is a part.



Building 257 and 244  
Soil Contamination Source Areas

**Legend**

▬▬▬▬▬▬▬ Central Parcel Area (CPA) (Project Site)



Source: ARCADIS, April 9, 2008.

Remediation of the southerly-trending groundwater plume that traverses almost the entire former NASA Industrial Plant site began in 2005 and is anticipated to continue until 2013. Groundwater remediation consists of the quarterly injection of an organic compound (molasses solution) via a series of ten lines of injection wells oriented from the north to the south of the NASA Industrial Plant site. The organic compound is injected into the shallow groundwater aquifer at an interval from 45 to 75 feet below ground surface. Groundwater monitoring to track the effectiveness of the groundwater remediation program is implemented on a quarterly basis.

Based on recent groundwater monitoring results, remediation activity has generally reduced the groundwater TCE and PCE contamination across the entire former NASA Industrial Plant site. For example, in 2002, contaminant levels of PCE as high as 2,200 micrograms per liter and TCE contaminant levels as high as 1,000 micrograms per liter were observed in groundwater monitoring wells. Comparatively, groundwater monitoring results for the first quarter of 2008 for the same monitoring wells show PCE levels at 220 micrograms per liter and TCE levels at 490 micrograms per liter. This data is taken from groundwater monitoring wells located in the central and northern portion of the groundwater plume where both TCE and PCE levels have been historically highest. Additionally, concentrations of vinyl chloride, a bi-product of reductive dechlorination, have increased as concentrations of TCE and PCE have decreased, providing further evidence that the current remediation program is effectively treating the VOCs in groundwater.

IRAD, working with LARWQCB and pursuant to its assumption agreement with the City of Downey, will continue to perform corrective action on groundwater and soil at the former NASA Industrial Plant site. The ongoing groundwater remediation occurs beneath the Project Site, however the ongoing soil remediation is limited to source areas just north and adjacent to the Project Site. The City of Downey, the lead agency for the Proposed Project, retains copies of all documents and technical reports related to the ongoing remediation at the former NASA Industrial Plant site.

In addition to the activities described above, the Soil Gas Survey Report documents seven additional investigations conducted by NASA in various subareas within the Central Parcel Area (CPA) between 1993 and 2000. Descriptions of these studies are contained in Appendix IV.F-1. Figures IV.F-3 and IV.F-4 provide a summary and map of locations where potential environmental conditions were identified within the CPA, along with recommendations for further action where appropriate.

In July 2003, during construction of a large concrete-line pool inside Building 1 to be used as a set for movie productions, testing of excavated soil by the City of Downey revealed high concentrations of the metal chromium. Work was halted, a work plan for testing and segregating impacted soil was submitted and approved by LARWQCB, and approximately 6,850 cubic yards of soil identified as chromium impacted was disposed as non-hazardous waste at the Lancaster Landfill. In 2004, LARWQCB approved re-use of the non-impacted soils based on sampling results and no further action was required related to chromium impacted soil.

Following a review of information on historical use of the property and previous site assessment data, a sampling plan to collect additional soil gas and soil samples was developed in an effort to fill data gaps

Building No.	Structure and ID	Process	Possible Constituents	ARCADIS Comments	Sample ID	Depth (ft bgs)	Status / Investigation Results	Recommendation	
Sump 1	1	Sump 1 (S1)	Machine Shop and cooling tower	Water, soluble oil, sulfuric acid, Pb, Hg, Al, Cu, sulfate, paint	Old rubber lab used solvents and other unspecified chemicals. Hypergolics used in Propulsion test area on east side of Bldg 1. Sump 1 was described as a two stage clarifier that received machine shop and cooling tower wastewater that consisted of soluble oil, sulfuric acid, sulfates, and dissolved metals such as lead, mercury, aluminum, and copper.	PIEZGP-4	4.0-8.0	One soil sample was collected from boring PIEZGP-4. The sample was analyzed for VOCs, TPH, and metals. A result of 5.3 mg/kg for Arsenic was reported. No VOCs or TPH was reported. <sup>4</sup>	No additional soil sampling is recommended.
Sump 2	1	Sump 2 (S2)	Cooling tower	Soluble oil, 1,2-dichloroethane, sulfuric acid, metals	Sump S2 received discharges from adjacent operations. Reference to a degreaser that used 1,1,1-TCA. Sump 2 received cooling tower water, soluble oil, sulfuric acid, and dissolved metals. 1,2-Dichloroethane identified in wastewater of Sump 2. Sump 2 is about 11 feet deep.	SB-1	6	One boring to 5-feet and two samples were analyzed for VOCs (ND by EPA 8260), Metals (<10 times STLC and PRG values), TPH (ND by EPA 8015). <sup>1</sup>	No additional soil sampling is recommended.
Sump 3	1	Sump (S3)	Catch basin for water and sludge. Sump 3 is located outside of Building 1.	Water and sludge	EBS reference to Sump 3 as a "large pit"? Sump 3 was a catch basin that received water and sludge.			No specific soil or soil gas samples were collected near Sump 3.	No additional soil sampling is recommended. Soil gas point ASG-01 is located adjacent to Sump 3.
Sump 4	1	Sump (S4)	Rubber Lab and Machine Shop	Unknown	Located near boring SB-20 drilled by Earth Tech. Sump 4 is located in Zone 4 of Building 1.	SB-20	10,20,30,35, 40,45, 65	Soil boring SB-20: Acetone reported at 68 µg/kg. Soil samples analyzed for VOCs by EPA 8260 at 10, 20, 30, 35, 40 and 45 feet bgs had methylene chloride at 20 µg/kg and acetone from 51 to 68 µg/kg. SVOCs by EPA 8270 ND. Metals were not detected above 10 times the STLC or above PRGs. A groundwater sample was collected using a temporary well point. TCE, cis-12 DCE, and other non-HVOCs were detected. TCE= 150 µg/l, cis-12 DCE= 24 µg/l, Toluene= 38 µg/l, Xylenes= 65 µg/l). <sup>1</sup>	No additional soil sampling is recommended. Soil gas point ASG-06 is located adjacent to Sump 4.
Sump 5	1	Sump (S5)	Rubber Lab	Acid, water, and sludge	Hand auger samples were collected near Sump 5 by Earth Tech as directed by the LARWQCB.	NASA B0001-HA3	5	Hand Auger Sample NASA B0001-HA3: A result of 8 mg/kg for Arsenic, 193 mg/kg for Barium, 31.9 mg/kg for Chromium, 34.4 mg/kg for Copper, 21.8 mg/kg for Nickel, and 69.1 mg/kg for Zinc was reported. No VOCs were detected (EPA 8260). Metal results less than 10 times the STLC and below PRGs. <sup>3</sup>	No additional soil sampling is recommended. Soil gas sample ASG-16 will be drilled in the area of Sump 6.
Sump 6	1	Sump(S6)	Rubber Lab	Solvents	Earth Tech soil boring SB-19 was drilled downgradient of Sump 6 as part of the EBS survey.	SB-19	10,20,30,35, 40,45, 65	Referring to data from boring SB-19: Methylene Chloride reported at 20 µg/kg. Metals were not detected above 10 times the STLC or PRG health risk values. SVOCs ND by EPA 8270. A groundwater sample was collected using a temporary well point. TCE, cis-12 DCE, and other non-HVOCs were detected. TCE= 250 µg/l, cis-12 DCE= 22 µg/l, Xylenes= 55 µg/l). <sup>1</sup>	No additional soil sampling is recommended.
Sump 7	1	Sump (S7)	Compressor Room	Water and sludge	Sump 7 is located in Zone 6 of Building 1. Soil gas samples were collected near Sump 7 by Earth Tech.	B1-SG31, B1-SG32		Soil Gas Samples NASA B1-SG31 and NASA B1-SG32 were advanced by Earth Tech. A result of 19 µg/l TCE and 2 µg/l for Freon 113 was reported.	No soil sampling is recommended. Soil gas point ASG-23 will be drilled next to Sump 7.
Sump 8	1	Sump (S8)		Water and sludge	The use for Sump 8 was not identified in the EBS documents. Sump 8 is located adjacent to a sanitary sewer line within Zone 4 of Building 1. Soil samples were collected by Earth Tech adjacent to Sump 8.	NASA B0001-HA2	5,10	Referring to data from Hand Auger Sample NASA B0001-HA2: A result of 11.3 mg/kg for Arsenic, 171 mg/kg for Barium, 25.2 mg/kg for Chromium, 33.5 mg/kg for Copper, 20.7 mg/kg for Nickel, and 60.8 mg/kg for Zinc was reported. Metals results less than 10 times the STLC and PRG values. No VOCs were detected (EPA 8260). <sup>3</sup>	No additional soil sampling is recommended. Soil gas point ASG-10 will be drilled near Sump 8.
Sump 9	1	Sum (S9)		Misc lab waste, water, oil, chlorinated hydrocarbons and sludge	The use for Sump 9 was not identified. Sump 9 is further east along the same sewer line in Zone 4 from Sump 8. Soil samples were collected by Earth Tech adjacent to Sump 9.	NASA B0001-HA1	5,10	Referring to data from Hand Auger Sample NASA B0001-HA1: A result of 7 mg/kg for Arsenic, 201 mg/kg for Barium, 30.2 mg/kg for Chromium, 34 mg/kg for Copper, 21.8 mg/kg for Nickel, and 62.5 mg/kg for Zinc was reported. Metal results less than 10 times the STLC and PRG values. No VOCs were detected (EPA 8260). <sup>3</sup>	No additional soil sampling is recommended. Soil gas point ASG-10 will be drilled near Sump 8.
Sump 10	6	Sump (S10)	Water from boiler blow down, chillers and cooling towers.	Soluble oils, 1,2 DCE, metals	Located outside the Southeast corner of Building 6 along sewer line.	SB-21	10	Was used as drain for boiler blow down, cooling towers, and chillers. Two samples were collected from boring SB-21 at 5 and 10 feet bgs. PCE was reported at 13 and 16 µg/kg. Metals not detected above 10 times STLC and were below the PRGs. No diesel range hydrocarbons were detected. <sup>1</sup>	No additional soil sampling is recommended.
Sump 12	11	Sump (S12)		Water and sludge	Outside southeast of Building 11. Building 11 is attached to Building 1.			No Samples Collected.	Soil gas sample ASG-19 will be drilled near Sump 12.
Sump 18	118	Sump (S18)	Outside drain for oil dispensing facility	Soluble oil, hydraulic oil, dissolved metals (Cu)	Exterior sump located at between Building 1 and Building 118. Adjacent to sewer line.	Sample from sump collected by Rockwell		Drained from oil dispensing facility and boilers/cooling towers. A 1984 sample taken by Rockwell had a result of Copper at 8.8 mg/l and Carbons (C5-C25) at 12 mg/l. A 1987 sample taken by Rockwell had a result of Copper at 67 mg/kg, Zinc at 16.5 mg/kg and Aluminum at 5.1 mg/mg. No VOCs were detected. No additional samples collected.	No sampling is recommended. Soil gas point ASG-36 will be drilled near Sump 18.
Sump 25	289	Sump (S25)	Lab and Test	Hydrogen/ Nitrogen Tetroxide, acid and water	Exterior sump located on the southern side of Building 25. One soil samples collected at 10-foot bgs by Earth Tech. Sample analyzed for VOCs by EPA 8260 (ND) and Metals not detected above 10 times STLC.	SB-28	10	Boring SB-28 analyzed for VOCs (ND by EPA 8260), Metals, TPH (ND by EPA 8015). Metals results were less than 10 times the STLC and PRG values. <sup>1</sup>	No additional soil sampling is recommended. Soil gas point ASG-51 will be drilled near Sump 25.
Sump 38	246	Sump (S38)	Storage	Methylene chloride, 1,2-DCA	Located within northwest portion of Building 246 within Parcel 5.			Clarifier for water wash paint booth. No Samples Collected.	
Unknown Sump	1	Sump (S-A)	Unknown	Water and sludge	Located in Zone 5 of Building 1. This area is also known as Building 11.			No Samples Collected.	Soil gas point ASG-11 will be drilled near Sump S-A.
Sump AS-1	1	Sump (AS-1)			Located near Sump 7. Soil and soil gas samples were collected in area as part of assessment for Sump 7.	NASA B1-SG31 & NASA B1-SG32	10	Referring to data from Soil Gas Samples NASA B1-SG31 and NASA B1-SG32: A result of 19 µg/l TCE and 2 µg/l for Freon 113 was reported. <sup>3</sup>	No additional soil gas or soil samples are recommended specifically for Sump AS-1. Soil gas point ASG-23 will be drilled in the area of Sump AS-1.
Sump AS-2	1	Sump (AS-2)	Rubber Lab	Unknown	Located along the exterior south-central wall of Building 1. Sump AS-2 is located next to sump AS-3.	SB-19	10,20,30,35, 40,45, 65	Boring SB19 was drilled adjacent of the sump located along the southwestern edge of Building 1. Samples from 10 and 20 feet bgs were analyzed by USEPA Method 8260. Metals were not detected above 10 times the STLC or above PRG values. None of the constituents were reported in concentrations above laboratory detection limits. SVOCs ND by EPA 8270. A groundwater sample was collected using a temporary well point. TCE, cis-12 DCE, and other non-HVOCs were detected. TCE= 250 µg/l, cis-12 DCE= 22 µg/l, Xylenes= 55 µg/l). <sup>1</sup>	No additional soil or soil gas sampling is recommended.
Sump AS-3	1	Sump (AS-3)	Rubber Lab	Unknown	Located along the exterior south-central wall of Building 1. Sump AS-3 is located next to sump AS-2.	SB-19	10,20,30,35, 40,45, 65	Boring SB19 was drilled adjacent of the sump located along the southwestern edge of Building 1. Samples from 10 and 20 feet bgs were analyzed by USEPA Method 8260. None of the constituents were reported in concentrations above laboratory detection limits. A groundwater sample was collected using a temporary well point. TCE, cis-12 DCE, and other non-HVOCs were detected. TCE= 250 µg/l, cis-12 DCE= 22 µg/l, Xylenes= 55 µg/l). <sup>1</sup>	No additional soil or soil gas sampling is recommended.
Sump AS-12	290	Sump (AS-12)	Sump associated with discharges from clean room	Water, Freon, oil, possible solvents	Outside northwest corner of Building 290. Sump received clean room discharges. Reference to the use of 1,1,1-TCA in a portable degreaser within clean room.	SB-29	5,10	Soil samples from Boring SB29 collected at 5 and 10 feet bgs were analyzed for VOCs by EPA 8260 (ND) and metals were not detected above 10 times STLC or above PRG values. <sup>1</sup>	No additional soil sampling is recommended.
Sump AS-13	290	Sump (AS-13)		Water, Freon, oil, possible solvents	Sump located in along western wall inside of Building 290.			No Samples Collected.	Soil gas point ASG-54 will be collected adjacent to sump AS-13.
Sump AS-14	290	Sump (AS-14)		Water, Freon, oil, possible solvents	Sump located along western wall inside Building 290. Sump AS-14 is north of Sump AS-13.			No Samples Collected.	Soil gas point ASG-53 will be collected adjacent to sump AS-14.
Sump AS-15	125	Sump (AS-15)	Sump associated with lab and test facility	Appears to receive discharges from sink in B125.	Sump for sink located inside Building 125 (lab and test facility). Sump is located outside the south wall of Building 125.	SB-26	5	One soil sample from SB26 analyzed from 5 feet bgs for VOCs by 8260 (all ND) and metals, results less than 10 times STLC and the PRG values. <sup>1</sup>	No additional soil sampling is recommended. Soil gas point ASG-26 will be drilled adjacent to Sump AS-15.
Sump AS-16	123	Sump (AS-16)		Storm water sump	Sump 16 is located outside between Building 123 and Building 125.			No Samples Collected.	No soil or soil gas sampling is recommended
Sump AS-17	123	Sump (AS-17)		Reportedly abandoned in place; may have been used for engine testing operations in 1950s	Reportedly abandoned in place; may have been used for engine testing operations in 1950s. Geophysical surveys performed by NASA in attempt to located former tank in area did not located a sump like feature. Sump was located outside east of Building 123.			No Samples Collected.	No soil or soil gas sampling is recommended



Central Parcel Summary  
Former NASA Industrial Plant  
12214 Lakewood Boulevard  
Downey, California

	Building No.	Structure and ID	Process	Possible Constituents	ARCADIS Comments	Sample ID	Depth (ft bgs)	Status / Investigation Results	Recommendation
Hazardous Waste Accumulation Area	118	HW6			Accumulation of Hazardous waste and materials for short times, less than 90 days, prior to removal and disposal			No Samples Collected.	No additional soil sampling is recommended
Dry Well	134	Dry Well			Associated with hydrostatic testing during the Navaho and Apollo programs.	SB-24	10,20,30,35, 45,50, 65	Boring SB-24. Six soil and one water sample. GW at 65 feet bgs. No VOCs detected in soil samples. TCE and cis-12-DCE detected in GW sample at 48 and 6.6 µg/l. ND for SVOCs by EPA 8270, Metals not detected above 10 times STLC or above the PRG values. <sup>1</sup>	No additional soil sampling is recommended
Tank 3	119	T3			Diesel fuel tank used for emergency generators.			Soil samples collected during tank removal. Tank closure granted by LACDPW	No additional soil sampling is recommended
Tank 4	6	T4			Diesel fuel tank used for emergency generators.			Soil samples collected during tank removal. Tank closure granted by LACDPW	No additional soil sampling is recommended
Tank 5	6	T5			Diesel fuel tank used for emergency generators.			Soil samples collected during tank removal. Tank closure granted by LACDPW	No additional soil sampling is recommended
Tank 8	246	T8						Soil samples collected during tank removal. Tank closure granted by LACDPW. Soil Vapor sample (SV-36) was done near Tanks 8 and 9. No Detections. <sup>4</sup>	
Tank 9	246	T9						Soil samples collected during tank removal. Tank closure granted by LACDPW. Soil Vapor sample (SV-36) was done near Tanks 8 and 9. No Detections. <sup>4</sup>	
Tank 15	36	T15			Removed November 11, 1991. RWQCB granted closure to an unidentified UST. There is a hand written note referring to UST 15.				
Tank 18	290	T18		Isopropyl Alcohol/Ethylene Glycol, UNK solvents	Tank was removed by Boeing. UST 18 was apparently given site closure by the LACDPW	NASA TK18SG3301 & NASA TK18SG3401	10	Soil Gas Samples NASA TK18SG3301 and NASA TK18SG3401 were collected near T-18. A result of 16 µg/l TCE and 42 µg/l for Freon 113 was reported. <sup>3</sup>	Collect soil gas samples near former T-18 to confirm previous results.
Cooling Tower	130		Cooling tower					No Samples Collected.	
Zone 1	1		Office space		Historically used for office space.			No Samples Collected.	Collect soil gas samples within Zone 1.
Zone 2	1				Sumps 1, 2 and 3 located on the exterior of B/001, between Zones 2 and 3. Sump located at northeast end of basement at one time received hot water boiler condensate (NAA, 1956, November 25). Possible well with 10 feet upper casing removed, no additional information located. Square concrete cuts exposing dirt. Minor oil stains in transformer room, former location of PCB containing transformer, three patches suggesting the area has been mitigated.	PIEZGP-4 & SB-1	4.0-8.0 & 6	One soil sample collected from boring PIEZGP-4. The sample was analyzed for VOCs, TPH, and metals. A result of 5.3 mg/kg for Arsenic was reported. No VOCs or TPH were detected. <sup>4</sup> SB-1 boring to 5-feet and two samples were analyzed for VOCs (ND by EPA 8260), Metals (<10time STLC), TPH (ND by EPA 8015). <sup>1</sup>	Collect soil gas samples within Zone 2.
Zone 3	1		Aircraft assembly, shipping and receiving and office space.		Interior of building, historically used for aircraft assembly (Vultee, 1930s), shipping and receiving (Consolidated Vultee 1941), and office space. Three Sumps (1, 2 and 3) are located on Western exterior, used for machine shop and cooling tower wastewater. Oil stains associated with air conditioning equipment and miscellaneous compressors located on north end of building.			No Samples Collected.	Collect soil gas samples within Zone 3.
Zone 4	1		Offices, laboratories and reprographics		Used for offices, antennae laboratory and reprographics. Portion had clean room laboratory. Five sumps are located in this zone. Two sumps (6 and 7) appear to have been associated with chemical processing operations of chromic, magnesium and anodic tanks and foundry (Vultee, 1930s, Consolidate Vultee, 1947). Sump 5 appears to be associated with rubber lab, and the use for Sumps 8 and 9 was not identified. Possible clarifier shown on 1930s drawing at northern end.	NASA B0001-HA1, NASA B0001-HA2, & NASA B0001-HA3	5,10	Referring to data from Hand Auger Sample NASA B0001-HA1: A result of 7 mg/kg for Arsenic, 201 mg/kg for Barium, 30.2 mg/kg for Chromium, 34 mg/kg for Copper, 21.8 mg/kg for Nickel, and 62.5 mg/kg for Zinc was reported; Referring to data from Hand Auger Sample NASA B0001-HA2: A result of 11.3 mg/kg for Arsenic, 171 mg/kg for Barium, 25.2 mg/kg for Chromium, 33.5 mg/kg for Copper, 20.7 mg/kg for Nickel, and 60.8 mg/kg for Zinc was reported; Referring to data from Hand Auger Sample NASA B0001-HA3: A result of 8 mg/kg for Arsenic, 193 mg/kg for Barium, 31.9 mg/kg for Chromium, 34.4 mg/kg for Copper, 21.8 mg/kg for Nickel, and 69.1 mg/kg for Zinc was reported. No VOCs were detected (EPA 8260). <sup>3</sup>	Collect soil gas samples within Zone 4.
Zone 5	1		Laboratories and Material preparation and kitting		Once held on western end a Rubber Lab, Aero physics Test Lab, Glass Lab, and metal lab (1960s). On northern end had a Chem Mill lab, paint lab and analytical lab (NAA, 1952). Sump 4 and an unnamed sump (S29E23) are located in this zone.	SB-20	10,20,30,35, 40,45, 65	Referring to data from boring SB-20: Acetone reported at 68 µg/kg. Soil samples analyzed for VOCs by EPA 8260 at 10, 20, 30, 35, 40 and 45 feet bgs had methylene chloride at 20 µg/kg and acetone from 51 to 68 µg/kg SVOCs by EPA 8270 ND. Metals were not detected above 10 times the STLC. A groundwater sample was collected using a temporary well point. TCE, cis-12 DCE, and other non-HVOCs were detected. TCE= 150 µg/l, cis-12 DCE= 24 µg/l, Toluene= 38 µg/l, Xylenes= 65 µg/l). <sup>1</sup>	Collect soil gas samples within Zone 5.
Zone 6	1		Assembly, machining and storage		Assembly, machining and storage have occurred in this zone. Pits associated with large machinery, two pits about 10'x15'x20', and smaller pits associated with equipment that has not been removed on southeast end. The large pit was steamed clean and has been lined with plastic, filled with pea gravel and covered with cement. 21'x28'x3' deep degreaser pit (located in former antennae lab area (NAA, 1954, Dwg. #88084-134B).	NASA B1-SG31 & NASA B1-SG32	10	Referring to data from Soil Gas Samples NASA B1-SG31 and NASA B1-SG32: A result of 19 µg/l TCE and 2 µg/l for Freon 113 was reported. <sup>3</sup>	Collect soil gas samples within Zone 6.
Zone 7	1		Electronic / Electrical fabrication and assembly		Used for bonded storage. Western half was used as a clean room (1960s). Western half also used in the 1950s as a plating room with a spot welder. The southern half held a small and large paint booth (NAA, 1952).			Samples taken at Excavation site tested only for Chromium. Total chromium in the samples ranged from 24 ppm to 62 ppm. The average chromium concentrations were 43 ppm. No VOC testing.	Collect soil gas samples within Zone 7.
Zone 8	1		Main manufacturing area and aircraft assembly		Former aircraft assembly area and part of main manufacturing area. Physical test cell at northeastern end. Used for bonded storage on northern portion. Southern portion is the DEI meeting room, where a shuttle mock-up is located and the public is entertained.	NASA-HP-04	45	Referring to data from Hydropunch Sample NASA-HP-04: A result of 910 µg/l for PCE, 360 µg/l for TCE, and 34 µg/l for 1,1-DCE was reported. Samples taken at Excavation site tested only for Chromium. Total chromium in the samples ranged from 24 ppm to 62 ppm. The average chromium concentrations were 43 ppm. <sup>2</sup>	Collect soil gas samples within Zone 8.
Zone 9	1		Storage, office space and X-33 shop		Used for storage, office space and X-33 shop. Based on Employee Interviews, the northeast end may have been used for chem mill process and a substantial spill may have occurred at the northeast corner (size and date not specified). The spill area was cleaned up. Machine pits about 1.5' square are present on the southwest end. The pits were abandoned by steam cleaning, backfilling with gravel and covered with cement.	SB-24	10,20,30,35, 45,50, 65	Boring SB-24. Six soil and one water sample. GW at 65 feet bgs. No VOCs detected in soil samples. TCE and cis-12-DCE detected in GW sample at 48 and 6.6 µg/l. ND for SVOCs by EPA 8270, Metals not detected above 10 times STLC. Samples taken at Excavation site tested only for Chromium. Total chromium in the samples ranged from 24 ppm to 62 ppm. The average chromium concentrations were 43 ppm. <sup>1</sup>	Collect soil gas samples within Zone 9.
Former Parcel 2	6		Engineering/Mission support, office space, laboratory space and manufacturing		Historically used for Engineering/Mission support, mainly office space, some laboratory space; Manufacturing, 1965 - Production control, 1968 - Tool Crib, Tool Rework, 1969 - Clean Room, 1988 - STS Testing (1,2,4); Mission control room, welding and brazing. Sump 10 located on east side of building. Floor drains in utility room used for collection of condensate liquid, appear rusty and encrusted with white precipitate. 1956 drawing shows an Interceptor pit and subsurface forced waste line on the southeastern exterior of B/6. The line trends northeast to a pump located inside an area identified as an incinerator area (no longer present), north of former B/279.	SB-21 & PIEZGP-8	10 & 15-16.0	Two samples were collected from boring SB-21 at 5 and 10 feet bgs. PCE was reported at 13 and 16 µg/kg. The data was identified as questionable. Metals not detected above 10 times STLC or above PRG values Diesel range hydrocarbons were ND. <sup>1</sup> One soil sample collected from boring PIEZGP-8. The sample was analyzed for VOCs, Cyanide, TPH, and metals. A result of 5.2 mg/kg Arsenic was reported. VOCs, TPH and Cyanide were Non-Detect. <sup>4</sup>	Collect soil gas samples in the area of Bldg. 6.
Former Parcel 2	125		Empty/Abandoned		Engineering: acceleration test facility; thermo physics and materials lab; 1989 - (S82E78) Equipment storage area is Canopy 674. Lab and test, temporary cryogenics facility circa 1962. Sump located at the northwest corner of the building used to pump rain water out. Building had a tendency to get flooded with rain water. Pad #7 located near the south side of building. Used as a hazardous waste accumulation area. A sump is located north of this pad, immediately adjacent to B/125.	SB-26 & PIEZGP-5	11.5 & 12.0-16.0	SB-26 analyzed for VOCs (ND by EPA 8260), Metals (<10time STLC), TPH (ND by EPA 8015). <sup>1</sup> One soil sample collected from boring PIEZGP-5. The sample was analyzed for VOCs, SVOCs, Cyanide, TPH, and metals. A result of 4.5 mg/kg Arsenic, 5.2 µg/kg Toluene, 15 µg/kg Xylenes, 11 mg/kg Unknown (probably mix of) Hydrocarbon, and 37 mg/kg TPH (as Motor Oil) was reported. SVOCs and Cyanide were Non-Detect. <sup>4</sup>	Collect soil gas samples in the area.

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2 of 3

Source: Arcadis, 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

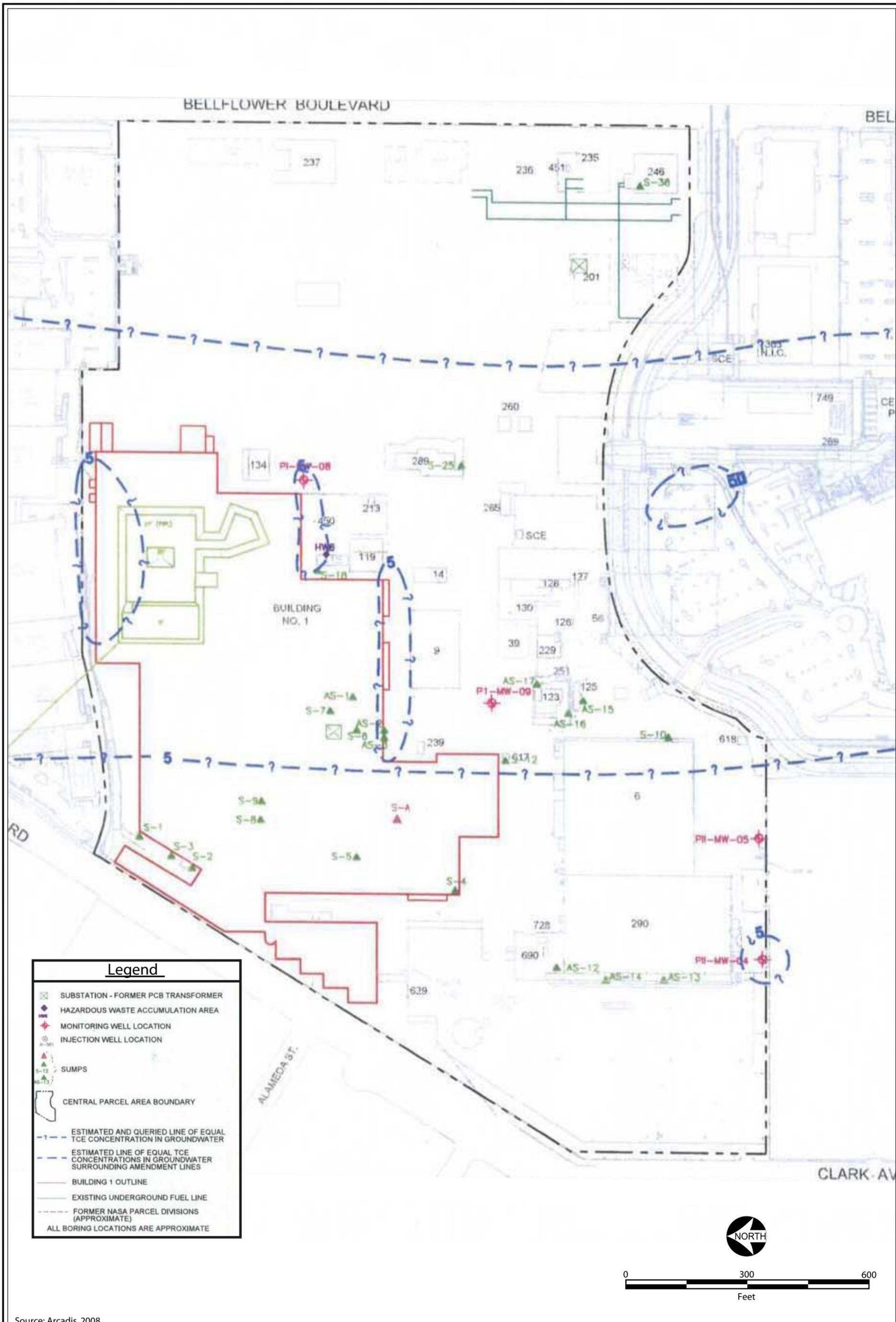
Figure IV.F-3  
Summary of Test Results for Central Parcel Area  
Sheet B

	Building No.	Structure and ID	Process	Possible Constituents	ARCADIS Comments	Sample ID	Depth (ft bgs)	Status / Investigation Results	Recommendation
Former Parcel 2	130		Test facility and storage		Umbilical test facility during the 1960s. Ultra high temperature lab; Lab and Test long term testing lab. Area previously stored small quantities of explosives and hydrazine. Cooling tower and associated chemicals.			No Samples Collected.	Collect soil gas samples in the area.
Former Parcel 2	260		Empty/Abandoned		Engineering; Shuttle Manufacturing GSE Installation, Underground Pneumatic Test Cell (8); Apollo S/M test cell barricade/pit. Underground test cell; referee fluids used that have the same density and flow characteristics of propellant fuels, but do not burn or create hazard. Use of Freon.			No Samples Collected.	Collect soil gas samples in the area.
Former Parcel 2	289		Laboratory and Test propulsion systems lab		Laboratory and Test Propulsion Systems lab; Houses test cells for testing and certifying parts; test cells not in use; limited use of laboratory facilities at present; Mechanical test laboratory equipped with vibration, hydraulics and thermal test units and small machine shop. Engineering/Unlabeled; 1973 - Space System Development Annex, 1974 - Propellants Lab (22); Test Facility; space systems development annex; mechanical power system laboratory. Sump 25 located in SE corner of the B/289; use of referee fluids during testing. These fluids have the same density and flow characteristics as propellant fuel, but do not burn or create any hazard. Used propellant fuels (hydrazine, nitrogen tetroxide) for testing. 55-gallon drums containing Hydrazine were located in the building in early 1996. Test cells have storage areas for propellants and floor drains; grated areas running the length of the test cells appear to be leading to the sump. North pad of building appears to have been a storage area for Freon drums.	SB-28	10	Boring SB-28 analyzed for VOCs (ND by EPA 8260), Metals results were less than 10 times the STLC and PRG values. TPH results were ND by EPA 8015. <sup>1</sup>	Collect soil gas samples in the area.
Former Parcel 2	290		Payloads, quality assurance offices, manufacturing, and assembly		Manufacturing; Logistics; System integration and checkout (1973); 1975 - Tool Crib added (17); 1977 - Production Control/Quality Control (16); 1984 - NE corner Finish and Logistics Functions (19); 1988 - NE end Bonding area (20); Radiography. Tunnel located under the building used for access from one side of the building to the other. Old elevator located at the southwest corner of the building appears abandoned, use not known. Placards indicating radiation used in some of the laboratories on the second floor. Southeast corner of manufacturing/assembly bay. Drawings indicate the location of a sump on the north west corner of the building and two sumps inside the building in the west end. This portion of the building apparently used for hazardous waste disposal.	SB-29, SB-34, PIEZGP-9, PIEZGP-10, & PIEZGP-11	5.10; 10.20,30,35, 40,45, 65, & 12.0-16.0	Soil samples from Boring SB-29 were analyzed for VOCs by EPA 8260 (ND) and metals were not detected above 10 times STLC. The results of Soil Boring SB-34 reported 62 µg/kg of Acetone. A groundwater sample was collected at SB-34 using a temporary well point at 65 ft bgs. TCE, Isopropylbenzene, and other non-HVOCs were detected. TCE= 240 µg/l, Isopropylbenzene= 280 µg/l, Ethylbenzene= 55 µg/l. <sup>1</sup> Soil samples were collected from borings PIEZGP-9, PIEZGP-10, and PIEZGP-11. The sample was analyzed for VOCs, Cyanide, TPH, and metals. Results of 9.6, 2.6, and 11.2 mg/kg Arsenic were reported. VOCs, TPH and Cyanide were Non-Detect. <sup>4</sup>	Collect soil gas samples in the area.
Former Parcel 2	728		Office shed		Located in the tank farm area, building was used as an office. Tank farm located at the northwest corner of building had liquid nitrogen tanks, isopropyl alcohol, and water glycol tanks.	PIEZGP-12		One soil sample collected from boring PIEZGP-12. The sample was analyzed for VOCs, Cyanide, TPH, and metals. A result of 10.6 mg/kg Arsenic was reported. VOCs, TPH and Cyanide were Non-Detect. <sup>4</sup>	Collect soil gas samples in the area.
Former Parcel 2	290		Background		Down gradient well for Bid. 6 and 290.	SB-34	10,20,30,35, 40,45, 65	Six soil samples and one GW sample collected. Soil samples analyzed from 10, 20, 30, 35, 40, and 45 feet bgs. The only compound detected was acetone at 62 µg/kg at 35-foot bgs. Diesel range hydrocarbon were ND. The following compounds were detected in a water sample collected at well (?): Ethylbenzene (55 µg/l), isopropylbenzene (280 µg/l), naphthalene (7.7 µg/l), TCE (29 µg/l), xylenes (72 µg/l). A groundwater sample was collected at SB-34 using a temporary well point. TCE, Isopropylbenzene, and other non-HVOCs were detected. TCE= 240 µg/l, Isopropylbenzene= 280 µg/l, Ethylbenzene= 55 µg/l. <sup>1</sup>	Collect soil gas samples in the area.
Former Parcel 5	135		Tool fabrication and welding	Gasoline, primer, MEK, linseed oil, cleaners	During visual site inspection, the building had a flammable materials storage locker, welding machines, drill press, grinder, sanders, saws, stacked wooden crates, kitchen supplies, cleaners, compressed gas tanks, office desks and office supplies. Building has been taken down.			No Samples Collected.	No additional soil sampling is recommended.
Former Parcel 5	201		Tool fabrication and welding	Electrolyte MSCL, alloy cleaner, Cleaning chemicals	GSE tooling shop relocated from Building 231 in 1983. A possible sump appear to be located on the southern end of building 201. Former substations 202 and 203 were located on the northeastern interior of building 201 and were liquid-filled transformers containing Pyranol, a PCB-type oil used for cooling the transformers. Sump is located at the southern exterior of the bld.			No Samples Collected.	
Former Parcel 5	203		Production operation, tooling fixtures		1967, 1973, 1975 Storage; Production Operations and Office; Tooling Fixture Fabrication. Building has been taken down.			No Chemicals encountered.	No additional sampling is recommended.
Former Parcel 5	230		Food vending					No Samples Collected.	No additional sampling is recommended.
Former Parcel 5	231				GSE tooling shop relocated to Building 201 in 1983. Building has been taken down.		5	Soil Vapor samples (SV-27 and SV-28) were done around building. No VOCs were detected.	No additional soil sampling is recommended.
Former Parcel 5	237		Tool and die fabrication	Aluminum solution, paint/chemicals, electrolyte, utility cleaner		BH5-3, BH5-4	5,10	Samples from BH5-3 and BH5-4 were taken. VOCs and TPH was not detected. Metal concentrations from samples taken in Building 235 were within the ranges considered typical for background concentrations. <sup>5</sup>	
Former Parcel 5	235		Hazardous waste storage	Asbestos, isopropyl alcohol, nitric acid mixture, resin, waste oil, paint, photochemicals, sodium hydroxide, sulfuric acid, 1,1,1-Trichloroethane, electrolyte, cleaner	Above ground storage tank of 2,200 gallon capacity containing waste oil. No further information available. A 1967 engineering drawing (Rockwell, 1967b) showed a sump pump approximately 15 feet to the northeast of the northeast corner of Building 235. A 3 x 7 foot trap was located about half way between building 235 and 246 in their eastern edges. The building stored corrosives, flammables, and waste oil. Chemical storage on north side of bld. Where drum leakage of isopropyl alcohol and Freon occurred. Two concrete-lined vaults are located at the northeastern & northwestern exterior of bld. (6-feet deep). Two surface water drainage sumps are located at the east and west end of bld. These sumps have not been investigated!	BH5-1, BH5-2	5,10,15,20, 30,40	Referring to data from BH5-1 and BH5-2. A result of 12 µg/kg for TCE and 8 µg/kg Chloroform at BH5-1-15; 11 µg/kg for TCE and 9 µg/kg Chloroform at BH5-1-20; 173 µg/kg for TCE at BH5-1-40; 117 µg/kg for TCE at BH5-2-40 was reported. Metal concentrations from samples taken in Building 235 were within the ranges considered typical for background concentrations. <sup>5</sup>	No additional soil sampling is recommended. Collect soil gas samples in the area.
Former Parcel 5	236		Tooling	Spray paint	Sump 38 located in the north west corner of building.		5	Soil Vapor samples (SV-29, SV-30, and SV-32) were collected by SCS as part of City of Downey Parcel 5 assessment around the building. No VOCs were detected. <sup>5</sup>	No additional soil sampling is recommended
Former Parcel 5	246		Tooling and fabrication		A possible concrete sump was located on the southeast exterior of the building.		5	Soil Vapor samples (SV-33, SV-34, and SV-35) were collected by SCS as part of the City of Downey Parcel 5 assessment around building. No VOCs were detected. <sup>5</sup>	No additional soil sampling is recommended
Former Parcel 5	247				Building has been taken down.			No Samples Collected.	No additional soil sampling is recommended
Former Parcel 5	250				Building 250 was being used for storage of film, x-ray photographs, vellums, and miscellaneous equipments. Building has been taken down.			No Chemicals encountered.	No additional soil sampling is recommended
Former Parcel 5	Former Runway Area in Parcel 5		Refueling and Maintenance	Hydrocarbons				In 1993 Furgo-McClelland took 19 soil samples near the helipad area that was suspected to have been contaminated. Only TCE was identified above its detection limit in four samples ranging from 5.6 to 15 µg/kg. Results for the soils investigation were submitted to the California Department of Toxic Substances Control (DTSC) for review. The DTSC did not require additional investigation or clean up in the area. In 1998 SCS Engineers conducted soil vapor samples on former parcels 3, 4, 5, and 6. Soil samples were taken based on the detections from the soil vapor samples. Soil samples BH-1 through BH-5 were done on parcel 5. TCE and Chloroform were detected in samples BH-1, TCE was detected in samples from BH-2 and PCE was detected in samples from BH-5. No other VOCs were detected. <sup>5</sup>	Collect soil gas samples during Central Parcel Assessment.

Notes:

- <sup>(1)</sup> - Earth Tech, Inc. performed soil borings in 1997.
- <sup>(2)</sup> - Earth Tech, Inc. performed hydro-punch sampling in 1999.
- <sup>(3)</sup> - Earth Tech, Inc. analyzed Hand Auger samples in 2000.
- <sup>(4)</sup> - Slosky & Company, Inc. analyzed PIEZGP Soil Samples in 2000.
- <sup>(5)</sup> - SCS Engineers analyzed soil vapor and soil samples in 1998.





Source: Arcadis, 2008.



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Figure IV.F-4  
Central Parcel Area  
Buildings, Slumps and Well Locations

necessary to evaluate the CPA for further development. A soil gas survey consisting of 90 soil vapor points was planned for this program, which also included collecting soil samples from borings at three additional locations (Figure IV.F-3 identifies these locations). The soil gas survey was conducted in the CPA in October, 2007. PCE and TCE were the most commonly detected VOCs in soil gas throughout the CPA. A limited number of soil gas samples at the 5-foot and 15-foot depths contained PCE and TCE that exceeded one or more of the California Human Health Screening Levels (CHHSLs) criteria. Low concentrations of other VOCs were detected in soil gas but with the exception of carbon tetrachloride at one location, the detected concentrations of these VOCs were below their respective residential and commercial/industrial CHHSLs. Soil samples were analyzed for VOCs, metals, PCBs and TPH. Except for arsenic, no concentrations exceeding CHHSLs or laboratory reporting limits (LRLs) were identified in these samples. Arsenic was detected in each of the four samples analyzed at levels exceeding the residential and commercial/industrial CHHSLs. The maximum concentration detected, however, is well within Southern California background levels for arsenic and is similar to the arsenic concentrations detected during previous site investigations at the NASA Industrial Plant.

The data collected during the 2007 Soil Gas Survey did not identify new areas of contamination within the CPA. The soil gas data were generally consistent with previous sampling activities conducted within the property boundaries and most VOC concentrations were below the respective commercial/industrial and residential CHHSLs. PCE and TCE were the most commonly detected VOCs and, with the exception of carbon tetrachloride in one sample, were the only VOCs that exceeded one or more of the CHHSLs. Most of the TCE concentrations that exceeded CHHSLs were observed within and around Building No. 1. The PCE exceedances were more sporadic and not concentrated in any one area. While LARWQCB has not required additional assessment within the CPA related to current land uses and remediation, the agency retains jurisdiction over the NASA Industrial Plant site.

#### ***Procedure for Addressing Newly Discovered Conditions***

At the time of the property transfer from NASA to the City of Downey, future commercial/industrial development of the CPA was anticipated. In order to address the potential for encountering soil impacted with contaminants of concern during future development activities, a Risk Management/Soil Management Plan (RMSMP) was prepared and submitted to LARWQCB in October 2004. The RMSMP, which was approved by LARWQCB in April 2005, established a pre-approved protocol for implementation of contingency actions necessary or appropriate to address previously unidentified impacted soil areas discovered during site development activities.

The protocol established in the RMSMP was incorporated into the Environmental Responsibility Assumption Agreement between IRAD and the City of Downey. This agreement sets forth responsibilities in the event that a previously unidentified impacted soil area (termed “Newly Discovered Condition” is discovered, as follows:

- Upon written notice from a property owner of the existence of a Newly Discovered Condition, IRAD shall immediately take steps to characterize the potential Newly Discovered Condition including, but not limited to, observation or testing in accordance with the RMSMP, for purpose

of determining whether the condition will require remediation, and upon completion of such observation or receipt of any such test results shall:

- Proceed, at IRAD's cost, to remediate such Newly Discovered Condition pursuant to the RMSMP or
- Proceed, at IRAD's cost, to negotiate and enter a task order with the respective RMSMP subcontractor and cause such RMSMP subcontractor to remediate such Newly Discovered Condition under the direction of IRAD or the Remediation Contractor pursuant to a Special RMSMP Agreement, or
- Within no more than four business days after IRAD's receipt of Owner's written notice of the potential Newly Discovered Condition, notify the Owner that IRAD believes that (i) such Newly Discovered Condition is not an Environmental Condition; (ii) that the RMSMP does not require remediation of the Newly Discovered Condition; or (iii) that further time is required by IRAD to determine whether the Newly Discovered Condition is an Environmental Condition that requires remediation under the agreement, or to determine the appropriate methodology for remediation of the Newly Discovered Condition.

### *Sensitive Land Uses*

The RAPs for soil and groundwater at the former NASA Industrial Plant site, including the Project Site, set forth cleanup objectives that facilitate reuse and redevelopment of the site for commercial and industrial land uses. However, the City of Downey, after additional remedial actions, obtained approval from LARWQCB to build Discovery Park and Columbia Memorial Space Science Learning Center, a 13-acre complex immediately adjacent to the Project Site. Parks were previously a restricted land use at the former NASA Industrial Plant site unless the appropriate State of California regulatory agency granted specific approval for the proposed use. Similarly, Kaiser Permanente has almost completed construction, after implementing additional remediation activities and formal approval from the DTSC, an approximately 700,000 square-foot medical center just south of and adjacent to the Project Site. Hospital uses had been designated a sensitive land use at the former NASA industrial Plant site requiring special agency approval.

The development of the Project Site into a mixed-use community that includes residential units will require several approvals to move forward. First, similar to Discovery Park and the Kaiser Downey Medical Center, any project proposing a sensitive land use, e.g. residential, will have to obtain approval from LARWQCB that subsurface conditions (including soil vapor) beneath the redevelopment project are suitable for the intended land use. This approval may result in a human-health risk assessment and/or institutional controls. Further, any "sensitive use" (which, as defined in the CC&Rs, includes any residential use) will be subject to certain contractual approval rights of the current property owners at the former NASA Industrial Plant site; these owners include the City, Kaiser Permanente, and the respective

owners of the Downey Landing commercial center and Downey Studios. This approval process is set forth in the CC&Rs.

### ***Transformers and Polychlorinated Biphenyls Equipment***

Polychlorinated biphenyls (PCBs) are synthetic organic chemical compounds that were developed to be used as coolants and lubricants in transformers and other electrical equipment because they do not burn easily and are good insulators. When PCBs are released into the air, water, or soil, they can cause skin rashes and liver damage in humans. PCBs have been identified as probable human carcinogens; as such the U.S. government banned the production of PCBs in 1977. Local overhead electricity power poles, which could potentially contain pole mounted transformers or capacitors, were observed on the Project Site. In addition, PCBs may be present in the fluorescent light ballasts present inside structures scheduled for demolition. Therefore, it is possible that PCBs could be present on-site.

### ***Asbestos-Containing Materials (ACMs)***

Asbestos-containing materials (ACMs) are materials that contain asbestos, a naturally-occurring fibrous mineral that has been mined for its useful fire-resistant properties and tensile strength. When left intact and undisturbed, ACMs do not pose a health risk to building occupants. There is, however, potential for exposure when the ACM becomes damaged or disturbed and releases asbestos fibers into the air, which can be inhaled. These airborne fibers are carcinogenic and can cause lung and other respiratory diseases.

The age of a building is directly related to its potential for containing elevated levels of ACMs. Building materials containing asbestos were commonly used in structures between 1945 and 1980. These materials include vinyl flooring and mastic, wallboard and associated joint compound, plaster, stucco, acoustic ceiling spray, ceiling tiles, heating systems components, and roofing materials. Airborne particles of asbestos have been found to be hazardous to human health. Regulations adopted by the Occupational Safety and Health Administration (OSHA) and U.S. Environmental Protection Agency define ACMs as those materials that contain more than one percent asbestos, typically by weight.

There exists a possibility of onsite ACMs contained within the existing on-site structures; however, under various federal and state laws and regulations, including the Clean Air Act provisions setting National Emissions Standards for Hazardous Air Pollutants (NESHAP) and OSHA, standards have been set for the removal and disposal of ACMs in connection with building demolition and renovation work. The South Coast Air Quality Management District (SCAQMD) has also adopted a rule (Rule 1403) requiring notice to SCAQMD and monitoring provisions in connection with most ACM abatement and removal operations. Compliance with the applicable legal and regulatory requirements which will be incorporated into the mitigation measures listed below, will reduce the potential presence of ACMs and its abatement or removal and impacts would be less than significant.

### ***Lead-Based Paint (LBP)***

Lead-based paint (LBP), which can result in lead poisoning when consumed or inhaled, was widely used in the past to coat and decorate building interiors and exteriors. Lead poisoning can cause anemia and

damage to the brain and nervous system, particularly in children and can interfere with reproductive function, particularly for women of child-bearing years. From the turn of the century through the 1940's, paint manufacturers used lead as a primary ingredient in many pigments used in oil-based paints. Use of lead in paint pigments decreased, but continued until 1978 when it was banned by EPA from further use in paints and coatings for residential use. Like ACMs, LBP generally does not pose a health risk to building occupants when left undisturbed; however, deterioration, damage, or disturbance will result in hazardous exposure. California law requires that all residential buildings constructed on or before January 1, 1979 or schools constructed on or before January 1993 to be presumed to contain lead-based paint. Structures (residential, commercial, or industrial) are affected by LBP regulations if remodeling, renovations, or demolition activities would disturb lead-based paint surfaces. Buildings constructed before 1978, and shortly thereafter, are likely to contain LBP; therefore LBP could potentially be present on-site.

### ***Proximity to Schools***

The Project Site is located within 0.1 mile of Sussman Middle School, located at 12500 Birchdale Road, southwest of the Project Site. In addition, Alameda Elementary School, located at 8613 Alameda Street, is approximately 0.2 mile northwest of the Project Site and Gauldin Elementary School located at 9724 Spry Street is approximately 0.25 mile east of the Project Site.

### **Regulatory Framework**

A variety of federal, state, and local laws and regulations govern the management and control of hazardous substances to protect human health and the environment. At the federal level, these regulations fall primarily under the jurisdiction of the United States Environmental Protection Agency (EPA) and include without limitation the following principal laws:

- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or "Superfund," which creates national policy and procedures to identify and clean up sites where hazardous substances have been released into the environment and provides the mechanisms by which liability for response costs are assigned and reimbursed. Additionally, the Superfund Amendment and Reauthorization Act (SARA), which extended and amended CERCLA, imposed additional requirements on remedy selection.
- The Resource Conservation and Recovery Act (RCRA) was enacted in 1974 to identify and govern the management and handling of hazardous and solid waste through all phases of its life cycle to ensure protection of human health and the environment. RCRA imposes liability on persons responsible for hazardous waste management.
- The Toxic Substances Control Act (TSCA), enacted in 1976, regulates and controls the production and distribution of certain harmful chemicals and toxic substances in commercial use, in particular, PCBs and asbestos.
- The Federal Insecticide, Fungicide, and Rodenticide Act (as amended) controls the manufacture,

use, and disposal of pesticides and herbicides.

- The Hazardous and Solid Waste Amendment Act (HSWA) amended the RCRA to address gaps in the area of toxic wastes, establish a national program to regulate underground storage tanks and essentially eliminate the untreated disposal of certain hazardous wastes.

In addition, Title 29 Code of Federal Regulations (CFR), Part 1910 contains the standards of the Occupational Safety and Health Administration (OSHA) for worker safety and includes requirements applicable to workers handling or encountering hazardous wastes, including emergency response, hazard communication, and personal protective equipment.

At the State level, California has adopted hazardous waste regulations that are similar to the federal laws, but that are more stringent in their application and requirements. For example, California regulates as “hazardous” a much wider universe of wastes than does EPA under the RCRA. The basic hazardous waste law established in California, similar to RCRA, is the Hazardous Waste Control Law (HWCL). Detailed regulatory provisions implementing HWCL are contained in Title 22 of California Code of Regulations (CCR), Chapter 30. The HWCL empowers the Department of Toxic Substances Control (DTSC), which is now a division of California EPA and was formerly part of the Department of Health Services, to administer the State’s hazardous waste program and the federal program in California.

Other relevant State laws include the following:

- The Safe Drinking Water and Toxic Enforcement Act (Proposition 65) that requires certain warnings with respect to chemicals known to the State to cause cancer and/or reproductive harm and that prohibits certain discharges to waters of the State.
- UST Law that regulates underground storage to prevent groundwater contamination.
- Porter-Cologne Water Quality Control Act, adopted in 1969, which requires the maintenance of the highest reasonable quality of the State’s waters and authorizes the Regional Water Quality Control Board (RWQCB) to supervise cleanup efforts at sites where spills or other releases have affected or threaten to affect waters of the State (a term defined to include groundwater).

The DTSC has the primary responsibility for enforcement and implementation of hazardous waste control laws in the State. However, responsibility for taking remedial action where hazardous wastes or pollutants have been released to the environment is shared with other State and local government agencies, including the State Water Resources Control Board (SWRCB), RWQCB, and city and county governments.

At the local level, the Downey Fire Department administers hazardous materials environmental compliance programs within city jurisdiction. These programs include hazardous materials disclosure and business plan, underground storage tank program, aboveground storage tank spill prevention control and countermeasure, hazardous waste generator program (administered by Los Angeles County Fire Department), and the California Accidental Release Prevention Program.

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## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

In accordance with Appendix G to the State CEQA Guidelines, hazards and hazardous materials associated with construction or post-construction operations at a project would have a significant effect on the environment if they would:

- (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) 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, result in a safety hazard for people residing or working in the project area;
- (f) For a project located within the vicinity of a private airport strip, 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; or
- (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.

### Project Impacts

The Proposed Project involves the demolition of on-site structures and the construction of up to 3,950,000 square feet of residential, commercial, and office uses, including up to 675,000 square feet of commercial/office use; 1,200,000 square feet of commercial/retail use; 450 hotel rooms; and 1,700,000 square feet (approximately 1,500 units) of residential use, including live-work units, for-sale units, and for-rent units. The Proposed Project would also include approximately 125,000 square feet of open space. The Proposed Project would feature 850,000 square feet of parking within several multi-level parking

structures, on-street parking, and surface parking lots. Remedial activities would continue for at least a portion of the period of implementation of the Proposed Project.

### ***Routine Transport, Use, or Disposal of Hazardous Materials***

#### *Construction*

Construction of the Proposed Project would involve the use of those hazardous materials that are typically necessary for construction of commercial and residential development (i.e., paints, building materials, cleaners, fuel for construction equipment, etc.) and generate wastes associated with that construction, some of which may include wastes regulated as hazardous under federal or State law. Therefore, construction of the Proposed Project would involve routine transport, use, and disposal of these types of hazardous materials and wastes throughout the duration of construction activities. The transport, use, and disposal of construction-related hazardous materials would occur in conformance with all applicable local, State, and federal regulations governing such activities. For example, construction of the Proposed Project would be required to adopt and implement a general NPDES permit to manage stormwater during the construction phase that would require standard best management practices (BMPs) set forth by the city and LARWQCB to ensure no sediment or other contaminants associated with construction leave the facility via surface water flow during seasonal rains. The city or Los Angeles County would require that post-construction BMPs be adopted as well to minimize erosion and sediment or other pollutant runoff via stormwater after construction is completed. Existing DTSC regulations, including those applicable to waste generators and enforced by the County and local agencies, would further ensure that wastes generated during the construction process are managed and disposed of properly. Therefore, the Proposed Project would not create a significant impact related to routine transport, use, or disposal of hazardous materials during construction.

#### *Operation*

Operation of the Proposed Project would involve the transport, use, and disposal of hazardous materials typically associated with residential and community-serving commercial uses. Hazardous materials commonly used in the operations of residential, commercial, and office uses include minimal amounts of paints, thinners, solvents and household products used for routine cleaning, maintenance, and pesticides and fertilizers used in landscaping. Therefore, the components of the Proposed Project would not involve the routine transport, use, or disposal of substantial amounts of hazardous materials.

All hazardous waste generated or used on the Project Site would be properly regulated, transported, and disposed off-site by a licensed subcontractor, in compliance with all applicable city, state, and federal regulations and requirements. Under current Clean Water Act provisions, the County or the City would require that the property owner or developer institute post-construction measures to manage stormwater runoff to prevent erosion or sediment and other pollution runoff from the Proposed Project from degrading local water quality

Additionally, the Proposed Project would be required to comply with federal OSHA/Cal OSHA to address worker safety and SCAQMD requirements to minimize emissions into the air associated with

onsite stationary equipment including boilers, heaters, and ovens. This would ensure that operation of the Proposed Project would result in a less than significant impact with respect to the routine transport, use, and disposal of hazardous materials.

### ***Accidental Release of Hazardous Materials***

#### *Construction*

The Proposed Project would have the potential to result in the accidental release of hazardous materials during the construction phase, primarily in the form of existing building and new construction materials. The following is a summary of these potential construction-related risks, based on the observations and conclusions of the previous site investigations as discussed under “Environmental Setting,” above.

#### Polychlorinated Biphenyls (PCBs)

As discussed previously, PCBs may be present on the Project Site in the form of transformer or hydraulic fluids for existing equipment. Prior to mitigation, the Proposed Project would result in a potentially significant impact related to accidental release of PCBs into the environment during construction. However, as set forth in the mitigation measure presented in this Section, the Proposed Project would be required to comply with all regulations and requirements governing the proper identification, management, and disposal of PCBs prior to any demolition activities. Compliance with Mitigation Measure F-1 would ensure that the potential impact related to accidental release of PCBs would be reduced to a less than significant level.

#### Asbestos-Containing Material (ACM)

As discussed previously, the existing buildings on-site could potentially contain ACMs. As such, prior to mitigation, construction workers may have the potential to be exposed to airborne ACM during the removal of interior walls, roofs, floors, and ceilings, resulting in a potentially significant impact to human health or the environment. However, as set forth in the mitigation measure presented later in this Section, all existing on-site structures not previously surveyed will undergo an asbestos survey and any ACMs discovered in that process would be abated prior to demolition in compliance with all applicable regulatory provisions. Compliance with Mitigation Measure F-2 would ensure that the potential impact related to accidental release of asbestos would be reduced to a less than significant level.

#### Lead-Based Paint (LBP)

It is currently unknown if LBP is present on the exterior or interior of the existing on-site buildings; however, due to the age of the structures, they are presumed to contain LBP. As such, prior to mitigation, construction workers may have the potential to be exposed to LBP during the demolition of building walls. Therefore, impacts associated with the accidental release of LBP during construction would be a potentially significant impact prior to mitigation. Nonetheless, as set forth in the mitigation measure presented in this section, all existing on-site structures will undergo a lead-based paint survey and any LBP discovered would be abated prior to demolition. Compliance with Mitigation Measure F-3 would

ensure that the potential impact related to accidental release of LBP would be reduced to a less than significant level.

#### Other Hazardous Materials

Previous site investigations found limited areas of contamination at the Project Site, related to soil gas VOCs and metals concentrations in some soil samples. Corrective action is an on going process being conducted in connection with other of parts of the NASA Industrial Plant site, specifically with respect to the two soil contamination source areas located to the north of the Project Site and the groundwater remediation system that is addressing conditions related to the groundwater plume beneath the Project Site. In addition, the RMSMP approved by LARWQCB and associated implementation measures contained within the Environmental Responsibility Assumption Agreement between IRAD and the City of Downey have been established to address any Newly Discovered Condition that may be encountered during construction of the Proposed Project. These measures would ensure maintenance of worker health and safety during construction. The impacts of the Proposed Project with respect to encountering conditions of soil and groundwater contamination during the construction phase would be less than significant.

#### *Operation*

As discussed in Section II. Project Description, operation of the Proposed Project would involve up to 3,950,000 square feet of residential, commercial, office, and public open space uses. The Proposed Project would not expose residents, employees, or visitors to risks from exposure to PCBs, ACMs, or LBP, the risks associated with each will be assessed and abated prior to the construction of the Proposed Project. As discussed previously, the Proposed Project would involve the transport, use, and disposal of hazardous materials for routine cleaning, maintenance, landscaping, and operation of the proposed uses. However, implementation of the mitigation measure identified would ensure that the Proposed Project would not create substantial risks due to accidental spills or other releases of any such hazardous materials and impacts would be less than significant. Operational impacts related to surface water, groundwater, and soil contamination are discussed below.

The development of the Project Site into a mixed-use community that includes residential units will require additional approvals under existing contractual requirements and as addressed in previously approved RAPs that would be applicable to the Project Site. First, any project proposing a sensitive land use, e.g. residential, will have to obtain approval from LARWQCB that no further remediation is necessary before developing residential units. This approval may require a human health risk assessment and/or institutional controls. Further, any mixed-use project with residential units will be subject to certain contractual approval rights of the current property owners at the former NASA Industrial Plant site; these owners include the City, Kaiser Permanente, and the respective owners of the Downey Landing commercial center and Downey Studios.

Upon completion of remediation of the Project Site and approval by the LARWQCB, potential health risk impacts to individuals from site contamination would be less than significant with respect to the Proposed

Project. Implementation of additional long-term measures to address soil gas and groundwater contamination would not affect the risks associated with construction and operation of the Proposed Project since the workers, employees and patrons of the development would not be exposed to chemicals that would be remediated through these processes. Mitigation measures have been provided below to ensure that the Project Site is adequately remediated prior to construction of sensitive uses.

### *Proximity to Schools*

As discussed previously in the Environmental Setting, the Project Site is located within 0.1 mile of Sussman Middle School, located at 12500 Birchdale Road, southwest of the Project Site. In addition, Alameda Elementary School, located at 8613 Alameda Street, is approximately 0.2 mile northwest of the Project Site and Gauldin Elementary School located at 9724 Spry Street is approximately 0.25 mile east of the Project Site.

### *Construction*

With respect to exposure of nearby students to hazardous materials during the construction process, as discussed under the Accidental Release of Hazardous Materials heading above, any potential PCBs, ACMs, or LBP present on the Project Site would be abated in accordance with all applicable city and state regulations prior to demolition activities associated with the construction of the Proposed Project. As part of the Proposed Project, hauling of export soil and other debris from the Project Site to regional landfills would occur. Hauling would take place on major thoroughfares such as Lakewood Boulevard, Bellflower Boulevard and Firestone Boulevard and would not directly pass by any school properties. Therefore, the Proposed Project would not introduce substantial new hazards in the vicinity of an existing or proposed school during the construction process and impacts would be less than significant.

### *Operation*

With respect to exposure of nearby students to hazardous materials during operation, as discussed under the "Routine Transport, Use, or Disposal of Hazardous Materials" heading above, the mixed-use portion of the Proposed Project would use hazardous materials commonly associated with the operation of residential, retail/commercial, hotel, office, and restaurant uses. These may include minimal amounts of janitorial supplies, landscaping chemicals, and other products used for routine cleaning, maintenance, and landscaping.

Nonetheless, all hazardous waste generated or used on the Project Site would be required to comply with all applicable city, state, and federal regulations and requirements. Therefore, with the implementation of the recommended mitigation measure which would ensure compliance with applicable hazardous materials regulations, the Proposed Project would not introduce substantial new hazards in the vicinity of an existing or proposed school during operation and impacts would be less than significant.

### ***Listed Hazardous Material Sites***

As discussed above under Environmental Setting, a search of regulatory agency hazardous materials database listings for 12214 Lakewood Boulevard showed that the Project Site is included on hazardous waste listings searched. This address is listed on the CERCLIS, DTSC-ENVIROSTOR, NCDB, RCRAINFO as both a large and small quantity generator, HWTS-DATAMART, NEI, and TRIS databases.<sup>1</sup> Additionally, sites containing hazardous wastes are located within 0.5 mile of the Project Site<sup>2</sup>, which could potentially present a hazardous waste threat. It should be noted that the listing of the Project Site is based on the previous uses on the Project Site, including the NASA Industrial Plant, Boeing, and Rockwell, rather than the current use as a media production facility and associated uses.

However, as previously discussed, the Project Site is undergoing remediation activities to reduce groundwater contamination associated with the former NASA Industrial Plant activities. This remediation also serves a dual purpose by reducing potential contaminants that may have migrated to the Project Site from nearby hazardous materials sites. Therefore, with the completed operation of the remedial activities, as set forth in the mitigation measures presented in this section, the Proposed Project would reduce risks to future project residents, employees, and other visitors associated with contamination from former on-site activities, which would further reduce the less than significant impact associated with listed hazardous materials sites.

### ***Airport Land Use Plan or Private Airstrip***

The Project Site is not located within an airport land use plan nor is it located within two miles of an airport or private airstrip. The closest airport to the Project Site is Compton Airport located approximately 6.7 miles southwest of the Project Site. Therefore, the Proposed Project would not result in a safety hazard for people residing or working in the project area.

### ***Emergency Response Plan***

#### ***Construction***

The removal of the existing structures on the Project Site and the construction of the Proposed Project would generally occur within the property boundaries of the Project Site. Temporary pedestrian or vehicular public right-of-way closures could occur during the construction phase. The Project Site is

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<sup>1</sup> United States Environmental Protection Agency (EPA) Facility Registry System website: [http://oaspub.epa.gov/enviro/fii\\_query\\_dtl\\_disp\\_program\\_facility?p\\_registry\\_id=110000830824](http://oaspub.epa.gov/enviro/fii_query_dtl_disp_program_facility?p_registry_id=110000830824), July 30, 2008.

<sup>2</sup> United States EPA, Facility Location Information website: [http://oaspub.epa.gov/enviro/lrt\\_viewer.map\\_page?sys\\_id=110000830824](http://oaspub.epa.gov/enviro/lrt_viewer.map_page?sys_id=110000830824), July 30, 2008.

located along a portion of Bellflower Boulevard that is designated as a disaster route.<sup>3</sup> Construction of the Proposed Project may result in temporary street closures; however, the proposed access and traffic improvements necessary during construction would comply with the City of Downey Department of Public Works' standards. As such, the construction of the Proposed Project would not substantially impede public access or travel upon a public right-of-way such that it would interfere with an adopted emergency response or evacuation plan, and impacts would be less than significant.

### *Operation*

The Proposed Project would involve residential, commercial, including retail, office, and hotel, and public open space uses. Once operational, the Proposed Project would not interfere with the designated disaster route along Bellflower Boulevard. While additional signalized intersections may be included along Bellflower Boulevard as part of the Proposed Project, all traffic improvements discussed in Section IV.L Traffic/Transportation/Parking, would comply with the Downey Public Works standards. Additionally, all emergency plans, procedures, and evacuation signs would be submitted to the Downey Fire Department for inspection and approval prior to their implementation and would be properly maintained. Therefore, impacts related to emergency response and evacuation plans during operation of the Proposed Project would be less than significant.

### *Wildfire Hazard*

The Project Site is located within an urbanized setting that has been completely developed. There are no open wildlands within the vicinity of the Project Site that would represent a wildfire hazard. Therefore, the impact with respect to wildfire hazards would be less than significant.

## **CUMULATIVE IMPACTS**

Development of the Proposed Project in combination with the related projects identified in the project vicinity has the potential to increase the use, storage, transport, and/or accidental release of hazardous materials during construction and operation. Specifically, any related projects that are either located on listed hazardous materials sites, involve demolition of structures that may contain hazardous materials, or propose the use of hazardous materials in their operation could potentially combine with the impacts of the Proposed Project to create a cumulatively significant impact to on- or off-site sensitive uses. However, implementation of the recommended Mitigation Measures F-1 through F-3 presented below would reduce the potential hazard and hazardous material impacts associated with the construction and operation of the Proposed Project to less than significant levels. Each of the related projects would require evaluation for potential threats to public safety, including those associated with routine transport, use, or disposal of hazardous materials; upset and accident conditions involving the release of hazardous materials into the environment; hazardous emissions in proximity to an existing or proposed school;

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<sup>3</sup> County of Los Angeles, Department of Public Works, Disaster Routes, website: <http://ladpw.org/dsg/DisasterRoutes/map/Downey.pdf>; June 2008.

hazardous materials site listing; and interference with an adopted emergency response or evacuation plan. Because hazardous materials and risk of upset conditions are largely site-specific, this would occur for each individual project affected, in conjunction with development proposals on these properties. Further, the Applicants for each of the related projects would be required to follow local, State, and federal laws regarding hazardous materials and other hazards. Therefore, with full compliance with all local, State, and federal laws pertaining to hazards and hazardous materials, cumulative impacts would be less than significant.

## **MITIGATION MEASURES**

The following mitigation measures are required in order to ensure hazardous material/waste impacts associated with the previous uses at the Project Site are less than significant. Before development is allowed on the Project Site, the following mitigation measures are required.

- F-1. Prior to the issuance of a Project Site permit for any existing on-site structure, the structure shall undergo survey to document the presence of any potential polychlorinated biphenyls (PCBs) within any equipment or otherwise on or beneath the structure. Any PCBs identified as part of this survey shall be properly disposed of in accordance with all applicable regulations.
- F-2. Prior to the issuance of a demolition permit for any existing on-site structure not previously surveyed, the structure shall undergo an asbestos survey to document the presence of any potential asbestos-containing materials (ACMs) within the structure. Any ACMs identified as part of this survey shall be abated in accordance with all applicable laws and regulations including without limitation applicable NESHAP provisions, OSHA worker safety regulations, and SCAQMD Rule 1403 as well as any other applicable city, state, and federal regulations.
- F-3. Prior to the issuance of a demolition permit for any existing on-site structure, the structure shall undergo a lead-based paint (LBP) survey to document the presence of any potential LBP within the structure. Any LBP identified as part of this survey shall be abated in accordance with all applicable city, state, and federal regulations.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the mitigation measures listed above, impacts related to hazards and hazardous materials would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### G. HYDROLOGY/WATER QUALITY

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#### INTRODUCTION

This section evaluates the potential impacts related to hydrology and water quality with development of the Proposed Project. The following section incorporates the onsite water drainage plan included in the Downey Studios Specific Plan.

#### ENVIRONMENTAL SETTING

##### Water Quality Regulatory Framework

###### *Clean Water Act*

The 1987 amendments to the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program of the CWA. The U.S. Environmental Protection Agency (EPA) is the primary Federal agency responsible for implementing the CWA. As of 1991, municipal and industrial stormwater runoff is also regulated under NPDES programs. Subsequently, the EPA published final regulations that established requirements for applications for stormwater permits for specified categories of industries and construction activities of one or more acres.

The State Water Resources Control Board (SWRCB) is the primary state agency responsible for implementing the CWA and the State's Porter-Cologne Water Quality Act within State waters. The Los Angeles Regional Water Quality Control Board (LARWQCB) is also responsible for water quality regulation in Los Angeles and Ventura Counties through its work in preparing and adopting the Basin Plan. Local agencies may also have responsibilities for managing wastewater discharges. All dischargers are required to meet criteria set forth in their NPDES permits, to monitor their discharges, and to submit monthly reports to the LARWQCB. Storm water runoff has become a major source of pollutants discharging into the Los Angeles, Rio Hondo, and San Gabriel Rivers.

###### *General Construction Activity Stormwater Permit*

In 1999, the California State Water Resources Control Board (SWRCB) adopted the General Construction Activity Stormwater Permit (GCASP), which was "...required for all storm water discharges associated with construction activity where clearing, grading, and excavation result in a land disturbance of five or more acres." In 2003, this requirement was lowered to include land disturbance of one or more acres. Projects that meet these criteria must obtain a permit from the SWRCB prior to receiving a grading permit. The project applicant must submit a Notice of Intent (NOI) to the SWRCB for coverage under the General Permit. A Draft GCASP was published in Spring 2008; however, as it is still under review, the project Applicant will need to file for coverage under the current GCASP.

The GCASP requires all owners (dischargers) of land where construction activities occur to:

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the State;
- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent construction pollutants from contaminating stormwater with the intent of keeping eroded sediments from moving offsite into receiving water; and
- Annually certify that the construction activities are in compliance with the General Permit requirements or notify the RWQCB if the discharger is unable to provide certification.

The General Permit authorizes the discharge of stormwater associated with construction activity from construction sites. However, it prohibits the discharge of materials other than stormwater and all discharges which contain hazardous substances in excess of reportable quantities established at 40 Code of Federal Regulations 117.3 or CFR 302.4 unless a separate NPDES permit has been issued to regulate those discharges.<sup>1</sup> Further, the SWPPP is designed to prevent stormwater runoff from collecting trash, debris, and other pollutants such as sediment, oil and grease, pesticides, and other toxics and carrying it into the storm drain system.<sup>2</sup>

The General Permit requires development and implementation of a SWPPP, emphasizing BMPs, which are defined as “schedules of activities, prohibitions or practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States.” The SWPPP has two major objectives:

- To help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and
- To describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges, both during and after construction.

In addition, dischargers are required to conduct inspections before and after storm events and to annually certify that they were in compliance with the General Permit.

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<sup>1</sup> *State of California, State Water Resources Control Board, Division of Water Quality, National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) Water Quality Order 99-08-DWQ, page 4*

<sup>2</sup> *United States Environmental Protection Agency, Developing Your Stormwater Pollution Prevention Plan, A Guide for Construction Sites, page 2.*

### ***Standard Urban Stormwater Mitigation Plan***

Requirements for the preparation of the Standard Urban Stormwater Mitigation Plan (SUSMP) were approved by the California Regional Water Quality Control Board for the Los Angeles Region March 8, 2000. The requirements were developed as part of the municipal stormwater program to address stormwater pollution from redevelopment projects. The SUSMP contains a list of the minimum required considerations that must be used for a designated project. Additional BMPs may be required by ordinance or code adopted by the permittor and applied generally or on a case-by-case basis. Developers must incorporate appropriate proposed requirements into their SUSMP plans. The City of Downey Engineering Division will review the SUSMP for the Proposed Project within the Project Site as part of the development plan approval process.

The SUSMP shall design post-construction structural or treatment control BMPs such that they mitigate through infiltration or treatment stormwater runoff from:<sup>3</sup>

- The 85<sup>th</sup> percentile 24-hour runoff event determined as the maximized capture stormwater volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998)*; or
- The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993)*; or
- The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a stormwater conveyance system; or
- The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85<sup>th</sup> percentile 24-hour runoff event.

Post-construction structural or treatment control BMPs shall also be designed such that they control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency.<sup>4</sup>

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<sup>3</sup> *Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County, March 8, 2000, page 10.*

<sup>4</sup> *Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County, March 8, 2000, page 10.*

### ***Stormwater Quality***

Under Section 303(d) of the 1972 Clean Water Act, areas are required to declare a list of water quality limited segments. Watercourses on this list do not meet water quality standards, even after installing the minimum level of pollutant control technology on point sources, and must develop action plans, known as Total Maximum Daily Loads (TMDL) to improve water quality. Receiving waters can assimilate a limited quantity of various constituent elements; however, there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact.

Stormwater quality is a significant concern in California and in Downey. The Project Site is a tributary to Reach 1 of the San Gabriel River (the San Gabriel River Estuary to Firestone Boulevard). This segment does not meet water quality standards for pH and coliform bacteria. As such, it is included on the 303(d) list, which is maintained by the LARWQCB, for pH and coliform bacteria. In addition, a TMDL for metals, including copper, lead, and zinc, as well as selenium was established for the San Gabriel River and its tributaries by the LARWQCB on July 13, 2006. According to the TMDL, these metals are present in toxic quantities in the river and its tributaries.<sup>5</sup> This 303(d) listing and the presence of an existing TMDL raises a significant concern for certain pollutant runoff from the Project Site and surrounding area. There currently are no stormwater quality systems onsite. This section discusses typical pollutants found in stormwater runoff and discusses the types of contaminants that may be found in existing stormwater runoff from the Project Site.

### **Existing Conditions**

The Project Site consists of an irregular shaped parcel of land consisting of approximately 79 acres and is bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, the Discovery Park and Columbia Learning Center, and the Kaiser Downey Medical Center (currently under construction) to the south, and Clark Avenue and Lakewood Boulevard to the west. The Project Site slopes gently southward and is currently improved with approximately 750,000 square feet of media production uses. The existing utilities in the area include a water system, gas distribution system, an electric service system, a sanitary sewer system, a storm drainage system, and a telephone/fiber optic system. There are also three water wells located in the vicinity of the Project Site. These wells include: 1) the City of Downey Well No. 30, located approximately 500 feet to the southwest, which is used as a domestic water supply well that draws water from between approximately 384 and 620 feet below ground surface (bgs)<sup>6</sup>; 2) Los Angeles County Department of Public Works (DPW) Well No. 1568J, located

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<sup>5</sup> Los Angeles Regional Water Quality Control Board, *Amendment to the Water Quality Control Plan – Los Angeles Region to Incorporate the San Gabriel River and Impaired Tributaries Metals and Selenium TMDL*, adopted July 13, 2006, page 2, website: [http://63.199.216.6/larwqcb\\_new/bpa/docs/2006-014/2006-014\\_RB\\_BPA.pdf](http://63.199.216.6/larwqcb_new/bpa/docs/2006-014/2006-014_RB_BPA.pdf), accessed December 16, 2008.

<sup>6</sup> Phone Correspondence with Tony Vasquez, Supervisor of the Pumping Section, City of Downey Water Yard, December 2, 2008.

approximately 0.26 miles south of the Project Site, which draws water from approximately 83 feet bgs<sup>7</sup>; and 3) Los Angeles County DPW Well No. 1157D, located approximately 0.32 miles north of the Project Site, which draws water from approximately 54.6 feet bgs.<sup>8</sup>

### ***Topography***

The topography of the Project Site and surrounding area is relatively flat with a gentle slope to the south. According to the environmental assessment prepared for the Project Site and surrounding area in May of 2000, the Project Site's elevation is approximately 100 feet above mean sea level (msl).<sup>9</sup>

### ***Soil Conditions***

The Los Angeles Basin is divided into four primary structural blocks defined along major faulting of flexure in the basement rocks. The Project Site is located within the Central Block which is roughly wedge-shaped and approximately 55 miles long trending to the southeast and bound on the northwest, southwest, and northeast by fault systems. The predominant structural feature of the Central Block is a northeast trending synclinal trough underlying the central portion of the block.<sup>10</sup> The Project Site is located within the coastal plain of Los Angeles County, which extends from the Santa Monica Mountains to the north, to the Orange County border to the south and east, and to the Pacific Ocean to the south and west. The Project Site is specifically located in an area of the coastal plain designated as the Downey Plain. The Project Site is further located within the Los Angeles Basin, an area underlain by a deep structural depression and extends from the Santa Monica Mountains on the north to the Pacific Ocean on the south and west.

The Downey Plain consists of a large area of recent alluvial deposition. Soil characteristics are typically reddish or brown, deeply weathered soil formed prior to recent time. In some areas, the soil and the surface that it forms can be in its original position. However, in many areas, the soil and the underlying

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<sup>7</sup> Los Angeles County Department of Public Works, Well Info, website: <http://dpw.lacounty.gov/wrd/wellinfo/well.cfm>, November 10, 2008.

<sup>8</sup> Los Angeles County Department of Public Works, Well Info, website: <http://dpw.lacounty.gov/wrd/wellinfo/well.cfm>, November 10, 2008.

<sup>9</sup> *Environmental Assessment for the Disposal and Reuse of NASA Industrial Plan, Downey, CA, prepared by the National Aeronautics and Space Administration, May 2000.*

<sup>10</sup> *Environmental Assessment for the Disposal and Reuse of NASA Industrial Plan, Downey, CA, prepared by the National Aeronautics and Space Administration, May 2000.*

sediments have been warped, folded, faulted, and at least partially eroded away. In other areas, this deeply weathered soil has been downwarped and covered with younger alluvial material.<sup>11</sup>

According to the California Department of Conservation, the Project Site is designated “Urban and Built-Up Land.”<sup>12</sup> Even though the “Urban and Built-Up Land” designation is determined by the density of development in a given area, the Project Site is reported to be underlain from the surface to approximately 50-feet bgs with fine-grained sediments consisting of interbedded silty sand, sandy silt, clayey silts, and silty clay. This interbedded fine-grained unit is underlain to approximately 130-feet bgs by a fine to medium-grained sand with occasional medium- to coarse-grained sand and fine gravel. This sandy unit is underlain by silt to 135-feet bgs.<sup>13</sup>

### ***Surface Water Hydrology***

The Project Site is located within the San Gabriel River watershed. There are no lakes, rivers, or streams that flow within, through, or near the Project Site. Further, no ephemeral ponds exist on the Project Site. The nearest body of water to the Project Site is the aforementioned San Gabriel River, located approximately 0.75 miles east. The channel of the Los Angeles River is located approximately 2.5 miles to the west, and the channel of the San Gabriel River is located approximately 0.75-miles to the east of the Project Site. Stormwater runoff generated from the area around the Project site generally drains southerly as overland and concentrated flow. Concentrated flow generally occurs within the lower elevations. The overland flow cascades down through a series of low points. At each low point, the stormwater either enters a drainage system or is further conveyed through downstream sub-basins to the south.

The Project Site is currently improved with structures and several paved parking lots. Most of the Project Site is covered with impermeable surfaces except for intermittent small areas of landscaping. The existing storm drains transport offsite and onsite runoff to the municipal storm drain system and eventually into the San Gabriel River.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate map program, the Project Site is located in Zone X. Zone X is defined as an “area protected from the base flood by a

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<sup>11</sup> *Environmental Assessment for the Disposal and Reuse of NASA Industrial Plant, Downey, CA, prepared by the National Aeronautics and Space Administration, May 2000.*

<sup>12</sup> *State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California, 2004, map.*

<sup>13</sup> *Soil Remediation Action Plan for NASA Industrial Plant, Downey, CA, December 12, 2006, prepared by ARCADIS G&M, Inc.*

credited flood-protecting system.”<sup>14</sup> Further, the Tierra Luna Specific Plan notes that FEMA identifies the Project Site as being located in a 500-year flood plain.

### ***Groundwater***

The City of Downey and the Project Site are located at the southern end of the Montebello Forebay of the Central Groundwater Basin situated within the Downey Plain. The confluence of the Rio Hondo and the Los Angeles Rivers is approximately 2.5 miles to the northwest of the Project Site. Regional groundwater movement measured in wells with screens situated at depth is estimated to be to the south/southwest.<sup>15</sup>

According to the Los Angeles County Department of Public Works, there are two groundwater monitoring wells near the Project Site.<sup>16</sup> Monitoring well No. 1568J is located on Rose Avenue approximately 0.26 miles south of the Project Site and monitoring well No. 1577D is located on Deming Avenue approximately 0.32 miles north of the Project Site. At monitoring well No. 1568J, the historic high groundwater level is noted as being approximately 27.8 feet below ground surface (bgs) while at monitoring well No. 1577D, the historic high groundwater level is noted as being approximately 47.1 feet bgs.<sup>17</sup> Although it is anticipated that groundwater beneath the Project Site flows to the south, it is possible that local subsurface conditions, the presence of perched groundwater and/or local bodies of water may have an influence on the direction of local groundwater flow.

### ***Storm Water Quality***

Paved and developed areas contribute substantially greater quantities of water to the storm drain system than pervious areas. The quality of storm water is generally affected by the length of time since the last rainfall, the rainfall intensity, the urban uses of the area, and the quantity of transported sediment. The EPA considers street and parking lot surfaces to be the primary source of storm water residues, petroleum products, heavy metals, oil and grease, fertilizer and pesticide wash-offs, and industrial chemical spills as well as bacteria from food, litter, and animal droppings. Runoff from the Project Site historically drains into the Los Angeles County Flood Control District (LACFCD) storm drain system beneath Lakewood and Bellflower Boulevards and Clark Avenue. Subsequently, stormwater flows into the storm drain system beneath Imperial Highway. These storm drain systems and the one beneath Imperial Highway

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<sup>14</sup> Federal Emergency Management Agency, Letter dated January 9, 2002.

<sup>15</sup> Soil Remediation Action Plan for NASA Industrial Plant, Downey, CA, December 12, 2006, prepared by ARCADIS G&M, Inc.

<sup>16</sup> Los Angeles County Department of Public Works, Groundwater Wells Website, website: <http://dpwgis.co.la.ca.us/website/wells/viewer.asp>, accessed November 10, 2008.

<sup>17</sup> Los Angeles County Department of Public Works, Groundwater Wells, website: <http://dpwgis.co.la.ca.us/website/wells/viewer.asp>, accessed November 10, 2008.

ultimately unite and become the Maplewood Channel (LACFCD Project No. 16), which discharges into the San Gabriel River. Current land uses on the Project Site, which consist primarily of media production, and office uses with surface parking areas, suggest the potential for several pollutants to enter the surface runoff from the Project Site.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Propose Project could have a potentially significant hydrological impact if it were to result in one or more of the following:

- (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) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite;
- (d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;
- (e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- (f) Otherwise substantially degrade water quality;
- (g) 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;
- (h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- (i) 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; or

- (j) Inundation by seiche, tsunami, or mudflow.

## **Project Impacts**

### ***Design Features***

State of the art management of stormwater in the Tierra Luna Plan Area is a top priority of the Tierra Luna Specific Plan and the City of Downey. Consistent with this, the following are required for all new development in the Plan Area:

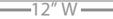
- Prior to issuance of grading, shoring, or building permits for any project or phase of a project in the Plan Area, a stormwater management plan for the entire Plan Area must be approved by the City of Downey Department of Public Works. This plan is for both construction and post construction and must comply with all current and applicable government requirements for stormwater runoff.
- Must retain the first  $\frac{3}{4}$  inch of stormwater onsite (not required during construction).
- If a project or phase of a project is in Development Zone A (see Figure IV.G-1, Development Zones A and B), the project can convey stormwater, after retaining the initial  $\frac{3}{4}$  inch onsite to the stormwater basin located under Discovery Park.
- If a project or phase of a project is in Development Zone B (see Figure IV.G-1, Development Zones A and B), the project, after retaining the first  $\frac{3}{4}$  inch of stormwater onsite, must also detain peak stormwater flows in a stormwater basin within Development Zone B.
- Construction of a stormwater system that meets the above requirements and complies with any additional conditions required by the City of Downey Department of Public Works.
- The City of Downey suggests the following best management practices (“BMPs”) to use to meet the stormwater management requirements and policies.

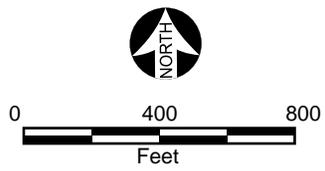
The BMPs listed in the Environmental and Stewardship section include:

- Roof water collection;
- Living machines;
- Inlet devices;
- Deep mulching;
- Structural soils;
- Sand/organic/peat filters;
- Subsurface detention;

# Legend

## Reclaimed Water Drain Locations and Dimensions

-  Location
  -  Size in Inches
- |   |        |
|---|--------|
|  | 12" W  |
|  | 15" SS |
|  | SD     |
|  | 8" RW  |
- Existing Utilities



Source: City of Downey Tierra Luna Specific Plan 2009.

- Filter-vertical recovery structures;
- Biofiltration;
- Depressed parking for lot islands;
- Permeable concrete (no permeable asphalt);
- Open joint terrace and walk system; and
- Green canopies (over parking and work areas).

### ***Surface Water Hydrology***

The Project Site historically drains west, south, or east into elements of LACFCD storm drain system that ultimately reunite to become the Maplewood Channel (LACFCD project No. 16). Runoff entering the Maplewood Channel is conveyed through an open channel west of the San Gabriel River between Alondra Boulevard and the Artesia (91) Freeway before being discharged into LAFCD Reach 1 of the San Gabriel River. A proposed onsite stormwater management system would limit the amount of runoff from the Project Site to the existing municipal storm drain system. The stormwater discharge would need to be consistent with applicable SUSMP and NPDES GCASP stormwater permits from the Los Angeles Regional Water Quality Control Board. The NPDES establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable (MEP). The reduction of pollutants in urban stormwater discharge through the use of structural and nonstructural BMPs is one the primary objectives of these State water quality regulations.

The Project Site is located in a highly urbanized area with no stream or natural water courses located on the Project Site. Currently, the Project Site is mostly covered with impermeable surfaces. The proposed onsite drainage pattern would be designed to drain southerly into the stormwater management system and then connect to new and existing municipal drainage infrastructure.

Catch basins to collect rainfall and debris screens would be installed at strategic access points to the municipal system and the onsite management system in accordance with the Stormwater Pollution Prevention Plan (SWPPP), which is a mandatory requirement under the MS4 permitting process. Following construction, potential erosion of the Project Site would be roughly the same as under current conditions because the vast majority of the Project Site is already paved and developed and would be replaced with new development under the Proposed Project.

According to the Environmental Stewardship and the Utilities and Infrastructure sections of the Tierra Luna Specific Plan, a comprehensive and coordinated stormwater management system would be designed and incorporated into the Project Site. The purpose of the management system would be to minimize the amount of onsite rainfall reaching the municipal storm drain system, which might otherwise result in potential flooding or environmental degradation. Future structures developed under Tierra Luna Specific Plan shall support this management system and utilize the stormwater BMPs included in the specific plan to achieve that end. Secondary goals of the management system include “minimizing underground infrastructure” and to “eliminate stormwater detention facilities that may be acceptable in suburban

locations but are inappropriate for urban areas.” The BMPs listed in the Environmental and Stewardship section are listed above.

Although development of the Proposed Project would reduce impervious surfaces and runoff, downstream peak flow conveyance deficiencies remain. As detailed in the stormwater management system, runoff would drain into future onsite BMPs to retain storm rainfall in accordance with the SUSMP. Stormwater would flow throughout the Project Site towards BMPs (such as infiltration chambers) for onsite capture. The Tierra Luna Specific Plan recommends using landscaped areas adjacent to the internal road network for this purpose.

Buildout of the Proposed Project would result in an increase in the amount of permeable surfaces onsite including an internal parkway and street tree network and 125,000 square feet of open space. Because of the increase in permeable surfaces onsite, the total amount of stormwater runoff is likely to decrease compared to existing conditions as more stormwater would be able to infiltrate the subsurface areas onsite. Thus, development of the Project Site would not result in significant receiving water impacts related to surface water runoff and stormwater quality.

The Project Site is located above the 100-year flood plain, but within the 500-year flood plain area. The Project Site is not located near any waterways, major dams, or upgradient bodies of water. Whittier Narrows Dam is the closest dam to the Project Site. Therefore, the future development of the Project Site would not result in or expose people or property to significant offsite impacts related to flooding.

### ***Groundwater***

The groundwater table at nearby monitoring well 1577F recorded an historic high groundwater level of approximately 52.9 feet bgs while at monitoring well 1568J, the historic high groundwater level is reported to be approximately 49 feet below ground surface. It is assumed that the groundwater level beneath the Project Site is located approximately 49 feet bgs. Groundwater is anticipated to flow in a southerly direction (see section IV.F. Hazards and Hazardous Materials for a discussion of current groundwater remediation activities). Groundwater conditions in the future may vary substantially as a result of annual and seasonal variations in rainfall.

The Tierra Luna Specific Plan limits subterranean excavation to 45 feet bgs. Thus, as excavation activities would be restricted to depths above the groundwater table, onsite excavation would not result in the alteration of groundwater flows beneath the Project Site. As such, the Proposed Project would not require the alteration of groundwater flows. Further, because the Proposed Project would not be permitted to excavate down to the same depth as groundwater, no dewatering activities would be required. Thus, development of the Proposed Project would not result in the alteration or removal of groundwater. Ultimately, the Proposed Project would be subject to the design requirements set forth in the City of Downey Building Code and submitted to the City of Downey as part of the approval process for the Proposed Project. Therefore impacts related to the potential loss of groundwater and alteration of groundwater flows would be less than significant.

## *Water Quality*

### *Construction-Related Impacts*

Three general sources of short-term construction-related stormwater pollution associated with the Project Site are: 1) the handling, storage, and disposal of construction materials; 2) earth moving activities, which, if not controlled, may result in soil erosion and transportation, via stormwater runoff or mechanical equipment, and 3) the maintenance and operation of construction equipment.

### *Construction Materials*

Approval of the Proposed Project would permit a variety of construction materials that are potential sources of stormwater pollution on the Project Site as it is built out. Categories of such materials include: adhesives, cleaning agents, landscaping, plumbing, painting, heating/cooling, and masonry materials, floor and wall coverings, concrete washout, and construction debris. Construction material spills can be a source of stormwater pollution and/or soil contamination, which could generate a potentially significant impact to water quality.

Since approval of the Proposed Project would allow for the clearing, grading, and the excavation of 79 acres of land, a GCASP must be obtained from the State Water Resources Control Board prior to the start of construction. The GCASP requires that an NOI be filed with the SWRCB. By filing an NOI, the applicant, and by extension the subsequent developers, agree to the conditions outlined in the GCASP. One of the conditions of the General Permit is the development and implementation of a SWPPP. The SWPPP identifies which structural and non-structural BMPs will be implemented, such as sandbag barriers, temporary desilting basins near inlets, gravel driveways, dust controls, employee training, and general good housekeeping practices. The Proposed Project would comply with SUSMP, GCASP, and SWPPP requirements.

Specifically, the following SWPPP BMPs are required to prevent construction debris from entering the municipal storm drain system:

- During construction, all waste shall be disposed of in accordance with applicable laws and regulations. Properly labeled recycling bins shall be utilized for recyclable construction materials including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and vegetation. Non-recyclable materials and wastes must be taken to an appropriate landfill. Toxic wastes must be discarded at a licensed, regulated disposal site by a licensed waste hauler.
- All leaks, drips, and spills occurring during construction shall be cleaned up promptly and in compliance with all applicable laws and regulations to prevent contaminated soil on paved surfaces that can be washed away into the storm drains.
- If materials spills occur, they should not be hosed down. Dry cleaning methods shall be employed wherever possible.

- Construction dumpsters shall be covered with tarps or plastic sheeting if left uncovered for extended periods. All dumpsters shall be well maintained.
- The project applicant/developer shall incorporate tracking controls, street sweeping, and truck wheel cleaning to prevent dirt in stormwater.

Development at the Project Site could result in potentially significant short-term impacts with respect to water quality from construction materials. However, with implementation of the required SWPPP, short-term impacts on water quality from construction should be less than significant.

#### *Site Grading*

Soil erosion is the process by which soil particles are removed from the land surface by wind, water, and/or gravity. Soil particles are considered pollutants that if discharged to the municipal storm drain system can eventually reach the Pacific Ocean and have negative impacts on aquatic habitats. Grading activities can greatly increase erosion processes, which could generate a potentially significant impact to water quality.

The following SWPPP BMPs are required to prevent construction sediments from entering the municipal storm drain system:

- The amount of exposed soil shall be limited and erosion control procedures implemented for those areas that must be exposed.
- Grading activities shall be phased so that graded areas are landscaped or otherwise covered as quickly as possible.
- Appropriate dust suppression techniques, such as water or tarping, shall be used in areas that must be exposed.
- The area shall be secured to control offsite mitigation of pollutants.
- Construction entrances shall be designed to facilitate removal of debris from vehicles exiting the site, by passive means such as paved/graveled roadbeds, and/or by active means such as truck washing facilities.
- Truck loads shall be tarped.
- Roadways shall be swept to prevent generation of fugitive dust by local vehicular traffic.
- Simple sediment filters shall be constructed at or near the entrances to the municipal storm drain system wherever feasible.

Development at the Project Site could result in potentially significant short-term impacts with respect to water quality from site grading activities. However, with implementation of the SWPPP required BMPs, short-term impacts on water quality from site grading should be less than significant.

#### *Equipment Maintenance*

Common sources of stormwater pollution and soil contamination that would generate a potentially significant impact on water quality include poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze, or other fluids on the construction site.

However, the following SWPPP BMPs are required to prevent construction silt from entering the municipal storm drain system.

- Leaks, drips, and spills occurring during construction shall be cleaned up promptly and in compliance with all applicable laws and regulations to prevent contaminated soil.
- If fuel or fluid spills occur, they should not be hosed down. Dry cleaning methods shall be employed whenever possible.
- The project applicant shall require all future developers to conduct wheel cleaning and truck washing to prevent sediment tracking.
- The project applicant shall require all future developers to keep vehicles in good working order.

Development at the Project Site would result in potentially significant short-term impacts on water quality from equipment maintenance. However, with implementation of the required BMPs, short-term impacts on water quality from equipment maintenance would be less than significant.

#### *Long-Term Operational Impacts*

If not properly designed and constructed, the proposed development could increase the rate of urban pollutant introduction into the municipal stormwater system. In order to prevent these potential impacts, the Proposed Project would be designed in compliance with: 1) Section 402(p) of the Federal Water Pollution Control Act, or Clean Water Act (CWA); 2) Order No. 01-182 of the Regional Water Quality Control Board, Los Angeles Region, which regulates the issuance of waste discharge requirements to Los Angeles County; 3) the County of Los Angeles Standard Urban Stormwater Mitigation Plan Manual, and 4) the City of Downey.

As required by the SUSMP, retention and infiltration must remove 0.75 inches of “first flush” rainfall stormwater pollutants such as hydrocarbon compounds (i.e., automotive oils, lubricants, and other fluids) deposited, as a matter of course, along the Project Site’s streets and driveways. Applicable BMPs will also be selected from the accepted Standard Urban Stormwater Mitigation Plan submitted to the City of Downey. Additionally, a preventive maintenance program, including regular street and parking lot sweeping, with equipment designed for removal of such compounds, shall be provided by the applicant

and all future onsite developers to reduce the potential water quality impacts to a less than significant level. Other aspects of the SUSMP, with which the Project Site must comply, include provisions for the proper design of outdoor material and trash storage areas.

As noted above, the Project Site would provide structural or treatment control BMPs designed to control stormwater runoff contamination. While some infiltration through the landscaped, open space, and park areas would occur, the Project Site would primarily rely on the implementation of onsite retention BMPs to control stormwater runoff contamination. Detailed plans for the Project Site's compliance with the SUSMP would be submitted to the City of Downey as part of the development process prior to issuance of building and grading permits. Detailed plans would include the location of infiltration features (such as grass swales, infiltration trenches, and grass filter strips) into landscaping. By complying with the SUSMP requirements, the Proposed Project's future operational negative impacts on stormwater quality would be less than significant.

All future developments on the Project Site would be required to comply with Programs 4.3.1.1., 4.3.1.2., and 4.3.1.4. of the City of Downey General Plan, Conservation Element, which state: "1) Provide treatment of runoff generated by properties onsite before release into the storm drain; 2) Discourage activities that generate pollutants on parking lots, and public streets; and 3) Encourage proper storage and handling of construction materials to avoid the contact of pollutants with storm water runoff during construction, respectively." These Programs exist to implement Policy 4.3.1. of the General Plan calling on the City to "reduce the contaminant level of stormwater and urban runoff generated within Downey." These Programs and Policies are used to achieve Goal 4.3., which states the desire to "reduce the contaminant level at beaches and oceans." New developments in the city shall prepare a Standard Urban Runoff Mitigation Plan that must address the following goals: 1) maximization of permeable areas for infiltration of runoff; 2) maximization of the amount of runoff directed toward permeable areas or stored for reuse; and 3) removal of pollutants through installation of treatment control BMPs. Compliance with the Goals, Policies, and Programs of the Conservation Element of the General Plan would ensure that the Proposed Project does not adversely affect offsite water quality. Therefore, impacts on water quality should be reduced to a less than significant level.

## **CUMULATIVE IMPACTS**

Development of the Proposed Project would impact storm drainage and water quality in the area. The Proposed Project is located in an urbanized area where most of the surrounding properties are already developed. The existing storm drainage system serving this area is deficient to accommodate the runoff from this built-out environment. The proposed new construction should not lead to additional runoff, since new developments would be required to infiltrate and detain stormwater runoff from the sites. Thus, the Proposed Project would not have a significant cumulative impact and may reduce existing downstream conveyance deficiencies and no cumulatively considerable impacts to water runoff and water quality would occur.

## **MITIGATION MEASURES**

No mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Proposed Project would result in less than significant impacts related to hydrology and water quality.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### H. LAND USE AND PLANNING

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#### INTRODUCTION

This section evaluates the Proposed Project's potential land use impacts based upon compatibility with surrounding land uses and consistency with applicable land use policies of the agency with jurisdiction over the Project Site. In addition, this section evaluates the potential cumulative land use impacts of the Proposed Project in combination with the related projects.

#### ENVIRONMENTAL SETTING

##### Existing On-Site Land Uses

The Project Site, comprised of approximately 79 acres, is located at 12214 Lakewood Boulevard in the Downey Landing Specific Plan area in the City of Downey. The Project Site is generally bound by the Downey Landing Retail Center to the north, Bellflower Boulevard to the east, Congressman Steve Horn Way to the south, Clark Avenue to the southwest, and Lakewood Boulevard to the west (see Figure II-1, Regional and Project Vicinity Map).

The Project Site is relatively flat and is currently developed with approximately 1.5 million square feet of buildings, of which 750,000 square feet are presently occupied by media production-related studio uses. Landscaping on-site includes ornamental bushes and trees mostly concentrated along Lakewood Boulevard and the perimeter of the Project Site, landscaping included in a suburban street movie set, and various bushes growing sporadically throughout the Project Site. Photographs depicting land uses on the Project Site and the immediate surrounding area are provided in Section III. Environmental Setting.

##### Surrounding Land Uses

The Proposed Project is located in a developed urban area. General land uses in the vicinity of the Project Site include manufacturing, commercial, and residential uses, as well as medical and recreational facilities. The following describes the specific land uses in the vicinity of the Project Site.

Directly north of the Project Site is the approximately 34-acre Downey Landing Retail Center. Further north, across Stewart and Gray Road, are single-family residences.

East of the Downey Landing Retail Center, northeast of the Project Site, are multi-family residential uses. Directly east of the Project Site are industrial uses and Kaiser Permanente facilities. South of the Kaiser Permanente uses, southeast of the Project Site, are commercial and industrial uses as well as the city-operated Independence Park.

South of and adjacent to the Project Site is the 11-acre city park, currently under construction, which is comprised of recreational facilities and the Columbia Memorial Space Science Learning Center. East of the recreational uses, directly south of and adjacent to the Project Site is the Kaiser Downey Medical Complex. The Kaiser facility is scheduled to be completed in mid-2009, and will include approximately

700,000 of hospital and medical office uses. Further south, across Imperial Highway, are commercial uses, including the Los Angeles County of Education (LACOE) facilities and administrative offices. Southwest of the Project Site, across Clark Avenue, are commercial and multi-family residential uses.

West of the Project Site, across Lakewood Boulevard, are multi-family residential uses, as well as retail uses, commercial uses, and three senior care facilities fronting Lakewood Boulevard between Stewart and Gray Road and Alameda Street. South of these uses, west of the Project Site, is the Shree Swaminarayan Mandir, Downey Hindu temple. Bordering the retail, commercial, and religious uses on the west and south, west of the Project Site, are single-family residences.

### **Applicable Land Use Policies and Regulations**

The Project Site is subject to the applicable policies and zoning requirements of several local and regional plans. At the regional level, development within the Project Site is subject to the Southern California Association of Governments' (SCAG) Regional Comprehensive Plan and Guide (RCPG), the South Coast Air Quality Management District's (SCAQMD), 2007 Air Quality Management Plan (AQMP), and the Los Angeles County Metropolitan Transportation Authority's (LACMTA) Congestion Management Plan for Los Angeles County (CMP). At the citywide scale, development within the Project Site is subject to the City of Downey General Plan (General Plan), the Downey Landing Specific Plan, and the City of Downey Municipal Code. An overview of each of these plans is provided below.

### ***Regional Plans***

#### *Regional Comprehensive Plan and Guide*

The Regional Comprehensive Plan and Guide (RCPG) was adopted in 1994 (amended in 1996) by the member agencies of SCAG to set broad goals for the Southern California region and identify strategies for agencies at all levels of government to use in guiding their decision-making. It includes input from each of the 14 subregional organizations that make up the Southern California region comprised of Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura Counties.

The Project Site is located within the Gateway Cities Council of Governments subregional organization, which encompasses the cities of Artesia, Avalon, Bell, Bellflower, Bell Gardens, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier, as well as some unincorporated portions of Los Angeles County.

The RCPG serves to guide decision-making with respect to the significant issues and changes, including growth management, which can be anticipated by the year 2015 and beyond. Adopted RCPG policies related to land use are contained primarily in Chapter Three of the RCPG, entitled "Growth Management." The purpose of the Growth Management chapter is to present forecasts that establish the socio-economic parameters for the development of the Regional Mobility and Air Quality Chapters of the RCPG. Specifically, these chapters address issues related to growth and land consumption by

encouraging local land use actions which could ultimately lead to the development of an urban form that would help minimize development costs, save natural resources, and enhance the quality of life in the region. Impacts associated with air quality and regional mobility are discussed in Section IV.C. Air Quality and Section IV.L. Traffic/Transportation/Parking, respectively.

Specific Growth Management Chapter policies are divided into four main categories: (1) growth forecasts; (2) improving the regional standard of living; (3) maintaining the regional quality of life; and (4) providing social, political and cultural equity. Growth Management policies which are pertinent to the Project Site are discussed under the “Project Impacts” subheading under the Environmental Impacts heading of this Section.

#### *South Coast Air Quality Management District*

The Project Site is located within the South Coast Air Basin (SCAB) and is, therefore, within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). In conjunction with SCAG, the SCAQMD is responsible for formulating and implementing air pollution control strategies. The Air Quality Management Plan (AQMP) was adopted in 1997 (updated in 2007) by SCAQMD and SCAG to assist in fulfilling SCAQMD responsibilities, and is intended to establish a comprehensive regional air pollution control program leading to the attainment of State and federal air quality standards in the SCAB area. Air quality impacts of the Proposed Project and consistency of the project with the AQMP are analyzed in greater detail in Section IV.C. Air Quality, of this Draft EIR.

#### *Congestion Management Plan*

Within Los Angeles County, the Metropolitan Transportation Authority (MTA) is the designated congestion management agency responsible for coordinating regional transportation policies. The Congestion Management Plan (CMP) for Los Angeles County was developed in accordance with Section 65089 of the Government Code. The CMP is intended to address vehicular congestion relief by linking land use, transportation, and air quality decisions. Further, the program seeks to develop a partnership among transportation decision-makers to devise appropriate transportation solutions that include all modes of travel and, in addition, to propose transportation projects that are eligible to compete for States gas tax funds. To receive funds from Proposition 111 (i.e., State gasoline taxes designated for transportation improvements) cities, counties, and other eligible agencies must implement the requirements of the CMP. Within Los Angeles County, the Los Angeles County Metropolitan Transportation Authority (LACMTA) is responsible for coordinating the County’s adopted CMP. The Proposed Project’s Traffic Impact Analysis, which is presented in greater detail in Section IV.L. Traffic/Transportation/Parking of this Draft EIR, was prepared in accordance with the County of Los Angeles CMP guidelines and the City of Downey.

## **Local Plans**

### *City of Downey General Plan*

California State law (Government Code section 65300) requires that each city prepare and adopt a comprehensive, long-term general plan for its future development. This general plan must contain seven elements, including land use, circulation, housing, conservation, open space, noise, and safety. In addition to these, State law permits cities to include optional elements in their general plans, thereby providing local governments with the flexibility to address the specific needs and unique character of their jurisdictions. California State law also requires that the day-to-day decisions of a City follow logically from and be consistent with the general plan. More specifically, Government Code sections 65860, 66473.5, and 65647.4 require that zoning ordinances, subdivision, and subdivision and parcel map approvals be consistent with the general plan.

The City of Downey General Plan is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Downey. The General Plan is a dynamic document consisting of nine chapters: Land Use, Circulation, Housing, Conservation, Safety, Noise, Open Space, Design, and Economic Development. The current general plan, adopted January 25, 2005, is known as Downey Vision 2025 and is a comprehensive update of the City's previous general plan, Downey Vision 2010, adopted in 1992.<sup>1</sup> Downey Vision 2025 provides general guidance on land use issues for the entire City.

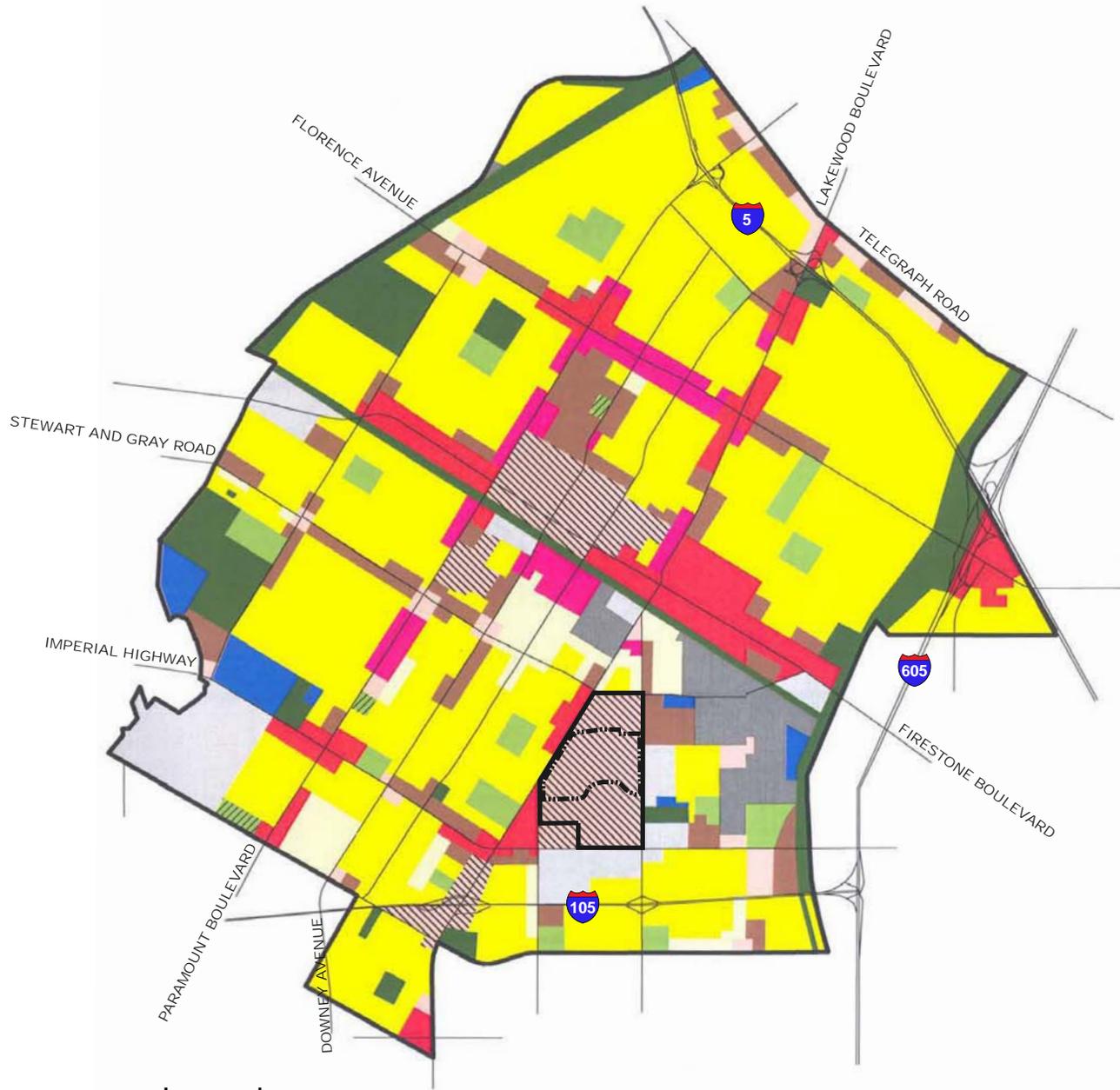
Downey Vision 2025 responds to State and federal mandates to plan for the City's future. The City of Downey uses population forecasts provided by SCAG to plan for long-term growth. Downey Vision 2025 addresses the City's long-range goals and outlines citywide policies, designed to direct future decisions, and programs to be implemented to manage future growth. While Downey Vision 2025 provides guidelines for future development of the City, it does not supersede the more detailed Downey Landing Specific Plan, discussed in more detail below.

Downey Vision 2025 contains a Land Use Diagram indicating the land uses designated for areas of the City. In the Land Use Diagram, the Project Site is located within an area designated as Mixed Use (see Figure IV.H-1), which allows a combination of commercial/manufacturing uses with residential uses in support and enables an FAR of 5:1.

According to Chapter 1 (Land Use) of Downey Vision 2025, Mixed Use land use designations are intended to form livable communities, which provide alternatives to the traditional separation of land uses

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<sup>1</sup> City of Downey Planning Division, *General Plan 2025*, website: [http://www.downeyca.org/city\\_planning\\_gp.php](http://www.downeyca.org/city_planning_gp.php), July 24, 2008.



**Legend**

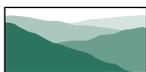
**LAND USE DESIGNATIONS**

- LOW DENSITY RESIDENTIAL (1.0 TO 8.7 DU/ACRE)
- LOW MEDIUM DENSITY RESIDENTIAL (9.0 TO 17.0 DU/ACRE)
- MEDIUM DENSITY RESIDENTIAL (18.0 TO 24.0 DU/ACRE)
- NEIGHBORHOOD COMMERCIAL (FAR .25)
- GENERAL COMMERCIAL FAR .25 TO 4/1)
- COMMERCIAL MANUFACTURING (FAR .5)
- OFFICE (FAR .5 TO 5/1)
- GENERAL MANUFACTURING (FAR .6)
- PARK, RIVERBED, UTILITY EASEMENT, GOLF COURSE, CEMETERY
- PUBLIC (OTHER THAN SCHOOLS AND PARKS)
- PUBLIC SCHOOLS
- PRIVATE SCHOOLS
- MIXED USE

- Specific Plan Area
- - - - - Project Site



Source: City of Downey General Plan, 1/25/2005.



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Environmental Planning and Research

Figure IV.H-1  
General Plan Land Use Diagram

by advancing the creation of mixed-use areas with special characteristics to create a “sense of place” for visitors.<sup>2</sup>

Downey Vision 2025 identified three areas in the City as “Mixed Use” due to their location, development, or land use opportunities, which would reinforce and encourage development of new livable communities comprised of a mix of land uses. These areas would have the potential to promote livable communities concepts that allow added flexibility in addressing land use needs and focus on areas where livable communities concepts are most likely to encourage similar projects throughout the City.

### Downey Landing Specific Plan

The Proposed Project is located within the Downey Landing Specific Plan (“DLSP”) Area, which establishes the development standards for the DLSP plan area. The DLSP plan area encompasses 160 acres and is roughly bounded by Stewart and Gray Road to the north, Bellflower Boulevard to the east, Imperial Highway to the south, Clark Avenue to the southwest, and Lakewood Boulevard to the west.

The DLSP, which was adopted to promote land uses in the plan area and replace conventional zoning, is intended to implement the goals, objectives, and policies of the City of Downey General Plan (Downey Vision 2025). It contains a vision, land use concepts, infrastructure and service plan, design guidelines, and development regulations for approximately 160 acres of former industrial property.<sup>3</sup> The DLSP plan area is divided into four districts including Retail Center, Media Center, Commerce Center, and Kaiser Downey Medical Center. The western portion of the plan area is designated as Media Center, while the eastern portion is designated as Commerce Center (see Figure IV.H-2). The Media Center designation allows for a movie, television, and media studio complex for production uses. The Commerce Center designation allows for a business park up to 50 acres in size.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

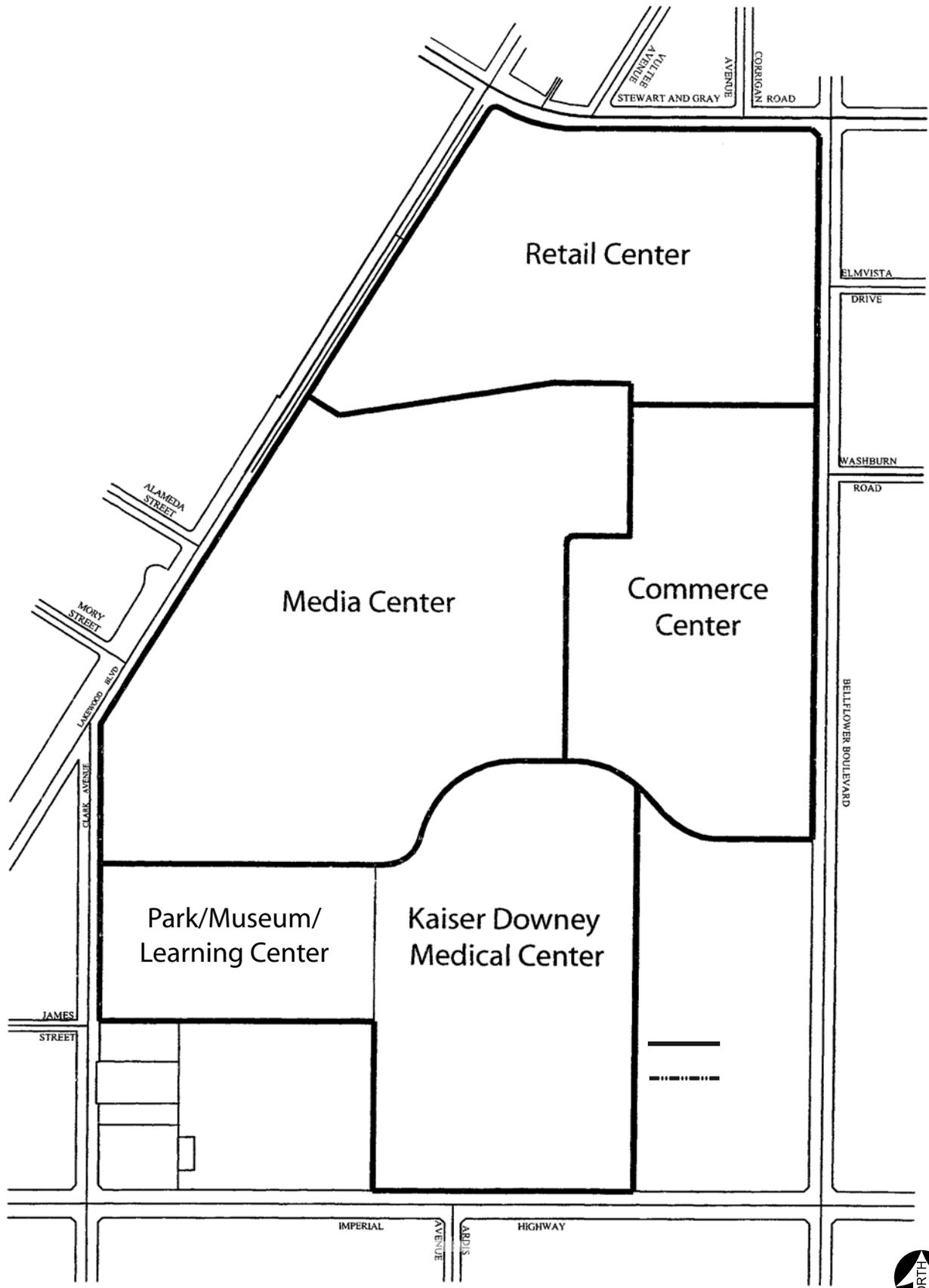
In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project would have a potentially significant impact related to land use consistency if it would cause any of the following conditions to occur:

- (a) Physically divide an established community;

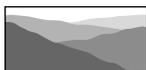
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<sup>2</sup> Downey Vision 2025, Chapter 1, Land Use, January 25, 2005.

<sup>3</sup> Downey Landing Specific Plan, Section One, Introduction, February 2002.



Source: EIP and The City of Downey, 2002.



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Environmental Planning and Research

Figure IV.H-2  
Downey Landing Specific Plan  
Land Use Designations

- (b) Conflict with any applicable land use plan, policy, or regulation or an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- (c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Proposed Project is located in an urban area designated for commercial, manufacturing, and residential land uses. The Project Site is currently developed with approximately 1.5 million square feet of media production-related studio uses and no habitat conservation plan or natural community conservation plan applies to the Project Site. As such, no impacts with respect to such conservation plans would occur. Therefore, threshold condition (c) above would not apply and no further analysis of this condition is warranted.

### **Project Impacts**

The Proposed Project involves an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site. The Proposed Project is intended to promote the development of a mixed-use, urban infill community.

The Proposed Project would include three development zones: Corridor Zone, Center Zone, and Neighborhood General Zone (see Figures II-2 through II-7 for proposed land uses on the Project Site).

#### ***Office Component***

The office component of the Proposed Project would develop up to approximately 675,000 square feet of office uses located throughout the Project Site.

#### ***Retail Component***

The retail component of the Proposed Project would develop up to approximately 1,200,000 square feet of retail uses located throughout the Project Site. Larger retail spaces would be concentrated near the Central Zone of the Proposed Project.

#### ***Hotel Component***

The hotel component of the Proposed Project would develop hotel uses comprised of up to 450 rooms. The hotel uses would be concentrated in the Corridor and Central Zones of the Proposed Project.

#### ***Residential Component***

The residential component of the Proposed Project would develop up to approximately 1,700,000 square feet (up to 1,500 dwelling units) single and multi-family residential uses. The residential units would be of varying types and densities including live/work units, courtyard housing, row houses, and apartment

units. The residential uses would be concentrated in the East Neighborhood Zone of the Proposed Project Site on the eastern 20-acre portion.

### ***Parking and Access***

Parking for the Proposed Project can be provided by a combination of parking structures, surface parking lots, and curbside street parking dispersed throughout the Project Site. Access to the Project Site would be provided by existing roadways, including Lakewood Boulevard and Bellflower Boulevard, as well as proposed roadways to be developed throughout the Project Site.

### ***Open Space and Landscaping***

The Proposed Project, at full build-out, will provide: 1) up to 125,000 square feet of public open space, including public gathering spaces, passive parks, and urban open space, with unique hardscape and landscape; and 2) public open space combined with in-lieu payments to the City of Downey that can be used to develop or maintain public open space. Additionally, the Proposed Project will provide unique and appropriate private open space for both residential buildings and commercial buildings.

Each of the Plan elements discussed above would incorporate its own landscaping vision including specific species of trees and shrubs chosen to create a particular feeling associated with each element and based upon each species' formal qualities. Such species of tree include: the Medjool Date Palm, the California Fan Palm, the Chinese Flame Tree, the London Plane Tree, the Sunburst Honey Locust, the Deodar Cedar, and the Cape Chestnut. The internal roadway network would include a street tree program designed to tie different locations within the Plan together and encourage pedestrian activity. These roadways would be landscaped according to their hierarchy ranging from regional boulevards to local-serving streets.

### ***Dividing Established Communities***

While Appendix G of the CEQA Guidelines does not include any significance thresholds relating to a Proposed Project's land use compatibility with existing uses in the vicinity of the Project Site, it is useful to address the functional compatibility of the Proposed Project with its surrounding land uses. Functional compatibility is defined as the capacity for adjacent, yet dissimilar land uses to maintain and provide services, amenities, and/or environmental quality associated with such uses. Potentially significant functional land use compatibility impacts may be generated when a proposed project hinders the functional patterns of use and relationships associated with existing land uses. Patterns of use relate to interaction and movement of people, goods, and/or information.

The physical compatibility of the Proposed Project with its environs is based on an analysis of proposed uses and improvements and their potential on-site and off-site impacts on traffic, noise, air quality, and aesthetics. These impacts, together with proposed mitigation measures, where applicable, are discussed in their respective sections of this Draft EIR. As such, this section focuses on the compatibility of the Proposed Project from a functional perspective.

The Project Site is located within the Downey Landing Specific Plan Area which is characterized by retail, media production, and medical uses. The area surrounding the Project Site is developed with retail, religious, and residential uses as well as recreational and medical facilities. Uses proposed by the project are similar to those in the surrounding area including development of retail and residential uses, and recreational facilities. Because proposed uses are similar to uses mentioned above, the Proposed Project would be compatible with the types of uses surrounding the Project Site.

The building heights and massing that would be developed with implementation of the Proposed Project would create a change in the visual character of the Project Site and provide a visual contrast to the media production uses currently existing on-site. However, the Proposed Project would be designed to be sensitive to and interactive with the adjacent uses so as to create synergy between the Project Site and surrounding uses rather than finite edges around the boundaries of the Project Site.

The Proposed Project would remove the existing media production uses and develop uses that are more similar to those of the surrounding area. Additionally, the Proposed Project would be designed to coordinate with adjacent uses to bring a more cohesive atmosphere to the area. As such, no significant impacts would result from the Proposed Project with regard to land use compatibility. Furthermore, as design of the Proposed Project includes enhancing the roadway network with additional routes through the Project Site, the Proposed Project would not physically divide an established community. And, more importantly, there is no established community at the Project Site. No separation of uses or disruption of access between land use types would result from buildout of the Proposed Project and no impact would occur.

**Consistency with Land Use Plans, Policies, and Regulations**

*Regional Comprehensive Plan and Guide*

The Proposed Project would generally conform to objectives set forth in the RCPG, including those objectives provided in the Growth Management, Regional Mobility, and Housing Chapters. The objectives that the Proposed Project would implement include those shown in Table IV.H-1, Project Consistency with Applicable Regional Comprehensive Plan and Guide Objectives below. Therefore, impacts would be less than significant.

**Table IV.H-1  
Project Consistency with Applicable Regional Comprehensive Plan and Guide Objectives**

Objective	Project Consistency
<b>Chapter 3: Growth Management</b>	
Population, housing and jobs forecasts, which are adopted by SCAG’s Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.	<b>Consistent:</b> The Proposed Project would introduce up to approximately 1,500 residential units, generating as many as 4,883 new permanent residents, which would remain within SCAG’s housing and population growth projections for the Gateway Cities Council of Governments subregional organization. Sections IV.C. Air Quality, IV.J. Population, Housing, and Employment, and IV.L. Traffic/Transportation/Parking in this EIR utilize SCAG

**Table IV.H-1  
Project Consistency with Applicable Regional Comprehensive Plan and Guide Objectives**

Objective	Project Consistency
	projections and are consistent with these forecasts. Therefore, the Proposed Project would be consistent with this policy.
Support provisions and incentives created by local jurisdictions to attract housing growth in job rich subregions and job growth in housing rich subregions.	<b>Consistent:</b> The Proposed Project would introduce a total of up to approximately 1,500 residential units and approximately 2,250,000 square feet of office, retail, and hotel uses located throughout the Project Site thereby generating jobs and adding housing to the area. Therefore, the Proposed Project would be consistent with this policy.
Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.	<b>Consistent:</b> The Proposed Project would be developed near major thoroughfares served by the Downey Link southeast bus route, with access to other bus routes as well as the Metro Green Line station, thereby reducing the overall need for automobile transport. Therefore, the Proposed Project would be consistent with this policy.
Encourage local jurisdiction plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment.	<b>Consistent:</b> The Proposed Project is an infill development that would redevelop properties adjacent to major thoroughfares with access to the Downey Link southeast bus route, as well as the Metro Green Line. Therefore, the Proposed Project would be consistent with this policy.
Encourage planned development in areas least likely to cause an adverse environmental impact.	<b>Consistent:</b> The Proposed Project is an infill development that would redevelop properties in the urbanized Downey Landing Specific Plan area, reducing many of the potential environmental impacts that could occur if the Proposed Project were developed elsewhere in the region. Therefore, the Proposed Project would be consistent with this policy.
<b>Chapter 4: Regional Mobility</b>	
Achieve a substantial decrease in the growth of passenger vehicle trips and vehicle miles traveled in serious, severe, and extreme non-attainment areas.	<b>Consistent:</b> The Proposed Project would be developed near major thoroughfares with local bus lines, within the vicinity of other regional transit lines, and would be within walking distance of many commercial opportunities along Lakewood Boulevard. Additionally, the Proposed Project would be designed to be a pedestrian friendly community with a mix of uses located approximately a five-minute walk from most areas of the Project Site, thereby reducing the overall need for automobile transport. Therefore, the Proposed Project would be consistent with this policy.
<b>Chapter 6: Housing</b>	
Provide housing choices in line with income of work force.	<b>Consistent:</b> The Proposed Project would provide several housing options, including live/work units as well as for-rent and for-sale market-rate housing in line with the income of the surrounding work force. Therefore, the Proposed Project would be consistent with this policy.
<p><i>Source: Southern California Association of Governments, Regional Comprehensive Plan and Guide, March 1996</i>  <i>Source (table): Christopher A. Joseph &amp; Associates, August 2008.</i></p>	

*City of Downey General Plan (Downey Vision 2025)*

The Proposed Project will conform to the programs and policies identified in Downey Vision 2025. The programs and policies to which the Proposed Project would conform are provided in Table IV.H-2, Project Consistency with Applicable General Plan Programs and Policies. Therefore, impacts would be less than significant.

**Table IV.H-2  
Project Consistency with Applicable General Plan Programs and Policies**

Policy	Consistency Discussion
<b>Chapter 1. Land Use</b>	
<b>Program 1.2.1.1:</b> Promote project designs that reduce dependency on vehicles and promote pedestrian, transit, and alternate modes of travel.	<b>Consistent:</b> The Proposed Project would be developed near major thoroughfares with local bus lines, within the vicinity of other regional transit lines, and would be within walking distance of many commercial opportunities along Lakewood Boulevard. Additionally, the Proposed Project would be designed to be pedestrian friendly with a mix of uses located approximately a five-minute walk from most areas of the Project Site, thereby reducing the overall need for automobile transport. Therefore, the Proposed Project would be consistent with this program.
<b>Program 1.2.1.2:</b> Promote mixed-use developments with housing on the same site or in proximity to commercial services to reduce the need for trips by vehicles.	<b>Consistent:</b> The Proposed Project would include development of retail, commercial, and office uses as well as residential uses. The Proposed Project would be designed to be pedestrian friendly as a mix of uses would be accessible by an approximate five-minute walk, thereby reducing the need for automobile transport. Therefore, the Proposed Project would be consistent with this program.
<b>Program 1.2.1.3:</b> Promote commercial and residential uses in proximity to transit stops to reduce dependency on vehicles.	<b>Consistent:</b> The Proposed Project would develop approximately 1,500 residential units and approximately 1,000,000 square feet of commercial uses near major thoroughfares with access to the Downey Link southeast bus route which provides access to other transit lines, including the Metro Green Line, thereby reducing vehicle dependency. Therefore, the Proposed Project would be consistent with this program.
<b>Program 1.2.1.4:</b> Provide dining opportunities within walking distances of employment centers.	<b>Consistent:</b> The Proposed Project would include development of 1,800,000 square feet office and retail uses as well as restaurant uses. Project design is intended to be pedestrian friendly with many uses located an approximate five-minute walk from each other. Therefore, the Proposed Project would be consistent with this program.
<b>Program 1.3.1.1:</b> Discourage the establishment of incompatible land uses in proximity [to each other].	<b>Consistent:</b> The Proposed Project would replace the existing media production uses on-site with comprehensively-designed, walkable communities that would be complementary to the surrounding community. Therefore, the Proposed Project would be consistent with this program.

**Table IV.H-2  
Project Consistency with Applicable General Plan Programs and Policies**

Policy	Consistency Discussion
<b>Chapter 3. Housing Element</b>	
<b>Policy 2.2:</b> Encourage infill development and recycling of land to provide adequate residential sites.	<b>Consistent:</b> The Proposed Project would include demolition of the media production uses currently existing on-site and the development of a mix of uses to include up to 1,500 new residential units. Therefore, the Proposed Project would be consistent with this policy.
<i>Source: City of Downey General Plan, Adopted January 25, 2005.</i>	
<i>Source (table): Christopher A. Joseph &amp; Associates, August 2008.</i>	

*Downey Landing Specific Plan Amendment*

As previously described, the Downey Landing Specific Plan is presently the primary planning document for the Project Site. However, the Proposed Project involves an amendment to the existing Downey Landing Specific Plan solely as to the 79-acre Project Site. The purpose of the Proposed Project is to promote the development of a mixed-use, urban infill, comprehensively-designed, and a coordinated development that implements state-of-the-art planning concepts and principles at the presently underutilized Project Site. The Proposed Project would become the governing land use regulation for the Project Site, if approved. Furthermore, the Proposed Project would include redevelopment of the Project Site, which is located along a major transit route, with a mix of uses including commercial, retail, and residential uses within the City of Downey.

If the Proposed Project is approved, then development of the Project Site will, by definition, be consistent with the applicable Specific Plan regulations.

In addition, as noted in Section IV.F. Hazards and Hazardous Materials, of this EIR, the development of the Project Site into a mixed-use community that includes residential units will require several approvals to move forward. First, similar to Discovery Park and the Kaiser Downey Medical Center projects, any project within the Downey Landing Specific Plan area proposing a sensitive land use, e.g., residential, will have to obtain approval from the Regional Water Quality Control Board-Los Angeles Region (LARWQCB) that subsurface conditions (including soil vapor) beneath the Project Site are suitable for the intended land use. Project applicants may be required to have a human health risk assessment approved by LARWQCB and may be required to implement specific engineering and institutional controls to protect future site occupants. Further, land use covenants governing the Project Site require any mixed-use project with residential units to be subject to approval by the current property owners at the former NASA Industrial Plant site; these owners include the City of Downey, Kaiser Permanente, and the owners of both the Downey Landing retail center and Downey Studios. In addition, the IRAD Agreement requires certain approvals (not to be unreasonably withheld) by IRAD, and potentially by its environmental insurer, prior to any Sensitive Use or any Regulated Storage, Use, or Handling of any Hazardous Material (as defined in the IRAD Agreement) at the subject property. These approval

requirements are also set forth in the Declaration of Covenants, Conditions, and Environmental Restrictions (“CC&Rs”) recorded in the Official Records of the County of Los Angeles, State of California, on November 21, 2003, as document no. 033518855. The approval requirements do not preclude residential use, but only subject such uses to approval by LARWQCB, the current property owners at the NASA Industrial Plant site, IRAD and, potentially, its environmental insurance company. Accordingly, development of residential uses pursuant to the applicable land use covenants would not conflict with any applicable land use plan, policy, or regulation or an agency with jurisdiction over the project and impacts would be less than significant.

## **CUMULATIVE IMPACTS**

Cumulative land use impacts could occur if other related projects in the vicinity of the Project Site would result in land use impacts in conjunction with the Proposed Project. A total of 78 proposed or approved projects were identified that could potentially contribute to the cumulative effects of the Proposed Project (as listed in Section III. Environmental Setting). Development of the Proposed Project, in conjunction with the related projects, would result in an intensification of existing prevailing land uses in the project vicinity.

Of the 61 identified related projects, 11 (Related Project Nos. 51 through 61) are located within the City of Downey and would potentially be subject to the same zoning and land use designations as the Proposed Project. Specifically, Related Project Nos. 52, 56, and 57 are the closest in proximity to the Project Site. These projects would be required to either generally conform to the zoning and land use designations for their respective sites or be subject to specific findings and conditions based on maintaining the general conformance with the land use plans applicable to the area. As such, development of the Proposed Project and the related projects is not anticipated to substantially conflict with the intent of the City’s General Plan regarding the future development of the Downey Landing Specific Plan Area, or with other land use regulations to be consistent with the City of Downey General Plan. Therefore, development of the Proposed Project, in conjunction with the identified related projects, would not be expected to result in cumulatively considerable effects with respect to land use regulations and compatibility.

## **MITIGATION MEASURES**

With approval of the DLSP amendment, the Proposed Project would be consistent with land use regulations and compatible with adjacent land uses; therefore, no mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With approval of the amendment to the Downey Landing Specific Plan, impacts with respect to land use regulations and compatibility as a result of development of the Proposed Project would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### I. NOISE

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#### INTRODUCTION

This section evaluates the potential for noise and groundborne vibration impacts resulting from implementation of the Proposed Project. This section includes: (1) analysis of the potential for the Proposed Project to result in impacts associated with a substantial temporary and/or permanent increase in ambient noise levels in the vicinity of the Project Site; (2) analysis of the exposure level of people in the vicinity of the Project Site to excessive noise levels, (3) analysis of groundborne vibration, or groundborne noise levels; and (4) analysis of whether such exposure is in excess of standards established in the local general plan or noise ordinance. Finally, this section proposes mitigation measures intended to reduce noise and vibration impacts, where appropriate, to avoid or reduce significant impacts.

Data used to prepare this analysis were obtained from the City of Downey General Plan Noise Element, the City of Downey Municipal Code (DMC), and by measuring and modeling existing and future noise levels at the Project Site and the surrounding land uses. Traffic information contained in the Traffic Study prepared for the Proposed Project was used to prepare the noise modeling for vehicular sources.

#### ENVIRONMENTAL SETTING

##### Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (“dBA”) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Table IV.I-1, Representative Environmental Noise Levels, illustrates representative noise levels in the environment.

**Table IV.I-1  
Representative Environmental Noise Levels**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet		
	—100—	
Gas Lawnmower at 3 feet		
	—90—	
		Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

*Source: California Department of Transportation, 1998.*

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

- $L_{eq}$  – An  $L_{eq}$ , or equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the  $L_{eq}$  of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- $L_{max}$  – The maximum instantaneous noise level experienced during a given period of time.
- $L_{min}$  – The minimum instantaneous noise level experienced during a given period of time.
- CNEL – The Community Noise Equivalent Level is a 24-hour average  $L_{eq}$  with a five dBA “weighting” during the hours of 7:00 P.M. to 10:00 P.M. and a 10 dBA “weighting” added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening

and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24 hour Leq would result in a measurement of 66.7 dBA CNEL.

Noise environments and the noise effects of human activities are usually well represented by median noise levels during the day, night, or over a 24-hour period. Community noise levels below 60 dBA CNEL are generally considered low, moderate in the 60 to 70 dBA CNEL range, and high above 70 dBA CNEL. Examples of noise levels in urban residential or semi-commercial areas are typically 55 to 60 dBA CNEL, whereas commercial locations are typically 60 dBA CNEL. People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA CNEL) or dense urban or industrial areas (65 to 80 dBA CNEL).

It is widely accepted that in the community noise environment the average healthy ear can barely perceive CNEL noise level changes of three dBA. CNEL changes from three to five dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A five dBA CNEL increase is readily noticeable, while the human ear perceives a ten dBA CNEL increase as a doubling of sound.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors such as the weather and reflecting or barriers also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about three dBA at acoustically “hard” locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about six to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels are also generally reduced by one dBA for each 1,000 feet of distance due to air absorption. Noise levels may also be reduced by intervening structures – generally, a single row of buildings between the receptor and the noise source reduces the noise level by about five dBA, while a solid wall or berm reduces noise levels by five to ten dBA. Exterior-to-interior reduction of residential units is generally 25 dBA or more with closed windows.<sup>1</sup>

### **Fundamentals of Environmental Groundborne Vibration**

Vibration is sound radiated through the ground. Vibration can result from source (e.g., subway operations, vehicles, machinery equipment, etc.) causing the adjacent ground to move, thereby creating vibration waves that propagate through the soil to the foundations of nearby buildings. This effect is referred to as groundborne vibration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration levels. PPV is defined as the maximum instantaneous peak

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<sup>1</sup> *National Cooperative Highway Research Program Report 117, Highway Noise: A Design Guide for Highway Engineers, 1971.*

of the vibration level, while RMS is defined as the square root of the average of the squared amplitude of the level. PPV is typically used for evaluating potential building damage, while RMS velocity in decibels (VdB) is typically more suitable for evaluating human response.

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table IV.I-2, Human Response to Different Levels of Groundborne Vibration.

**Table IV.I-2**  
**Human Response to Different Levels of Groundborne Vibration**

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.
<i>Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.</i>	

## Regulatory Framework

### *Federal*

#### *Noise Standards*

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the Proposed Project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise.

### *Vibration Standards*

The Federal Transit Administration (FTA) has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by the FTA are shown in Table IV.I-3, Construction Vibration Damage Criteria.

**Table IV.I-3  
Construction Vibration Damage Criteria**

<b>Building Category</b>	<b>PPV (in/sec)</b>
I. Reinforced-concrete, steel or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
<i>Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.</i>	

In addition, the FTA has also adopted standards associated with human annoyance for groundborne vibration impacts at noise-sensitive buildings, residences, and institutional land uses. These thresholds are 65 VdB at sensitive buildings where vibration would interfere with interior operations, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations, 80 VdB at residences and buildings where people normally sleep (e.g., hospitals, hotels, etc.) and 83 VdB at institutional buildings (e.g., schools and churches). These thresholds apply to conditions where there are an infrequent number of events per day.<sup>2</sup> No thresholds have been adopted or recommended for commercial and office uses.

### *State*

#### *Noise Standards*

The California Department of Health Services (DHS) has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in Table IV.I-4, Community Noise Equivalent Level (CNEL). In addition, Section 65302(f) of the California Government Code requires each county and city in the State to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(g) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

<sup>2</sup> “Infrequent events” is defined by the Federal Transit Administration as being fewer than 30 vibration events per day, Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

**Table IV.I-4  
Community Noise Equivalent Level (CNEL)**

<b>Land Use</b>	<b>Normally Acceptable<sup>a</sup></b>	<b>Conditionally Acceptable<sup>b</sup></b>	<b>Normally Unacceptable<sup>c</sup></b>	<b>Clearly Unacceptable<sup>d</sup></b>
Single-family, Duplex, Mobile Homes	50 - 60	55 - 70	70 - 75	above 75
Multi-Family Homes	50 - 65	60 - 70	70 - 75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 - 70	60 - 70	70 - 80	above 80
Transient Lodging – Motels, Hotels	50 - 65	60 - 70	70 - 80	above 80
Auditoriums, Concert Halls, Amphitheaters	---	50 - 70	---	above 65
Sports Arena, Outdoor Spectator Sports	---	50 - 75	---	above 70
Playgrounds, Neighborhood Parks	50 - 70	---	67 - 75	above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	---	70 - 80	above 80
Office Buildings, Business and Professional Commercial	50 - 70	67 - 77	---	above 75
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	---	above 75
<sup>a</sup> <i>Normally Acceptable:</i> Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements. <sup>b</sup> <i>Conditionally Acceptable:</i> New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. <sup>c</sup> <i>Normally Unacceptable:</i> New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. <sup>d</sup> <i>Clearly Unacceptable:</i> New construction or development should generally not be undertaken. Source: Office of Noise Control, California Department of Health Services (DHS).				

### Vibration Standards

There are no State vibration standards applicable to the Proposed Project. However, the California Department of Transportation (Caltrans) noted in its 2002 technical publication titled “Transportation Related Earthborne Vibrations (Caltrans Experiences)” that an upper PPV criterion level of 0.08 inch per second is recommended for continuous vibrations to which “ruins and ancient monuments” should be subjected.<sup>3</sup> This criterion level may also be used for historical buildings, or buildings that are in poor condition. For normal dwelling houses with plastered walls and ceilings, Caltrans indicates that a PPV criterion level of 0.20 inch per second is the threshold at which there is a risk of “architectural” damage.

<sup>3</sup> According to Caltrans’ “Transportation Related Earthborne Vibrations (Caltrans Experiences)” publication, continuous vibrations refer to traffic, train, and most construction vibrations, with the exception of pile driving, blasting, and some other types of construction/demolition, February 20, 2002, pg. 10.

## ***Local***

### *City of Downey Noise Regulation*

The City of Downey is the local agency responsible for adopting and implementing policies as they relate to noise levels and its effect on land uses within its jurisdiction. Both acceptable and unacceptable noise levels associated with construction activities, roadway noise levels and ambient noise levels must all be defined and quantified. The City of Downey has numerous ordinances and enforcement practices that apply to intrusive noise as well as ones that guide new construction. The City's comprehensive noise ordinance, found in Chapter VI of the DMC, sets forth sound measurement and criteria, maximum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance to the peace, and legal remedies for violations.

In particular, Section 4600.2 of the DMC prohibits the use of any power tool, machine, or equipment, or any other tool, machine, or equipment, within any R-1, R-2, or R-3 zone between the hours of 10:00 P.M. and 7:00 A.M. in such a manner that the noise there from disturb or interfere with the peace, comfort, or welfare of the neighboring inhabitants.

Section 4600.2 of the DMC also states that no person shall use, operate, or permit to be used or operated within any commercial (C) or manufacturing (M) Zone, which is within 300 feet of a residential use, any power tool, machine, or equipment, or any other tool, machine, or equipment, between the hours of 10:00 P.M. and 7:00 A.M. in such a manner that the noise there from disturb or interfere with the peace, comfort, or welfare of the neighboring residential inhabitants.

Section 4606.5 of the DMC pertains to construction projects and states that construction, repair or remodeling equipment and devices and other related construction noise sources shall be exempted from the provisions of Article IV, Chapter 6 (Unnecessary Noises) of the DMC provided a valid permit for such construction, repair, or remodeling shall have been obtained from the City. However, in any circumstance other than emergency work, no repair or remodeling shall take place between the hours of 9:00 P.M. of one day and 7:00 A.M. of the following day, and no repair or remodeling shall exceed eighty-five (85) db(A) across any property boundary at any time during the course of a twenty-four (24) hour day.

### *City of Downey General Plan Noise Element*

As discussed previously, the California Government Code Section 65302(g) requires that a noise element be included in the General Plan of each county and city in the State. The City of Downey General Plan (Downey Vision 2025), which was adopted on January 25, 2005, contains goals, policies, and programs that are intended to guide land use and development decisions. The General Plan consists of a Land Use Designation Map and the following eight elements, or chapters, which together fulfill the state requirements for a General Plan:

- Land Use Chapter
- Circulation Chapter
- Conservation Chapter
- Noise Chapter
- Safety Chapter
- Open Space Chapter
- Design Chapter
- Economic Development Chapter

The Noise Element of the City of Downey General Plan is intended to identify sources of noise and provide objectives and policies that ensure that noise from various sources does not create an unacceptable noise environment. Overall, the City's Noise Element describes the noise environment (including noise sources) in the City, addresses goals, policies, and programs to achieve and maintain compatible land uses with environmental noise levels.

The City's noise standards are correlated with land use zoning classifications in order to maintain identified ambient noise levels and to limit, mitigate, or eliminate intrusive noise that exceeds the ambient noise levels within a specified zone. The City has adopted local guidelines based, in part, on the community noise compatibility guidelines established by the DHS for use in assessing the compatibility of various land use types with a range of noise levels. These guidelines are set forth in the City's General Plan Noise Element in terms of the CNEL. Thus, the noise/land use compatibility guidelines for land uses within the City of Downey are based on those presented in Table IV.I-4.

In accordance with the Noise Element of the City of Downey General Plan, a noise exposure of up to 60 dBA CNEL is considered to be the most desirable target for the exterior of noise-sensitive land uses, or sensitive receptors, such as homes, schools, churches, parks, hospitals, day-care centers, libraries, etc. Exposures up to 60 dBA CNEL for noise-sensitive uses are considered acceptable if all measures to reduce such exposure have been taken. Noise levels of up to 70 dBA CNEL are considered conditionally acceptable and noise levels above 70 dB CNEL are normally unacceptable for sensitive receptors except in unusual circumstances. In terms of interior noise, a noise exposure of 45 dBA CNEL is considered the most desirable target.

The applicable goals and policies stated in the Noise Element relative to the Proposed Project are as follows:

Goal 6.1: Protect persons from exposure to excessive noise.

Policy 6.1.1: Minimize noise impacts onto noise-sensitive uses.

Program 6.1.1.1: Enforce noise standards.

Program 6.1.1.2: Ensure that new developments within areas with exterior noise at unacceptable noise levels are designed to maintain interior noise levels at acceptable levels.

Program 6.1.1.3: Continue to enforce provisions prohibiting construction activities during noise-sensitive hours.

### *City of Downey Groundborne Vibration Regulation*

The City of Downey has not adopted any thresholds for construction or operational groundborne vibration impacts.

### **Existing Ambient Daytime Noise Levels**

The Project Site is located in an urban area within the City of Downey. The project area can be generally characterized by residential, commercial, and industrial uses mainly centered along the major thoroughfares throughout the area. The Project Site is generally bounded by the Downey Landing Retail Center to the north, Lakewood Boulevard to the west, Steve Horn Way to the south, and Bellflower Boulevard to the east. The Project Site is currently occupied with Downey Studios, a television and movie studio production facility.

### **Noise Monitoring at the Project Site**

Currently, the primary source of noise at the Project Site is traffic noise along the commercial thoroughfares of Lakewood Boulevard and Bellflower Boulevard.

To establish baseline noise conditions at nearby sensitive receptors within the vicinity of the Project Site, existing daytime noise levels were monitored at off-site locations where existing sensitive receptors are located, which includes the residential uses and Alzheimer's/dementia care center west of the Project Site across Lakewood Boulevard, a motel located on Clark Avenue west of the Project Site, residential uses located along Bellflower Boulevard northeast of the Project Site, and Independence Park located southeast of the Project Site across Bellflower Boulevard. Ambient noise measurements were not taken at the Kaiser Hospital site and Discovery Park site, both of which are under construction south of the Project Site, due to limited site access and interference due to construction noise. The noise survey was conducted using the Larson-Davis 831 precision noise meter, which meets and exceeds the minimum industry standard performance requirements for "Type 1" standard instruments as defined in the American National Standard Institute (ANSI) S1.4. This instrument was calibrated and operated according to the manufacturer's written specifications. At the measurement site, the microphone was placed at a height of approximately five feet above the local grade.

At the noise measurement locations, listed in Table IV.I-5, Existing Daytime Noise Levels at Sensitive Off-site Locations, the sound level meter was programmed to record the average sound level ( $L_{eq}$ ) over a cumulative period of 15 minutes, in accordance with Section 4606.6 of the DMC. The average noise levels and sources of noise monitored at these locations are shown in Table IV.I-5, with the locations identified in Figure IV.I-1, Noise Monitoring Locations.

**Table IV.I-5  
Existing Daytime Noise Levels at Sensitive Off-site Locations**

Noise Measurement Location	Primary Noise Sources	Noise Level Statistics		
		L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>
1. Lakewood Boulevard near the Alzheimer's/dementia care facility	Roadway traffic on Lakewood Boulevard	68.3	47.6	87.3
2. Lakewood Boulevard near single-family residences	Roadway traffic on Lakewood Boulevard	58.4	45.3	72.0
3. Clark Avenue near the motel	Roadway traffic on Clark Avenue and Lakewood Boulevard	65.7	51.4	87.6
4. Bellflower Boulevard near multi-family residences	Roadway traffic on Bellflower Boulevard	71.1	50.8	89.1
5. Bellflower Boulevard near Independence Park	Roadway traffic on Bellflower Boulevard	67.5	80.9	53.4

*Source: Christopher A Joseph and Associates, 2008. Noise measurement data are provided in Appendix IV.I-1.*

### Existing Roadway Noise Levels Offsite

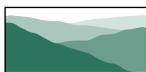
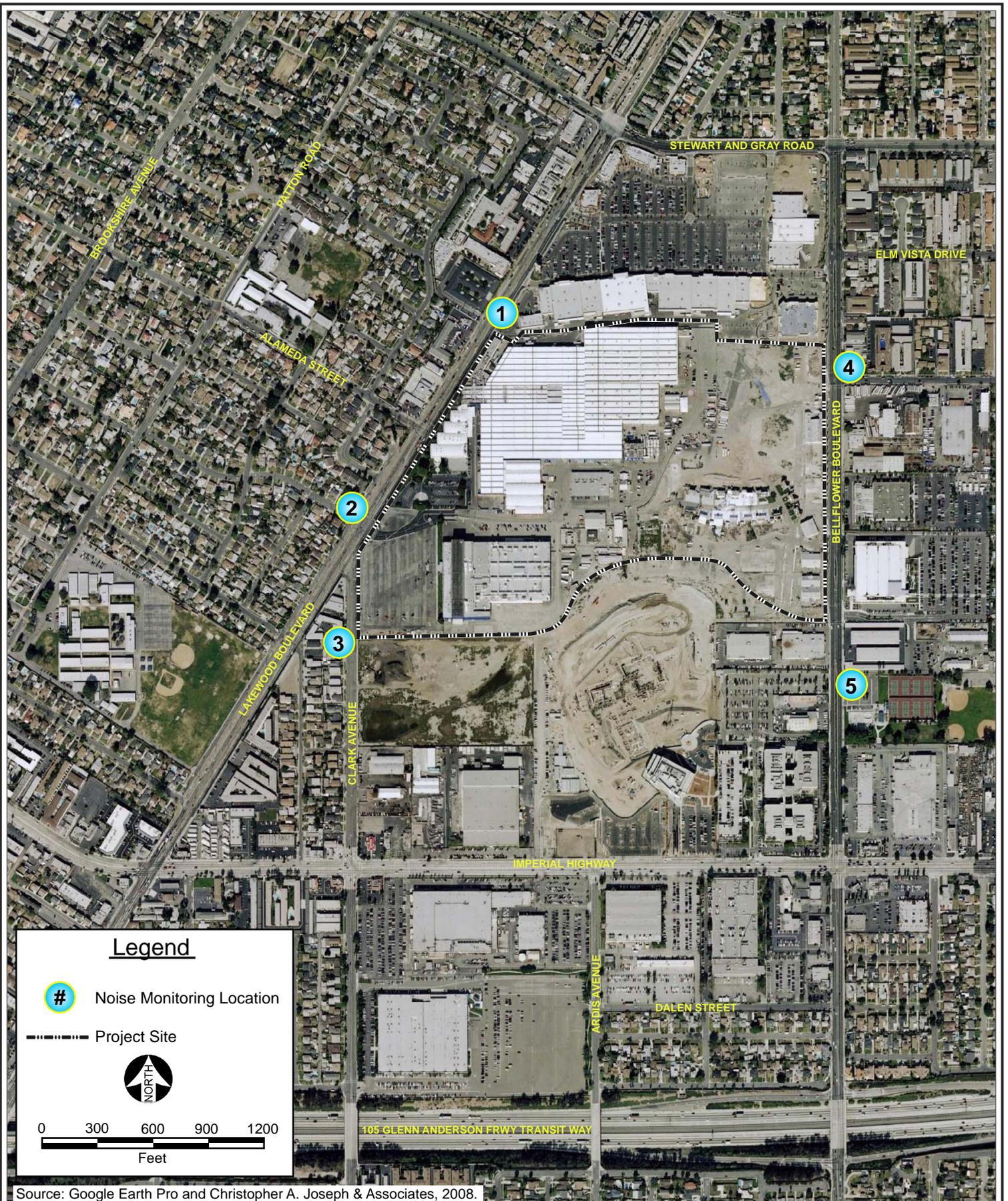
Existing roadway noise levels were calculated for ten roadway segments located in close proximity to the Project Site. These ten roadway segments were chosen because they are most representative of the sources of road noise for the Proposed Project. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in Table IV.I-6, Existing (2008) Roadway Noise Levels Off-site.<sup>4</sup>

### Existing Groundborne Vibration Levels

The only sources of groundborne vibration in the vicinity of the Project Site are heavy-duty vehicular travel (e.g., refuse trucks, delivery trucks, and transit buses) on local roadways. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, and these levels could reach 72 VdB where trucks and buses pass over bumps in the road.<sup>5</sup> In terms of PPV levels, a heavy-duty vehicle traveling at a distance of 50 feet can result in a vibration level of approximately 0.001 inch per second.

<sup>4</sup> Table IV.I-6 indicates noise levels at 50 feet from the centerline of each roadway segment.

<sup>5</sup> Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.



**Table IV.I-6  
Existing (2008) Roadway Noise Levels Off-site**

<b>Roadway</b>	<b>Roadway Segment</b>	<b>Existing Land Uses Located Along Roadway Segment</b>	<b>dBA CNEL<sup>a</sup></b>
Imperial Highway	West of Bellflower Boulevard	Commercial, Industrial	71.7
	East of Bellflower Boulevard	Commercial, Industrial	71.7
Bellflower Boulevard	Between Imperial Highway and Lakewood Boulevard	Industrial, Commercial, Multi-family Residential, Recreational, Medical	69.1
	South of Imperial Highway	Commercial, Residential	69.8
Stewart and Gray Road	Between Bellflower Boulevard and Lakewood Boulevard	Commercial, Residential	67.8
	Between Paramount Boulevard and Lakewood Boulevard	Commercial, Residential	67.6
	West of Firestone Boulevard	Commercial, Industrial	66.5
Lakewood Boulevard	North of Stewart and Gray Road	Commercial, Residential	69.1
	South of Stewart and Gray Road	Commercial, Residential	69.7
	South of Gallatin Road	Commercial, Residential	70.5

<sup>a</sup> Values represent noise levels at 50 feet from the centerline of each roadway.  
Traffic Information Source: Raju Associates., 2008.  
Table Source: Christopher A. Joseph and Associates, 2008. Calculation data and results are provided in Appendix IV.I-1.

## ENVIRONMENTAL IMPACTS

### Methodology

Implementation of the Proposed Project could result in the introduction of noise levels that may exceed permitted City noise levels. The primary sources of noise associated with the Proposed Project would be construction activities at the Project Site and project-related traffic volumes associated with operation of the proposed residential and commercial developments. Secondary sources of noise would include new stationary sources (such as heating, ventilation, and air conditioning units) and increased human activity throughout the Project Site. The net increase in Project Site noise levels generated by these activities and other sources have been quantitatively estimated and compared to the applicable noise standards and thresholds of significance.

Aside from noise levels, groundborne vibration would also be generated during the construction phase of the Proposed Project by various construction-related activities and equipment. Thus, the groundborne vibration levels generated by these sources have also been quantitatively estimated and compared to applicable thresholds of significance.

### Construction Noise Levels

Construction noise levels were estimated by data published by the United States Environmental Protection Agency (U.S. EPA). These noise levels are then analyzed against the construction noise standards established in the DMC to determine whether an exceedance of allowable noise levels would occur across any adjacent property boundaries.

### ***Roadway Noise Levels***

Roadway noise levels have been calculated for selected study area intersection segments near the Project Site based on information provided in the traffic report for the Proposed Project. The roadway segments selected for analysis are expected to be most directly impacted by Project-related traffic, which, for the purpose of this analysis, includes the roadways nearest to the Project Site that also run in front of the identified noise-sensitive receptors. These roadways, when compared to roadways located further away from the Project Site, would experience the greatest percentage increase in traffic generated by the project. The noise levels were calculated using the FHWA-RD-77-108 model and traffic volumes from the project traffic analysis. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by the State Department of Transportation (Caltrans).

### ***Groundborne Vibration Associated with Project Construction and Operation***

Groundborne vibration levels resulting from construction activities occurring within the Project Site were estimated by data published by Harris Miller Miller & Hanson Inc. for the Federal Transit Authority (FTA). Potential vibration levels resulting from construction of the Proposed Project are identified for off-site locations that are sensitive to vibration, including existing residences, based on their distance from the Project Site. The resulting vibration levels at the off-site sensitive locations are then analyzed against the vibration thresholds established by the FTA and Caltrans to determine whether an exceedance of allowable vibration levels would occur at the off-site locations that are sensitive to vibration.<sup>6</sup>

### **Thresholds of Significance**

#### ***Appendix G of the State CEQA Guidelines***

In accordance with Appendix G to the State CEQA Guidelines, a project would have a significant effect on the environment if it would result in any of the following:

- (a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- (b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- (c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

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<sup>6</sup> *Project vibration is analyzed against FTA and Caltrans standards because the City of Downey has not adopted any thresholds for construction or operational groundborne vibration impacts.*

- (d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without 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 airstrip, expose people residing or working in the project area to excessive noise levels; and
- (f) For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

The State CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered “substantial.” Therefore, for the purpose of this analysis, the following thresholds will be used to determine if the Proposed Project would result in a significant impact:

- In compliance with DMC Section 4606.5, construction activities shall not take place between the hours of 9:00 P.M. one day and 7:00 A.M. the following day and no repair or remodeling shall exceed 85 dBA across any property boundary at any time during the course of a 24 hour day.
- In compliance with DMC Section 4600.2, any powered equipment or powered hand tool within an R-1, R-2, or R-3 zone shall not be used between the hours of 10:00 P.M. and 7:00 A.M. Section 4600.2 also prohibits the use of powered equipment or powered hand tools in C or M zones located within 300 feet of residential uses between the hours of 10:00 P.M. and 7:00 A.M.

If the Proposed Project does not comply with these noise standards, a significant impact would occur.

It should be noted that any increase in noise that is less than 3 dBA would not represent a perceptible increase, as previously mentioned. Any increase above 3 dBA would be perceptible, however. Accordingly, if Project operations result in an increase in noise that exceeds 3 dBA, a significant impact would occur.

The State CEQA Guidelines also do not define the levels at which groundborne vibration or groundborne noises are considered “excessive.” Thus, in terms of construction-related vibration impacts on buildings, the adopted guidelines/recommendations by the FTA and Caltrans to limit groundborne vibration based on the age and/or condition of the structures that are located in close proximity to construction activity are used in this analysis to evaluate potential groundborne vibration impacts. As the PPV vibration standard of 0.08 inch-per-second recommended by Caltrans for historical buildings or buildings that are in poor condition is more stringent than the FTA’s adopted criteria of 0.12 inch-per-second for buildings that are extremely susceptible to vibration damage, the Caltrans recommended standard will be used in this analysis for historic buildings. Based on the FTA and Caltrans criteria, construction impacts relative to groundborne vibration would be considered significant if the following were to occur:

- Project construction activities would cause a PPV groundborne vibration level to exceed 0.5 inches per second at any building that is constructed with reinforced-concrete, steel, or timber;

- Project construction activities would cause a PPV groundborne vibration level to exceed 0.3 inches per second at any engineered concrete and masonry buildings;
- Project construction activities would cause a PPV groundborne vibration level to exceed 0.2 inches per second at any non-engineered timber and masonry buildings; and
- Project construction activities would cause a PPV ground-borne vibration level to exceed 0.08 inches per second at any historical building or building that is extremely susceptible to vibration damage.

In terms of groundborne vibration impacts associated with human annoyance, this analysis uses the FTA's vibration impact thresholds for sensitive buildings, residences, and institutional land uses under conditions where there are an infrequent number of events per day. These thresholds are 65 VdB at buildings where vibration would interfere with interior operations, 80 VdB at residences and buildings where people normally sleep, and 83 VdB at other institutional buildings.<sup>7</sup> The 65 VdB threshold applies to typical land uses where vibration would interfere with interior operations, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipments include, but are not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. The 80 VdB threshold applies to all residential land uses and any buildings where people sleep, such as hotels and hospitals. The 83 VdB threshold applies to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

## **Project Impacts**

### ***Construction Noise***

Project development would require the use of heavy equipment for site demolition, grading and excavation, installation of utilities, paving, and building fabrication. Development activities would also involve the use of smaller power tools, generators, and other sources of noise. During each stage of development, there would be a different mix of equipment operating and noise levels would vary based on the amount of equipment in operation and the location of the activity.

The U.S. EPA has compiled data for outdoor noise levels for typical construction activities, both with and without the use of equipment mufflers. These data are presented in Table IV.I-7, Typical Outdoor Construction Noise Levels. These noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 84 dBA  $L_{eq}$  measured at 50 feet from the noise source to the receptor would reduce to 78 dBA  $L_{eq}$  at 100 feet from the source to the receptor, and reduce by another 6 dBA  $L_{eq}$  to 72 dBA  $L_{eq}$  at 200 feet from the source to the receptor.

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<sup>7</sup> Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

**Table IV.I-7  
Typical Outdoor Construction Noise Levels**

<b>Construction Phase</b>	<b>Noise Levels at 50 Feet with Mufflers (dBA L<sub>eq</sub>)</b>	<b>Noise Levels at 60 Feet with Mufflers (dBA L<sub>eq</sub>)</b>	<b>Noise Levels at 100 Feet with Mufflers (dBA L<sub>eq</sub>)</b>	<b>Noise Levels at 200 Feet with Mufflers (dBA L<sub>eq</sub>)</b>
Ground Clearing	82	80	76	70
Grading	86	84	80	74
Foundations	77	75	71	65
Structural	83	81	77	71
Finishing	86	84	80	74
<i>Source: U.S. Environmental Protection Agency, 1971.</i>				

Land uses on the properties surrounding the Project Site include a mix of commercial, residential, medical, and industrial uses. As stated in Section 4606.5 of the DMC, no repair or remodeling shall exceed eighty-five (85) dBA across any property boundary at any time during the course of a twenty-four (24) hour day. Thus, based on the noise levels shown in Table IV.I-7, it is likely that construction noise would exceed 85 dBA across the property boundary of the Project Site, and noise levels at adjacent uses could experience noise levels above 85 dBA.

It should be noted, however, that the increase in noise levels at the off-site locations during construction at the Project Site would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from grading and construction are possible. Implementation of Mitigation Measures I-1 through I-8, which would require the implementation of noise reduction devices and techniques during construction at the Project Site, would serve to reduce the noise levels associated with construction of the Proposed Project to the maximum extent feasible. Specifically, Mitigation Measure I-2 would restrict construction activities to the hours of 7:00 A.M. to 7:00 P.M. and no construction would be allowed on Sundays and holidays. Nevertheless, construction of the Proposed Project would still have the potential to exceed the 85 dBA across the property boundary of surrounding uses. Thus, as construction noise generated by the Proposed Project could exceed the maximum level set forth in Section 4606.5 of the DMC, a significant construction-related impact would occur.

### ***Construction Vibration***

Construction activities that would occur within the Project Site would include demolition and grading, which would have the potential to generate low levels of groundborne vibration. Table IV.I-8, Vibration Source Levels for Construction Equipment, identifies various PPV and RMS velocity (in VdB) levels for the types of construction equipment that would operate during the construction of the Proposed Project. Based on the information presented in Table IV.I-8, vibration velocities could reach as high as approximately 0.089 inch-per-second PPV at 25 feet from the source activity, depending on the type of construction equipment in use. This corresponds to a RMS velocity level (in VdB) of 87 VdB at 25 feet from the source activity.

**Table IV.I-8  
Vibration Source Levels for Construction Equipment**

Equipment	Approximate PPV (in/sec)					Approximate RMS (VdB)				
	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet	25 Feet	50 Feet	60 Feet	75 Feet	100 Feet
Large Bulldozer	0.089	0.031	0.024	0.017	0.011	87	78	76	73	69
Loaded Trucks	0.076	0.027	0.020	0.015	0.010	86	77	75	72	68
Jackhammer	0.035	0.012	0.009	0.007	0.004	79	70	68	65	61
Small Bulldozer	0.003	0.001	0.0008	0.0006	0.0004	58	49	47	44	40

*Source: Federal Transit Administration 2006; and Christopher A. Joseph & Associates 2008.*

Construction activities would have the potential to impact the nearest sensitive receptor, which is the motel located approximately 75 feet west of the Project Site. Table IV.I-9, Groundborne Vibration Levels at Nearest Off-site Sensitive Uses From Construction, shows the peak construction-related groundborne vibration levels that could occur at the off-site sensitive receptors during construction at the Project Site.

**Table IV.I-9  
Groundborne Vibration Levels at Nearest Off-site Sensitive Uses From Construction**

Off-site Sensitive Land Use	Approximate Distance to Project Site (ft.)	Estimated PPV (in/sec) <sup>a</sup>	Estimated Construction-Related Groundborne Vibration Levels (VdB) <sup>b</sup>
Motel	75	0.017	72.69
Single-family residences	90	0.013	70.31
Multi-family residences	95	0.012	69.61
Alzheimer's/dementia care facility	150	0.006	63.67
Kaiser Hospital	350	0.002	52.62

<sup>a</sup> The vibration velocities at the off-site sensitive uses are determined with the following equation from the Federal Transit Administration's Transit Noise and Vibration Impact Assessment, Final Report:  $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ , where  $PPV_{equip}$  = peak particle velocity in in/sec of equipment,  $PPV_{ref}$  = reference vibration level in in/sec at 25 feet,  $D$  = distance from the equipment to the receive.

<sup>b</sup> The vibration levels at the off-site sensitive uses are determined with the following equation from FTA's Transit Noise and Vibration Impact Assessment, Final Report:  $L_v(D) = L_v(25\text{ ft}) - 30\log(D/25)$ , where  $L_v$  = vibration level of equipment,  $D$  = distance from the equipment to the receiver,  $L_v(25\text{ ft})$  = vibration level of equipment at 25 feet.

*Source: Christopher A. Joseph and Associates, August 2008.*

As shown in Table IV.I-9, the maximum vibration velocity forecasted to occur would be approximately 0.017 PPV at the motel located approximately 75 feet from the Project Site. For the purpose of this analysis, the motel, residences, and Alzheimer's/dementia care center sensitive-uses are considered to be "non-engineered timber and masonry buildings," which has a threshold of 0.2 PPV and Kaiser Hospital is considered to be an "engineered concrete and masonry building," which has a threshold of 0.3 PPV.

Based on the information shown in Table IV.I-9, none of the sensitive receptors would experience a PPV groundborne vibration level that exceeds 0.3 inch-per-second. Thus, in terms of building damage,

impacts associated with groundborne vibration at these sensitive receptors resulting from construction of the Proposed Project at the Project Site would be less than significant.

In terms of human annoyance, the vibration level forecasted to occur at the sensitive receptors would range from 52.62 VdB at Kaiser Hospital to 72.69 VdB at the motel. This does not exceed the FTA's threshold of 65 VdB for hospitals with vibration-sensitive uses. While it is not known if Kaiser Hospital will house vibration-sensitive equipment, the possibility exists and therefore, the threshold of 65 VdB is applied for a conservative analysis. As for the remaining sensitive uses, The FTA threshold of 80 VdB is applied for places where people normally sleep and as shown in Table IV.I-9, the vibration level at the residential, motel, and Alzheimer's/dementia care uses would not exceed the FTA's threshold of 80 VdB. Therefore, vibration impacts associated with human annoyance would be less than significant.

It should also be noted that the construction activities associated with the Proposed Project would be required to comply with Section 4606.5 of the DMC, which prohibits construction activities between the hours of 9:00 P.M. and 7:00 A.M. In addition, Mitigation Measure I-2 would further restrict construction hours to 7:00 A.M. to 7:00 P.M. and none on Sundays and holidays. Thus, none of the construction activities at the Project Site would occur during recognized sleep hours. Implementation of Mitigation Measure I-3, which serves to locate groundborne vibration construction activities as far as possible from the nearest vibration-sensitive land uses, would reduce the vibration levels experienced at these sensitive receptors to the maximum extent feasible. Therefore, vibration impacts associated with construction of the Proposed Project would be less than significant.

### ***Operational Noise – Vehicular***

Locations in the vicinity of the Project Site could experience slight changes in noise levels as a result of an increase in motor vehicle trips associated with the Proposed Project. The Federal Highway Administration's (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108), which calculates the CNEL noise level for a particular reference set of input conditions, based on site-specific traffic volumes, distances, speeds and/or noise barriers, was used to determine whether the increase in traffic activity associated with the Proposed Project would result in a significant increase in traffic-related noise at various roadway segments in the vicinity of the Project Site. Based on the traffic report prepared for the Proposed Project, included as Appendix IV.I-1, in combination with an analysis of the surrounding land uses, roadway noise levels were forecasted to determine if the Proposed Project's vehicular traffic would result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project. The changes in future noise levels associated with the Proposed Project along the roadway segments in the immediate project vicinity are identified in Table IV.I-10, Project Roadway Noise Impacts Associated With the Proposed Project.

As discussed under "Environmental Setting," it is widely accepted that in the community noise environment, the average healthy ear can barely perceive CNEL noise level changes of three dBA. CNEL changes from three to five dBA may be noticed by some individuals who are extremely sensitive to changes in noise. A five dBA CNEL increase is readily noticeable, while the human ear perceives a ten dBA CNEL increase as a doubling of sound. In the absence of specific thresholds for vehicular noise and

**Table IV.I-10  
Project Roadway Noise Impacts Associated With the Proposed Project**

Roadway	Existing Land Uses Located Along Roadway Segment	Noise Levels in dBA CNEL				
		Future (2020) Without Project Traffic Volumes	Future (2020) With Project Traffic Volumes	Increase	Significance Threshold <sup>a</sup>	Significant Impact?
Imperial Highway west of Bellflower Boulevard	Commercial, Industrial	71.9	72.0	0.1	3.0	No
Imperial Highway east of Bellflower Boulevard	Commercial, Industrial	71.9	72.1	0.2	3.0	No
Bellflower Boulevard between Imperial Highway and Lakewood Boulevard	Industrial, Commercial, Residential, Recreational, Medical	69.4	70.2	0.8	3.0	No
Bellflower Boulevard south of Imperial Highway	Commercial, Residential	70.1	70.6	0.5	3.0	No
Stewart and Gray Road between Bellflower Boulevard and Lakewood Boulevard	Commercial, Residential	68.1	68.1	0.0	3.0	No
Stewart and Gray Road between Paramount Boulevard and Lakewood Boulevard	Commercial, Residential	67.9	68.0	0.1	3.0	No
Stewart and Gray Road west of Firestone Boulevard	Commercial, Industrial	66.7	67.5	0.8	3.0	No
Lakewood Boulevard north of Stewart and Gray Road	Commercial, Residential	69.6	70.4	0.8	3.0	No
Lakewood Boulevard south of Stewart and Gray Road	Commercial, Residential	69.9	70.9	1.0	3.0	No
Lakewood Boulevard south of Gallatin Road	Commercial, Residential	70.8	71.1	0.3	3.0	No

<sup>a</sup> A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL. Thus, for the purpose of this analysis, the significance threshold is 3 dBA if the noise increase is resulting from the Proposed Project.

Source: Christopher A. Joseph and Associates, 2008. Calculation data and results are provided in Appendix IV.I-1.  
Traffic Information Source: Raju Associates, 2008.

for the purpose of this analysis, any increase in noise that is less than three dBA would not be a perceptible noise increase and would not be significant. As shown in Table IV.I-10, the increase in local traffic noise levels resulting from operation of the Proposed Project would not exceed the identified thresholds of significance. Overall, any increases in local noise levels at the property line of affected uses at all of the analyzed roadway segments would be one (1) dBA CNEL or less from operation of the Proposed Project.

Thus, the Proposed Project would not cause the ambient noise levels at the property line of these affected uses to increase by three dBA CNEL. Consequently, the noise levels experienced at the analyzed roadway segments would not represent a substantial permanent increase in ambient noise levels, and impacts at these roadway segments would be less than significant.

### ***On-Site Non-Vehicular Noise***

Upon completion and operation of the Proposed Project, on-site operational noise would be generated by heating, ventilation, and air conditioning (HVAC) units installed for the proposed uses at the Project Site. Consequently, the noise levels generated by the HVAC units could potentially disturb the new proposed residential uses to be located on the Project Site. However, the design of the on-site HVAC units and other noise-generating mechanical equipment associated with the Proposed Project would be prohibited from exceeding three (3) dBA above the ambient noise level at any period during the course of a twenty-four (24) hour day. This would apply to noise from air conditioning, refrigeration, heating, pumping, and filtering equipment. Thus, the on-site equipment is required to be designed such that it would be shielded and appropriate noise muffling devices would be installed on the equipment to reduce noise levels that affect nearby noise-sensitive uses. In addition, nighttime noise limits would be applicable to any equipment items required to operate between the hours of 10:00 P.M. and 7:00 A.M. On this basis, a significant acoustical impact on the proposed residential uses on the Project Site from on-site operations of the HVAC units is not predicted. As such, this impact would be less than significant. Nonetheless, in order to ensure that on-site operational noise would not adversely affect the new residents/guests at the Project Site, Mitigation Measure I-10 would be implemented to ensure that all new mechanical equipment associated with the Proposed Project would not result in an increase of more than three (3) dBA, while Mitigation Measure I-11 would be implemented to ensure that the residential units associated with the Proposed Project would be constructed in accordance with Title 24 insulation standards of the California Code of Regulations for residential buildings. Furthermore, implementation of Mitigation Measure I-12 would require all exterior windows associated with the proposed residential uses to be constructed such that sufficient sound insulation is provided to ensure that interior noise levels would be below a CNEL of 45 dBA in any habitable room.

### ***Parking Facility Noise***

Noise would also be generated by activities within the Project Site by the proposed parking structures. Automobile movements would comprise the most continuous noise source at the parking structures and would generate a noise level of approximately 56 dBA  $L_{eq}$  (one-hour) at a distance of 50 feet, while car alarm and horn events, which would occur less frequently, would generate maximum noise levels as high

as 49 dBA  $L_{eq}$  (one-hour) at a distance of 50 feet. Overall a composite noise level of 60 dBA  $L_{eq}$  (one-hour) at a distance of 50 feet is typically associated with parking structures.<sup>8</sup>

The nearest off-site, noise-sensitive receptor to the Project Site is the motel located approximately 75 feet west across Clark Avenue. Based on this distance, this nearest sensitive receptor would experience noise levels associated with parking facilities that would be approximately 56 dBA  $L_{eq}$ . Given that the exterior-to-interior noise reduction of residential units in California is generally 25 dBA with closed windows, the interior noise levels at the nearest sensitive receptor would not exceed 45 dBA. Therefore, impacts associated with noise generated as a result of the operation of the proposed parking structures would be less than significant.

## CUMULATIVE IMPACTS

This cumulative impact analysis considers development of the Proposed Project in combination with ambient growth and other development projects within the vicinity of the Proposed Project. As noise is a localized phenomenon, and drastically reduces in magnitude as distance from the source increases, only projects and ambient growth in the nearby area could combine with the Proposed Project to result in cumulative noise impacts.

Development of the Proposed Project in combination with the related projects would result in an increase in construction-related and traffic-related noise in this already urbanized area of the City. However, each of the related projects would be subject to DMC Section 4606.5, which limits the hours of allowable construction activities. In addition, each of the related projects would be subject to Section 4600.2 of the DMC, which prohibits any powered equipment or powered hand tool within an R-1, R-2, or R-3 zone between the hours of 10:00 P.M. and 7:00 A.M. Section 4600.2 also prohibits the use of powered equipment or powered hand tools in C or M zones located within 300 feet of residential uses between the hours of 10:00 P.M. and 7:00 A.M.

Future construction associated with the related projects could result in a cumulatively significant impact with respect to temporary or periodic increases in ambient noise levels. Construction noise is localized in nature and decreases substantially with distance. Consequently, in order to achieve a substantial cumulative increase in construction noise levels, more than one source emitting high levels of construction noise would need to be in close proximity to the Proposed Project. The nearest related project to the Project Site is the Desert Reign Church and Davita Dialysis Clinic located at 11610 Lakewood Boulevard, which is located approximately 0.4 miles (approximately 2,112 feet) north of the Project Site. Due to this distance, and along with the numerous intervening structures located between these two sites, a substantial increase in construction noise levels would not occur should construction for this related project occur at the same time as the Proposed Project. Therefore, this cumulative impact would be less than significant.

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<sup>8</sup> *The Los Angeles Grand Avenue Authority and the City of Los Angeles Community Redevelopment Agency, The Grand Avenue Project Draft Environmental Impact Report, June 2006.*

Cumulative development in the City may result in the exposure of people to or the generation of excessive groundborne vibration. As mentioned above, the nearest related project to the Proposed Project is the Desert Reign Church and Davita Dialysis Clinic located on approximately 0.4 miles north of the Project Site. The Proposed Project and this related project are not in close enough proximity to each other to affect the same sensitive receptors. Only receptors located in close proximity to each construction site would be potentially impacted by each development. Therefore, future development would result in a less than significant cumulative impact in terms of groundborne vibration.

Cumulative mobile source noise impacts would occur primarily as a result of increased traffic on local roadways due to the Proposed Project and related projects within the study area. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of the Proposed Project to the future year 2020 cumulative base traffic volumes on the roadway segments in the project vicinity. The noise levels associated with existing traffic volumes and cumulative base traffic volumes with the Proposed Project (i.e., future cumulative traffic volumes) are identified in Table IV.I-11, Cumulative Project Roadway Noise Impacts Associated With Proposed Project. As shown, cumulative development along with the Proposed Project would increase local noise levels by a maximum of 1.3 dBA CNEL at the segment of Lakewood Boulevard, north of Stewart and Gray Road. As this noise level would be below the three dBA CNEL significance threshold, roadway noise impacts due to cumulative traffic volumes would be less than significant.

**Table IV.I-11  
Cumulative Project Roadway Noise Impacts Associated With the Proposed Project**

Roadway	Noise Levels in dBA CNEL				
	Existing (2008) Traffic Volumes	Future (2020) Without Project Traffic Volumes	Future (2020) With Project Traffic Volumes	Cumulative Increase	Project Contribution
Imperial Highway west of Bellflower Boulevard	71.7	71.9	72.0	0.8	0.1
Imperial Highway east of Bellflower Boulevard	71.7	71.9	72.1	0.4	0.2
Bellflower Boulevard between Imperial Highway and Lakewood Boulevard	69.1	69.4	70.2	1.1	0.8
Bellflower Boulevard south of Imperial Highway	69.8	70.1	70.6	0.8	0.5
Stewart and Gray Road between Bellflower Boulevard and Lakewood Boulevard	67.8	68.1	68.1	0.3	0.0
Stewart and Gray Road between Paramount Boulevard and Lakewood Boulevard	67.6	67.9	68.0	0.4	0.1
Stewart and Gray Road west of Firestone Boulevard	66.5	66.7	67.5	1.0	0.8

**Table IV.I-11  
Cumulative Project Roadway Noise Impacts Associated With the Proposed Project**

Roadway	Noise Levels in dBA CNEL				
	Existing (2008) Traffic Volumes	Future (2020) Without Project Traffic Volumes	Future (2020) With Project Traffic Volumes	Cumulative Increase	Project Contribution
Lakewood Boulevard north of Stewart and Gray Road	69.1	69.6	70.4	1.3	0.8
Lakewood Boulevard south of Stewart and Gray Road	69.7	69.9	70.9	1.2	1.0
Lakewood Boulevard south of Gallatin Road	70.5	70.8	71.1	0.6	0.3
<i>Source: Christopher A. Joseph and Associates, 2008. Calculation data and results are provided in Appendix IV.I-1. Traffic Information Source: Raju Associates, 2008.</i>					

## MITIGATION MEASURES

The following mitigation measures are recommended to address construction-related noise and vibration impacts, and operational-related noise impacts for the development of the Proposed Project:

### Construction Noise

- I-1. The Proposed Project shall comply with the City of Downey Municipal Code, Article IV, Chapter 6, and any subsequent ordinances, which prohibit the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.
- I-2. Construction activities shall be restricted to the hours of 7:00 A.M. to 7:00 P.M and no construction on Sundays and holidays.
- I-3. Noise and groundborne vibration construction activities whose specific location on the Project Site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise- and vibration-sensitive land uses.
- I-4. Construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- I-5. To the extent feasible, the use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of drills, jackhammers, and pile drivers.
- I-6. Project contractor(s) shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

- I-7. Barriers such as plywood structures or flexible sound control curtains shall be erected around the Project Site to minimize the amount of noise on the surrounding off-site sensitive receptors to the maximum extent feasible during construction.
- I-8. All construction truck traffic shall be restricted to truck routes approved by the City of Downey, which shall avoid residential areas and other sensitive receptors to the extent feasible.

### **Operational Noise**

- I-9. All new mechanical equipment shall not exceed the ambient noise level on the premises of other occupied properties by more than three decibels.
- I-10. The Project Applicant shall comply with the Noise Insulation Standards of Title 24 of the California Code Regulations, which ensure an acceptable interior noise environment.
- I-11. All exterior windows within the residential units on the Project Site shall be constructed with double-pane glass and use exterior wall construction which provides a Sound Transmission Class of 50 or greater as defined in UBC No. 35-1, 1979 edition or any amendment thereto. The applicant, as an alternative, may retain an acoustical engineer to submit evidence, along with the application for a building permit, any alternative means of sound insulation sufficient to mitigate interior noise levels below a CNEL of 45 dBA in any habitable room.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Project compliance with Section 4606.5 of the DMC and the implementation of the Mitigation Measures I-1 through I-8 listed above, would reduce construction-related noise impacts associated with the Proposed Project to the greatest extent feasible. Nevertheless, because construction noise levels are likely to exceed 85 dBA across property boundaries, construction noise impacts would be significant and unavoidable.

The construction-related vibration impacts associated with the Proposed Project would be less than significant at all of the surrounding sensitive receptors. Furthermore, with implementation of Mitigation Measure I-3, which serves to locate vibration-generating equipment and vehicles as far away from vibration-sensitive sites as possible, the construction-related vibration levels experienced by the existing off-site sensitive receptors surrounding the Project Site would be further reduced in magnitude. Overall, vibration impacts associated with the Proposed Project would be less than significant.

Implementation of Mitigation Measure I-9 prohibits noise sources not operating within a public right-of-way from exceeding the ambient noise level on the premises of other occupied properties by more than three decibels. In addition, implementation of Mitigation Measures I-10 and I-11, which would require the Proposed Project to be constructed in compliance with Title 24 noise insulation standards as well as requiring that sufficient sound insulation be provided such that the interior noise levels at the proposed

residential units on-site would be below a CNEL of 45 dBA in any habitable room, would ensure that impacts associated with interior noise levels would be less than significant.

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## **IV. ENVIRONMENTAL IMPACT ANALYSIS**

### **J. POPULATION, HOUSING, AND EMPLOYMENT**

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#### **INTRODUCTION**

This section evaluates the Proposed Project in terms of the Southern California Association of Governments' (SCAG) population, housing, and employment growth forecasts for the City of Downey within the Gateway Cities Council of Governments (GCCOG) Subregion. It also evaluates whether the Proposed Project would cause growth that exceeds projected or planned growth for the project area through the development of infrastructure and whether the Proposed Project would displace housing or residents necessitating replacement housing elsewhere.

#### **ENVIRONMENTAL SETTING**

As part of its comprehensive planning process for the Southern California region, SCAG has divided the region into 14 subregions. The Project Site is located within the City of Downey with the Gateway Cities Council of Governments subregion, which includes 26 other cities in the southeast Los Angeles County area. In 2003, the City of Downey had a population of approximately 112,184 persons, as well as approximately 34,176 households, and employment for 39,053 persons (see Table IV.J-1). SCAG forecasts that by the year 2015, the City of Downey will have a projected total population of 118,011 persons (an increase of 5.2 percent from the year 2003), 35,279 households (an increase of 3.2 percent), and will provide employment for 41,544 persons (an increase of 6.3 percent). For the period of 2015 to 2020, forecasted growth in the City of Downey continues, the Citywide population is expected to reach 120,208 persons (an increase of 1.9 percent over the year 2015), 35,818 households (an increase of 1.5 percent), and employment will total 42,160 jobs (an increase of 1.5 percent).

#### **Tierra Luna Specific Plan Area**

The Project Site is currently developed with the Downey Studios facility, a television and movie studio production facility including studio, production, and office uses, an outdoor suburban street movie set, 20 acres of back lot space, and associated parking lots. The Project Site is also a former aircraft manufacturing and National Aeronautics and Space Administration (NASA) industrial facility with connections to the U.S. manned spaceflight program dating to the 1960s. A total of 25 buildings, totaling approximately 1,500,000 square feet of development, related to this industry and the aforementioned Downey Studios exist on the Project Site.

#### **Census Tract**

The Tierra Luna Specific Plan Area is located entirely within Census Tract 5511.00. According to SCAG data and projections, Census Tract 5511 had a year 2003 population of 10,137 persons, contained 2,925

housing units, and provided employment for 6,917 persons (see Table IV.J-1).<sup>1</sup> By 2010, SCAG forecasts this census tract will have a total population of 10,519 persons, 2,978 households, and employment for 7,283 persons. SCAG forecasts that for the year 2015, the census tract will have a population of 10,724 persons, 3,024 households, and employment for 7,509 persons. By the year 2020, SCAG forecasts a population of 10,937 persons, 3,073 households, and employment for 7,646 persons in Census Tract 5511.

**Table IV.J-1  
Population, Housing, and Employment Forecasts for the City of Downey**

Area	Population	Housing	Employment
<b>City of Downey</b>			
--2003 Regional Transportation Plan Data	112,184	34,176	39,053
<b>--SCAG Forecasts</b>			
2010	115,973	34,767	40,580
2015	118,011	35,279	41,544
2020	120,208	35,818	42,160
2025	122,324	36,239	42,885
2030	124,358	36,646	43,658
<b>--Percent Change</b>			
2003 to 2010	+3.4%	+1.7%	+3.9%
2010 to 2015	+1.8%	+1.5%	+2.4%
2015 to 2020	+1.9%	+1.5%	+1.5%
2020 to 2025	+1.8%	+1.2%	+1.7%
2025 to 2030	+1.7%	+1.1%	+1.8%
<b>Census Tract 5511.00</b>			
--2003 Regional Transportation Plan Data	10,137	2,925	6,917
<b>--SCAG Forecasts</b>			
2010	10,519	2,978	7,283
2015	10,724	3,024	7,509
2020	10,937	3,073	7,646
2025	11,142	3,111	7,807
2030	11,338	3,147	7,978
<b>--Percent Change</b>			
2003 to 2010	+3.8%	+1.8%	+5.3%
2010 to 2015	+1.9%	+1.5%	+3.1%
2015 to 2020	+2.0%	+1.6%	+1.8%
2020 to 2025	+1.9%	+1.2%	+2.1%

<sup>1</sup> SCAG Forecast 2007. This is the most current forecast adopted by SCAG and reflects the year 2003 Census data from the Regional Transportation Plan.

**Table IV.J-1  
Population, Housing, and Employment Forecasts for the City of Downey**

<b>Area</b>	<b>Population</b>	<b>Housing</b>	<b>Employment</b>
2025 to 2030	+1.8%	+1.2%	+2.2%
<i>Source: SCAG 2008 Growth Projections.</i>			
<i>Source (table): Christopher A. Joseph &amp; Associates, July 21, 2008.</i>			

Due to an extensive reduction in on-site occupancy in the past year the existing on-site uses at the Project Site generate employment for approximately 45 people.<sup>2</sup>

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact upon population and housing if it were to result in one or more of the following:

- (a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- (b) Displace substantial numbers of existing housing, necessitating, the construction of replacement housing elsewhere; or
- (c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

### **Project Impacts**

As discussed in Section II. Project Description, the Proposed Project involves the demolition of most of the on-site structures (the front portion of Building One which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished) and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses, including up to 675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would

<sup>2</sup> This number was provided by the Applicant.

also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site.

### ***Construction***

Construction of the Proposed Project would result in increased employment opportunities in the construction field, which could potentially result in increased permanent population and demand for housing in the vicinity of the Project Site. However, the employment patterns of construction workers in Southern California are such that it is not likely that they would relocate their households as a consequence of the construction employment associated with the Proposed Project. The construction industry differs from most other industry sectors in several ways:

- There is no regular place of work. Construction workers regularly commute to job sites that change many times over the course of a year. Their lengthy daily commutes are facilitated by the off-peak starting and ending times of the typical construction work day.
- Many construction workers are highly specialized (e.g., crane operators, steelworkers, masons, etc.) and move from job site to job site as dictated by the demand for their skills.
- The work requirements of most construction projects are highly specialized. Workers remain at a job site only for the time frame in which their specific skills are needed to complete a particular phase of the construction process.

Therefore, project-related construction workers would not be likely to relocate their place of residence as a consequence of working on the Proposed Project, and significant housing or population impacts would not result from construction of the Proposed Project.

### ***Operation***

#### ***Population***

As discussed above, the Proposed Project involves the demolition of most of the on-site structures (the front portion of Building One which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished) and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses, including up to 675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site. Because the existing on-site uses are comprised of movie and television production space, the proposed 1,500 residential units also represent a net increase in residential construction on the Project Site.

Based on the year 2003 census data provided by the 2008 Regional Transportation Plan, the City of Downey had a population of 112,184 persons; according to the California Department of Finance, as of January 1, 2008, the City had a total population of 113,379 persons with an average of 3.255 persons per household.<sup>3</sup> According to SCAG, the Citywide population is expected to increase by 8,024 residents between 2003 and 2020 (anticipated project buildout). Based on the City's current household demographics (e.g., an average of 3.255 persons per household), the construction of 1,500 net new residential units in the City of Downey would be expected to result in approximately 4,883 net new permanent residents. Thus, the addition of an estimated 4,883 new residents under the Proposed Project would be within, though representing a large portion of, the City's and SCAG's anticipated growth rate, representing 60.9 percent of the anticipated Citywide total growth for the period of 2003 to 2020.

SCAG projections estimate an increase of 800 residents in Census Tract 5511.00 between 2003 and 2020. The Proposed Project would therefore also exceed SCAG's population projection for this period for Census Tract 5511.00, resulting in 4,083 more residents than anticipated for the census tract containing the Project Site. However, residents generated under the Proposed Project would be within the Citywide population projections (although representing a large portion thereof); therefore, the Proposed Project would be consistent with the population projections for the City of Downey within the GCCOG subregion. Also, as no residential units currently exist on-site, the Proposed Project would not result in the displacement of any people. Impacts related to population growth and population displacement would therefore be less than significant.

### *Housing*

Based on the year 2003 census data provided by the 2008 Regional Transportation Plan, the City of Downey had a total of 34,176 housing units; according to the California Department of Finance, as of January 1, 2008, the City had a total of 35,071 housing units. SCAG expects the Citywide housing supply to increase by 1,642 units between 2003 and 2020 (anticipated project buildout). The Proposed Project involves the removal of 1,500,000 square feet of movie and television production space and the construction of up to 1,500 residential units. This would be within the City's and SCAG's anticipated growth rate, though representing a large portion of, representing approximately 91.4 percent of the Citywide total growth in housing units for the period of 2003 to 2020.

SCAG projections estimate an increase of 148 housing units in Census Tract 5511.00 between the year 2003 and 2020. With the development of 1,500 residential units, the Proposed Project would exceed SCAG's housing unit projection for the period between 2003 and 2020 for Census Tract 5511.00. The Proposed Project would result in an increase above projections by 1,352 units.

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<sup>3</sup> *State of California, Department of Finance, E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2001–2008, with 2000 Benchmark, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e-5\\_2001-06/](http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/), accessed July 21, 2008.*

Therefore, the Proposed Project would be within the projections for housing unit growth Citywide and the GCCOG subregion though not within Census Tract 5511.00. Further, because no residential units currently exist on-site, development of the Proposed Project would not remove existing housing; no housing would be displaced. Additionally, as discussed in Section IV.H Land Use and Planning, the Proposed Project would redevelop land currently designated for a studio and office park development and would introduce high-density residential uses. As the Proposed Project would be considered an infill redevelopment project, it would recycle land for residential development as encouraged in the City of Downey General Plan Housing Element. Therefore, impacts related to housing growth and housing displacement would therefore be less than significant.

### Employment

The Proposed Project involves the demolition of most of the on-site structures (the front portion of Building One which includes the front section of the original EMSCO building, the Kauffman wing, and another wing attributed to Kauffman would not be demolished) and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses, including up to 675,000 square feet of commercial/office uses, 1,200,000 square feet of commercial/retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site. As shown in Table IV.J-2, the Proposed Project would likely provide employment for approximately 5,307 persons while resulting in the removal of existing uses that currently provide employment for approximately 45 people, creating an overall job increase of 5,262 jobs on the Project Site, within the Census Tract, and within the City.

**Table IV.J-2**  
**Proposed Project Estimated Employment and Existing Employment Generation**

Type of Development	Size (sf)	Employee Generation Factor <sup>a</sup>	Total Employees
Office	675,000 sf	0.004 employees/sf	2,700
Retail	1,200,000 sf	0.001818 employees/sf	2,182
Hotel	450 rooms	0.0011325 employees/sf <sup>b</sup>	425 <sup>c</sup>
<b>Subtotal</b>			<b>5,307</b>
<b>Existing Employment On-Site</b>			<b>45</b>
<b>Proposed Project Net Total</b>			<b>5,262</b>
<sup>a</sup> Downey Landing Specific Plan Final Program Environmental Impact Report, February 2002. <sup>b</sup> Los Angeles Unified School District, Commercial/Industrial Development School Fee Justification Study, September 2002, p.ES-2. <sup>c</sup> Based on hotel uses of 375,000 square feet Source (table): Christopher A. Joseph & Associates, July 21, 2008.			

The estimated employee generation allowable under the Proposed Project would result in an increase in employment at the Project Site. The increase in employment associated with the buildout of the Proposed Project represents approximately 13.5 percent of the total 2003 Citywide job supply. For the City of

Downey, as shown in Table IV.J-1, SCAG estimates an increase of 3,107 jobs between the years 2003 and 2020 (anticipated project buildout). With an increase of 5,262 on-site jobs the Proposed Project would exceed SCAG's employment projection for the period between 2003 and 2020 for the Citywide job supply. The Proposed Project would result in an increase above projections by 2,155 jobs for the City of Downey.

SCAG has forecasted that the total employment level for Census Tract 5511.00 will increase by approximately 729 between 2003 and 2020. With an increase of 5,262 on-site jobs the Proposed Project would exceed SCAG's employment projection for the period between 2003 and 2020 for Census Tract 5511.00. The Proposed Project would result in an increase above projections by 4,533 jobs. This increase in the number of jobs also represents approximately 76.1 percent of the total 2003 census tract job supply.

As discussed in Section IV.H Land Use and Planning, the Proposed Project would redevelop land currently designated for commercial development, which would concentrate job growth in one of the City's major centers. Further, the Proposed Project would be considered an infill redevelopment project as it would recycle land, as encouraged in the City of Downey Specific Plan, in an area adjacent to major thoroughfares with access to the Downey Link southeast bus route, as well as the Metro Green Line. Therefore, impacts related to job growth would be less than significant.

## **CUMULATIVE IMPACTS**

### **Population**

The Proposed Project would generate approximately 4,883 new residents. As shown in Table IV.J-3, Estimated Cumulative Population Generation for the Related Projects, development of the Proposed Project combined with the related projects would result in a cumulative population growth of approximately 7,952 residents. However, because the related projects list includes projects in surrounding cities, for purposes of determining compliance with City of Downey projections, only the related projects within the boundaries of the City of Downey will be included in the cumulative analysis. As such, buildout of both the Proposed Project and the City of Downey related projects would result in the generation of approximately 4,938 new residents, which would be within the growth forecasts presented by SCAG for the entire City of Downey from 2003 to 2020. The Proposed Project's and the related projects' combined contribution to this growth would represent approximately 61.5 percent of the total. Alone, the Proposed Project would contribute approximately 60.9 percent of the total. Therefore, the Proposed Project would generate a number of new residents that would be consistent with the SCAG population projections and cumulative impacts would be less than significant.

**Table IV.J-3  
Estimated Cumulative Population Generation for the Related Projects**

Map No.	Project Name	Size	Description	Population Conversion Factors (persons/unit) <sup>o</sup>	Total Population Generated
<b>City of Santa Fe Springs</b>					
1	Villages at Heritage Springs <sup>a</sup>	554 du	Single-Family Homes	3.512 persons/unit	1,946
2	Carmentita Plaza <sup>a</sup>	6,500 sf	Multi-tenant commercial	N/A	N/A
3	Felipe's Cabinets <sup>a</sup>	11,462 sf	Warehouse/Office	N/A	N/A
4	McMaster Carr Supply Co. <sup>a</sup>	85,000 sf	Warehouse	N/A	N/A
5	Kiewit Office Building <sup>b</sup>	23,500 sf	Office	N/A	N/A
6	Golden Springs Development <sup>b</sup>	200,000 sf	Industrial	N/A	N/A
7	Petro Builders Industrial Building <sup>b</sup>	4,656 sf	Maintenance Building	N/A	N/A
<b>City of Commerce</b>					
8	Citadel Expansion <sup>c</sup>	253,200 sf	Retail Outlet Center	N/A	N/A
		30,000 sf	Office Building	N/A	N/A
<b>City of Lynwood</b>					
9	Retail Building <sup>d</sup>	15,900 sf	Retail	N/A	N/A
10	Commercial Building <sup>d</sup>	4,140 sf	Office Building	N/A	N/A
11	Oakwood Plaza <sup>d</sup>	14,800 sf	Retail	N/A	N/A
12	Commercial Retail Building <sup>d</sup>	17,760 sf	Commercial Retail	N/A	N/A
13	Warehouse <sup>d</sup>	7,200 sf	Warehouse	N/A	N/A
<b>City of Paramount</b>					
14	Commercial Retail Center <sup>f</sup>	4,800 sf	Retail Center	N/A	N/A
		7,300 sf	Super Market	N/A	N/A
		2,670 sf	Fast Food Restaurant	N/A	N/A
15	Masse Homes <sup>f</sup>	7 du	Single-Family Homes	4.122 persons/unit	29
16	Chanslor Investments, Inc. <sup>f</sup>	8 du	Single-Family Homes	4.122 persons/unit	33
17	Felix Homes <sup>f</sup>	6 du	Single-Family Homes	4.122 persons/unit	25
18	Cerro Metals <sup>g</sup>	551,821 sf	Grocery Warehouse	N/A	N/A
<b>City of South Gate</b>					
19	Elementary School No. 4 <sup>h</sup>	950 students	Elementary School	N/A	N/A
20	Infill Project <sup>h</sup>	46,600 sf	Shopping Center	N/A	N/A
21	Calden Avenue Condominiums (Tierra del Rey) <sup>h</sup>	107 du	Condominiums	4.345 persons/unit	465
		100,00 sf	Mini-Storage	N/A	N/A
22	Firestone Mixed Use Project <sup>h</sup>	18,090 sf	Shopping Center	N/A	N/A
		47 du	Single-Family Homes	4.345 persons/unit	204

**Table IV.J-3  
Estimated Cumulative Population Generation for the Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Size</b>	<b>Description</b>	<b>Population Conversion Factors (persons/unit)<sup>o</sup></b>	<b>Total Population Generated</b>
23	LAUSD Elementary School #9	650 st	Elementary School	N/A	N/A
24	LAUSD High School	1,500 students	High School	N/A	N/A
25	Industrial Building <sup>h</sup>	75,000 sf	Industrial	N/A	N/A
26	WAMU Center <sup>h</sup>	8,000 sf	Bank	N/A	N/A
27	Firestone Blvd./Atlantic Ave. Int. Improv. Project <sup>h</sup>	8,000 sf	City Hall Annex	N/A	N/A
28	Food Market	20,000 sf	Shopping Center	N/A	N/A
29	The Gateway Retail Project <sup>i</sup>	600,000 sf	Shopping Center	N/A	N/A
<b>City of Bellflower</b>					
30	Bellflower Vascular Access Center <sup>j</sup>	13,000 sf	Pharmacy/Medical Offices	N/A	N/A
31	Seven-Eleven Store <sup>j</sup>	2,052 sf	Retail	N/A	N/A
<b>City of Norwalk<sup>k</sup></b>					
32	Shopping Center Remodel	5,490 sf	Restaurant	N/A	N/A
		10,360 sf	Retail	N/A	N/A
		4,890 sf	Retail	N/A	N/A
33	Industrial/Office Complex	11,954 sf	Retail	N/A	N/A
		14,843 sf	Warehouse	N/A	N/A
		14,730 sf	Manufacturing	N/A	N/A
		5,000 sf	Restaurant	N/A	N/A
		3,332 sf	Industrial	N/A	N/A
		9,582 sf	Medical Office	N/A	N/A
		19,536 sf	Industrial	N/A	N/A
34	Fresh & Easy Market	14,800 sf	Super Market	N/A	N/A
<b>City of Pico Rivera<sup>l</sup></b>					
35	Pico Rivera Market Place	50,000 sf	Fitness Center	N/A	N/A
		35,000 sf	Retail Building	N/A	N/A
		9,300 sf	Retail	N/A	N/A
36	Pico Rivera Village Walk 15	135,106 sf	Movie/Retail Center	N/A	N/A
37	Veranda Crest	42 du	Condominiums	4.005 persons/unit	168
38	Target Center	7,050 sf	Retail	N/A	N/A
39	Used Car Sales Lot	1,997 sf	Used Car Sales Lot	N/A	N/A
40	7 Single-Family Homes	7 du	Single-Family Homes	4.005 persons/unit	28
41	BNSF MOW Expansion	5,170 sf	Office Building	N/A	N/A

**Table IV.J-3  
Estimated Cumulative Population Generation for the Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Size</b>	<b>Description</b>	<b>Population Conversion Factors (persons/unit)<sup>o</sup></b>	<b>Total Population Generated</b>
42	Retail Center	11,400 sf	Retail	N/A	N/A
43	Industrial Building	2,600 sf	Industrial	N/A	N/A
44	Office Building	6,912 sf	Office Building	N/A	N/A
<b>City of Bell Gardens</b>					
45	Shopping Center <sup>m</sup>	11,000 sf	Retail Shopping Center	N/A	N/A
46	Casino Expansion <sup>m</sup>	12,000 sf	Event Center	N/A	N/A
47	Tentative Parcel Map No. 063646 <sup>h</sup>	7 du	Single-Family Homes	4.827 persons/unit	34
48	Office Building <sup>h</sup>	2,710 sf	Office Building	N/A	N/A
49	Tentative Tract Map No. 067931 <sup>h</sup>	10 du	Condominiums	4.827 persons/unit	48
50	Tentative Tract Map No. 069086 <sup>h</sup>	7 du	Condominiums	4.827 persons/unit	34
<b>City of Downey</b>					
51	Los Angeles County Data Center <sup>n</sup>	90 emp	Office Building	N/A	N/A
52	Lakewood Blvd. Commercial Center <sup>g</sup>	8,000 sf	Office Building	N/A	N/A
53	Lakewood Retail/Office Building	9,320 sf	Office and Retail	N/A	N/A
54	Florence Retail Center	15,421 sf	Retail	N/A	N/A
55	Florence Medical Office Building 1 <sup>g</sup>	31,500 sf	Medical Office	N/A	N/A
56	Desert Reign Church <sup>g</sup>	27,500 sf	Church (570 seat sanctuary)	N/A	N/A
	Davita Dialysis Clinic <sup>g</sup>	9,000 sf	Dialysis Clinic	N/A	N/A
57	Hall Road	200,000 sf	Industrial	N/A	N/A
58	Florence Condominiums	17 du	Condominiums	3.255 persons/unit	55
59	Quinn Office Building	4,308 sf	Office Building	N/A	N/A
60	Walgreens	12,202 sf	Retail	N/A	N/A
61	Rodriguez Professional Building	16,110 sf	Office Building	N/A	N/A
<b>Related Projects Population Total</b>					<b>3,069</b>
<b>City of Downey Related Projects Population Total</b>					<b>55</b>
<b>Proposed Project Population Total</b>					<b>4,883</b>
<b>Cumulative Population Total</b>					<b>7,952</b>
<b>Proposed Project and Downey Only Projects Population Total</b>					<b>4,938</b>
<b>Related Projects Housing Total</b>					<b>819</b>
<b>City of Downey Related Projects Housing Total</b>					<b>17</b>
<b>Proposed Project Housing Total</b>					<b>1,500</b>

**Table IV.J-3  
Estimated Cumulative Population Generation for the Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Size</b>	<b>Description</b>	<b>Population Conversion Factors (persons/unit)<sup>o</sup></b>	<b>Total Population Generated</b>
<b>Cumulative Housing Total</b>					<b>2,319</b>
<b>Proposed Project and Downey Only Projects Housing Total</b>					<b>1,517</b>
<sup>a</sup>	<i>Information obtained from City of Santa Fe Springs Planning Department – Wayne Morrell, Principal Planner, 562-868-0511 x7362, waynemorrell@santafesprings.org.</i>				
<sup>b</sup>	<i>Information obtained from City of Santa Fe Springs Website.</i>				
<sup>c</sup>	<i>Information obtained from City of Commerce Planning Department, Mercenia Lugo, Planning Division, mercenial@ci.commerce.ca.us, 323-722-4805 x2811.</i>				
<sup>d</sup>	<i>Information obtained from City of Lynwood Planning Department.</i>				
<sup>e</sup>	<i>Information obtained from City of Lynwood Website.</i>				
<sup>f</sup>	<i>Information obtained from City of Paramount Planning Department – Wendy Macias, Community Development Planner, 562-220-2060, wmacias@paramountcity.com.</i>				
<sup>g</sup>	<i>Traffic Sensitivity Analysis for Rancho Los Amigos National Rehabilitation Center Project, Kaku Associates, January 2008.</i>				
<sup>h</sup>	<i>South Gate Gateway Project, Draft Environmental Impact Report (DEIR), November 14, 2007 – Alvie Betancourt, Senior Planner, 323-563-9526.</i>				
<sup>i</sup>	<i>Firestone Boulevard/Atlantic Avenue Intersection Improvements Project, Draft Environmental Impact Report (DEIR), July 10, 2007.</i>				
<sup>j</sup>	<i>Information obtained from City of Bellflower Planning Department – Carlos Luis, Assistant Planner, 562-804-1424 x2314, cluis@bellflower.org.</i>				
<sup>k</sup>	<i>Information obtained from City of Norwalk Planning Department – Community Development Department, 562-929-5744, planning@ci.norwalk.ca.us.</i>				
<sup>l</sup>	<i>Information obtained from City of Pico Rivera Planning Department – Sergio Ruiz, Planning Division, 562-801-4332, sruiz@pico-rivera.org.</i>				
<sup>m</sup>	<i>Information obtained from City of Bell Gardens Planning Department – Mr. Hailes Soto, Planning Division, 562-806-7722, hsoto@bellgardens.org.</i>				
<sup>n</sup>	<i>Traffic Study for County of Los Angeles Data Center Project, Raju Associates, April 2008.</i>				
<sup>o</sup>	<i>Assumes 3,255 persons per housing unit for projects in the City of Downey, 3,512 persons per housing unit for projects in the City of Santa Fe Springs, 3,976 persons per housing unit for projects in the City of Commerce, 4,925 persons per housing unit in the City of Lynwood, 4,122 persons per housing unit for projects in the City of Paramount, 4,345 persons per housing units for projects in the City of South Gate, 3,239 persons per housing unit in the City of Bellflower, 3,973 persons per housing unit in the City of Norwalk, 4,005 persons per housing unit in the City of Pico Rivera, and 4,827 persons per household in the City of Bell Gardens, from the State of California Department of Finance, E-5 City/County Population and Housing Estimates, 2008, Revised 2001-2007, with 2000 Benchmark, website: <a href="http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/">http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/</a>, accessed July 15, 2008.</i>				
<i>Notes: du = dwelling units, emp = employees, sf = square feet.</i>					
<i>Source: Raju Associates, Inc., October 2008.</i>					

**Housing**

The Proposed Project would result in the development of up to 1,500 new residential units. As shown in Table IV.J-3, Estimated Cumulative Population Generation for the Related Projects, development of the Proposed Project combined with the related projects would result in a cumulative growth in housing stock by approximately 2,319 residential units. However, because the related projects list includes projects in surrounding cities as well, for purposes of determining compliance with City of Downey projections, only the related projects within the boundaries of the City of Downey will be included in the cumulative analysis. As such, buildout of both the Proposed Project and the City of Downey related projects would result in the construction of approximately 1,517 new residential units, which would not exceed the

growth forecasts presented by SCAG for the entire City of Downey from 2003 to 2020. Approximately 1,642 are expected in the City of Downey from the period of 2003 to 2020. Therefore, cumulative development would be consistent with the SCAG housing projections and cumulative impacts would be less than significant.

## Employment

The Proposed Project would generate up to 5,307 new jobs. However, because the existing uses on-site currently provide 45 jobs, the Proposed Project would result in an increase in the job stock by 5,262. As shown in Table IV.J-4, Estimated Cumulative Employment Generation for the Related Projects, development of the Proposed Project combined with the related projects would result in cumulative growth in employment by approximately 10,687 jobs. However, because the related projects list includes projects in surrounding cities, for purposes of determining compliance with City of Downey projections, only the related projects within the boundaries of the City of Downey will be included in the cumulative analysis. As such, buildout of both the Proposed Project and the City of Downey related projects would result in the addition of approximately 6,381 new jobs, which would exceed the growth forecasts presented by SCAG for the entire City of Downey from 2003 to 2020 by 3,274. Alone, the Proposed Project would contribute a net increase of 5,262 jobs, or approximately 82.5 percent of the total. However, the related projects in combination with the Proposed Project would create numerous employment opportunities, which is emphasized as a goal in the City of Downey General Plan Economic Development Element. Additionally, the Economic Development Element states that employment is an important factor in the City's growth and that employment centers should be promoted that have the potential to serve as a catalyst for additional jobs. As the related projects and Proposed Project would create a diversified job base for the City of Downey, cumulative job creation would be less than significant.

**Table IV.J-4**  
**Estimated Cumulative Employment Generation for the Related Projects**

Map No.	Project Name	Size	Description	Employee Generation Factors <sup>o</sup>	Total Employees Generated
<b>City of Santa Fe Springs</b>					
1	Villages at Heritage Springs <sup>a</sup>	554 du	Single-Family Homes	N/A	N/A
2	Carmenita Plaza <sup>a</sup>	6,500 sf	Multi-tenant commercial	0.001818 employees/sf	12
3	Felipe's Cabinets <sup>a</sup>	11,462 sf	Warehouse/Office	0.004 employees/sf	46
4	McMaster Carr Supply Co. <sup>a</sup>	85,000 sf	Warehouse	0.003333 employees/sf	283
5	Kiewit Office Building <sup>b</sup>	23,500 sf	Office	0.004 employees/sf	94
6	Golden Springs Development <sup>b</sup>	200,000 sf	Industrial	0.003333 employees/sf	667
7	Petro Builders Industrial Building <sup>b</sup>	4,656 sf	Maintenance Building	0.003333 employees/sf	16

**Table IV.J-4  
Estimated Cumulative Employment Generation for the Related Projects**

Map No.	Project Name	Size	Description	Employee Generation Factors <sup>o</sup>	Total Employees Generated
<b>City of Commerce</b>					
8	Citadel Expansion <sup>c</sup>	253,200 sf	Retail Outlet Center	0.001818 employees/sf	460
		30,000 sf	Office Buildings	0.004 employees/sf	120
<b>City of Lynwood</b>					
9	Retail Building <sup>d</sup>	15,900 sf	Retail	0.001818 employees/sf	29
10	Commercial Building <sup>d</sup>	4,140 sf	Office Building	0.004 employees/sf	17
11	Oakwood Plaza <sup>d</sup>	14,800 sf	Retail	0.001818 employees/sf	27
12	Commercial Retail Building <sup>d</sup>	17,760 sf	Commercial Retail	0.001818 employees/sf	32
13	Warehouse <sup>d</sup>	7,200 sf	Warehouse	0.003333 employees/sf	24
<b>City of Paramount</b>					
14	Commercial Retail Center <sup>f</sup>	4,800 sf	Retail Center	0.001818 employees/sf	9
		7,300 sf	Super Market	0.001818 employees/sf	13
		2,670 sf	Fast Food Restaurant	0.005714 employees/sf	15
15	Masse Homes <sup>f</sup>	7 du	Single-Family Homes	N/A	N/A
16	Chanslor Investments, Inc. <sup>f</sup>	8 du	Single-Family Homes	N/A	N/A
17	Felix Homes <sup>f</sup>	6 du	Single-Family Homes	N/A	N/A
18	Cerro Metals <sup>g</sup>	551,821 sf	Grocery Warehouse	N/A	N/A
<b>City of South Gate</b>					
19	Elementary School No. 4 <sup>h</sup>	950 students	Elementary School	N/A	N/A
20	Infill Project <sup>h</sup>	46,600 sf	Shopping Center	0.001818 employees/sf	85
21	Calden Avenue Condominiums (Tierra del Rey) <sup>h</sup>	107 du	Condominiums	N/A	N/A
		100,000 sf	Mini-Storage	N/A	N/A
22	Firestone Mixed Use Project (Firestone Village) <sup>h</sup>	18,090 sf	Shopping Center	0.001818 employees/sf	33
		47 du	Single-Family Homes	N/A	N/A
23	LAUSD Elementary School #9	650 st	Elementary School	N/A	N/A
24	LAUSD High School	1,500 st	High School	N/A	N/A
25	Industrial Building <sup>h</sup>	75,000 sf	Industrial	0.003333 employees/sf	250
26	WAMU Center <sup>h</sup>	8,000 sf	Bank	0.001818 employees/sf	15
27	Firestone Blvd./Atlantic Ave. Int. Improv. Project <sup>h</sup>	8,000 sf	City Hall Annex	0.004 employees/sf	32
28	Food Market	20,000 sf	Shopping Center	0.001818 employees/sf	36
29	The Gateway Retail Project (El Portal) <sup>i</sup>	600,000 sf	Shopping Center	0.001818 employees/sf	1,091
<b>City of Bellflower</b>					
30	Bellflower Vascular Access Center <sup>j</sup>	13,000 sf	Pharmacy/Medical Offices	0.001818 employees/sf	24

**Table IV.J-4  
Estimated Cumulative Employment Generation for the Related Projects**

Map No.	Project Name	Size	Description	Employee Generation Factors <sup>o</sup>	Total Employees Generated
31	Seven-Eleven Store <sup>j</sup>	2,052 sf	Retail	0.001818 employees/sf	4
<b>City of Norwalk<sup>k</sup></b>					
32	Shopping Center Remodel	5,490 sf	Restaurant	0.005714 employees/sf	31
		10,360 sf	Retail	0.001818 employees/sf	19
		4,890 sf	Retail	0.001818 employees/sf	9
33	Industrial/Office Complex	11,954 sf	Retail	0.001818 employees/sf	22
		14,843 sf	Warehouse	N/A	N/A
		14,730 sf	Manufacturing	0.003333 employees/sf	49
		5,000 sf	Restaurant	0.005714 employees/sf	29
		3,332 sf	Industrial	0.003333 employees/sf	11
		9,582 sf	Medical Office	0.004 employees/sf	38
19,536 sf	Industrial	0.003333 employees/sf	65		
34	Fresh & Easy Market	14,800 sf	Super Market	0.001818 employees/sf	27
<b>City of Pico Rivera<sup>l</sup></b>					
35	Pico Rivera Market Place	50,000 sf	Fitness Center	0.001818 employees/sf	91
		35,000 sf	Retail Building	0.001818 employees/sf	64
		9,300 sf	Retail	0.001818 employees/sf	17
36	Pico Rivera Village Walk 15	135,106 sf	Movie/Retail Center	0.001818 employees/sf	247
37	Veranda Crest	42 du	Condominiums	N/A	N/A
38	Target Center	7,050 sf	Retail	0.001818 employees/sf	13
39	Used Car Sales Lot	1,997 sf	Used Car Sales Lot	0.001818 employees/sf	4
40	7 Single-Family Homes	7 du	Single-Family Homes	N/A	N/A
41	BNSF MOW Expansion	5,170 sf	Office Building	0.004 employees/sf	21
42	Retail Center	11,400 sf	Retail	0.001818 employees/sf	21
43	Industrial Building	2,600 sf	Industrial	0.003333 employees/sf	9
44	Office Building	6,912 sf	Office Building	0.004 employees/sf	28
<b>City of Bell Gardens</b>					
45	Shopping Center <sup>m</sup>	11,000 sf	Retail Shopping Center	0.001818 employees/sf	20
46	Casino Expansion <sup>m</sup>	12,000 sf	Event Center	0.001818 employees/sf	22
47	Tentative Parcel Map No. 063646 <sup>h</sup>	7 du	Single-Family Homes	N/A	N/A
48	Office Building <sup>h</sup>	2,710 sf	Office Building	0.004 employees/sf	11
49	Tentative Tract Map No. 067931 <sup>h</sup>	10 du	Condominiums	N/A	N/A
50	Tentative Tract Map No. 069086 <sup>h</sup>	7 du	Condominiums	N/A	N/A

**Table IV.J-4  
Estimated Cumulative Employment Generation for the Related Projects**

Map No.	Project Name	Size	Description	Employee Generation Factors <sup>o</sup>	Total Employees Generated
<b>City of Downey</b>					
51	Los Angeles County Data Center <sup>n</sup>	90 emp	Office Building	N/A	90
52	Lakewood Blvd. Commercial Center <sup>g</sup>	8,000 sf	Office Building	0.004 employees/sf	32
53	Lakewood Retail/Office Center	9,320 sf	Office and Retail	0.004 employees/sf	37
54	Florence Retail Center	15,421 sf	Retail	0.001818 employees/sf	28
55	Florence Medical Office Building 1 <sup>g</sup>	31,500 sf	Medical Office	0.004 employees/sf	126
56	Desert Reign Church <sup>g</sup>	27,528 sf	Church (570 seat sanctuary)	N/A	N/A
	Davita Dialysis Clinic <sup>g</sup>	9,000 sf	Dialysis Clinic	0.004 employees/sf	36
57	Hall Road	200,000 sf	Industrial	0.003333 employees/sf	667
58	Florence Condominiums	17 du	Condominiums	N/A	N/A
59	Quinn Office Building	4,308 sf	Office Building	0.004 employees/sf	17
60	Walgreens	12,202 sf	Retail	0.001818 employees/sf	22
61	Rodriguez Professional Building	16,110 sf	Office Building	0.004 employees/sf	64
<b>Related Projects Total</b>					<b>5,425</b>
<b>City of Downey Related Projects Total</b>					<b>1,119</b>
<b>Proposed Project Net Total</b>					<b>5,262</b>
<b>Cumulative Total</b>					<b>10,687</b>
<b>Proposed Project and Downey Only Projects Total</b>					<b>6,381</b>
<sup>a</sup>	Information obtained from City of Santa Fe Springs Planning Department – Wayne Morrell, Principal Planner, 562-868-0511 x7362, waynemorrell@santafesprings.org.				
<sup>b</sup>	Information obtained from City of Santa Fe Springs Website.				
<sup>c</sup>	Information obtained from City of Commerce Planning Department, Mercenia Lugo, Planning Division, mercenial@ci.commerce.ca.us, 323-722-4805 x2811.				
<sup>d</sup>	Information obtained from City of Lynwood Planning Department.				
<sup>e</sup>	Information obtained from City of Lynwood Website.				
<sup>f</sup>	Information obtained from City of Paramount Planning Department – Wendy Macias, Community Development Planner, 562-220-2060, wmacias@paramountcity.com.				
<sup>g</sup>	Traffic Sensitivity Analysis for Rancho Los Amigos National Rehabilitation Center Project, Kaku Associates, January 2008.				
<sup>h</sup>	South Gate Gateway Project, Draft Environmental Impact Report (DEIR), November 14, 2007 – Alvie Betancourt, Senior Planner, 323-563-9526.				
<sup>i</sup>	Firestone Boulevard/Atlantic Avenue Intersection Improvements Project, Draft Environmental Impact Report (DEIR), July 10, 2007.				
<sup>j</sup>	Information obtained from City of Bellflower Planning Department – Carlos Luis, Assistant Planner, 562-804-1424 x2314, cluis@bellflower.org.				
<sup>k</sup>	Information obtained from City of Norwalk Planning Department – Community Development Department, 562-929-5744, planning@ci.norwalk.ca.us.				
<sup>l</sup>	Information obtained from City of Pico Rivera Planning Department – Sergio Ruiz, Planning Division, 562-801-4332, srui@pico-rivera.org.				
<sup>m</sup>	Information obtained from City of Bell Gardens Planning Department – Mr. Hailes Soto, Planning Division, 562-806-7722, hsoto@bellgardens.org.				

**Table IV.J-4  
Estimated Cumulative Employment Generation for the Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Size</b>	<b>Description</b>	<b>Employee Generation Factors<sup>o</sup></b>	<b>Total Employees Generated</b>
<sup>n</sup>	<i>Traffic Study for County of Los Angeles Data Center Project, Raju Associates, April 2008.</i>				
<sup>o</sup>	<i>Downey Landing Specific Plan Final Program Environmental Impact Report, February 2002.</i>				
<sup>p</sup>	<i>Los Angeles Unified School District, Commercial/Industrial Development School Fee Justification Study, September 2002, p.ES-2.</i>				
<i>Notes: du = dwelling units, emp = employees, sf = square feet.</i>					
<i>Source: Raju Associates, Inc., June 2008.</i>					

### **MITIGATION MEASURES**

No mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The Proposed Project would result in less than significant impacts related to population, housing, displacement, and employment.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### K. PUBLIC SERVICES

#### 1. FIRE PROTECTION

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#### INTRODUCTION

This section evaluates the potential impacts of the Proposed Project on the fire and police protection services and facilities in the project area. This section also evaluates schools, recreation and parks, and library services and facilities in the area.

#### ENVIRONMENTAL SETTING

Primary fire prevention, suppression, and life safety services in the City of Downey are provided by the Downey Fire Department (DFD). In addition, the DFD has automatic aid agreements with the cities of Compton, Montebello, Santa Fe Springs, Vernon, as well as Los Angeles County;<sup>1</sup> this agreement provides for coverage at fires by the nearest unit regardless of the jurisdictional boundary. Additional resources will respond as requested during major fires classified as disasters based on the “Area E” Mutual Aid Plan and State Master Mutual Aid Plan.<sup>2</sup>

The DFD’s activities are governed by the City of Downey Fire Code, and Article III, Public Safety, Chapter 3, of the Downey Municipal Code. Downey Fire Code Section 3300 serve as guides to City departments, government offices, developers, and the public for the construction, maintenance, and operation of fire protection facilities as well as provision of fire protection services located within the City of Downey. Policies and programs addressed in these documents include the following: fire station distribution and location, fire flow requirements (i.e., water supply), fire hydrant standards and locations, access provisions, and emergency ambulance service.

The DFD is administered and operated by 90 uniformed and non-uniformed individuals<sup>3</sup> and maintains a minimum daily suppression staff of 21.<sup>4</sup> Services of the DFD include fire suppression, emergency medical response and basic life support, joint fire communications, fire prevention/arson, and emergency preparedness.<sup>5</sup> The professionally trained staff of rescue fire fighters is stationed at four fire stations

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<sup>1</sup> *City of Downey, Downey Landing Specific Plan, Final Program Environmental Impact Report, Chapter 3.8, Public Service and Utilities, February 2002, p. 3.8-2.*

<sup>2</sup> *City of Downey, Vision 2025 Downey General Plan, Chapter 5 Safety, adopted January 25, 2005, p. 5-11.*

<sup>3</sup> *City of Downey Fire Department, website: [http://www.downeyca.org/city\\_firedept.php](http://www.downeyca.org/city_firedept.php), accessed July 8, 2008.*

<sup>4</sup> *City of Downey, Downey Landing Specific Plan, Final Program Environmental Impact Report, Chapter 3.8 Public Services and Utilities, February 2002, p. 3.8-9.*

<sup>5</sup> *City of Downey, Downey Fire Department, website: [http://www.downeyca.org/city\\_firedept.php](http://www.downeyca.org/city_firedept.php), accessed June 17, 2008.*

located in four corresponding fire districts across the DFD's 12.8 square-mile jurisdiction.<sup>6</sup> Additional fire support is also provided by the Los Angeles County (LACO) Fire Station #98 in the City of Bellflower.

Initial fire response to the Project Site is currently served by DFD Fire Stations 1 and 2. Additional backup fire support would be provided by Los Angeles County Fire Department Station #98 and Downey Fire Stations 3 and 4. Under the established mutual aid agreement referred to above, additional assistance would be provided from the Fire Departments of Compton, Montebello, Santa Fe Springs, and Vernon in addition to Los Angeles County as needed. All DFD fire fighters are "Haz Mat first responder" certified and are trained to handle toxic, flammable, or other hazardous materials.<sup>7</sup> The fire station locations, resources, distance from Project Site, and response times are discussed below (see Table IV.K-1, Fire Stations Serving the Project Site). Figure IV.K-1, Fire and Police Locations, depicts the locations of these fire stations.

### ***Fire Station 2***

Fire Station 2 is the closest fire station to the Project Site and is located at 9556 Imperial Highway, approximately 0.7 miles southeast of the Project Site. The response time to this location would be approximately three to four minutes.<sup>8</sup> This station is staffed with at least three fire fighters at all times assigned to the Fire Engine.<sup>9</sup>

### ***Fire Station 1***

Fire Station 1 is located at 12222 Paramount Boulevard, approximately 0.9 miles northwest of the Project Site. The response time to this location would be approximately three to four minutes.<sup>10</sup> This station is staffed with ten members at all times: three fire fighters are assigned to the Fire Engine, four fire fighters are assigned to the Fire Truck, two Paramedics are assigned to the Paramedic Unit; and one Battalion Chief is assigned to the Command Vehicle.<sup>11</sup>

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<sup>6</sup> City of Downey, *Downey Landing Specific Plan, Final Program Environmental Impact Report, Chapter 3.8 Public Services and Utilities, February 2002, p. 3.8-2.*

<sup>7</sup> City of Downey, *Downey Landing Specific Plan, Final Program Environmental Impact Report, Chapter 3.8 Public Services and Utilities, February 2002, p. 3.8-2.*

<sup>8</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5, Safety, adopted January 25, 2005, p. 5-11.*

<sup>9</sup> Email correspondence with Jeff Turner, Assistant Chief, City of Downey Fire Department, July 8, 2008.

<sup>10</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5, Safety, adopted January 25, 2005, p. 5-11.*

<sup>11</sup> Email correspondence with Jeff Turner, Assistant Chief, City of Downey Fire Department, July 8, 2008.

**Table IV.K-1  
Fire Stations Serving the Project Site**

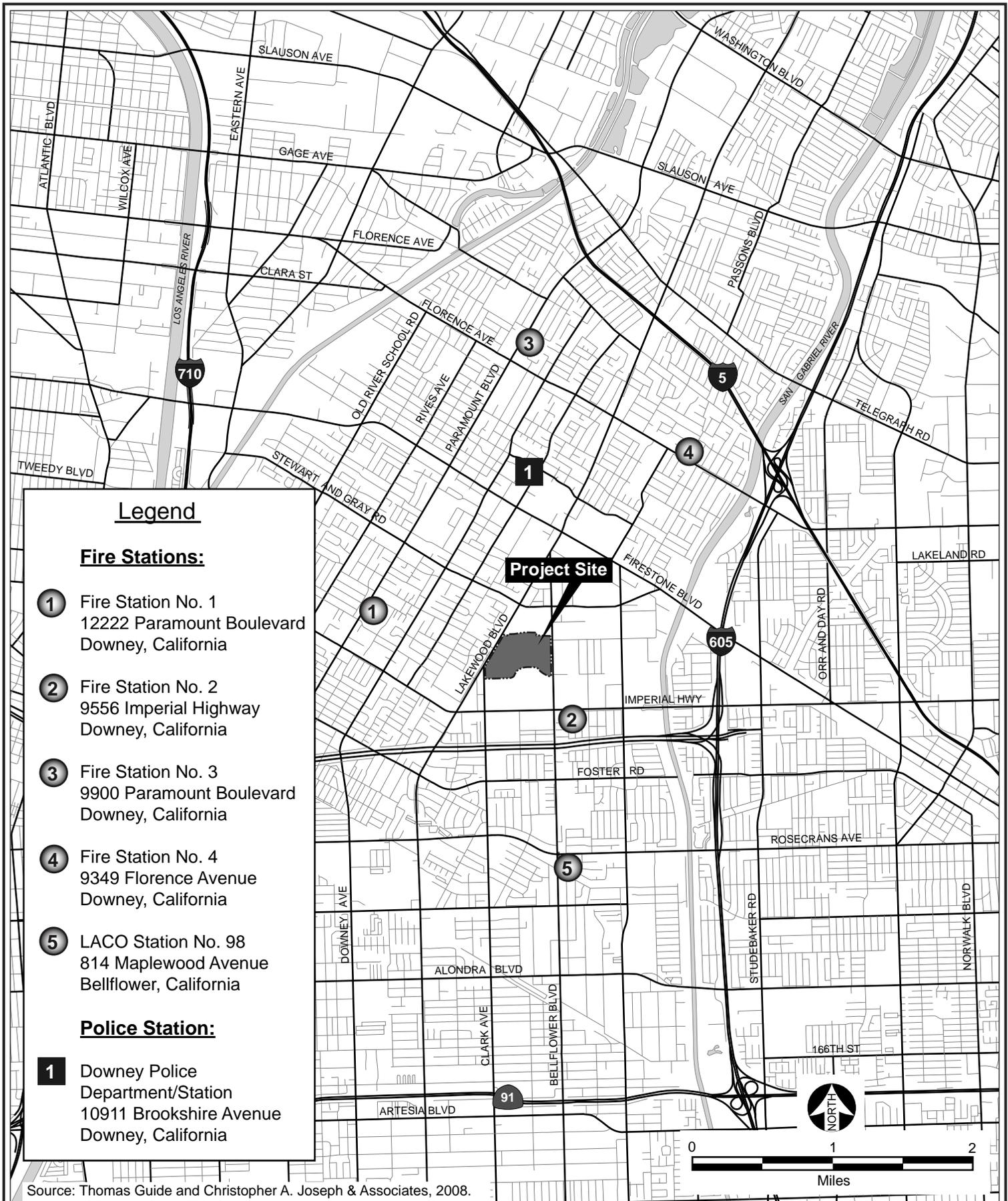
Station No.	Location	Equipment	Distance to Project Site (miles) <sup>a</sup>	Response Time to Project Site (minutes) <sup>b</sup>
2	9556 Imperial Highway	<ul style="list-style-type: none"> <li>• 1 Fire Engine</li> </ul>	0.7	3-4
1	12222 Paramount Boulevard	<ul style="list-style-type: none"> <li>• 1 Fire Engine</li> <li>• 1 Fire Truck</li> <li>• 1 Paramedic Unit</li> <li>• 1 Battalion Chief</li> </ul>	0.9	3-4
Los Angeles County Station #98	9814 Maplewood Avenue, Bellflower	<ul style="list-style-type: none"> <li>• 1 Fire Engine</li> <li>• 1 Paramedic Squad</li> <li>• 2 Paramedics and Search and Rescue equipment</li> </ul>	1.7	5
4	9349 Florence Avenue	<ul style="list-style-type: none"> <li>• 1 Fire Engine</li> <li>• 1 Paramedic Unit</li> </ul>	1.9	5
3	9900 Paramount Boulevard	<ul style="list-style-type: none"> <li>• 1 Fire Engine</li> <li>• 1 Basic Life Support Ambulance</li> </ul>	2.2	5
<p><sup>a</sup> Distances measured from the intersection of Lakewood Boulevard and Alameda Street.</p> <p><sup>b</sup> These are estimated response times to service calls throughout the City of Downey as identified by the Vision 2025 Downey General Plan, Chapter 5, Safety, adopted January 25, 2005, p. 5-11. For Los Angeles County Fire Station, response time is estimate based on phone correspondence with Dave Gorey, Captain, Los Angeles County Fire Department, July 8, 2008.</p> <p>Source: Email correspondence with Jeff Turner, Assistant Chief, City of Downey Fire Department, July 8, 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, July 2008.</p>				

### **LACO Fire Station #98**

LACO Fire Station #98 is located at 9814 Maplewood Avenue in the City of Bellflower, approximately 1.7 miles southeast of the Project Site. The response time to this location would be approximately three to four minutes.<sup>12</sup> This station is staffed with at least five members at all times: one Captain, one Engineer, and one Firefighter assigned to the Fire Engine and two paramedics assigned to the Paramedic Squad.<sup>13</sup>

<sup>12</sup> Phone Correspondence with Dave Gorey, Captain, Los Angeles County Fire Department, Station #98, July 8, 2008.

<sup>13</sup> Phone Correspondence with Brian Webb, Supervising Fire Dispatcher, Los Angeles County Fire Department, July 8, 2008.



### **Fire Station 4**

Fire Station 4 is located at 9349 Florence Avenue, approximately 1.9 miles northeast of the Project Site. The response time to this location would be approximately three to four minutes.<sup>14</sup> This station is staffed with at least five members at all times: three fire fighters assigned to the Fire Engine and two paramedics assigned to the Paramedic Unit.<sup>15</sup>

### **Fire Station 3**

Fire Station 3 is located at 9900 Paramount Boulevard, approximately 2.2 miles north of the Project Site. The response time to this location would be three to four minutes.<sup>16</sup> This station is staffed with at least five members at all times: three fire fighters assigned to the Fire Engine and two emergency medical services (EMS) personnel assigned to the Basic Life Support Ambulance.<sup>17</sup>

### **Response Distance**

The Fire Code specifies the maximum response distance recommended between specific sites and the nearest fire station, based on land use and fire flow requirements. The maximum response distance for a high density commercial land use is 0.75 miles for an Engine Company and one mile for a Truck Company.<sup>18</sup> When response distances exceed these recommendations, all structures must be equipped with automatic fire sprinkler systems and any other fire protection devices deemed necessary by the Fire Chief (e.g., fire signaling systems, fire extinguishers, smoke removal systems, etc.).

### **Response Time**

Response time relates directly to the physical linear travel distance (i.e., the number of miles between a fire station and a specific location) and the Fire Department's ability to successfully navigate the given roadway network. Thus, roadway congestion, intersection level of service (LOS), weather conditions, and construction traffic along the response route can affect the response time. LOS assignments describe varying traffic flow characteristics ranging from excellent conditions at LOS A to overloaded conditions at LOS F. Once traffic levels reach LOS C, vehicles on the road may have to wait for more than one light cycle to get through an intersection, and by LOS F, vehicles often wait for several light cycles to get

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<sup>14</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5, Safety, adopted January 25, 2005, p. 5-11.*

<sup>15</sup> EIP Associates, *City of Downey, Downey Landing Specific Plan, February 2002, p. 69.*

<sup>16</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5, Safety, adopted January 25, 2005, p. 5-11.*

<sup>17</sup> *Email correspondence with Jeff Turner, Assistant Chief, City of Downey Fire Department, July 8, 2008.*

<sup>18</sup> *Based on City of Los Angeles required response distances. Source: LA Fire Code, Division 9, Section 57.09.06, Proposed Table 9-C.*

through an intersection. LOS C through F can translate into tremendous delays in travel times. Specifically, LOS C can result in an average delay of between 15 and 25 seconds per vehicle, LOS D can result in an average delay of between 25 and 35 seconds per vehicle, LOS E can result in an average delay of between 35 and 50 seconds per vehicle, and LOS F can result in an average delay of over 50 seconds per vehicle. These delays can slow down emergency vehicles' ability to navigate the road network and cause them to take longer arriving at their destination. Response times are measured from the time the dispatcher receives a call for service to the time the DFD or one of the other mutual aid agreement fire departments arrives at the Project Site. According to the Safety Chapter of the General plan of the City of Downey, the estimated response times to service calls within the City is approximately three to four minutes. According to the Los Angeles County Fire Department, the estimated response time to the Project Site from Fire Station #98 is also approximately three to four minutes.

As discussed in Section IV.L. Traffic/Transportation/Parking, 96 of the 105 study intersections in the project area are currently operating at acceptable levels of service (LOS D or better) during the AM peak hours while 83 of the study intersections in the study area are operating at acceptable levels of service during the PM peak hour (see Section IV.L. Traffic/Transportation/Parking). However, due to the locations of the fire stations in relationship to the site, it is unlikely that emergency vehicles utilize these intersections to gain access to the Project Site.

### ***Emergency Access***

Major roadways adjacent to the Project Site and internal roadways on the Project Site currently provide emergency access to the onsite uses. Access to the Project Site is provided via driveways along Lakewood Boulevard (State Route 19), Clark Avenue, and Bellflower Boulevard.

### ***Fire Flow***

The City of Downey Department of Public Works (DPW) provides fire flow to the Project Site as well as the remainder of the City. Fire flows are supplied by the same water mains as the domestic water system, including the lines located in local streets and major roadways. In general, fire flow requirements are closely related to land use as the quantity of water necessary for fire protection varies with the type and intensity of development. The City of Downey has adopted Appendix B, Fire-Flow Requirements for Buildings, of the 2006 International Fire Code into its Municipal Code for use as City-established fire flow requirements.<sup>19</sup>

The existing water infrastructure in the vicinity of the Project Site consists of a 16-inch water line beneath Stuart & Gray Road, a 12-inch water line beneath Bellflower Boulevard, a 20-inch water line beneath Lakewood Boulevard, and eight- and ten-inch water lines beneath Imperial Highway.<sup>20</sup> Refer to Section

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<sup>19</sup> *City of Downey Municipal Code, Article III, Chapter 3, Section 3301.*

<sup>20</sup> *City of Downey, Downey Landing Specific Plan, Final Program Environmental Impact Report, Chapter 3.8 Public Services and Utilities, February 2002, p. 3.8-5.*

IV.M.2. Water, for a complete discussion of existing water service infrastructure. Fire hydrants and building fire water service systems connect directly to local water mains. The fire service system for each building or structure, however, has water lines, vaults, etc., for fire-flows that are separate from their respective domestic water systems.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact on fire services if it were to result in the following:

- (a) Would the project result in substantial adverse physical impacts associated with the provision of 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 fire protection.

### **Project Impacts**

The Proposed Project would result in up to 3,950,000 square feet of development, including up to 675,000 square feet of commercial/office space; 1,200,000 square feet of commercial/retail space; approximately 450 hotel rooms; and 1,700,000 square feet of residential uses (approximately 1,500 units), including live-work units, for-sale units, and for-rent units. The Proposed Project would also include development of an internal street network as well as all infrastructure (sewer, water, storm drain, etc.) required to support development within the Project Site.

#### *Construction Impacts*

Demolition of the majority of the existing structures and development of the Proposed Project would increase the potential for accidental onsite fires from such sources as the operation of mechanical equipment and use of flammable construction materials. In most cases, the implementation of “good housekeeping” procedures by the construction contractors and the work crews would minimize these hazards. Good housekeeping procedures that would be implemented during construction of the Proposed Project include: the maintenance of mechanical equipment in good operating condition; careful storage of flammable materials in appropriate containers; and the immediate and complete cleanup of spills of flammable materials when they occur.

Construction activities also have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to the street network and by partial lane closures during street improvements and utility installations. These impacts are considered to be less than significant for the following reasons:

- Construction impacts on fire protection resources are temporary in nature and do not cause lasting effects; and
- Partial lane closures would not greatly affect emergency vehicles, the drivers of which normally have a variety of options for avoiding traffic, such as using their sirens to clear a path of travel or driving in the lanes of opposing traffic. Additionally, if there are partial closures to streets surrounding the Project Site, flagmen could be used to facilitate the traffic flow until construction is complete.

Project construction would not be expected to impact fire fighters and emergency services to the extent that there would be a need for new or expanded fire facilities or resources, in order to maintain acceptable service ratios, response times, or other performance objectives for the DFD. Therefore, construction-related impacts to fire protection services would be less than significant.

### ***Operational Impacts***

As discussed in Section IV.J. Population, Housing, and Employment, the Proposed Project would introduce up to approximately 4,883 net new residents onsite. Development of the Proposed Project would also increase the number of site visitors (i.e., at the proposed residences, retail, restaurant, and cinema uses) within the Project Site. While the number of site visitors cannot be calculated with accuracy, it should be noted that the estimated 4,883 net new onsite residents is a conservative projection of the number of persons expected to be onsite at any given time. This is because many project residents would be employed at offsite locations during the daytime hours. Nonetheless, this increase in residents, employees, and site visitors would generate an increase in the demand for fire protection services. The following discussion analyzes the major criteria for determining the Proposed Project's impacts to fire protection services, including response distance and time, emergency access, and fire flows.

### ***Response Distance***

As discussed above, projects maintaining a high-density commercial component must also be within three quarters of a mile of an Engine Company and one mile of a Truck Company, or all project structures must be equipped with automatic fire sprinkler systems and any other fire protection devices deemed necessary by the Fire Chief. The Project Site is approximately 0.7 miles from an Engine Company (Fire Station #2) and approximately 0.9 miles from an Engine and a Truck Company (Fire Station #1), as measured from the intersection of Lakewood Boulevard and Alameda Street. Therefore, the Project Site would be within the ideal response distance identified by the City of Downey. However, the UFC adopted Fire Codes require commercial buildings over 3,600 square feet, residential buildings over 5,000 square feet, and any assembly buildings (theaters, churches, health clubs, etc.) to install automatic fire sprinklers.<sup>21</sup> Because the zoning proposed for the Project Site would permit many of the future structures to be constructed in excess of these building sizes, all future developments surpassing these sizes would be required to install

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<sup>21</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5 Safety*, adopted January 25, 2005, p. 5-12.

automatic fire sprinkler systems and any other fire protection devices deemed necessary by the Fire Chief. As such, with the implementation of the required equipment, there would be no significant impact with regard to DFD response distance.

#### *Response Time*

As stated above, the Project Site could be reached by nearby fire protection services (Fire Station #'s 2 and 1), in a response time of approximately three to four minutes, as well as by Los Angeles County Fire Station #98 in a response time of approximately five minutes. According to the General Plan of the City of Downey, this response time has contributed to the City obtaining an ISO rating of 2 (on a scale of one to ten with one being the highest and referring to exemplary public protection) by the Insurance Services Organization. Further, as indicated in Section IV.L. Traffic/Transportation/Parking, project traffic is expected to significantly impact four study intersections: Lakewood Boulevard/Gallatin Road – AM and PM Peak Hours, Lakewood Boulevard/ Stewart & Gray Road – PM Peak Hour, Bellflower Boulevard/Imperial Highway – AM and PM Peak Hours, and I-605 Southbound Ramps/Firestone Boulevard – PM Peak Hour. The Proposed Project would add traffic to these already congested intersections resulting in a total delay of over 50 seconds per vehicle (see Section IV.L. Traffic/Transportation/Parking). Due to the location of the Fire Station #2, it is likely that emergency vehicles would travel through the intersection of Bellflower Boulevard and Imperial highway to gain access to the Project Site. However, with the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L. Traffic/Transportation/Parking) impacts at these intersections would be reduced to a less than significant level. Therefore, impacts related to emergency response time would be less than significant.

#### *Emergency Access*

Access to the Proposed Project would continue to be provided via driveways along Lakewood and Bellflower Boulevards and Steve Horn Way. In addition, new internal roadways would be constructed to provide access to all future developments constructed in the Specific Plan area. All circulation improvements, such as the new internal roadways (described in greater detail in Section IV.L. Traffic/Transportation/Parking) would be in compliance with the Fire Code, including any additional access requirements mandated by the DFD. Therefore, impacts to emergency access would be less than significant.

#### *Fire Flow*

As identified in the City of Downey Municipal Code and implemented by the Downey Fire Department, the overall fire flow requirement for the Proposed Project would be required to be consistent with Appendix B of the 2006 International Fire Code, as adopted by ordinance by the City of Downey. Although there are existing water lines currently serving the Project Site, these lines may have to be expanded in capacity and would have to be extended onto to the Project Site to serve the fire-flow demands of future developments constructed within Proposed Project's framework. In the event that the Proposed Project increases demand such that water main upgrades are required, a temporary disruption in

service may occur. As proper notification by the City of Downey Department of Public Works, Utilities Division, Water Supply Section, would take place and any potential service disruption would be temporary, impacts would be less than significant.

The Proposed Project would include improvements to increase the capacity of existing water infrastructure serving the Project Site (see Section IV.M.2. Utilities - Water). Though each individual development pursuant to the Tierra Luna Specific Plan would be required to provide the City with specifics about water needs and identify development specific water system improvements. All of these improvements would be designed according to and compliant with the City of Downey DPW requirements and statutory standards, which take into account DFD fire flow and pressure requirements and would be required to be upgraded by each individual development applicant. Further, the location and number of any new public or private hydrants would be determined as required by the City Fire Code and DFD.

Many structures that would be developed under the Tierra Luna Specific Plan would generally be taller buildings (in excess of two stories). As such additional fire fighting equipment, including a truck with an aerial ladder, would be required to provide adequate fire protection services. Further, development under the Tierra Luna Specific Plan would be denser and more heavily populated than what currently exists on the Project Site, which would necessitate additional paramedic staff and equipment. Thus, Mitigation Measures K-1 through K-5 would be required to provide the necessary fire protection infrastructure, equipment, and staff to the Project Site. With implementation of the mitigation measures, impacts upon fire protection services would be less than significant.

## **CUMULATIVE IMPACTS**

Implementation of the Proposed Project, in combination with the related projects identified in Section III. Environmental Setting, would increase the demand for fire protection services in the project area. Specifically, there would be increased demands for additional DFD staffing, equipment, and facilities over time. This need would be funded via existing mechanisms (i.e., property taxes, government funding) to which the Proposed Project and related projects would contribute.

Similar to the Proposed Project, each of the related projects would be individually subject to DFD review and would be required to comply with all applicable construction-related and operational fire safety requirements of the DFD and the City of Downey in order to adequately mitigate fire protection impacts. For example, all related projects would be required to assure that DFD access points remain clear during all demolition and construction activities. In addition, the adopted DMC requires that any commercial buildings over 3,600 square feet, residential buildings, and assembly-related uses (such as theatres, churches, and health clubs) install automatic fire sprinkler systems. Therefore, the Proposed Project would not contribute to a cumulatively considerable incremental effect upon fire protection services and the Proposed Project's cumulative impact would be less than significant.

## MITIGATION MEASURES

- K-1. The Applicant of the Proposed Project and all development projects constructed under the Tierra Luna Specific Plan's framework shall submit a Master Plan to the Downey Fire Department prior to issuing building permits, for review and approval, which shall provide the capacity of the fire mains serving the Project Site. Any required upgrades shall be identified and implemented prior to the issuance of building permits for the Proposed Project and future developments.
- K-2. The Proposed Project and all future development projects pursuant to the Tierra Luna Specific Plan shall comply with all fire code and ordinance requirements for building construction, emergency access, water mains, fire flows, onsite automatic sprinklers, and hydrant placement. Prior to issuing permits for any phase of the project, the Applicants shall implement all fire code and ordinance requirements to the satisfaction of the Downey Fire Department.
- K-3. The design of the Proposed Project and all development projects constructed within the Tierra Luna Specific Plan framework shall provide adequate access for Downey Fire Department equipment and fire fighters onto and throughout the Project Site and future structures.
- K-4. The Proposed Project and all development projects constructed within the Tierra Luna Specific Plan's framework shall provide adequate offsite public and onsite private fire hydrants as determined necessary by the Downey Fire Department.
- K-5. The project applicant shall provide for additional fire fighting equipment including one aerial ladder truck and fire fighters for the truck, one paramedic unit and two paramedics.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures listed above, project impacts on fire protection service would be less than significant.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**K. PUBLIC SERVICES**  
**2. POLICE PROTECTION**

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**ENVIRONMENTAL SETTING**

**Existing Police Service**

The Downey Police Department (DPD) is the local law enforcement agency responsible for providing police services to the City of Downey, except for properties owned by the County of Los Angeles in the southwest part of the city, which are patrolled by the County's Sheriff's Department, based in Lynwood. The DPD also maintains mutual aid agreements with practically all other cities in Los Angeles County except for the City of Los Angeles; this agreement establishes a reciprocal law enforcement status between the City of Downey and these other cities. The City of Downey also participates in a statewide mutual aid program.<sup>22</sup> The Proposed Project is in the service area of the DPD, which is located approximately 1.6 miles north of the Project Site at 10911 Brookshire Avenue. Because of the mutual aid agreements, the Project Site would also be served by the Los Angeles County Sheriff's Department Century Station located approximately 7.1 miles west of the Project Site in the City of Lynwood (see Figure IV.K-1, Fire and Police Station Locations). The DPD serves an approximately 12.6 square-mile area containing approximately 110,000 residents.<sup>23</sup> The DPD has 216 authorized personnel including: 124 sworn officers, 72 non-sworn officers, three chaplains, 18 explorers, and one volunteer.<sup>24</sup> These staff levels result in an officer to population ratio of approximately 1.13 officers per 1,000 residents.<sup>25</sup> Though there is no official standard, a commonly accepted ratio for police service is one officer per 1,000 residents. However, the City's preferred ratio is 1.8 officers per 1,000 residents. The City has been divided into six "beats", each being patrolled by one assigned officer. In addition, the number of DPD patrol officers is supplemented by traffic enforcement officers and detective personnel.<sup>26</sup>

***Crime Statistics***

The crime rate, which represents the number of crimes reported, affects the "needs" projection for staff and equipment for the DPD. To some extent, it is logical to anticipate that the crime rate in a given area will increase as the level of activity or population, along with the opportunities for crime increases.

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<sup>22</sup> *City of Downey, Vision 2025 Downey General Plan, Chapter 5 Safety, adopted January 25, 2005, p. 5-14.*

<sup>23</sup> *Downey Police Department, website: <http://www.downeypd.org/>, accessed June 18, 2008*

<sup>24</sup> *City of Downey Police Department, Annual Report, 2007, January 2007, p. 12.*

<sup>25</sup> *(124 officers \* 1,000 residents) ÷ 110,000 total City of Downey residents = 1.13 officers per 1,000 residents.*

<sup>26</sup> *Downey Police Department, website: <http://www.downeypd.org/>, accessed June 18, 2008.*

However, because a number of other factors also contribute to the resultant crime rate such as police presence, crime prevention measures, and on-going legislation/funding, the potential for increased crime rates is not necessarily directly proportional to increases in land use activity. Crime statistics for the City are provided in Table IV.K-2, Citywide Crime Statistics for 2007.

**Table IV.K-2**  
**Citywide Crime Statistics for 2007**

Type of Crime	Number of Crimes
Homicide	3
Rape	17
Robbery	288
Aggravated Assault	208
Burglary	669
Larceny-Theft	2,173
Motor Vehicle Theft	1,033
<b>Total Crimes</b>	<b>4,391</b>
<i>Source: City of Downey Police Department, Annual Report 2007.</i>	

Approximately 4,391 crimes were reported in the City of Downey during 2006. The predominant crimes were larceny-theft, motor vehicle theft, and burglary. Based on a population of 110,000, in 2007 there were approximately 39 crimes reported per 1,000 persons in the City of Downey.

### **Regulatory Framework**

Under the City Charter and Municipal Code of the City of Downey, the City Police Department sets overall policy while the Chief of Police manages the daily operations of the DPD and implement's its policies.

### **Response Times**

Unlike fire protection services, police units are often in a mobile state; hence actual distance between a Police Department facility and the Project Site is often of little relevance. Instead, the number of officers on the street is more directly related to the realized response time. Response time is defined as the total time from when a call requesting assistance is placed until the time that a police unit responds to the scene. Telephone calls for police assistance are prioritized based on the nature of the call. The DPD estimated response time to service calls is one to two minutes for emergency calls and five to eight minutes for non-emergency calls.<sup>27</sup>

<sup>27</sup> City of Downey, *Vision 2025 Downey General Plan, Chapter 5 Safety, adopted January 25, 2005, p. 5-14.*

Additionally, the status of traffic conditions in the project area could also have an effect on police response times. As discussed in Section IV.L. Traffic/Transportation/Parking, 96 of the 105 study intersections in the project area are currently operating at acceptable levels of service (LOS D or better) during the AM peak hour while 83 of the study intersections are operating at acceptable levels of service during the PM peak hour. The intersections operating at LOS E or F during the AM or PM peak hour upon projected maximum allowable project buildout include: Lakewood Boulevard/Gallatin Road – AM and PM Peak Hours, Lakewood Boulevard/Stewart & Gray Road – PM Peak Hour, Bellflower Boulevard/Imperial Highway – AM and PM Peak Hours, and I-605 Southbound/Firestone Boulevard – PM Peak Hour.

### ***Downey Police Department Site Design Review***

In the Safety Element of the General Plan of the City of Downey, the DPD identifies Goal 5.4., which states “Promote the protection of life and property from criminal activities.” Program 5.4.2.6. was drafted with the aim of realizing Goal 5.4. This Program states “Promote building and site design during the development review process that does not create nuisance and crime attraction.”

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### ***Appendix G of the State CEQA Guidelines***

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact on police services if it were to result in the following:

- (a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 police protection.

### **Project Impacts**

#### ***Construction Impacts***

Construction sites can be sources of attractive nuisance, providing hazards and inviting theft and vandalism. Therefore, when not properly secured, construction sites can become a distraction for local law enforcement from more pressing matters that require their attention. Consequently, developers typically take precautions to prevent trespassing through construction sites. Most commonly, temporary fencing is installed around the construction site to keep out the curious. Deployment of roving security guards is also an effective strategy in preventing problems from developing. The project Applicant and developers of future projects constructed within this Specific Plan’s framework will employ construction

security features, such as fencing, which would minimize the need for DPD services. Therefore, demand for DPD services during construction periods would be less than significant.

Traffic generated by construction workers and trucks resulting from the Proposed Project would occur primarily during off-peak hours. Although minor traffic delays may result from construction activities at times, these impacts would be temporary in nature and would be coordinated with local police and emergency officials. Therefore, impacts would be less than significant.

### ***Operational Impacts***

Implementation of the Proposed Project would generate residents and increase the number of site visitors to the Project Site, thereby, increasing the demand for police services. As discussed in Section IV.J. Population, Housing, and Employment, residential development on the Project Site would consist of up to 1,500 multi-family units which would generate up to an estimated 4,883 permanent residents.<sup>28</sup> As most of the employee positions at the new onsite commercial uses are expected to be filled by people already residing in the City of Downey and the current officer-to-population ratio is based on citywide total officers and citywide population, the provision of new commercial space is not expected to increase the service population of the Downey Police Department. The increase in onsite residents would result in an increase in the number of visitors to the Project Site. While the number of site visitors cannot be calculated with accuracy, it should be noted that the estimated 4,883 project residents is a conservative projection of the number of persons onsite at a given time. This is because some of project residents would be employed at offsite locations during the daytime hours. Although there is no direct proportional relationship between increases in land use activity and increases in demand for police protection services, the number of calls for police response to home burglaries, vehicle burglaries, damage to vehicles, traffic-related incidents, and crimes against persons would be anticipated to increase with the increase in onsite activity and increased traffic on adjacent streets and arterials. Such calls are typical of problems experienced in existing residential neighborhoods and commercial districts in the project area and do not represent unique law enforcement issues specific to the Proposed Project. Nonetheless, development on the Project Site under the Tierra Luna Specific Plan would be denser and more heavily populated than what currently exists on-site. As such, on-site police protection services, as outlined in Mitigation Measure K-9, would be required to ensure public safety. The discussion below considers some of the criteria that may be used to determine the Proposed Project's impacts to police protection services, including DPD response time and staffing levels in the project area.

The Proposed Project would provide adequate and strategically positioned lighting as “an integral element of the landscape design of a property. It should help define activity areas and provide interest at night. At the same time, lighting should facilitate safe and convenient circulation for pedestrians, bicyclists, and

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<sup>28</sup> Based on estimated 3.255 persons per housing unit for the City of Downey from the State of California Department of Finance, *E-5 City/County Population and Housing Estimates, 2008, Revised 2001-2007, with 2000 Benchmark*, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e-5\\_2001-06/](http://www.dof.ca.gov/research/demographic/reports/estimates/e-5_2001-06/), accessed July 15, 2008.

motorists.”<sup>29</sup> For example, lighting shall include illumination of all parking areas, buildings, pedestrian routes, dining areas, design areas, and other public places. The building and layout design of each future development pursuant to the Proposed Project would also include crime prevention features throughout the Project Site including secure parking facilities and provision of security patrols if necessary. In addition, the continuous visible and non-visible presence of residents at all times of the day would provide a sense of security during evening and early morning hours. Mitigation Measure K-6 shall be required to ensure adequate consideration is given to security in the design process.

### ***Officer to Population Ratio***

The full buildout of the Proposed Project would result in the addition of up to 4,883 permanent onsite residents. The addition of up to 4,883 new permanent residents would not result in a substantial drop in the existing officer to population ratio (from 1.13 to 1.08 officers per 1,000 residents). As such, the hiring of additional officers in order to maintain the current officer to population ratio in the Downey community would not be necessary. However, as discussed above, the City’s preferred ratio for police service is 1.8 officers per 1,000 residents. As such, the construction of each development project within the Tierra Luna Specific Plan’s framework would result in the need for an additional nine officers to serve the City of Downey.<sup>30</sup> As the Proposed Project’s increase in onsite population would necessitate the hiring of nine police officers, it is likely that an expansion of the police force would be needed. As the Proposed Project would result in increased demand for new, expanded, consolidated, or relocated police facilities or staff, the associated impact would be significant. However, Mitigation Measure K-7 shall be implemented to ensure adequate police forces are available for the increased land use activity associated with the Proposed Project. With the implementation of the mitigation measures, impacts would be less than significant.

### ***Response Times***

As discussed previously, police units are most often in a mobile state; therefore, it is unknown precisely which route the DPD would use to access the Project Site when responding to an emergency call. However, any police unit accessing the Project Site from the surrounding area would have to pass through at least one of the study intersections. As indicated in Section IV.L. Traffic/Transportation/Parking, project traffic is expected to significantly impact four study intersections. Specifically, the Proposed Project would add traffic to these already congested intersections resulting in a LOS of F. In total, this would translate into a delay of over 50 seconds per vehicle (see Section IV.L. Traffic/Transportation/Parking). However, the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L. Traffic/Transportation/Parking) would reduce impacts at these intersections to a less

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<sup>29</sup> *Tierra Luna Specific Plan, Chapter 4: The Code, Section 4-7, Additional Requirements, point 5, Lighting, page 4: 42.*

<sup>30</sup>  $(1.8 \text{ officers} \times 4,883 \text{ new Proposed Project residents}) \div 1,000 \text{ residents} = 8.789 \approx 9 \text{ officers.}$

than significant level. Therefore, impacts related to emergency response time would be less than significant.

## CUMULATIVE IMPACTS

Implementation of the Proposed Project in combination with ambient growth and the related projects identified in Section III. Environmental Setting, would further increase the demand for police protection services in the project area. As discussed in Section IV.J. Population, Housing, and Employment, buildout of the Proposed Project and the 61 identified related projects would result in the addition of approximately 7,952 new permanent residents to the project area and cities identified in the related projects table (see Table IV.J-3, Estimated Cumulative Population Generation for the Related Projects). However, related projects located in surrounding cities do not affect the service population of the Downey Police Department. Therefore, for cumulative purposes, only the population generated by related projects located within the City of Downey will be included in this analysis.

As discussed previously, the Proposed Project is located within the City of Downey, which has an existing police service population of approximately 110,000 persons. The related projects located within the City of Downey also would be served by the DPD Headquarters located 10911 Brookshire Avenue. As shown in Table IV.J-3, Estimated Cumulative Population Generation for the Related Projects, the residential population associated with the Proposed Project and the 11 related projects in the City of Downey would result in a 4,938-person cumulative increase in the police service population for the Downey Police Department Headquarters, of which the Proposed Project would comprise approximately 99 percent.

Upon buildout of the Proposed Project and the City of Downey related projects, the service population for the Police Department would increase by 4,938 residents, thus decreasing the officer-to-population ratio in the City of Downey (from 1.13 to 1.08 officers per 1,000 residents).<sup>31</sup> As discussed above, the City's preferred officer-to-population ratio is 1.8 officers per 1,000 residents. The addition of 4,938 new permanent residents would result in the need for approximately nine additional officers.<sup>32</sup> However, the impacts created by new development would be reduced through the incorporation of required security measures into each proposed development on a case-by-case basis. Therefore, cumulative impacts with respect to police protection services would be less than significant.

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<sup>31</sup> Existing officer-to-population ratio equals  $1.13$  officers per  $1,000$  residents. With the addition of the Proposed Project and the City of Downey related projects, the new officer-to-population ratio would be  $1.08$  [ $(124 \text{ officers} \times 1,000 \text{ residents}) \div 114,938 \text{ service residents} = 1.08$  officers per  $1,000$  residents].

<sup>32</sup>  $(1.8 \text{ officer} \times 4,938 \text{ new residents}) \div 1,000 \text{ residents} = 8.888 = \text{approximately } 9 \text{ officers}$ .

**MITIGATION MEASURES**

- K-6. The Proposed Project design shall be reviewed and approved by the Downey Police Department pursuant to General Plan Program 5.4.2.6. prior to the issuance of a building permit.
- K-7. Prior to issuance of building permits, the Applicant shall complete an analysis of projected employee populations over two 24-hour (one day during the week and one during the weekend) periods. The number of projected employees will be added to the projected number of residents (approximately 4,883) and will be used to determine applicable shifts/periods of time to which police personnel could be added to ensure that a sufficient number of officers is on staff for the total projected population at the Project Site. The project Applicants shall pay fees for any additional police personnel determined to be required after such determination is made and shall enter into an agreement with the City of Downey and DPD for payment of such fees.
- K-8. Prior to the issuance of building permits, the Applicant shall provide an onsite security plan for the development, to be approved by the City of Downey and the Downey Police Department.
- K-9. Prior to the issuance of building permits, the Applicant shall provide an onsite police substation, and the project Applicant shall pay fees for any additional police personnel determined to be required after such determination is made and shall enter into an agreement with the City of Downey and DPD for payment of such fees.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the mitigation measures listed above, project impacts on police protection services would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### K. PUBLIC SERVICES

#### 3. SCHOOLS

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#### ENVIRONMENTAL SETTING

##### Existing Schools

Public schools in the City of Downey are under the jurisdiction of the Downey Unified School District (DUSD). The DUSD current enrollment is 22,775 students, divided amongst 13 elementary schools, four middle schools, and three high schools.<sup>33</sup>

Schools located in the City of Downey that would serve the Project Site include: Alameda Elementary School, Lewis Elementary School, Carpenter Elementary School, Gauldin Elementary School, Sussman Middle School, East Middle School, Downey High School, and Columbus High School (see Figure IV.K-2, School Locations). These schools are listed in Table IV.K-3, DUSD School Capacity and Enrollment, along with the location, enrollment capacities, enrollments levels, and number of students above/below capacity for each of the schools listed. As shown in Table IV.K-3, all of the schools serving the Proposed Project are currently operating under capacity. As there are no residential uses currently developed onsite, no students are being generated by the existing uses.

##### Regulatory Framework

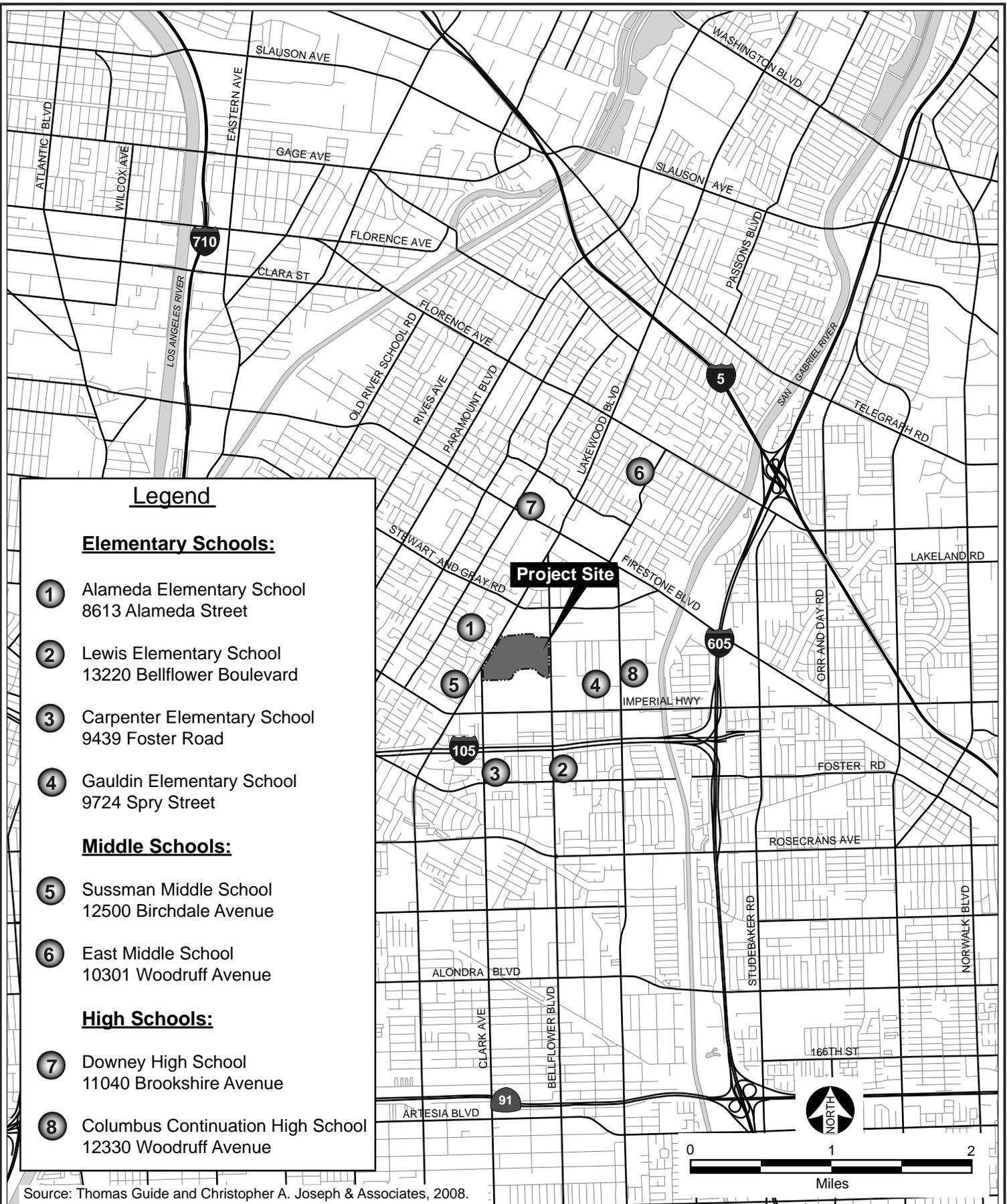
##### *School Facilities Fees*

Pursuant to California Education Code section 17620 subdivision (a)(1), the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities. The interrelated nature of commercial and residential development justified the California legislature's adoption of fee legislation that recognized both as contributing to enrollment growth in schools.

The Leroy F. Green School Facilities Act of 1998 (SB 50) sets the maximum level of fees a developer may be required to pay to mitigate a project's impacts on school facilities. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions. The provisions of SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions.

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<sup>33</sup> Downey Unified School District, website: <http://www.dusd.net/>, accessed July 14, 2008.



**Table IV.K-3  
DUSD School Capacity and Enrollment**

<b>School Type (grade)</b>	<b>School Name</b>	<b>Location</b>	<b>Current Capacity</b>	<b>Current Student Enrollment</b>	<b>(-)Under / (+)Over Capacity</b>
Elementary School (Grades 1-3)	Alameda	8613 Alameda Street, Downey	720	652	-68
Elementary School (Grades K-5)	Lewis	13220 Bellflower Boulevard	764	729	-35
Elementary School (Grades 4-5)	Carpenter	9439 Foster Road	757	716	-41
Elementary School (Grades K-5)	Gauldin	9724 Spry Street	796	756	-40
Middle School (Grades 6-8)	Sussman	12500 Birchdale Avenue	1,528	1,500	-28
Middle School (Grades 6-8)	East	10301 Woodruff Avenue	1,382	1,358	-24
High School (Grades 9-12)	Downey	11040 Brookshire Avenue	3,822	3,776	-46
High School (Grades 9-12)	Columbus Continuation	12330 Woodruff Avenue	320	309	-11

*Source: Email Correspondence with Buck Weinfurter, Director MOT, Downey Unified School District, July 2, 2008.  
Source (table): Christopher A. Joseph & Associates, July 15, 2008.*

The provisions of SB 50 are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws (Government Code Section 65996).

The DUSD current rates for developer fees are \$2.97 per square foot of new residential development and \$0.47 per square foot of new commercial/industrial development.

## **ENVIRONMENTAL IMPACTS**

### **Thresholds of Significance**

#### ***Appendix G of the State CEQA Guidelines***

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact on school services if it were to result in:

- (a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services such as schools.

## Project Impacts

The Proposed Project would be developed with up to approximately 1,700,000 square feet of residential uses (approximately 1,500 units) including live-work units, for-sale units, and for-rent units, up to 675,000 square feet of commercial/office use, 1,200,000 square feet of commercial/retail use, and approximately 450 hotel rooms. Based on available student generation rates, the residential component of the Proposed Project would generate a total of approximately 911 students: 365 elementary, 225 middle, and 321 high school students (see Table IV.K-4, Proposed Project Student Generation).

**Table IV.K-4**  
**Proposed Project Student Generation**

Use Type	Amount of Development	School Type	Student Generation Factor <sup>a</sup>	Total Students Generated
<b>Proposed Uses</b>				
Multi-Family Residential	1,700,000 sf or 1,500 du	Elementary School (K-6)	0.243	365
		Middle School (7-8)	0.15	225
		High School (9-12)	0.214	321
<i>Subtotal</i>				<i>911</i>
<i>Less Existing</i>				<i>0</i>
<b><i>Net New Total Students</i></b>				<b><i>911</i></b>
<sup>a</sup> Email correspondence with Kevin Condon, Asst. Superintendent Business Services, Downey Unified School District, June 30, 2008. Note: The number of students has been rounded to the nearest whole number. Source: Christopher A. Joseph and Associates, June 2008.				

It is likely that some of the students generated by the Proposed Project would already reside in areas served by DUSD and would already be enrolled in DUSD schools. However, for a conservative analysis, it is assumed that all students generated by the Proposed Project would be new to DUSD. Currently, none of the schools serving the Project Site are operating over capacity. In total, Alameda Elementary, Lewis Elementary, Carpenter Elementary, and Gauldin Elementary currently exhibit excess student capacity of approximately 184 students. With the addition of 365 new elementary school students, these schools would exceed their capacities. Additionally, Sussman Middle School and East Middle School currently have excess student capacity of approximately 52 students. With the addition of 225 new middle school students, these schools would exceed their capacities. Further, Downey High School currently exhibits an excess student capacity of approximately 57 students. With the addition of 321 new high school students, Downey High School would exceed its capacity.

The additional students generated by the Proposed Project would further contribute to the near capacity conditions at all of the identified elementary, middle, and high schools and thus constitute a significant impact upon DUSD schools. However, as identified above, and in Mitigation Measure K-10, pursuant to the California Education Code Section 17620 and California Government Code 65996, payment of the school fees established by the DUSD in accordance with existing rules and regulations regarding the calculation and payment of such fees would by law mitigate the Proposed Project's direct and indirect

impacts on schools. The Proposed Project, and all future development projects constructed pursuant to it, would be required to pay School Facility Fees to the sum of \$2.97 per square-foot of residential development and \$0.47 per square-foot of commercial/industrial development. Therefore, upon compliance with Mitigation Measure K-10, impacts to schools services would be less than significant.

## **CUMULATIVE IMPACTS**

Implementation of the Proposed Project in conjunction with the related projects in Section III. Environmental Setting, would further increase demands for school services. There are a total of 78 identified related projects. As shown in Table IV.K-5, Estimated Related Projects Student Generation, in total, the related projects would generate approximately 199 elementary school students, 123 middle school students, and 177 high school students, for a total student generation of 499 students. However, the identified related projects list includes projects located within several different cities in the area; only those related projects located within the City of Downey would be served by the Downey Unified School District. As such, only the related projects in the City of Downey will be analyzed for cumulative impacts. Additionally, only those related projects with residential components will be analyzed. For a conservative analysis, it is assumed that all of the students generated by the related projects in the City of Downey would attend the same schools as the students generated by the Proposed Project. Upon buildout, the related projects located within the City of Downey would generate approximately four elementary school students, three middle school students, and four high school students for a total of approximately 11 additional students at area schools.

Similar to the Proposed Project, it is likely that some of the students generated by the related projects would already reside in areas served by the DUSD and would already be enrolled in DUSD schools. However, for a conservative analysis, it is assumed that all the students generated by the related projects would be new to the DUSD.

The related projects would generate additional students at Alameda Elementary, Lewis Elementary, Carpenter Elementary, Gauldin Elementary, Sussman Middle, East Middle, Downey High, and Columbus High Schools. The Proposed Project in combination with the related projects would cause these schools to exceed their capacities. Similar to the Proposed Project, the applicants of the related residential as well as commercial and industrial projects would be expected to pay required developer school fees to the DUSD (pursuant to SB 50) to help reduce the impacts their respective projects may accrue to local school services. The provisions of SB 50, discussed above, are deemed to provide full and complete mitigation of school facilities impacts. The payment of these fees by the Proposed Project and the related projects would be mandatory, and would reduce the cumulative impact upon school services to a less than significant level.

**Table IV.K-5  
Estimated Related Projects Student Generation**

Land Use	Amount of Development	School Type	Student Generation Factor <sup>a</sup>	Total Students Generated
<b>Related Projects in the Cities of Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera, and Bell Gardens.</b>				
Single Family Residential	636 du	Elementary School	0.2434 students/du	155
		Middle School	0.1498 students/du	95
		High School	0.2148 students/du	137
Multi-Family Residential	166 du	Elementary School	0.243 students/du	40
		Middle School	0.15 students/du	25
		High School	0.214 students/du	36
<b>Related Projects Outside the City of Downey Total</b>				<b>488</b>
<b>Related Projects in the City of Downey</b>				
Multi-Family Residential	17 du	Elementary School	0.243 students/du	4
		Middle School	0.15 students/du	3
		High School	0.214 students/du	4
<i>Downey Related Projects Total</i>				<i>11</i>
<i>Proposed Project Total</i>				<i>911</i>
<b>Cumulative Total (Downey Related Projects + Proposed Project)</b>				<b>922</b>
<sup>a</sup> Email correspondence with Kevin Condon, Asst. Superintendent Business Services, Downey Unified School District, June 30, 2008. Note: The number of students has been rounded to the nearest whole number. Source: Christopher A. Joseph and Associates, October 2008.				

## MITIGATION MEASURES

K-10. The Applicant of the Proposed Project and all developments constructed therein shall pay school fees to the satisfaction of the Downey Unified School District.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the above mitigation measure, project impacts upon school services and facilities would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### K. PUBLIC SERVICES

#### 4. RECREATION AND PARKS

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##### ENVIRONMENTAL SETTING

The City of Downey Community Services Department manages all municipally owned and operated recreation and park facilities within the City, which include approximately 15 parks, community centers, recreation centers, aquatic centers, gymnasiums, and golf courses. A 16<sup>th</sup> park, the Discovery Sports Complex, is currently under construction on the southern frontage of the Project Site at Clark Avenue. Upon completion, the Discovery Sports Complex will occupy approximately 11 acres.<sup>34</sup> With its completion, the City of Downey will provide over 110 acres of park space.<sup>35</sup> More specifically, with a year 2003 population of 112,184 (see Section IV.J. Population, Housing, and Employment), the City's stock of 117.2 acres of park space results in an existing ratio of 1.04 acres of park space per 1,000 residents.<sup>36</sup> Table IV.K-6, Parks and Recreational Facilities in the City of Downey, includes all parks and recreational facilities that are located within the City of Downey (with the exception of the Rio Hondo Golf Club and Course). Figure IV.K-3, Parks and Recreational Facility Locations, depicts the location of existing parks located within the City of Downey.

##### Regulatory Framework

###### *National Recreation and Parks Association Open Space Standard*

The National Recreation and Parks Association (NRPA) Open Space Standard is a ratio of 1.5 acres of open space per 1,000 residents.

###### *Downey Municipal Code Park Space Requirements*

According to the Downey Municipal Code, a project shall dedicate the following amount of land: 375 square feet of park space for each single-family, detached residential unit and 300 square feet of park space for all other types of dwellings.

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<sup>34</sup> City of Downey, Community Services Department, Discovery Sports Complex, website: [http://www.downeyca.org/city\\_cs\\_discoverypark.php](http://www.downeyca.org/city_cs_discoverypark.php), accessed August 7, 2008.

<sup>35</sup> City of Downey, Vision 2025 Downey General Plan, Chapter 7, Open Space, adopted January 25, 2005, page 7-6.

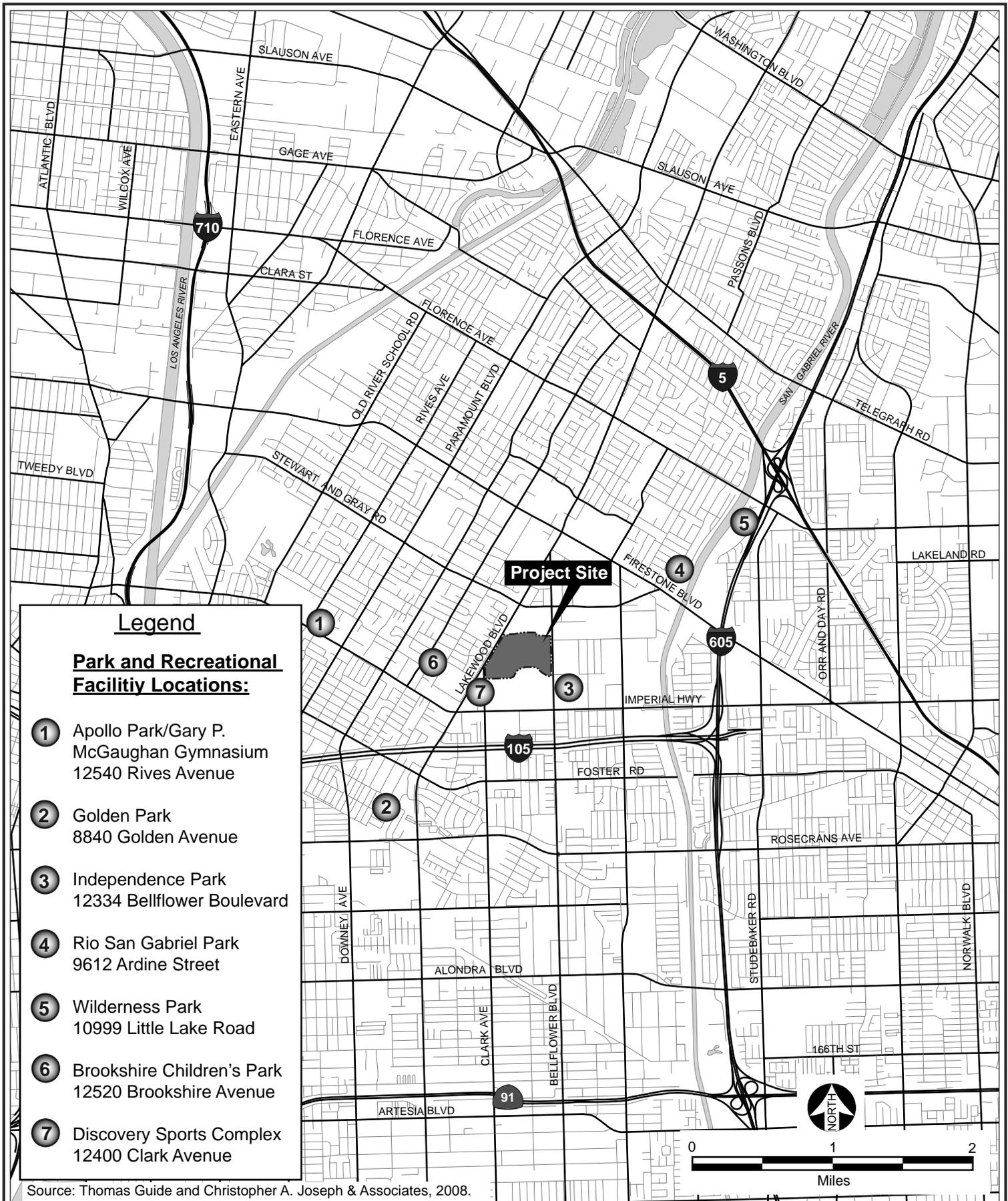
<sup>36</sup>  $(117.2 \text{ acres of park space} * 1,000 \text{ residents}) \div 112,184 \text{ year 2003 residents} = 1.04 \text{ acres per 1,000 residents}$ .

**Table IV.K-6  
Parks and Recreational Facilities in the City of Downey**

<b>Facility</b>	<b>Location</b>	<b>Size (acres)</b>
Apollo Park/Gary P. McGaughan Gymnasium	12540 Rives Avenue	14.7
Barbara J. Riley Community & Senior Center (part of Apollo Park)	7810 Quill Drive	(part of Apollo Park)
Brookshire Children's Park	12520 Brookshire Avenue	1.6
Crawford Park	7000 Dinwiddie Street	2
Dennis the Menace Park	9125 Arrington Avenue	7
Discovery Sports Complex	12400 Clark Avenue	11
Furman Park	10419 Rives Avenue	15
Golden Park	8840 Golden Avenue	7.4
Independence Park	12334 Bellflower Boulevard	12.5
Rio San Gabriel Park	9612 Ardine Street	16
Temple Park	7132 Cole Street	0.5
Treasure Island Park	9300 Bluff Road	4
Wilderness Park	10999 Little Lake Road	26
<b>Total Acreage</b>		<b>117.2</b>
<i>Source: City of Downey Community Services Department, website: <a href="http://www.downeyca.org/city_cs.php">http://www.downeyca.org/city_cs.php</a>, accessed June 18, 2008.</i>		

### ***Downey Municipal Code In-Lieu Fees***

Pursuant to the Subdivision Map Act, Division 2, Chapter 4, Article 3, Section 66477, a city or county may require the dedication of land, payment of fees in-lieu thereof, or both for park and recreational purposes as part of the approval of a tentative map or parcel map. As such, the City of Downey has adopted in-lieu park space fees to help achieve its acre-to-population ratio. The fees are subject to an inflationary factor applied each year on January 2<sup>nd</sup> indexed to the "Consumer Price Index – Urban" (CPI-U) published by the Department of Labor Statistics for the Los Angeles – Long Beach area.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.K-3  
Park and Recreational Facility Locations

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

Pursuant to Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact on recreation and parks if it were to result in the following:

- (a) Substantial adverse physical impacts associated with the provision of 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 public services such as recreation and parks.

### Project Impacts

#### *National Recreation and Parks Association Open Space Standard*

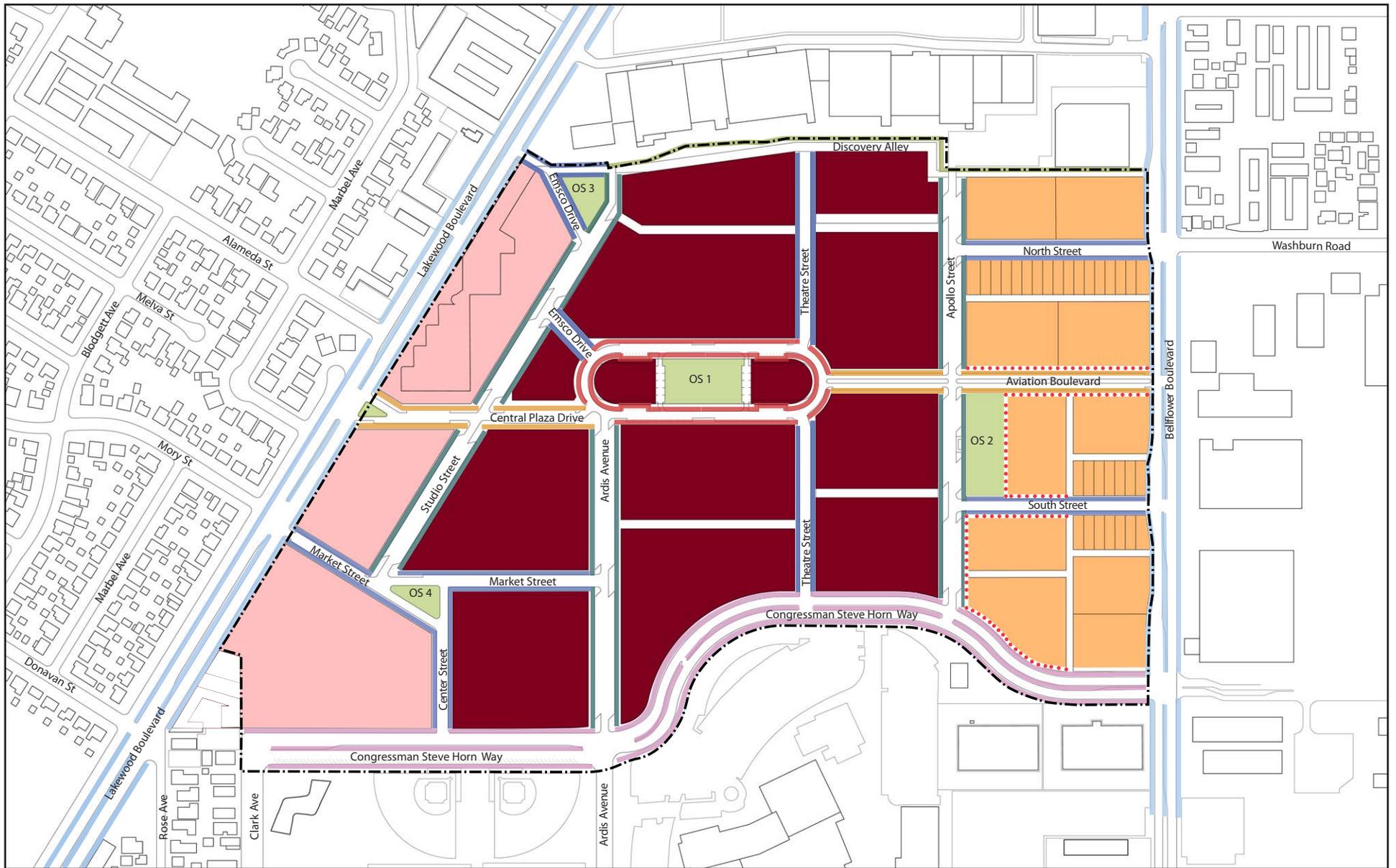
The Proposed Project would be developed with up to 3,950,000 square feet of residential, commercial, and office uses, including up to 675,000 square feet of commercial/office use; 1,200,000 square feet of commercial/retail use; approximately 450 hotel rooms; 1,700,000 square feet (approximately 1,500 units) of residential use, including live-work units, for-sale units, and for-rent units, and up to approximately 125,000 square feet of public open space (public parks, plazas and town squares).

Implementation of the Proposed Project would generate new onsite residents, creating an increased demand on existing and parks and recreational facilities. Residential development on the Project Site would consist of approximately 1,500 multi-family units. As such, the Proposed Project would generate an estimated 4,883 residents. Pursuant to the NRPA ratio of 1.5 acres per 1,000 residents, the Proposed Project would require 7.5 acres of park space.<sup>37</sup> The inclusion of 125,000 square feet of open space in the Proposed Project, to include fountains and landscaped outdoor areas throughout the Project Site, as well as an internal roadway network with a street tree program designed to encourage pedestrian activity, equates to approximately 2.87 acres of open space for residents (see Figure IV.K-4, Potential Open Space Areas). Because the Proposed Project would include only up to 2.87 acres of public open space (125,000 square feet), insufficient acreage would be available to achieve the goal of the NRPA necessitating the inclusion of 7.5 acres of park space.

In addition to new onsite residents, there would be new employees at the Project Site, creating an increased demand on parks and recreational facilities. Approximately 5,307 employees would be generated by the proposed commercial uses. As discussed in Section IV.J. Population, Housing, and Employment, the existing uses at the Project Site currently provide employment for an estimated 45

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<sup>37</sup>  $(1.5 \text{ acres of park space} * 4,883 \text{ projected project residents}) \div 1,000 \text{ residents} = 7.3 \text{ acres of park space.}$

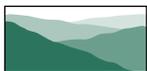


**Legend**

 Potential Open Space

 Specific Plan Boundary

Source: Moule & Polyzoides, Architects and Urbanists, July 2008.



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Environmental Planning and Research

Figure IV.K-4  
Potential Open Space Areas

people. Therefore, buildout of the Proposed Project would result in a net increase of 5,262 employees onsite, potentially increasing the demand upon the City of Downey's public park space. However, it is expected that most of the employees at the Project Site are anticipated to already reside within the City. As such, these individuals have already been accounted for in the City's provision of public open space. Therefore, it is considered unlikely that future onsite employment would result in a significant impact to park space and recreation resources.

#### ***Downey Municipal Code Required Open Space***

Because the Proposed Project does not allow for the construction of single-family detached residential units, each of 1,500 allowable units would require the dedication of 300 square feet for park space, pursuant to the Downey Municipal Code. Accordingly, the Proposed Project would require the dedication of approximately 450,000 square feet of open space. The proposed 125,000 square feet of open space would not be consistent with the Downey Municipal Code requirement.

#### ***Downey Municipal Code In-Lieu Fees***

Pursuant to the Subdivision Map Act, Division 2, Chapter 4, Article 3, Section 66477, payment of in-lieu park fees would contribute to a development achieving its required park space dedication. As such, the payment of such fees would mitigate the Proposed Project's impacts upon park space. Therefore, with payment of in-lieu fees, project-related impacts upon parks and recreation services would be reduced to a level of less than significant.

### **CUMULATIVE IMPACTS**

The Proposed Project in combination with the related projects identified in Section III. Environmental Setting, would be expected to increase the cumulative demand for parks and recreational facilities in the project area. Of the 61 related projects, only 11 projects are located within the City of Downey and would be expected to patronize City of Downey public parks and recreation facilities. Of the 11 related projects within the City of Downey, one would generate residents and, therefore, would combine with the Proposed Project to create a cumulative increase in demand for park and recreation space.

Based on the NRPA standard minimum ratio for parkland to population, the Proposed Project and the three residential related projects would result in a demand for approximately 5.0 acres of parkland and recreational facilities in the project area.<sup>38</sup>

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<sup>38</sup> *At a Downey Municipal Code Density of 2.0 persons per dwelling unit, the Proposed Project would generate 3,000 residents (1,500 units \* 2.0 persons per unit) and Related Project Nos. 71, 77, and 78 would generate 334 residents (167 units \* 2.0 persons per unit). Subsequently, (1.5 acres \* 3,334 cumulative resident generation) ÷ 1,000 residents = 5.0 acres per 1,000 residents.*

Similar to the Proposed Project, the applicants of the related project located within the City of Downey containing a residential component would be required to pay in-lieu parkland fees, and/or to incorporate park and recreational facilities onsite. With the mandatory payment of the in-lieu parkland fees, cumulative parks and recreation impacts would be less than significant.

### **MITIGATION MEASURES**

- K-11. The project Applicant shall pay the applicable in-lieu park fees as determined by the City of Downey, which shall scale up on an annual basis with the increase in the Consumer Price Index (CPI) for the Los Angeles metropolitan area.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the above mitigation measure, project impacts on recreation and parks would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### K. PUBLIC SERVICES

#### 5. LIBRARIES

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##### ENVIRONMENTAL SETTING

The Downey City Library (DCL) provides library services throughout the City of Downey. Over 131,169 catalogued books and other materials comprise the DCL collection.<sup>39</sup> The Downey City Library, located at 11121 Brookshire Avenue, is the sole library facility serving the City of Downey, including the Project Site. The Library is approximately 27,500 square feet in size.<sup>40</sup> The Library serves the entire City of Downey, a population of approximately 110,000 persons, and is open seven days and four nights per week (see Figure IV.K-5, Library Branch Locations). DCL services include adult and children's sections and audiovisual, circulation and technical departments. The DCL also operates a "Books on Wheels" program designed to deliver books to "homebound residents."<sup>41</sup>

##### Regulatory Framework

The State of California maintains standards that apply to libraries. The State of California dictates that 0.5 square feet of library facility per capita should be provided.<sup>42</sup> In addition, the State of California standard for library volumes per capita is two per person. Based on State standards, the Downey Public Library's current facility size and resources do not meet the building size criteria for its service population nor the needed volumes.

##### ENVIRONMENTAL IMPACTS

##### Thresholds of Significance

Pursuant to Appendix G of the State CEQA Guidelines, the Proposed Project could have a potentially significant impact on library services if it were to result in:

- (a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services such as libraries.

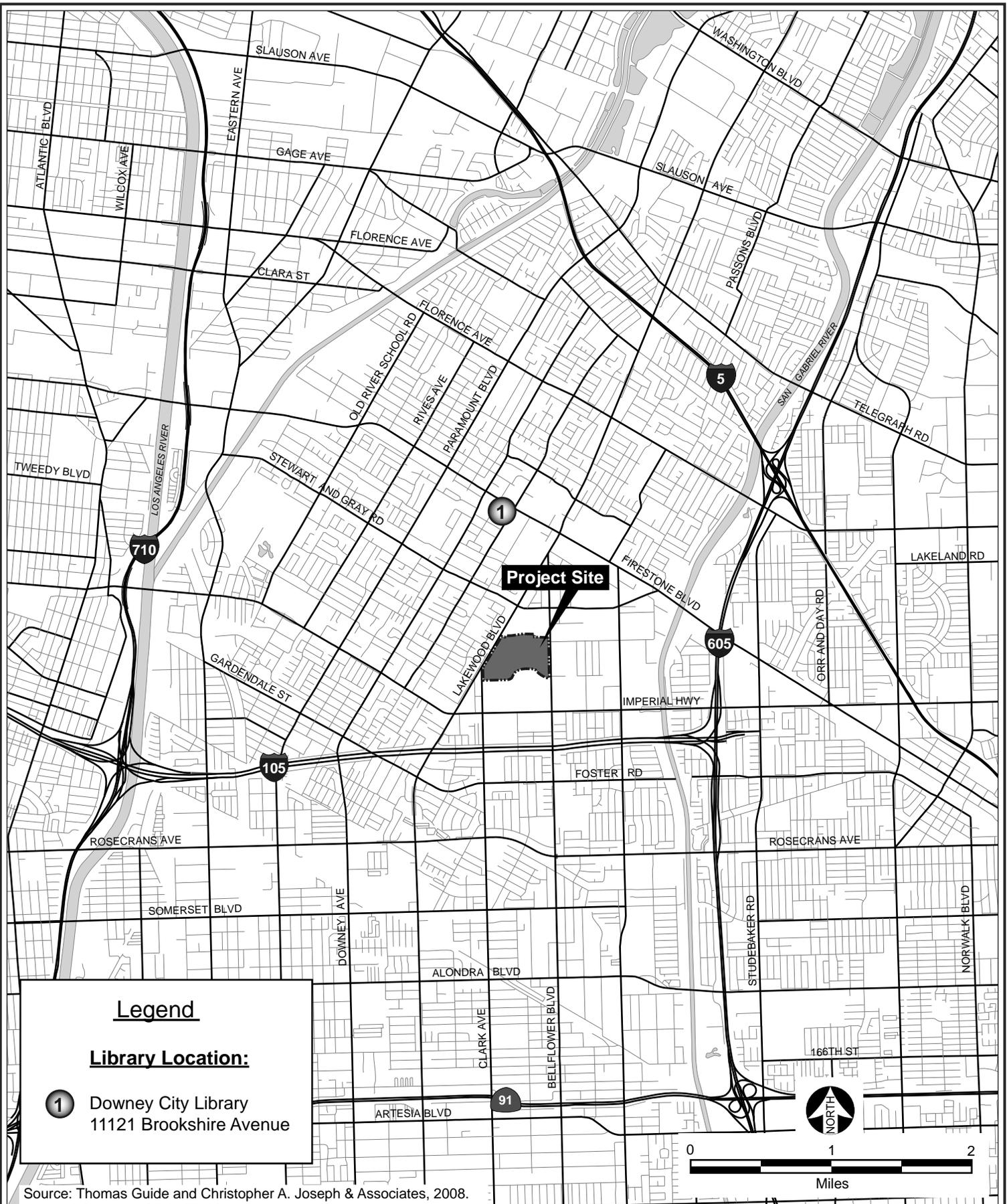
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<sup>39</sup> Downey City Library, website: <http://www.downeylibrary.org/about/>, accessed July 17, 2008.

<sup>40</sup> City of Downey website: [http://www.downeyca.org/city\\_geninfo.php](http://www.downeyca.org/city_geninfo.php), accessed July 17, 2008.

<sup>41</sup> Downey City Library, website: <http://www.downeylibrary.org/services/>, accessed July 17, 2008.

<sup>42</sup> City of Los Angeles, *Los Angeles Citywide General Plan Framework Draft Environmental Impact Report*, pages 2.13-1 & 2.13-2, January 1995.



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Figure IV.K-5  
Library Location

## **Project Impacts**

The Proposed Project would be developed with up to 3,950,000 square feet of residential, commercial, and office uses, including up to 675,000 square feet of commercial/office use; 1,200,000 square feet of commercial/retail use; approximately 450 hotel rooms; and 1,700,000 square feet (approximately 1,500 units) of residential use, including live-work units, for-sale units, and for-rent units. Full buildout of the Proposed Project would increase demand for library services by introducing approximately 4,883 new residents and 5,307 jobs to the Project Site (see Section IV.J. Population, Housing, and Employment). This increase in onsite residential population would require an additional 2,442 square feet of library space (4,883 persons x 0.5 square feet) and 9,766 volumes of permanent collection (4,883 persons x 2 volumes each of permanent collections) to meet the State standards.

Unlike project-generated residents, project-generated employees at commercial sites are not expected to patronize libraries during working hours, as they are more likely to use libraries near their homes during non-work hours. Nonetheless, the additional employees associated with the Proposed Project are considered for purposes of a conservative analysis. The Project Site is located approximately 1.4 miles southwest of the Downey Public Library. As such, project-generated employees may utilize the Library during work breaks. However, because the current development on the Project Site generates approximately 45 jobs, buildout of the Proposed Project would result in a net increase of 5,262 jobs. However, it is expected that most of the people to be employed on the Project Site already reside in the City of Downey. Therefore, project buildout would not be expected to significantly increase the demand on library facilities and resources from future onsite employees, although some employees would be expected to utilize nearby library facilities. However, as stated above, the Proposed Project would need to increase the size of the Downey Library facility and the number of volumes available to the facility, a collection that is already deficient pursuant to State of California standards, in order to accommodate the projected increase in onsite employee and residential population. Therefore, buildout of the Proposed Project would result in significant impacts upon City of Downey Library resources. The Applicant may be required to pay a per capita developer fee to alleviate any increase in library demands as a result of the buildout of the Proposed Project. With implementation of mitigation measure K-12, impacts on library services would be reduced to a level of less than significant.

## **CUMULATIVE IMPACTS**

Implementation of the Proposed Project in combination with the related projects identified in Section III., Environmental Setting, would be expected to further increase demand for library services throughout the region. However, only those related projects in the City of Downey that would be served by the Downey City Library will be analyzed in the cumulative discussion. Of the 61 identified related projects, only the 11 projects located within the City of Downey would be served by the Downey City Library. In general, the employees and students that would be generated by the related projects would not be expected to patronize the Downey City Library to any great extent, as they typically would not have long periods of time during their work or school days to visit library facilities. It is considered far more likely that these two groups would use libraries near their homes during non-work or non-school hours. Thus, only the

related projects that would generate residents are utilized for this cumulative analysis. Of the 11 related projects that would be served by the Downey City Library, one would include a residential component.

As discussed in Section IV.J. Population, Housing, and Employment, the Proposed Project, in combination with the residential related project, would result in a cumulative increase of approximately 4,938 residents who would increase the demand on library services. Therefore, based on the State of California standards of 0.5 square feet and two volumes per capita, the Proposed Project and related projects would generate a need for approximately 2,469 square feet of additional library space and 9,876 additional volumes of permanent collection. As the Downey Library does not meet the current building size criteria or possess the desired number of volumes in its collection, the increase in the demand on library facilities would result in a cumulatively significant impact on library resources. However, as with the Proposed Project, the related projects would be required to pay a per capita developer fee. With compliance with fee payment, cumulative impacts would be less than significant.

### **MITIGATION MEASURES**

- K-12. The Proposed Project Applicant shall pay a mitigation fee as determined by the City of Downey Public Library, based upon the projected employee and residential population of the development. The funds will be used for books, computers, and other library materials and information services.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the above mitigation measure, impacts on library services would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### L. TRAFFIC/TRANSPORTATION/PARKING

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#### INTRODUCTION

This section evaluates the potential traffic, transportation, and parking impacts associated with the Proposed Project. The following analysis is based upon the traffic analysis prepared for the Proposed Tierra Luna Specific Plan Project located in the City of Downey by Raju Associates, Inc., January 2009. A copy of this report is included as Appendix IV.L-1.

#### ENVIRONMENTAL SETTING

The Proposed Tierra Luna Specific Plan Project is located between Lakewood Boulevard and Bellflower Boulevard bound by the Downey Landing Shopping Center to the north and Congressman Steve Horn Way/Kaiser Medical Facility on the south within the City of Downey, California. The 79-acre Tierra Luna Specific Plan area is within the middle third of the current 168-acre Downey Landing Specific Plan.

The Specific Plan area (Project Site) is located approximately 1.15 miles to the west of the San Gabriel River (I-605) Freeway, approximately one-half mile to the north of the Century (I-105) Freeway, approximately 2.5 miles east of the Long Beach (I-710) Freeway, and approximately 2.3 miles south of the Santa Ana (I-5) Freeway.

The project study area encompasses a geographic area bounded by the City of Downey boundary to the north, the I-710 Freeway to the west, the SR-91 Freeway to the south and the I-5 Freeway to the east. The approximately 30 square-mile study area was established by working closely with the City of Downey and reviewing the travel patterns of the Proposed Project to ensure that all of the potential traffic impacts of the Proposed Project would be addressed. Within the study area, 105 intersections have been selected for detailed study within the Cities of Downey, Bellflower, Paramount, Norwalk, and South Gate. Seven freeway segments located along the Santa Ana (I-5) Freeway, the San Gabriel River (I-605) Freeway, the Century (I-105) Freeway, and the Long Beach (I-710) Freeway have also been selected for evaluation in this study.

#### Freeways

The Santa Ana Freeway (Interstate Route 5) is a north-south freeway located approximately 2.3 miles north of the Project Site. In the project area, the Santa Ana Freeway runs along a diagonal east of the Project Site. Approximately two miles northwest of the Project Site, the Santa Ana Freeway interchanges with the San Gabriel River Freeway (Interstate Route 605).<sup>1</sup>

The Century Freeway (Interstate Route 105) is an east-west freeway located approximately 0.5 miles south of the Project Site. The Century Freeway terminates and interchanges with the San Gabriel River

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<sup>1</sup> Christopher A. Joseph & Associates and Google Earth, November 25, 2008.

Freeway approximately 1.25 miles southeast of the Project Site. The Century Freeway also interchanges with the Long Beach Freeway (Interstate Route 710) approximately 2.7 miles southwest of the Project Site.<sup>2</sup>

The San Gabriel River Freeway (Interstate Route 605) is a north-south freeway located approximately 1.15 miles east of the Project Site. This freeway generally parallels the path of the San Gabriel River from the freeway's interchange with the San Bernardino Freeway (Interstate 10) to the north to the freeway's southern terminus and interchange with the San Diego Freeway (Interstate 405) to the south. The San Gabriel River Freeway interchanges with the eastern terminus of the Century Freeway approximately 1.25 miles to the southwest of the Project Site.<sup>3</sup>

The Long Beach Freeway (Interstate Route 710) is a north-south freeway located approximately 2.5 miles west of the Project Site. The Long Beach Freeway generally parallels the path of the Los Angeles River from near its northern terminus with the San Bernardino Freeway southward to the river's mouth near the ports of Los Angeles and Long Beach. The Long Beach Freeway interchanges with the Century Freeway approximately 2.7 miles southwest of the Project Site.<sup>4</sup>

### **Streets and Highways**

Lakewood Boulevard is a major arterial roadway that runs in a north-south direction and defines the western frontage of the Tierra Luna Specific Plan area. Within the study area, it provides four to six travel lanes, two to three lanes in each direction, with a raised median. The posted speed limit is 40 miles per hour.

Imperial Highway is classified as a major arterial roadway. It runs in an east-west direction across several jurisdictions. The posted speed limit is 40 miles per hour. Within the study area, the roadway generally offers six travel lanes, three lanes in each direction, with a raised median island, and left-turn lanes at mid-block driveways and intersections. No on-street parking is allowed on Imperial Highway.

Firestone Boulevard is a major arterial roadway that traverses in an east-west direction across several jurisdictions. The roadway provides four to six travel lanes, two to three lanes in each direction, with either a raised median or two-way left turn lane. On-Street parking is prohibited except from Dolan Avenue to Old River School Road during off-peak hours. The posted speed limit is 35 miles per hour.

Woodruff Avenue is a primary arterial roadway that runs in a north-south direction and provides four travel lanes, two lanes in each direction, with a central turn lane. Within the study area, restricted parking

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<sup>2</sup> Christopher A. Joseph & Associates and Google Earth, November 25, 2008.

<sup>3</sup> Christopher A. Joseph & Associates and Google Earth, November 25, 2008.

<sup>4</sup> Christopher A. Joseph & Associates and Google Earth, November 25, 2008.

is generally available on both sides of the street. The posted speed limit along this facility is 40 miles per hour.

Bellflower Boulevard is a secondary arterial roadway that runs in a north-south direction and defines the eastern frontage of the Tierra Luna Specific Plan area. The posted speed limit is 40 miles per hour. The roadway generally offers four travel lanes, two lanes in each direction, with a raised median. On-street parking is permitted north of Stewart and Gray Road on the east side of the street only.

Stewart & Gray Road is a secondary arterial roadway that traverses in an east-west direction. It provides four travel lanes, two lanes in each direction, with a central turn lane. On-street parking is permitted except from Lakewood Boulevard to Bellflower Boulevard. The posted speed limit along this facility west of Lakewood Boulevard is 35 miles per hour. East of Lakewood Boulevard, the posted speed limit is 40 miles per hour.

Clark Avenue is classified as a secondary arterial roadway that runs in a north-south direction. South of Imperial Highway, the roadway generally offers four travel lanes, two lanes in each direction. On-street parking is generally allowed along many stretches of this roadway within the study area. The posted speed limit is 40 miles per hour.

Washburn Road is a collector east-west roadway that provides one lane in each direction. Parking is generally available on either side of the street. The posted speed limit is 25 miles per hour.

Alameda Street is classified as a collector roadway and runs in the east-west direction. This roadway provides one lane in each direction. Parking is generally available on either side of the street. The posted speed limit is 30 miles per hour.

Congressman Steve Horn Way is a local east-west roadway and defines the southern frontage of the Tierra Luna Specific Plan area. East of Ardis Avenue, it provides one to two lanes in each direction with a raised median with no on-street parking. West of Ardis Avenue, Congressman Steve Horn Way provides one travel lane in each direction with a raised median. On-street parking is permitted along the south side and angled parking is provided in both directions adjacent to the median.

### **Public Transportation**

Eight bus lines as well as the Metro Green Line currently serve the immediate vicinity of the Tierra Luna Specific Plan area. The Los Angeles County Metropolitan Transportation Authority (LACMTA) operates seven bus lines and one bus line is operated by the City of Downey. These transit lines are described below:

The Metro Green Line is an east-west light-rail line that provides services between Redondo Beach and Norwalk and provides connectivity to the Metro Blue Line and Harbor Transit-way. This line runs everyday, including holidays, at a peak frequency of approximately seven to nine minutes. This line has stations along the Century (I-105) Freeway including a station at the intersection of Lakewood Boulevard with the Century (I-105) Freeway approximately 0.25 miles southwest of the Project Site.

LACMTA 115/315 is a local east-west line that provides service from Norwalk to Playa Del Rey and travels primarily along Firestone Boulevard within the study area. These lines run everyday, including holidays, at a peak frequency of approximately 15 minutes during peak commute hours. The western terminus is at the intersection of Culver Boulevard/Pacific Avenue in Playa Del Rey. The eastern terminus is at the I-105/I-605 Metro Station in Norwalk. Line 315 provides limited stop service along the same route as Line 115.

LACMTA 117 is a local east-west line that provides service from Los Angeles International Airport to Downey and travels primarily along Imperial Highway and Lakewood Boulevard within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 15-18 minutes during peak commute hours. The western terminus is at the LAX City Bus Center. The eastern terminus is at the Lakewood Metro Station in Downey.

LACMTA 121 is a local east-west line that provides service from Norwalk to Willowbrook and travels primarily along Imperial Highway within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 20 minutes during peak commute hours. The western terminus is at the Imperial/Rosa Parks Metro Blue Line Station in Willowbrook. The eastern terminus is at the I-105/I-605 Metro Station in Norwalk.

LACMTA 127 is a local east/west line that provides service from Compton to Downey and travels primarily along Bellflower Boulevard within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 60 minutes. The western terminus is at the Martin Luther King Jr. Transit Center in Compton. The eastern terminus is at the Downey Depot Transportation Center in Downey.

LACMTA 265 is a local north-south line that provides service from Lakewood to Pico Rivera and travels primarily along Paramount Boulevard, Lakewood Boulevard and Imperial Highway within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 26-28 minutes during peak commute hours. The northern terminus is at the intersection of Rosemead Boulevard and Whittier Boulevard in Pico Rivera. The southern terminus is at the Lakewood Center Mall in Lakewood.

LACMTA 266 is a local north-south line that provides service from Lakewood to Pasadena and travels primarily along Lakewood Boulevard within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 24 minutes during peak commute hours. The northern terminus is at the Sierra Madre Villa Gold Line Station in Pasadena. The southern terminus is at the Lakewood Center Mall in Lakewood.

Downey Link South East Line is a local line that provides service to southeast Downey. It travels primarily along Firestone Boulevard, Bellflower Boulevard, Stewart & Gray Road, Washburn Road, and Woodruff Avenue within the study area. This line runs everyday, including holidays, at a peak frequency of approximately 45 minutes. This line begins and ends at the Downey Depot Transportation Center.

## Analysis of Existing Traffic Conditions

### Study Intersections

The traffic study analyzed existing (2008) and future (2020) AM and PM peak-hour traffic conditions at 105 intersections (including three future on-site locations) within five jurisdictions within the vicinity of the Project Site. These intersections were determined in consultation with the City of Downey. Of the identified intersections, 65 are located within the City of Downey, 17 within the City of Bellflower, five within the City of Paramount, six within the City of South Gate, and 12 within the City of Norwalk. Table IV.L-1 identifies the 105 study intersections, in which city it is located, and a map number corresponding to its location in Figures IV.L-1 and IV.L-2.

**Table IV.L-1  
Analyzed Intersection Locations by Jurisdiction**

Map #	Intersection	Jurisdiction
23	Ardis Avenue & Imperial Highway	Downey
33	Bellflower Boulevard & I-105 Eastbound Ramps	Downey*
32	Bellflower Boulevard & I-105 Westbound Ramps	Downey*
34	Bellflower Boulevard & Foster Road	Downey/Bellflower
24	Bellflower & Imperial Highway	Downey
25	Bellflower Boulevard & Congressman Steve Horn Way	Downey
27	Bellflower Boulevard & Stewart and Gray Road	Downey
26	Bellflower Boulevard & Washburn Road	Downey
73	Brookshire Avenue & Firestone Boulevard	Downey
72	Brookshire Avenue & Florence Avenue	Downey
74	Brookshire Avenue & Imperial Highway	Downey
31	Clark Avenue & Foster Road	Downey/Bellflower
22	Clark Avenue & Imperial Highway	Downey
53	Downey Avenue & Alameda Street	Downey
51	Downey Avenue & Firestone Boulevard	Downey
50	Downey Avenue & Florence Avenue	Downey
55	Downey Avenue & Gardendale Street	Downey
54	Downey Avenue & Imperial Highway	Downey
52	Downey Avenue & Stewart and Gray Road	Downey
103	Erickson Avenue & Imperial Highway Eastbound Ramps	Downey
102	Erickson Avenue & Imperial Highway Westbound Ramps	Downey
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	Downey
40	Lakewood Boulevard & 5 <sup>th</sup> Street	Downey
19	Lakewood Boulevard & Alameda Street	Downey
16	Lakewood Boulevard & Bellflower Boulevard	Downey
104	Lakewood Boulevard & Cherokee Drive	Downey

**Table IV.L-1  
Analyzed Intersection Locations by Jurisdiction**

<b>Map #</b>	<b>Intersection</b>	<b>Jurisdiction</b>
20	Lakewood Boulevard & Clark Avenue	Downey
75	Lakewood Boulevard & Cleta Street	Downey
76	Lakewood Boulevard & Donovan Street	Downey
41	Lakewood Boulevard & Firestone Boulevard*	Downey
39	Lakewood Boulevard & Florence Avenue	Downey
38	Lakewood Boulevard & Gallatin Road	Downey
29	Lakewood Boulevard & Gardendale Street	Downey
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	Downey*
37	Lakewood Boulevard & I-5 Southbound Ramps	Downey*
21	Lakewood Boulevard & Imperial Highway	Downey
18	Lakewood Boulevard & Landing Center Driveway	Downey
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	Downey/Bellflower
17	Lakewood Boulevard & Stewart and Gray Road	Downey
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	Downey*
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	Downey*
69	Old River School Road & Firestone Boulevard & Burns Avenue	Downey
71	Old River School Road & Imperial Highway	Downey
70	Old River School Road & Stewart and Gray Road	Downey
68	Old River School Road/Tecum Road & Florence Avenue	Downey
62	Paramount Boulevard & Alameda Street	Downey
60	Paramount Boulevard & Firestone Boulevard	Downey
59	Paramount Boulevard & Florence Avenue	Downey
64	Paramount Boulevard & Gardendale Street	Downey
57	Paramount Boulevard & I-5 Northbound Ramps	Downey*
58	Paramount Boulevard & I-5 Southbound Ramps	Downey*
63	Paramount Boulevard & Imperial Highway	Downey
61	Paramount Boulevard & Stewart and Gray Road	Downey
56	Paramount Boulevard & Telegraph Road	Downey/Pico Rivera
65	Rives Avenue & Firestone Boulevard	Downey
67	Rives Avenue & Imperial Highway	Downey
66	Rives Avenue & Stewart and Gray Road	Downey
35	Rosemead Boulevard / Lakewood Boulevard & Telegraph Road <sup>a</sup>	Downey/Pico Rivera
47	Stewart and Ray Road & Firestone Boulevard	Downey
49	Studebaker Road & Florence Avenue	Downey
42	Woodruff Avenue & Firestone Boulevard (E)	Downey
46	Woodruff Avenue & Foster Road	Downey/Bellflower
45	Woodruff Avenue & Imperial Highway	Downey
43	Woodruff Avenue & Stewart and Gray Road	Downey

**Table IV.L-1  
Analyzed Intersection Locations by Jurisdiction**

<b>Map #</b>	<b>Intersection</b>	<b>Jurisdiction</b>
44	Woodruff Avenue & Washburn Road	Downey
10	Bellflower Boulevard & Alondra Boulevard	Bellflower
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	Bellflower
9	Bellflower Boulevard & Compton Boulevard	Bellflower
8	Bellflower Boulevard & Rosecrans Avenue	Bellflower
11	Bellflower Boulevard & SR-91 Westbound Ramps	Bellflower
5	Clark Avenue & Alondra Boulevard	Bellflower
4	Clark Avenue & Compton Boulevard	Bellflower
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	Bellflower
3	Clark Avenue & Rosecrans Avenue	Bellflower
6	Clark Avenue & SR-91 Westbound Off-Ramp	Bellflower
90	Lakewood Boulevard & Alondra Boulevard	Bellflower/Paramount
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	Bellflower/Paramount
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	Bellflower
2	Lakewood Boulevard & SR-91 Eastbound Ramps	Bellflower
15	Woodruff Avenue & Alondra Boulevard	Bellflower
14	Woodruff Avenue & Compton Boulevard	Bellflower
13	Woodruff Avenue & Rosecrans Avenue	Bellflower
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	Norwalk
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	Norwalk*
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	Norwalk*
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	Norwalk*
80	Hoxie Avenue & Imperial Highway	Norwalk
82	I-605 Northbound Off-Ramp/I-105 Westbound On-Ramp & Rosecrans Avenue	Norwalk*
77	I-605 Southbound Ramps & Firestone Boulevard	Norwalk*
88	Pioneer Boulevard & Imperial Highway	Norwalk
83	Studebaker Road & Firestone Boulevard	Norwalk
84	Studebaker Road & Imperial Highway	Norwalk
86	Studebaker Road & Rosecrans Avenue	Norwalk
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	Norwalk*
93	Downey Avenue & Alondra Boulevard	Paramount
91	Downey Avenue & Rosecrans Avenue	Paramount
92	Downey Avenue & Somerset Boulevard	Paramount
94	Paramount Boulevard & Rosecrans Avenue	Paramount
95	Paramount Boulevard & Somerset Boulevard	Paramount
98	Garfield Avenue & Firestone Boulevard	South Gate
99	Garfield Avenue & Imperial Highway	South Gate
100	I-710 Northbound Off-Ramp & Firestone Boulevard	South Gate*

**Table IV.L-1  
Analyzed Intersection Locations by Jurisdiction**

<b>Map #</b>	<b>Intersection</b>	<b>Jurisdiction</b>
101	I-710 Southbound Off-Ramp & Firestone Boulevard	South Gate*
96	Paramount Boulevard & Somerset Ranch Road North	South Gate
97	Paramount Boulevard & Somerset Ranch Road South	South Gate
<p>*: Shares jurisdiction with California Department of Transportation.  <sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location.            Source: Raju Associates, Inc., November 2008.            Source (table): Christopher A. Joseph &amp; Associates, November 2008.</p>		

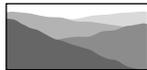
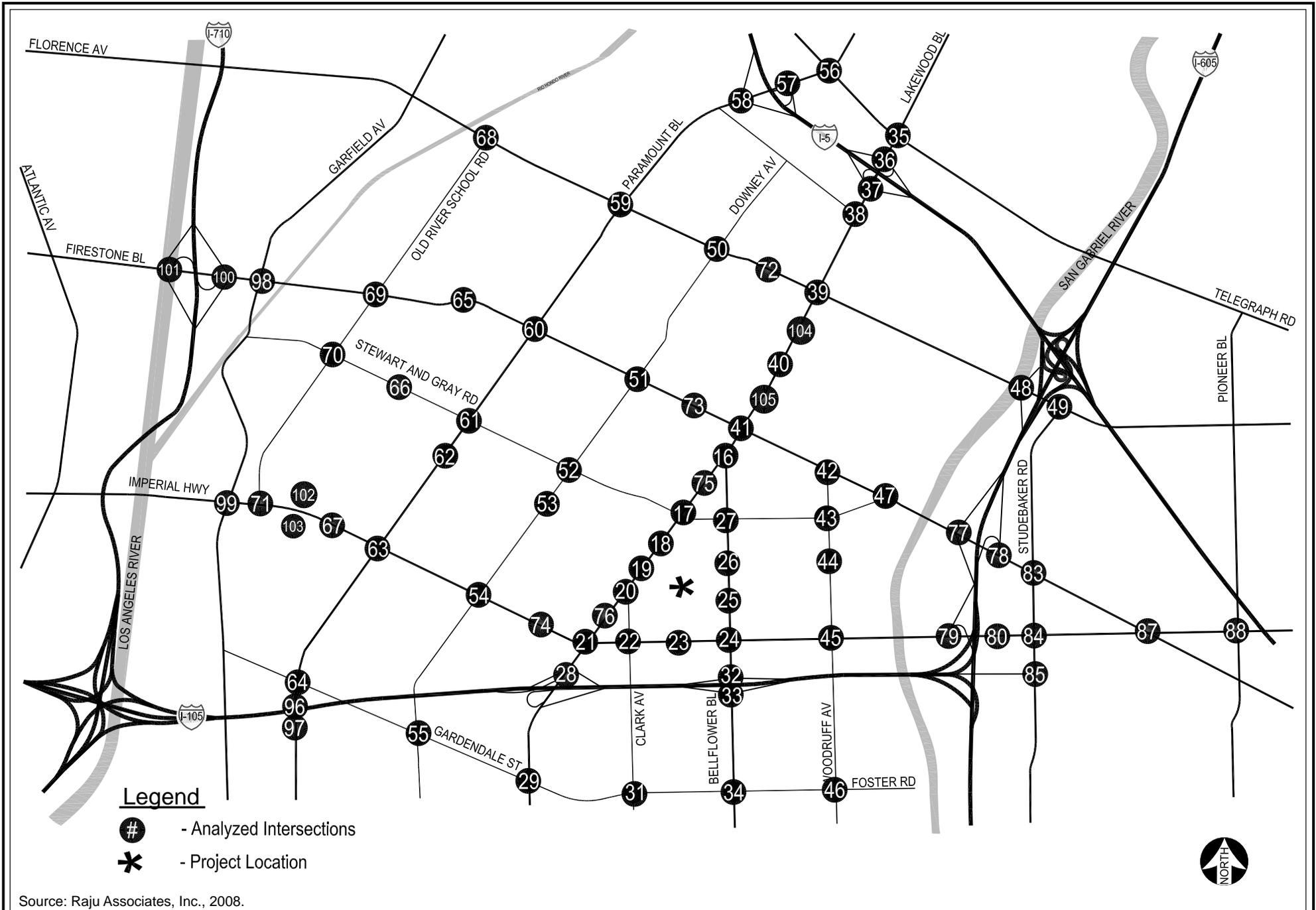
### ***Existing (2008) Traffic Volumes***

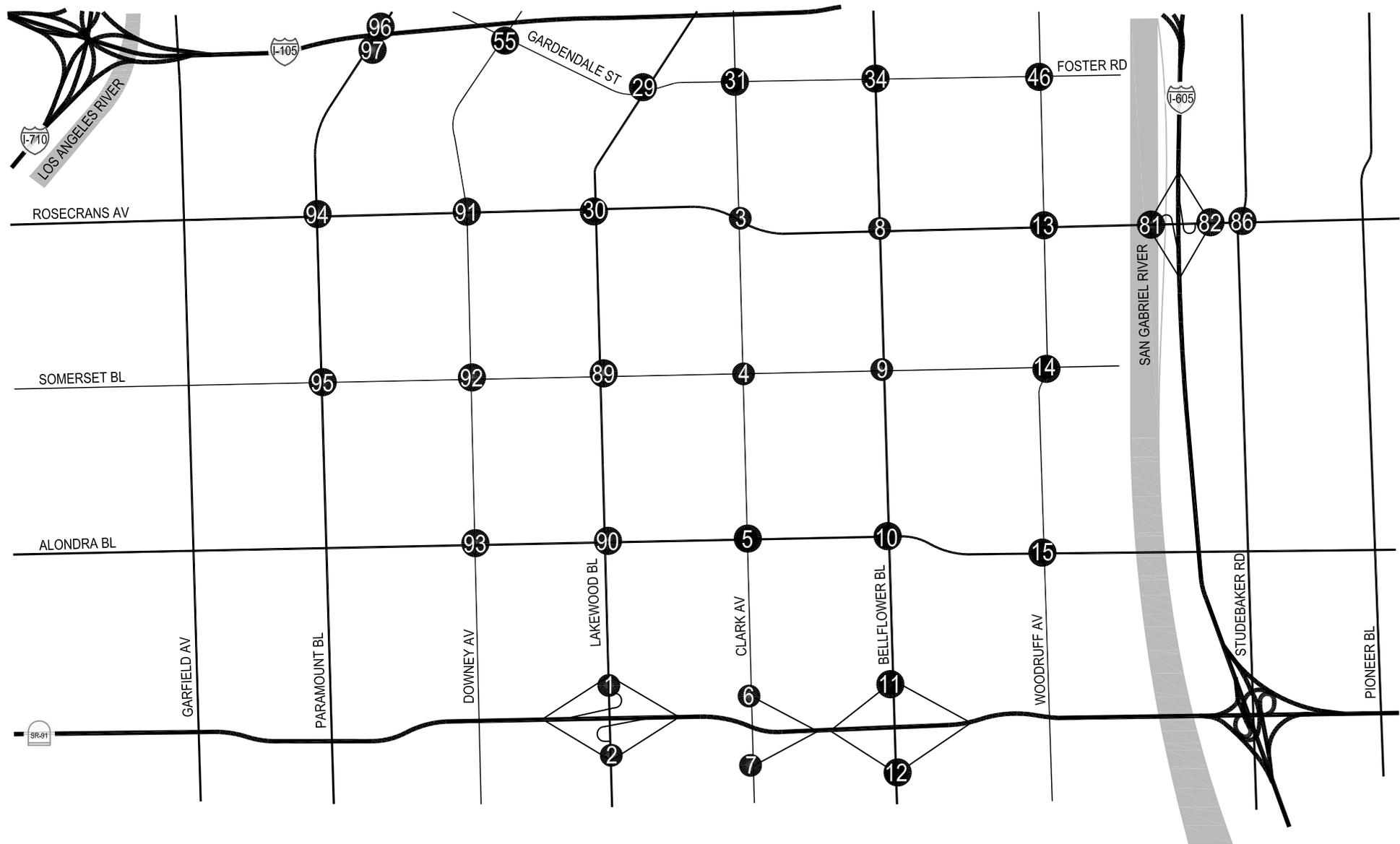
Traffic count information for existing conditions was compiled from data collected at 96 analyzed intersections in 2008. The remaining nine analyzed intersections were compiled from counts conducted in 2006 and 2007. The 2006 and 2007 counts were updated to existing 2008 conditions using growth rate factors from the SCAG 2004 regional model, 0.54 percent per year in the AM and 0.52 percent per year in the PM. These traffic volumes reflect typical weekday operations during the current year (2008) conditions.

### ***Existing (2008) Traffic Conditions***

The traffic counts described earlier were used to determine existing traffic flow conditions. Information pertaining to intersection geometrics, on-street parking restrictions, and traffic signal operation were obtained from field checks and consultation with the City of Downey. The traffic analysis was then performed using the Intersection Capacity Utilization (ICU) method of intersection analysis per the City of Downey and the CMP traffic study guidelines. The Highway Capacity Manual method for stop-controlled intersection analysis was used to determine the delay and corresponding level of service at the stop-controlled intersections. Intersection delay is defined as the average delay experienced by drivers at the intersection who must stop or yield to unimpeded major street traffic. This method uses a “gap acceptance” technique to predict driver delay. This methodology is applicable to unsignalized intersections where there is potential difficulty for cross-traffic due to heavy traffic volumes on the major street.

The ICU methodology used for the analysis and evaluation of traffic conditions at each study intersection was used to determine volume to capacity (V/C) ratios and corresponding level of service at each study intersection. In the discussion of the ICU method for signalized intersections, procedures have been developed for grading the operational quality of an intersection in terms of the “Level of Service” (LOS) that describes different traffic flow characteristics. LOS is a qualitative measure used to describe the condition of traffic flow ranging from excellent conditions at LOS A to overloaded conditions at LOS F. The LOS definitions for signalized and unsignalized intersections are provided in Tables IV.L-2 and IV.L-3, respectively.



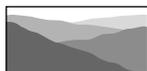


**Legend**

# - Analyzed Intersections



Source: Raju Associates, Inc., 2008.



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Figure IV.L-2  
Location of Analyzed Intersections

**Table IV.L-2  
Level of Service Definitions for Signalized Intersections**

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 – 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 – 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	>0.700 – 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 – 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 – 1.000	POOR. Represents the most vehicle intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.
<p><i>Source: Transportation Research Board Transportation Research Circular No. 212 Interim Materials on Highway Capacity, 1980.</i></p> <p><i>Source: Raju Associates, Inc., November 2008.</i></p> <p><i>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</i></p>		

**Table IV.L-3  
Level of Service Definitions for Stop-Controlled Intersections**

Level of Service	Average Total Delay (seconds/vehicle)
A	≤ 10.0
B	> 10.0 and ≤ 15.0
C	> 15.0 and ≤ 25.0
D	> 25.0 and ≤ 35.0
E	> 35.0 and ≤ 50.0
F	> 50.0
<p><i>Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 2000.</i></p> <p><i>Source: Raju Associates, Inc., November 2008.</i></p> <p><i>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</i></p>	

LOS D is typically recognized as the minimum acceptable level of service in urban areas. 101 of the 105 analyzed intersections are controlled by traffic signals. The remaining four intersections are unsignalized and include: Paramount Boulevard/I-5 Southbound Ramps, Rives Avenue/Imperial Highway, Erickson Avenue/Imperial Highway Westbound Ramps, and Erickson Avenue/Imperial Highway Eastbound Ramps.

“Capacity” represents the maximum volume of vehicles in the critical lanes that has a reasonable expectation of passing through an intersection in one hour, under prevailing roadway and traffic conditions. A capacity of 1,600 vehicles per lane per hour and 2,880 for dual left-turn lanes was assumed in the capacity calculations in accordance with the ICU guidelines.

The existing traffic volumes for AM and PM peak hours were used in conjunction with the LOS methodologies described earlier and the current intersection characteristics to determine the existing operating conditions at the analyzed intersections. Existing intersection operations for the AM and PM peak hours are shown in Table IV.L-4, which summarizes the V/C ratios and corresponding LOS at each of the study intersections.

**Table IV.L-4  
Summary of Intersection Level of Service Analysis – Existing Conditions**

Map #	Intersection	AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
<b>City of Downey</b>					
23	Ardis Avenue & Imperial Highway	0.502	A	0.509	A
33	Bellflower Boulevard & I-105 Eastbound Ramps	0.623	B	0.675	B
32	Bellflower Boulevard & I-105 Westbound Ramps	0.663	B	0.642	B
34	Bellflower Boulevard & Foster Road	0.716	C	0.626	B
24	Bellflower & Imperial Highway	1.121	F	1.228	F
25	Bellflower Boulevard & Congressman Steve Horn Way	0.427	A	0.624	B
27	Bellflower Boulevard & Stewart and Gray Road	0.686	B	0.682	B
26	Bellflower Boulevard & Washburn Road	0.501	A	0.433	A
73	Brookshire Avenue & Firestone Boulevard	0.584	A	0.761	C
72	Brookshire Avenue & Florence Avenue	0.621	B	0.738	C
74	Brookshire Avenue & Imperial Highway	0.722	C	0.712	C
31	Clark Avenue & Foster Road	0.655	B	0.508	A
22	Clark Avenue & Imperial Highway	0.637	B	0.556	A
53	Downey Avenue & Alameda Street	0.397	A	0.433	A
51	Downey Avenue & Firestone Boulevard	0.554	A	0.757	C
50	Downey Avenue & Florence Avenue	0.639	B	0.648	B
55	Downey Avenue & Gardendale Street	0.491	A	0.529	A
54	Downey Avenue & Imperial Highway	0.684	B	0.578	A
52	Downey Avenue & Stewart and Gray Road	0.555	A	0.699	B
103	Erickson Avenue & Imperial Highway Eastbound Ramps <sup>c</sup>	8.7 sec	A	8.3 sec	A
102	Erickson Avenue & Imperial Highway Westbound Ramps <sup>c</sup>	9.8 sec	A	8.4 sec	A
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	0.373	A	0.520	A
40	Lakewood Boulevard & 5 <sup>th</sup> Street	0.795	C	0.870	D
19	Lakewood Boulevard & Alameda Street	0.365	A	0.521	A
16	Lakewood Boulevard & Bellflower Boulevard	0.525	A	0.531	A

**Table IV.L-4  
Summary of Intersection Level of Service Analysis – Existing Conditions**

Map #	Intersection	AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
104	Lakewood Boulevard & Cherokee Drive	0.493	A	0.610	B
20	Lakewood Boulevard & Clark Avenue	0.401	A	0.458	A
75	Lakewood Boulevard & Cleta Street	0.446	A	0.412	A
76	Lakewood Boulevard & Donovan Street	0.572	A	0.454	A
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	0.771	C	0.980	E
39	Lakewood Boulevard & Florence Avenue	0.824	D	0.886	D
38	Lakewood Boulevard & Gallatin Road	1.029	F	1.020	F
29	Lakewood Boulevard & Gardendale Street	0.857	D	0.877	D
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	0.651	B	0.789	C
37	Lakewood Boulevard & I-5 Southbound Ramps	0.653	B	0.680	B
21	Lakewood Boulevard & Imperial Highway	0.714	C	0.851	D
18	Lakewood Boulevard & Landing Center Driveway	0.395	A	0.580	A
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	0.756	C	0.834	D
17	Lakewood Boulevard & Stewart and Gray Road	0.736	C	0.839	D
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	0.687	B	0.868	D
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	0.753	C	0.901	E
69	Old River School Road & Firestone Boulevard & Burns Avenue	0.675	B	0.904	E
71	Old River School Road & Imperial Highway	0.731	C	0.728	C
70	Old River School Road & Stewart and Gray Road	0.700	B	0.702	C
68	Old River School Road/Tecum Road & Florence Avenue	0.810	D	0.931	E
62	Paramount Boulevard & Alameda Street	0.616	B	0.656	B
60	Paramount Boulevard & Firestone Boulevard	0.827	D	0.945	E
59	Paramount Boulevard & Florence Avenue	1.005	F	1.068	F
64	Paramount Boulevard & Gardendale Street	0.629	B	0.722	C
57	Paramount Boulevard & I-5 Northbound Ramps	0.718	C	0.981	E
58	Paramount Boulevard & Southbound Ramps <sup>b</sup>	***	F	***	F
63	Paramount Boulevard & Imperial Highway	0.770	C	0.903	E
61	Paramount Boulevard & Stewart and Gray Road	0.796	C	0.880	D
56	Paramount Boulevard & Telegraph Road	0.790	C	0.808	D
65	Rives Avenue & Firestone Boulevard	0.644	B	0.700	B
67	Rives Avenue & Imperial Highway <sup>b</sup>	14.0 sec	B	13.6 sec	B
66	Rives Avenue & Stewart and Gray Road	0.544	A	0.648	B
35	Rosemead Boulevard / Lakewood Boulevard & Telegraph Road <sup>a</sup>	0.982	E	1.150	F

**Table IV.L-4  
Summary of Intersection Level of Service Analysis – Existing Conditions**

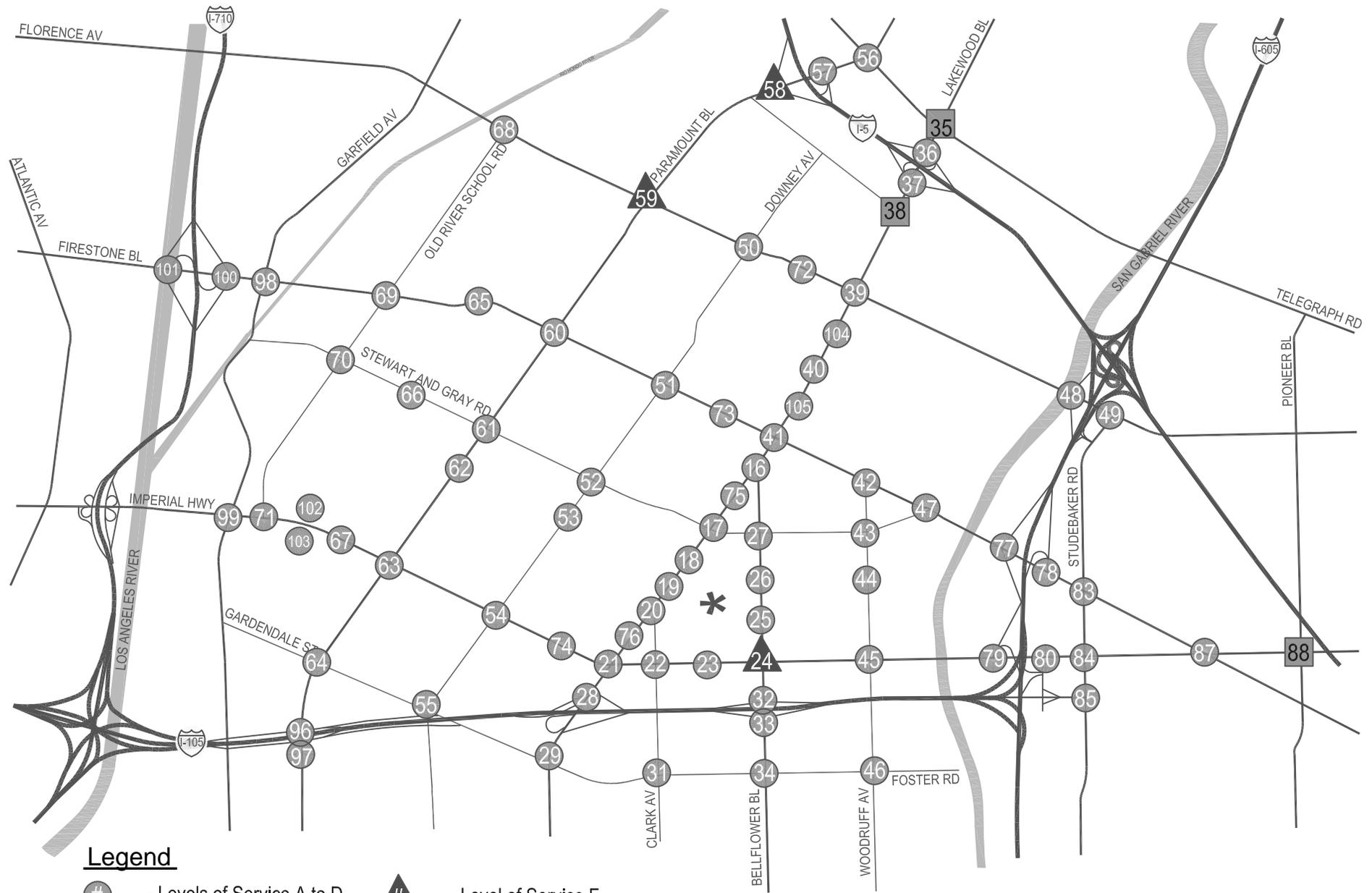
Map #	Intersection	AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
47	Stewart and Ray Road & Firestone Boulevard	0.578	A	0.802	D
49	Studebaker Road & Florence Avenue	0.804	D	0.797	C
42	Woodruff Avenue & Firestone Boulevard (E)	0.587	A	0.639	B
46	Woodruff Avenue & Foster Road	0.476	A	0.524	A
45	Woodruff Avenue & Imperial Highway	0.683	B	0.755	C
43	Woodruff Avenue & Stewart and Gray Road	0.587	A	0.639	B
44	Woodruff Avenue and Washburn Road	0.435	A	0.472	A
<b>City of Bellflower</b>					
10	Bellflower Boulevard & Alondra Boulevard	0.601	B	0.759	C
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	0.833	D	0.817	D
9	Bellflower Boulevard & Compton Boulevard	0.715	C	0.780	C
8	Bellflower Boulevard & Rosecrans Avenue	0.725	C	0.775	C
11	Bellflower Boulevard & SR-91 Westbound Off-Ramp	0.749	C	0.950	E
5	Clark Avenue & Alondra Boulevard	0.615	B	0.771	C
4	Clark Avenue & Compton Boulevard	0.620	B	0.671	B
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	0.561	A	0.615	B
3	Clark Avenue & Rosecrans Avenue	0.542	A	0.611	B
6	Clark Avenue & SR-91 Westbound Off-Ramp	0.464	A	0.596	A
90	Lakewood Boulevard & Alondra Boulevard	0.691	B	0.976	E
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	0.855	D	0.891	D
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	0.610	B	0.779	C
2	Lakewood Boulevard & SR-91 Eastbound Ramps	0.607	B	0.690	B
15	Woodruff Avenue & Alondra Boulevard	0.719	C	0.919	E
14	Woodruff Avenue & Compton Boulevard	0.561	A	0.595	A
13	Woodruff Avenue & Rosecrans Avenue	0.792	C	0.812	D
<b>City of Norwalk</b>					
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	0.717	C	0.756	C
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	0.714	C	0.779	C
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	0.716	C	0.834	D
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	0.860	D	0.860	D
80	Hoxie Avenue & Imperial Highway	0.731	C	0.918	E
82	I-605 Northbound Off-Ramp/I-105 Westbound On-Ramp & Rosecrans Avenue	0.674	B	0.846	D

**Table IV.L-4  
Summary of Intersection Level of Service Analysis – Existing Conditions**

Map #	Intersection	AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
77	I-605 Southbound Ramps & Firestone Boulevard	0.793	C	0.919	E
88	Pioneer Boulevard & Imperial Highway	0.970	E	0.877	D
83	Studebaker Road & Firestone Boulevard	0.766	C	0.829	D
84	Studebaker Road & Imperial Highway	0.814	D	0.776	C
86	Studebaker Road & Rosecrans Avenue	0.792	C	0.916	E
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	0.827	D	0.792	C
<b>City of Paramount</b>					
93	Downey Avenue & Alondra Boulevard	0.863	D	0.774	C
91	Downey Avenue & Rosecrans Avenue	0.940	E	1.013	F
92	Downey Avenue & Somerset Boulevard	0.742	C	0.744	C
94	Paramount Boulevard & Rosecrans Avenue	0.736	C	0.816	D
95	Paramount Boulevard & Somerset Boulevard	0.840	D	0.863	D
<b>City of South Gate</b>					
98	Garfield Avenue & Firestone Boulevard	0.889	D	1.177	F
99	Garfield Avenue & Imperial Highway	0.653	B	0.682	B
100	I-710 Northbound Off-Ramp & Firestone Boulevard	0.774	C	0.946	F
101	I-710 Southbound Off-Ramp & Firestone Boulevard	0.804	D	1.028	F
96	Paramount Boulevard & Somerset Ranch Road North	0.828	D	0.845	D
97	Paramount Boulevard & Somerset Ranch Road South	0.697	B	0.785	C
<p>***: Intersection delay cannot be calculated.</p> <p><sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location</p> <p><sup>b</sup> Unsignalized intersections – stop-controlled on all approach</p> <p><sup>c</sup> Unsignalized intersections – stop-controlled on minor approach(es).</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates November 2008.</p>					

Figures IV.L-3 through IV.L-6 graphically depict the existing weekday morning and evening peak hour levels of service at the analyzed study intersections, respectively. As shown, the existing Downey Studios generates a total of 96 trips in the AM peak hour and 128 trips in the PM peak hour. Ninety-eight (about 93 percent) of the intersections in the AM peak hour and 83 (79 percent) intersections in the PM peak hour are currently operating at satisfactory levels of service (i.e., LOS D or better). At these locations, motorists experience little to tolerable amounts of delay. Three (about 3 percent) of the intersections in the AM peak hour and 14 (13 percent) intersections in the PM peak hour are operating at LOS E. At these locations, motorists experience measurable delay and traffic flow is restricted.

Four (about 4 percent) of the intersections in the AM peak hour and 8 (about 8 percent) intersections in the PM peak hour are currently experiencing LOS F (congested) conditions. At these locations, all

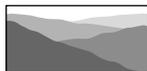


**Legend**

- # - Levels of Service A to D
- # - Level of Service E
- # - Level of Service F
- \* - Project Location

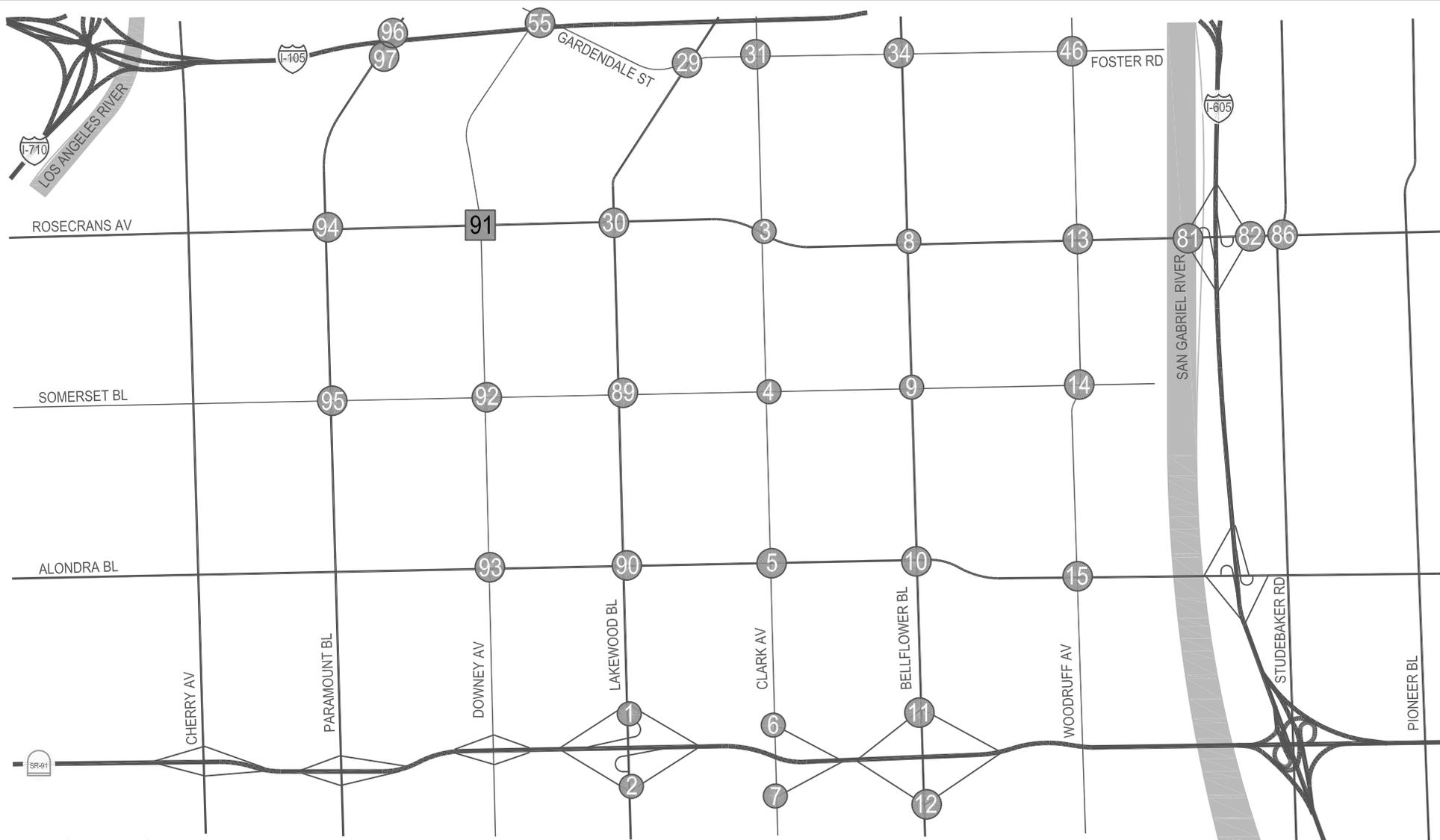


Source: Raju Associates, Inc., 2008.



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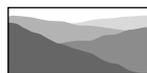
**Figure IV.L-3**  
Existing (2008) AM Peak Hour  
Levels of Service



**Legend**

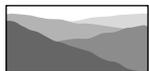
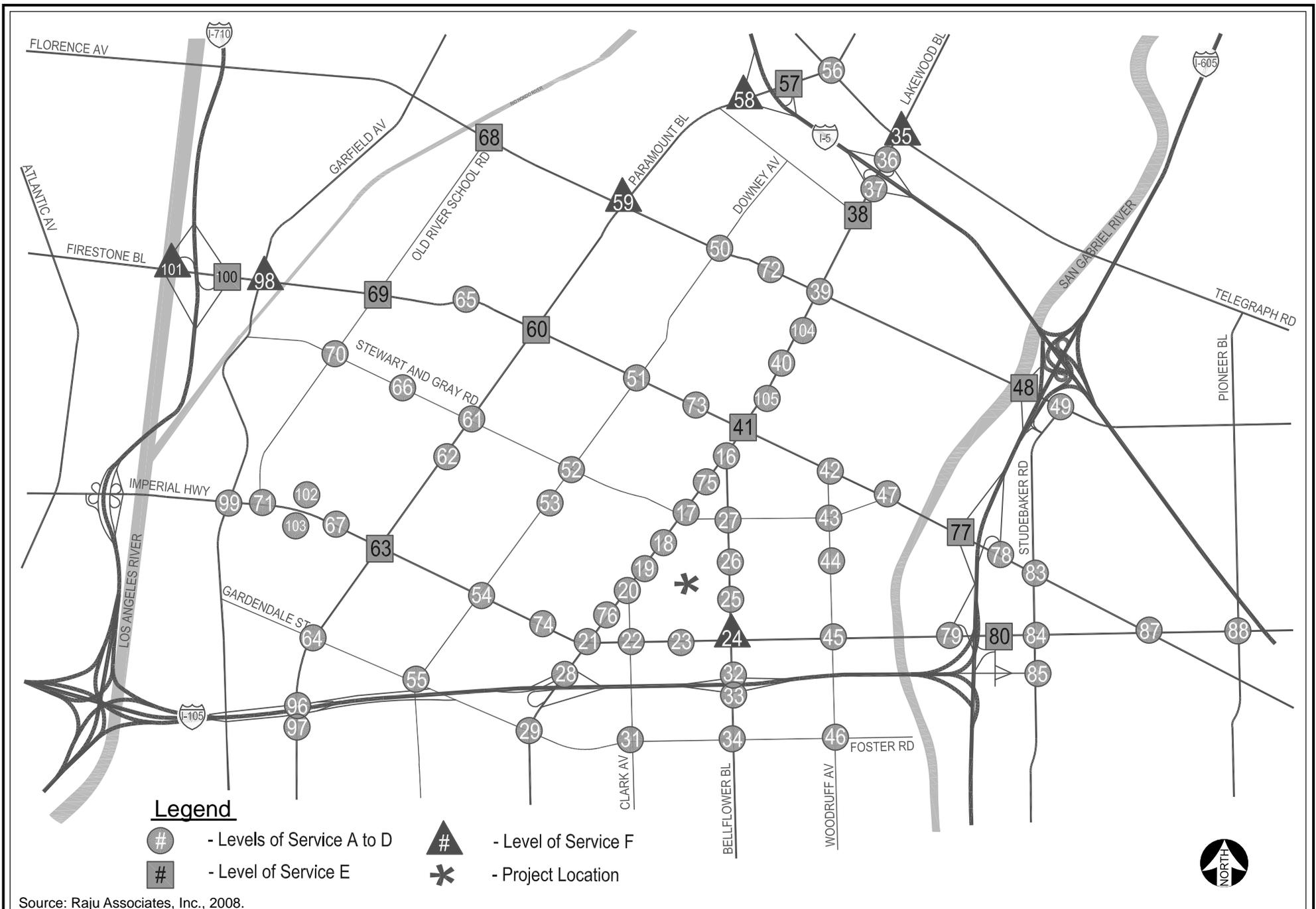
- Levels of Service A to D
- Level of Service E
- Level of Service F

Source: Raju Associates, Inc., 2008.



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Figure IV.L-4  
Existing (2008) AM Peak Hour-  
Levels of Service



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Figure IV.L-5  
Existing (2008) PM Peak Hour  
Levels of Service



vehicles are not serviced at the intersections in one signal cycle resulting in long queues and waits at the intersections.

The following intersections are operating at LOS E or LOS F during the morning peak hour:

- Bellflower Boulevard/Imperial Highway – LOS F
- Rosemead Boulevard-Lakewood Boulevard/Telegraph Road – LOS E
- Lakewood Boulevard/Gallatin Road – LOS E
- Paramount Boulevard/I-5 Southbound Ramps – LOS F
- Paramount Boulevard/Florence Avenue – LOS F
- Pioneer Boulevard/Imperial Highway – LOS E
- Downey Avenue/Rosecrans Avenue – LOS E

During the evening peak hour, the following intersections are operating at LOS E or LOS F:

- Bellflower Boulevard/SR-91 Westbound Ramps – LOS E
- Woodruff Avenue/Alondra Boulevard – LOS E
- Bellflower Boulevard/Imperial Highway – LOS F
- Rosemead Boulevard-Lakewood Boulevard/Telegraph Road – LOS F
- Lakewood Boulevard/Gallatin Road – LOS E
- Lakewood Boulevard/Firestone Boulevard – LOS E
- I-605 Southbound Ramps/Florence Avenue – LOS E
- Paramount Boulevard/I-5 Northbound Ramps – LOS E
- Paramount Boulevard/I-5 Southbound Ramps – LOS F
- Paramount Boulevard/Florence Avenue – LOS F
- Paramount Boulevard/Firestone Boulevard – LOS E
- Paramount Boulevard/Imperial Highway – LOS E
- Old River School Road/Florence Avenue – LOS E
- Old River School Road/Firestone Boulevard – LOS E
- I-605 Southbound Ramps/Firestone Boulevard – LOS E
- Hoxie Avenue/Imperial Highway – LOS E
- Studebaker Road/Rosecrans Avenue – PM, LOS E
- Lakewood Boulevard/Alondra Boulevard – PM, LOS E
- Downey Avenue/Rosecrans Avenue – PM, LOS F
- Garfield Avenue/Firestone Boulevard – PM, LOS F
- I-710 Northbound Off Ramp/Firestone Boulevard – PM, LOS E
- I-710 Southbound Off Ramp/Firestone Boulevard – PM, LOS F

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

In accordance with Appendix G of the State CEQA Guidelines, the Proposed Project would have a significant impact on traffic, transportation, and parking if it were to result in any of the following conditions:

- (a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- (b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- (c) 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;
- (d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- (e) Result in inadequate emergency access;
- (f) Result in inadequate parking capacity; or
- (g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

#### *City of Downey*

Per the direction of the City of Downey, the County of Los Angeles' Congestion Management Program (CMP) threshold criteria was used to determine if a project has a significant traffic impact at a specific intersection. According to the criteria, a project impact is considered significant if the following conditions are met (see Table IV.L-5):

**Table IV.L-5  
Intersection Impact Criteria**

Intersection Condition With Project Traffic		Project-Related Increase in V/C Ratio
LOS	V/C Ratio	
F	>1.000	Equal to or greater than 0.020

*Source: Raju Associates, Inc., November 2008.*  
*Source (table): Christopher A. Joseph & Associates, November 2008.*

Using this criterion, a project would not have a significant impact at an intersection if it is operating at LOS F after the addition of project traffic and the incremental change in the V/C ratio is less than 0.020. However, if the intersection is operating at a LOS F after the addition of project traffic and the incremental change in the V/C ratio is 0.020 or greater, the project would be considered to have a significant impact.

In order to assess the potential impacts of the Proposed Project at the stop-controlled intersections using the criteria above, the stop-controlled intersections were analyzed using HMC methodology to determine the LOS and ICU methodology to determine the incremental increase in V/C ratio due to project traffic.

Further, in order to assess the potential impacts at a CMP freeway monitoring station, the following definitions are applied to determine existing and future LOS (see Table IV.L-6).

**Table IV.L-6**  
**Freeway Segment Level of Service Definitions**

Level of Service	Demand/Capacity Ratio	Flow Conditions
A	0.00-0.35	Highest quality of service. Free traffic flow, low volumes and densities. Little or no restriction on maneuverability or speed.
B	0.36-0.54	Stable traffic flow, speed becoming slightly restricted. Low restriction on maneuverability.
C	0.55-0.77	Stable traffic flow, but less freedom to select speed, change lanes, or pass. Density increasing.
D	0.78-0.93	Approaching unstable flow. Speeds tolerable but subject to sudden and considerable variation. Less maneuverability and driver comfort.
E	0.94-1.00	Unstable traffic flow with rapidly fluctuating speeds and flow rates. Short headways, low maneuverability and low driver comfort.
F(0)	1.01-1.25	Forced traffic flow. Speed and flow may be greatly reduced with high densities.
F(1)	1.26-1.35	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F(2)	1.36-1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
F(3)	>1.45	Forced traffic flow. Severe congested conditions prevail for more than one hour. Speed and flow may drop to zero with high densities.
<p><i>Source: Adapted from Los Angeles County Metropolitan Transportation Authority, 2002, Congestion Management Program for Los Angeles County, June 2002.</i></p> <p><i>Source: Raju Associates, Inc., November 2008.</i></p> <p><i>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</i></p>		

## **Project Impacts**

### ***Trip Generation***

Trip generation characteristics of land uses similar to the Proposed Project's components have been documented by the Institute of Transportation Engineers (ITE) and are contained in the ITE manual, Trip Generation, 7<sup>th</sup> Edition, published in 2003. The trip generation rates in the ITE manual are nationally recognized and are used as the basis for most traffic studies conducted in the City of Downey and the surrounding region.

Accordingly, for this analysis, the ITE Trip Generation rates were used to determine the daily trips and AM and PM peak hour trips generated by the proposed and existing uses. Utilizing the ITE Trip Generation Information Guide 7<sup>th</sup> Edition, the Proposed Project's trip generation was determined. Table IV.L-7 presents details of the Proposed Project's trip generation including type of use, size, applicable rate and trip generation estimates. Other calculations within the tables also provide for trip generation reductions from transit trips, internal capture, pass-by trips and existing uses. The sources for these trip generation reductions include the following:

- Transit Trip Reduction (10%) – ITE Trip Generation Handbook, March 2001, Table B.2, Transportation Impact Factors – Development Around Bus Transit Corridors, page 119.
- Internal Capture – Daily (14%) and PM peak hour (16%) internal capture based on internal capture worksheets (included in appendix IV.L-1, exhibits 1 and 2, to this Draft EIR) contained in ITE Trip Generation Handbook, March 2001, Chapter 7 – Multi-Use Development, page 79. AM peak hour conservatively includes a 10% internal capture of trips between the residential and office uses.
- Pass-By Trips (19%) – ITE Trip Generation Handbook, March 2001, Figure 5.5, page 43.

The existing trips are based on peak hour traffic counts conducted at the existing driveways. Based on the observed driveway counts, the existing Downey Studios currently generates a total of 96 trips (80 inbound, 16 outbound) during the morning peak hour and 128 trips (44 inbound, 84 outbound) during the evening peak hour.

Upon project buildout, it is expected that the Proposed Project's trip generation would result in a net total of approximately 32,118 daily trips of which 1,714 trips (1,052 inbound, 662 outbound) would occur during the morning peak hour and 3,098 trips (1,363 inbound, 1,735 outbound) during the evening peak hour (see Table IV.L-7).

**Table IV.L-7  
Estimated Project Trip Generation**

	Size	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<b>Proposed Project</b>								
Residential Units	1,500 du	6,414	77	374	451	371	183	554
Hotel	450 rooms	3,654	161	103	264	149	133	282
General Office	675,000 sf	5,804	760	104	864	142	693	835
Shopping Center	1,200,000 sf	34,151	424	271	695	1,549	1,678	3,227
Project Trip Generation Total		50,023	1,422	852	2,274	2,211	2,687	4,898
Project Trip Generation Total Less Transit Reduction (10%)		45,021	1,280	767	2,047	1,990	2,418	4,408
*Internal Capture Trip Credit <sup>a</sup>		(7,794)	(75)	(43)	(118)	(347)	(347)	(694)
**Shopping Center-Pass-By Trip Reduction (19%) <sup>b</sup>		(5,109)	(73)	(46)	(119)	(236)	(252)	(488)
<b>Existing Uses (to be removed)</b>								
Downey Studios	<sup>c</sup>	n/a	(80)	(16)	(96)	(44)	(84)	(128)
Net Project Trip Generation Table		32,118	1,052	662	1,714	1,363	1,735	3,098
<b>Trip Rates<sup>d</sup></b>								
Condominium (ITE Land Use 230)	Trips/du	<sup>e</sup>	17%	83%	<sup>e</sup>	67%	33%	<sup>e</sup>
Hotel (ITE Land Use 310)	Trips/room	<sup>f</sup>	61%	39%	<sup>f</sup>	53%	47%	<sup>f</sup>
General Office (ITE Land Use 710)	Trips/1,000 sf	<sup>g</sup>	88%	12%	<sup>g</sup>	17%	83%	<sup>g</sup>
Shopping Center (ITE Land Use 820)	Trips/1,000 sf	<sup>h</sup>	61%	39%	<sup>h</sup>	48%	52%	<sup>h</sup>
<p>*: Internal Capture credit taken after reduction of transit trips.                      **: Shopping Center pass-by trip reduction taken after transit trip and Internal Capture credits.  <sup>a</sup> Daily (17%) and PM peak hour (16%) internal capture based on ITE Trip Generation Handbook, March 2001. AM peak hour includes, conservatively, a 10% internal capture of trips between the residential and office uses.  <sup>b</sup> Shopping Center pass-by trip percentage based on ITE Trip Generation Handbook, March 2001 using the following formula (applied only to net external shopping center trips): Pass-By Trip Reduction: <math>Ln(T) = -0.291 Ln(X) + 5.001</math>  <sup>c</sup> Based on driveway counts conducted at existing driveway on Wednesday, April 30, 2008.  <sup>d</sup> ITE Trip Generation Manual, 7th Edition, 2003, unless otherwise noted.  <sup>e</sup> Daily, AM and PM peak hour trip generation for condominium was calculated using the following formulas: Daily: <math>Ln(T) = 0.85 Ln(X) + 2.55</math>, AM Peak Hour: <math>Ln(T) = 0.80 Ln(X) + 0.26</math>, PM Peak Hour: <math>Ln(T) = 0.82 Ln(X) + 0.32</math>  <sup>f</sup> Daily, AM and PM peak hour trip generation for hotel was calculated using the following formulas: Daily: <math>T = 8.95 (X) - 373.16</math>, AM Peak Hour: <math>Ln(T) = 1.24 Ln(X) - 2.00</math>, ***PM Peak Hour: <math>Ln(T) = 1.212 Ln(X) - 1.763</math>, *** ITE Trip Generation Manual, 6th Edition  <sup>g</sup> Daily, AM and PM peak hour trip generation for office was calculated using the following formulas: Daily: <math>Ln(T) = 0.77 Ln(X) + 3.65</math>, AM Peak Hour: <math>Ln(T) = 0.80 Ln(X) + 1.55</math>, PM Peak Hour: <math>T = 1.12 (X) + 78.81</math>  <sup>h</sup> Daily, AM and PM peak hour trip generation for shopping center was calculated using the following formulas: Daily: <math>Ln(T) = 0.65 Ln(X) + 5.83</math>, AM Peak Hour: <math>Ln(T) = 0.60 Ln(X) + 2.29</math>, PM Peak Hour: <math>Ln(T) = 0.66 Ln(X) + 3.40</math></p> <p>Where:                      Ln = Natural logarithm                      T = Two-way volume of traffic (total trip-ends)                      X = Area in 1,000 gross square feet of leasable area                      Source: Raju Associates, Inc., January 2009.                      Source (table): Christopher A. Joseph &amp; Associates, January 2009.</p>								

### ***Trip Distribution***

The trip distribution for the project trips was obtained using the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) 2004 Regional Transportation Model's Gravity Model formulations. The internal and external components of the project-related trips were obtained using the calibrated gravity models for the region and not by "forcing" a certain percentage through different paths using manual methods of intervention. This project trip distribution was obtained for each type of use by conducting select zone (slave) traffic assignments using SCAG's RTP 2004 Regional Models and examining the slave traffic assignments on the roadway network. These distribution patterns were compared to trip distribution patterns for areas with similar land uses and verified with the City of Downey. The trip generation and internal and external trip distributions were combined to form the basis for assigning the trips to the street system.

### ***Trip Assignment***

Using the SCAG 2004 regional model highway base networks for AM and PM peak periods, the future "With Project" tables were assigned using a capacity-restrained process similar to the existing validated model assignment procedures. The "Project-only" trips assigned on the future base network were "tracked" in the model using special assignment features available in the TranPlan software. The results of these assignments were used to determine the trip distribution for each of Proposed Project's land uses for both AM and PM peak hours. The AM and PM peak simulators are conducted in two separate traffic assignments in the model. Based on these distribution assumptions, location and points of access of the project driveways, and net trip generation from the Proposed Project, traffic estimates of net project-only trips were developed.

Based on the overall general project distribution patterns, it can be observed that the project trips will utilize the following key travel corridors within the study area as listed below:

- Lakewood Boulevard Corridors to/from point north and south – 34%
- Bellflower Boulevard Corridor – 19%
- Firestone Boulevard Corridors to/from points east and west – 26%
- Imperial Highway Corridor to points east and west – 11%
- Stewart & Gray Road Corridors to the east and west – 5%
- Clark Avenue and Ardis Avenue corridors to/from points north and south – 5%

The model tracks project trips throughout the study area road network. Due to the mixed-use nature of the Proposed Project, some of the project-generated trips remain internal to the Project Site. However, some of these trips would utilize the on-site roadways including Clark Avenue, Congressman Steve Horn Way, and Ardis Avenue to access/egress various neighborhoods and areas within the overall Project Site. While the study area covers approximately 30 square miles, the majority of the Proposed Project traffic effects are felt close to the project, and the effects drop off quickly farther away from the project. .

### ***Future (2020) Traffic Conditions***

The Future (2020) without Project traffic projections were developed using information provided by the SCAG 2004 regional travel demand-forecasting model and the existing traffic counts available at all the analysis locations. Both link level and intersection turning movement information from Future Year 2030 travel forecasts were obtained from SCAG. These loaded networks (in TranPlan) were obtained for both AM peak period and PM peak period for the following simulation scenarios: Existing Model Base Year and Future Year 2030 scenario. Using these forecasts, the growth in traffic per year was estimated. It was estimated by the model that the growth in traffic amounted to an increase of approximately 0.54 percent and 0.52 percent per year in the AM and PM peak hours, respectively.

Socio-economic and land use/demographic information used as input to the travel demand forecasting process in the SCAG model were obtained and growth in the Transportation Analysis Zones (TAZ) where the related projects or “projects in the pipeline” were projected to occur was reconciled. The following process was utilized in ensuring that adequate growth to include all of the related projects growth was reflected in the model.

A comparison of the model trip generation growth data to that of the list of related projects was evaluated. This involved a detailed examination of the location and size of all of the related projects compiled from data obtained from the Cities of Downey, Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera and Bell Gardens and comparing the same to that reflected in the model input data for the corresponding TAZ. The growth in the transportation model data was computed by calculating the difference between the “Existing” and “Future Base” data for the corresponding TAZs. This growth in the model (estimated using all loadings to and from specific TAZs) was checked against the corresponding growth reflected in the list of related projects and discrepancies, if any, were noted. These discrepancies were addressed on a case-by-case basis so that the trip generation to and from the TAZ in question covered the growth projected by the trip generation of the list of related projects.

A total of 61 related projects were identified. Table IV.L-8 shows the land use, location and size of the related projects and Figure IV.L-7 illustrates the location of these related projects. All these projects’ growth was checked against corresponding growth reflected in the model forecasts to ensure that they were accounted for and that consistent long-term Future Year 2020 without Project travel forecasts at all the study locations could be obtained.

The traffic assignments for both the peak periods were compared to those for the existing conditions to assess the average ambient growth projected by the transportation model for the Tierra Luna Specific Plan Study Area. The SCAG traffic assignments on all major roadways within the study area were compiled and the overall growth estimated. It was estimated based on the regional growth projections that the growth in traffic amounted to an overall increase of approximately 6.48 percent (0.54 percent per year) and 6.24 percent (0.52 percent per year) in the AM and PM peak hours, respectively, in the Future 2020 without Project conditions compared to Existing (2008) conditions.

**Table IV.L-8  
List of Related Projects**

<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
<b>City of Santa Fe Springs</b>				
1	Villages at Heritage Springs <sup>a</sup>	Telegraph Rd/Clark Av./Bloomfield Av./Norwalk Bl.	Single-Family Homes	554 units
2	Carmenita Plaza <sup>a</sup>	10120 Carmenita Rd.	Multi-Tenant Commercial	6,500 sf
3	Felipe's Cabinets <sup>a</sup>	11790 Slauson Av.	Warehouse/Office	11,462 sf
4	McMaster Carr Supply Co. <sup>a</sup>	9630 Norwalk Bl.	Warehouse	85,000 sf
5	Kiewit Office Building <sup>b</sup>	10704 Shoemaker Av.	Office	23,500 sf
6	Golden Springs Development <sup>b</sup>	Carmenita Rd. & Foster Rd.	Industrial	200,000 sf
7	Petro Builders Industrial Building <sup>b</sup>	10145 Geary Av.	Maintenance Building	4,656 sf
<b>City of Commerce</b>				
8	Citadel Expansion <sup>c</sup>	5675 Telegraph Rd.	Retail Outlet Center Office Building	253,200 sf 30,000 sf
<b>City of Lynwood</b>				
9	Retail Building <sup>d</sup>	3801-3831 Martin Luther King Jr. Bl.	Retail	15,900 sf
10	Commercial Building <sup>d</sup>	3791 Martin Luther King Jr. Bl.	Office Building	4,140 sf
11	Oakwood Plaza <sup>d</sup>	3211 Oakwood Av.	Retail	14,800 sf
12	Commercial Retail Building <sup>d</sup>	10820 Atlantic Av.	Commercial Retail	17,670 sf
13	Warehouse <sup>d</sup>	11298 Alameda St.	Warehouse	7,200 sf
<b>City of Paramount</b>				
14	Commercial Retail Center <sup>f</sup>	13729-33 Garfield Av.	Retail Center Super Market Fast Food Restaurant	4,800 sf 7,300 sf 2,670 sf
15	Masse Homes <sup>f</sup>	8415-8427 Adams St.	Single-Family Homes	7 units
16	Chanslor Investments, Inc. <sup>f</sup>	8329-8335 Somerset Bl.	Single-Family Homes	8 units
17	Felix Homes <sup>f</sup>	16603-16613 Indiana Av.	Single-Family Homes	6 units
18	Cerro Metals <sup>g</sup>	14900 Garfield Av.	Grocery Warehouse	551,821 sf
<b>City of South Gate</b>				
19	Elementary School No. 4 <sup>h</sup>	SW corner of Firestone Bl. & Dorothy Av.	Elementary School	950 students

**Table IV.L-8  
List of Related Projects**

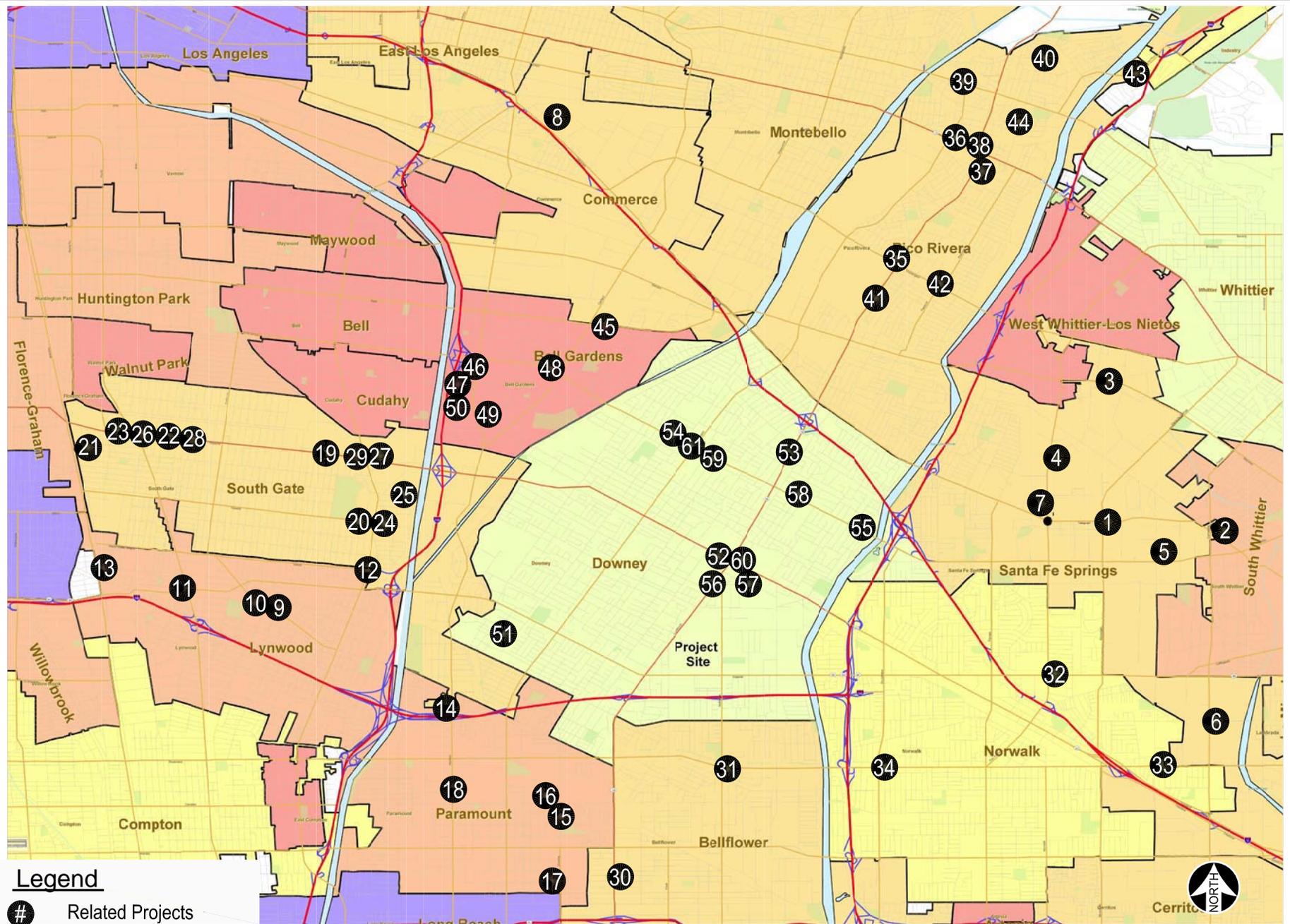
<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
20	Infill Project <sup>h</sup>	Tweedy Bl. between Atlantic Bl. & Pinehurst Av.	Shopping Center	46,600 sf
21	Calden Avenue Condominiums (Tierra del Rey) <sup>h</sup>	Southern Av. Between Calden Av. & Alameda St.	Condominiums Mini-Storage	107 units 100,000 sf
22	Firestone Mixed-Use Project (Firestone Village) <sup>h</sup>	Firestone Bl. between South Gate Av. & Greenview Av.	Shopping Center Single-Family Homes	18,090 sf 47 units
23	LAUSD Elementary School #9	Firestone Bl. between Long beach Bl. & Santa Fe Av.	Elementary School	650 students
24	LAUSD High School	Tweedy Bl. and Atlantic Bl.	High School	1,500 students
25	Industrial Building <sup>h</sup>	Southern Av. Between Rayo Av. & L.A. River	Industrial	75,000 sf
26	WAMU Center <sup>h</sup>	NW corner of Firestone Bl. & Long Beach Bl.	Bank	8,000 sf
27	Firestone Bl./Atlantic Av. Int. Improv. Project <sup>h</sup>	NW corner of Atlantic Av. & Firestone Bl.	City Hall Annex	8,000 sf
28	Food Market	NW corner of Firestone Bl. & State St.	Shopping Center	20,000 sf
29	The Gateway Retail Project (El Portal) <sup>i</sup>	NW corner of Atlantic Av. & Firestone Bl.	Shopping Center	600,000 sf
<b>City of Bellflower</b>				
30	Bellflower Vascular Access Center <sup>j</sup>	16506 Lakewood Bl.	Pharmacy/Medical Offices	13,000 sf
31	Seven-Eleven Store <sup>j</sup>	14300 Bellflower Bl.	Retail	2,052 sf
<b>City of Norwalk<sup>k</sup></b>				
32	Shopping Center Remodel	Imperial Hwy. & Shoemaker Rd.	Restaurant Retail Retail	5,490 sf 10,360 sf 4,890 sf

**Table IV.L-8  
List of Related Projects**

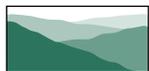
<b>Map No.</b>	<b>Project Name</b>	<b>Location</b>	<b>Description</b>	<b>Size</b>
33	Industrial/Office Complex	Rosecrans Av. & Shoemaker Rd.	Retail	11,954 sf
			Warehouse	14,843 sf
			Manufacturing	14,730 sf
			Restaurant	5,000 sf
			Industrial	3,332 sf
			Medical Office	9,582 sf
			Industrial	19,536 sf
34	Fresh & Easy Market	Rosecrans Av. & Studebaker Rd.	Super Market	14,800 sf
<b>City of Pico Rivera<sup>L</sup></b>				
35	Pico Rivera Market Place	8909 Washington Bl.	Fitness Center	50,000 sf
			Retail Building	35,000 sf
			Retail	9,300 sf
36	Pico Rivera Village Walk 15	Whittier Bl. & Paramount Bl.	Movie/Retail Center	135,106 sf
37	Veranda Crest	5216 Rosemead Bl.	Condominiums	42 units
38	Target Center	8878 Whittier Bl.	Retail	7,050 sf
39	Used Car Sales Lot	8642 E. Beverly Bl.	Used Car Sales Lot	1,997sf
40	7 Single-Family Homes	Durfee Av. & Gallatin Rd.	Single-Family Homes	7 units
41	BNSF MOW Expansion	7427 Rosemead Bl.	Office Building	5,170 sf
42	Retail Center	9316 & 9332 Washington Bl.	Retail	11,400 sf
43	Industrial Building	San Gabriel River Pkwy	Industrial	2,600 sf
44	Office Building	9244 Beverly Rd.	Office Building	6,912 sf
<b>City of Bell Gardens</b>				
45	Shopping Center <sup>m</sup>	6420 Gate Av.	Retail Shopping Center	11,000 sf
46	Casino Expansion <sup>m</sup>	7301 Eastern Av.	Event Center	12,000 sf
47	Tentative Parcel Map No. 063646 <sup>h</sup>	5614 Clara St.	Single-Family Homes	7 units
48	Office Building <sup>h</sup>	6244 Florence Av.	Office Building	2,710 sf
49	Tentative Tract Map No. 067931 <sup>h</sup>	5829 Muller St. and 5842-48 Quinn St.	Condominiums	10 units
50	Tentative Tract Map No. 069086 <sup>h</sup>	5517 Quinn St.	Condominiums	7 units
<b>City of Downey</b>				
51	Los Angeles County Data Center <sup>n</sup>	Erickson & Flores Street	Office Building	90 employees

**Table IV.L-8  
List of Related Projects**

Map No.	Project Name	Location	Description	Size
52	Lakewood Boulevard Commercial Center <sup>g</sup>	SW corner of Lakewood Bl. & Firestone Bl.	Office Building	8,000 sf
53	Lakewood Retail/ Office Building	9637 Lakewood Bl.	Office and Retail	9,320 sf
54	Florence Retail Center	7877 Florence Av.	Retail	15,421 sf
55	Florence Medical Office Building 1 <sup>g</sup>	Florence Av.	Medical Office	31,500 sf
56	Desert Reign Church and Davita Dialysis Clinic <sup>g</sup>	11610 Lakewood Bl.	Church (570-seat sanctuary)	27,528 sf
			Dialysis Clinic	9,000 sf
57	Hall Road	9236 Hall Rd.	Industrial Condominiums	200,000 sf
58	Florence Condominiums	9100-9126 Florence Av.	Condominiums	17 units
59	Quinn Office Building	8129 Florence Av.	Office Building	4,308 sf
60	Walgreens	9020 Firestone	Retail	12,202 sf
61	Rodriguez Professional Building	8036 Florence Av.	Office Building	16,110 sf
<p><sup>a</sup> Information obtained from City of Santa Fe Springs Planning Department - Wayne Morrell, Principal Planner, 562-868-0511x7362, waynemorrell@santafesprings.org.</p> <p><sup>b</sup> Information obtained from City of Santa Fe Springs Website.</p> <p><sup>c</sup> Information obtained from City of Commerce Planning Department - Mercenia Lugo, Planning Div. mercenial@ci.commerce.ca.us, 323-722-4805x2811.</p> <p><sup>d</sup> Information obtained from City of Lynwood Planning Department.</p> <p><sup>e</sup> Information obtained from City of Lynwood Website.</p> <p><sup>f</sup> Information obtained from City of Paramount Planning Department - Wendy Macias, Community Dev. Planner, 562-220-2060, wmacias@paramountcity.com.</p> <p><sup>g</sup> Traffic Sensitivity Analysis for Rancho Los Amigos National Rehabilitation Center Project, Kaku Associates, January 2008.</p> <p><sup>h</sup> South Gate Gateway Project, Draft Environmental Impact Report (DEIR), November 14, 2007 - Alvie Betancourt, Senior Planner, 323-563-9526.</p> <p><sup>i</sup> Firestone Boulevard/Atlantic Avenue Intersection Improvements Project, Draft Environmental Impact Report (DEIR), July 10, 2007.</p> <p><sup>j</sup> Information obtained from City of Bellflower Planning Department - Carlos Luis, Assist. Planner, 562-804-1424x2314, cluis@bellflower.org.</p> <p><sup>k</sup> Information obtained from City of Norwalk Planning Department - Community Dev. Dept., 562-929-5744, planning@ci.norwalk.ca.us.</p> <p><sup>l</sup> Information obtained from City of Pico Rivera Planning Department - Sergio Ruiz, Planning Div. 562-801-4332, sruiz@pico-rivera.org.</p> <p><sup>m</sup> Information obtained from City of Bell Gardens Planning Department - Mr. Hailes Soto, Planning Division, 562-806-7722, hsoto@bellgardens.org.</p> <p><sup>n</sup> Traffic Study for the County of Los Angeles Data Center Project, Raju Associates, Inc., April 2008.</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</p>				



Source: Raju Associates, Inc., 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.L-7  
Location of Related Projects

### *Highway System Improvements*

The City of Downey General Plan Circulation Element provides recommendations and strategies to guide future transportation-related decisions in the City consistent with the Los Angeles County Metropolitan Authority (Metro) CMP, the Regional Transportation Plan (RTP) and the STIP (Statewide Transportation Improvement Program). The circulation element envisions a balanced, multi-modal and integrated transportation system that provides mobility and accessibility in the City for everyone.

The existing Downey Landing Specific Plan provides policies and guidelines for the development of the site including the access/circulation system and parking. This plan provides guidelines and direction for the development of the overall access and circulation system in relation to the existing layout of the local street network.

In addition to those plans, the Cities of South Gate, Bellflower, Paramount, Norwalk, Pico Rivera, Santa Fe Springs and County of Los Angeles General Plans' circulation elements offer guidelines for the improvement of infrastructure in the study area.

The Los Angeles County Congestion Management Program is a state-mandated program that serves as the monitoring and analytical basis for transportation funding decisions made through the Regional Transportation Improvement Program (RTIP) and STIP. Metro's Long Range Plan is a strategic document that serves as a framework for meeting the current and projected mobility needs of Los Angeles County. The Long Range Plan recommends highway, HOV, bus, rail and travel demand management improvements, and identifies funding sources and implementation schedules over the 20-year period.

The RTP, prepared by SCAG, is a planning document required under State and federal statutes. The RTP forecasts long-term transportation demands, and identifies policies, actions and funding sources to accommodate these demands. The RTP contemplates construction of new transportation facilities, transportation system management (TSM) strategies, transportation demand management (TDM) strategies and land-use strategies. The Regional Transportation Improvement Program (RTIP), also prepared by SCAG and based on the RTP, lists all the regionally funded/programmed improvements within the next seven years. An RTIP (RTIP 2006) has been prepared by SCAG based on the most recent RTP (published in July 2004). This RTIP provides updates to the list of regionally funded/programmed improvements in the next improvement cycle. The improvements included in the RTP have committed funding. The following intersection improvements are included in the Downey Landing Specific Plan. These improvements are funded and built or currently under construction and include:

- Lakewood Boulevard/Imperial Highway – the improvement at this location includes additional northbound and southbound left-turn lanes and an eastbound right turn lane. The northbound and southbound approaches would provide dual left-turn lanes, two through lanes and a shared through/right-turn lane. The eastbound approach would provide a left-turn lane, three through lanes and a separate right-turn lane.

- Lakewood Boulevard/Firestone Boulevard – the improvement at this location includes an additional eastbound through lane and a separate right-turn lane. The eastbound approach would provide dual left-turn lanes, three through lanes and a separate right-turn lane.
- Bellflower Boulevard/Imperial Highway – the improvement at this location includes an additional separate right-turn lane on the eastbound, northbound, and southbound approaches. The eastbound approach would provide a left-turn lane, three through lanes and a separate right-turn lane. The northbound and southbound approaches would provide a left-turn lane, two through lanes and a separate right-turn lane.
- Bellflower Boulevard/Congressman Steve Horn Way - The improvement at this location includes construction of the fourth (west) leg of the intersection. The eastbound approach would provide a left-turn lane and a shared left-through-right turn lane.
- Paramount Boulevard/Florence Avenue – the improvement at this location includes an additional separate right-turn lane on the northbound and southbound approaches. The northbound and southbound approaches would provide dual left-turn lanes, two through lanes and a separate right-turn lane.

These improvements are included in both the Future (2020) “Without Project” conditions and Future (2020) “With Project” conditions analyses.

#### ***Analysis of Future (2020) Traffic Conditions – Without and With Project***

The Future Year 2020 “Without Project” and “With Project” conditions were analyzed utilizing the same methodologies and assumptions that were discussed above and approved by the City of Downey. The results were used to assess the potential impact of the Proposed Project on the local street system.

The traffic impact analysis compares the volume to capacity ratios at each study location under the future “Without Project” and future “With Project” conditions to determine the incremental difference in V/C ratios caused by the Proposed Project. This provides the information needed to assess the potential impact of the Proposed Project using significance criteria established by the Los Angeles County Congestion Management Program (see Table IV.L-5) and accepted by the City of Downey.

As described earlier, the “Without Project” (2020) traffic volumes include existing traffic and the traffic generated by the growth in the rest of the region (including the related projects) that is projected by the SCAG 2004 Regional Transportation Model. The future (2020) “Without Project” intersection operating conditions for the AM and PM peak hours is shown in Table IV.L-9. These estimates are the benchmark volumes used in determining project traffic impacts on the study intersections.

Traffic volumes generated by the Proposed Project were then combined with the future (2020) “Without Project” volumes to form the future “With Project” volumes, as shown in Table IV.L-9. Figures IV.L-8 through IV.L-11 depict the future (2020) “With Project” traffic levels. These volumes were used to determine traffic impacts directly attributable to the Proposed Project.

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Downey</b>								
23	Ardis Avenue & Imperial Highway	AM	0.528	A	0.550	A	0.022	No
		PM	0.535	A	0.625	B	0.090	No
33	Bellflower Boulevard & I-105 Eastbound Ramps	AM	0.658	B	0.710	C	0.052	No
		PM	0.711	C	0.832	D	0.121	No
32	Bellflower Boulevard & I-105 Westbound Ramps	AM	0.699	B	0.756	C	0.057	No
		PM	0.675	B	0.758	C	0.083	No
34	Bellflower Boulevard & Foster Road	AM	0.756	C	0.767	C	0.011	No
		PM	0.659	B	0.691	B	0.032	No
24	Bellflower & Imperial Highway	AM	1.173	F	1.255	F	0.082	Yes
		PM	1.224	F	1.360	F	0.136	Yes
25	Bellflower Boulevard & Congressman Steve Horn Way	AM	0.447	A	0.513	A	0.066	No
		PM	0.656	B	0.586	A	-0.070	No
27	Bellflower Boulevard & Stewart and Gray Road	AM	0.725	C	0.857	D	0.132	No
		PM	0.717	C	0.853	D	0.136	No
26	Bellflower Boulevard & Washburn Road	AM	0.527	A	0.652	B	0.125	No
		PM	0.455	A	0.757	C	0.302	No
73	Brookshire Avenue & Firestone Boulevard	AM	0.616	B	0.627	B	0.011	No
		PM	0.802	D	0.833	D	0.031	No
72	Brookshire Avenue & Florence Avenue	AM	0.655	B	0.659	B	0.004	No
		PM	0.778	C	0.782	C	0.004	No
74	Brookshire Avenue & Imperial Highway	AM	0.761	C	0.767	C	0.006	No
		PM	0.750	C	0.764	C	0.014	No
31	Clark Avenue & Foster Road	AM	0.691	B	0.702	C	0.011	No
		PM	0.533	A	0.555	A	0.022	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
22	Clark Avenue & Imperial Highway	AM	0.671	B	0.705	C	0.034	No
		PM	0.583	A	0.648	B	0.065	No
53	Downey Avenue & Alameda Street	AM	0.417	A	0.422	A	0.005	No
		PM	0.454	A	0.467	A	0.013	No
51	Downey Avenue & Firestone Boulevard	AM	0.584	A	0.607	B	0.023	No
		PM	0.798	C	0.823	D	0.025	No
50	Downey Avenue & Florence Avenue	AM	0.675	B	0.676	B	0.001	No
		PM	0.682	B	0.684	B	0.002	No
55	Downey Avenue & Gardendale Street	AM	0.516	A	0.516	A	0.000	No
		PM	0.555	A	0.555	A	0.000	No
54	Downey Avenue & Imperial Highway	AM	0.721	C	0.728	C	0.007	No
		PM	0.608	B	0.624	B	0.016	No
52	Downey Avenue & Stewart and Gray Road	AM	0.584	A	0.594	A	0.010	No
		PM	0.735	C	0.770	C	0.035	No
103	Erickson Avenue & Imperial Highway Eastbound Ramps <sup>c</sup>	AM		A		A		No
		PM		A		A		No
		AM	0.286	<sup>d</sup>	0.286	<sup>d</sup>	0.000	
		PM	0.256	<sup>d</sup>	0.256	<sup>d</sup>	0.000	
102	Erickson Avenue & Imperial Highway Westbound Ramps <sup>c</sup>	AM		A		A		No
		PM		A		A		No
		AM	0.308	<sup>d</sup>	0.308	<sup>d</sup>	0.000	
		PM	0.241	<sup>d</sup>	0.241	<sup>d</sup>	0.000	
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	AM	0.391	A	0.417	A	0.026	No
		PM	0.545	A	0.606	B	0.061	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
40	Lakewood Boulevard & 5 <sup>th</sup> Street	AM	0.840	D	0.869	D	0.029	No
		PM	0.918	E	0.994	E	0.076	No
19	Lakewood Boulevard & Alameda Street	AM	0.382	A	0.421	A	0.039	No
		PM	0.548	A	0.661	B	0.113	No
16	Lakewood Boulevard & Bellflower Boulevard	AM	0.553	A	0.589	A	0.036	No
		PM	0.557	A	0.643	B	0.086	No
104	Lakewood Boulevard & Cherokee Drive	AM	0.519	A	0.544	A	0.025	No
		PM	0.642	B	0.687	B	0.045	No
20	Lakewood Boulevard & Clark Avenue	AM	0.421	A	0.467	A	0.046	No
		PM	0.480	A	0.558	A	0.078	No
75	Lakewood Boulevard & Cleta Street	AM	0.469	A	0.510	A	0.041	No
		PM	0.431	A	0.488	A	0.057	No
76	Lakewood Boulevard & Donovan Street	AM	0.604	B	0.654	B	0.050	No
		PM	0.476	A	0.536	A	0.060	No
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	AM	0.813	D	0.871	D	0.058	No
		PM	0.837	D	0.962	E	0.125	No
39	Lakewood Boulevard & Florence Avenue	AM	0.872	D	0.897	D	0.025	No
		PM	0.936	E	0.987	E	0.051	No
38	Lakewood Boulevard & Gallatin Road	AM	1.090	F	1.110	F	0.020	Yes
		PM	1.077	F	1.125	F	0.048	Yes
29	Lakewood Boulevard & Gardendale Street	AM	0.907	E	0.919	E	0.012	No
		PM	0.926	E	0.961	E	0.035	No
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	AM	0.685	B	0.747	C	0.062	No
		PM	0.832	D	0.899	D	0.067	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
37	Lakewood Boulevard & I-5 Southbound Ramps	AM	0.689	B	0.749	C	0.060	No
		PM	0.716	C	0.811	D	0.095	No
21	Lakewood Boulevard & Imperial Highway	AM	0.663	B	0.730	C	0.067	No
		PM	0.792	C	0.878	D	0.086	No
18	Lakewood Boulevard & Landing Center Driveway	AM	0.414	A	0.449	A	0.035	No
		PM	0.610	B	0.732	C	0.122	No
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	AM	0.799	C	0.819	D	0.020	No
		PM	0.879	D	0.908	E	0.029	No
17	Lakewood Boulevard & Stewart and Gray Road	AM	0.777	C	0.844	D	0.067	No
		PM	0.885	D	1.007	F	0.122	Yes
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	AM	0.726	C	0.745	C	0.019	No
		PM	0.916	E	0.964	E	0.048	No
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	AM	0.795	C	0.802	D	0.007	No
		PM	0.950	E	0.958	E	0.008	No
69	Old River School Road & Firestone Boulevard & Burns Avenue	AM	0.713	C	0.718	C	0.005	No
		PM	0.954	E	0.967	E	0.013	No
71	Old River School Road & Imperial Highway	AM	0.772	C	0.775	C	0.003	No
		PM	0.767	C	0.774	C	0.007	No
70	Old River School Road & Stewart and Gray Road	AM	0.739	C	0.742	C	0.003	No
		PM	0.739	C	0.743	C	0.004	No
68	Old River School Road/Tecum Road & Florence Avenue	AM	0.855	D	0.857	D	0.002	No
		PM	0.982	E	0.984	E	0.002	No
62	Paramount Boulevard & Alameda Street	AM	0.649	B	0.654	B	0.005	No
		PM	0.691	B	0.708	C	0.017	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
60	Paramount Boulevard & Firestone Boulevard	AM	0.875	D	0.884	D	0.009	No
		PM	0.996	E	1.015	F	0.019	No
59	Paramount Boulevard & Florence Avenue	AM	0.931	E	0.937	E	0.006	No
		PM	1.067	F	1.076	F	0.009	No
64	Paramount Boulevard & Gardendale Street	AM	0.663	B	0.665	B	0.002	No
		PM	0.761	C	0.765	C	0.004	No
57	Paramount Boulevard & I-5 Northbound Ramps	AM	0.758	C	0.758	C	0.000	No
		PM	1.035	F	1.045	F	0.010	No
58	Paramount Boulevard & I-5 Southbound Ramps	AM		F		F		No
		PM		F		F		No
		AM	0.890	<sup>d</sup>	0.892	<sup>d</sup>	0.002	
		PM	1.093	<sup>d</sup>	1.103	<sup>d</sup>	0.010	
63	Paramount Boulevard & Imperial Highway	AM	0.813	D	0.817	D	0.004	No
		PM	0.953	E	0.968	E	0.015	No
61	Paramount Boulevard & Stewart and Gray Road	AM	0.840	D	0.851	D	0.011	No
		PM	0.928	E	0.936	E	0.008	No
56	Paramount Boulevard & Telegraph Road	AM	0.835	D	0.843	D	0.008	No
		PM	0.853	D	0.867	D	0.014	No
65	Rives Avenue & Firestone Boulevard	AM	0.678	B	0.686	B	0.008	No
		PM	0.738	C	0.748	C	0.010	No
67	Rives Avenue & Imperial Highway <sup>b</sup>	AM		B		C		No
		PM		B		B		No
		AM	0.490	<sup>d</sup>	0.494	<sup>d</sup>	0.004	
		PM	0.507	<sup>d</sup>	0.522	<sup>d</sup>	0.015	

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
66	Rives Avenue & Stewart and Gray Road	AM	0.572	A	0.574	A	0.002	No
		PM	0.682	B	0.693	B	0.011	No
35	Rosemead Boulevard & Telegraph Road <sup>a</sup>	AM	1.039	F	1.047	F	0.008	No
		PM	1.215	F	1.228	F	0.013	No
47	Stewart and Ray Road & Firestone Boulevard	AM	0.609	B	0.640	B	0.031	No
		PM	0.846	D	0.920	E	0.074	No
49	Studebaker Road & Florence Avenue	AM	0.850	D	0.854	D	0.004	No
		PM	0.841	D	0.845	D	0.004	No
42	Woodruff Avenue & Firestone Boulevard (E)	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
46	Woodruff Avenue & Foster Road	AM	0.501	A	0.505	A	0.004	No
		PM	0.552	A	0.566	A	0.014	No
45	Woodruff Avenue & Imperial Highway	AM	0.721	C	0.740	C	0.019	No
		PM	0.797	C	0.822	D	0.025	No
43	Woodruff Avenue & Stewart and Gray Road	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
44	Woodruff Avenue and Washburn Road	AM	0.457	A	0.457	A	0.000	No
		PM	0.496	A	0.496	A	0.000	No
<b>City of Bellflower</b>								
10	Bellflower Boulevard & Alondra Boulevard	AM	0.633	B	0.635	B	0.002	No
		PM	0.800	C	0.801	D	0.001	No
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	AM	0.880	D	0.881	D	0.001	No
		PM	0.861	D	0.861	D	0.000	No
9	Bellflower Boulevard & Compton Boulevard	AM	0.756	C	0.758	C	0.002	No
		PM	0.823	D	0.828	D	0.005	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
8	Bellflower Boulevard & Rosecrans Avenue	AM	0.765	C	0.770	C	0.005	No
		PM	0.815	D	0.820	D	0.005	No
11	Bellflower Boulevard & SR-91 Westbound Off-Ramp	AM	0.791	C	0.792	C	0.001	No
		PM	1.003	F	1.003	F	0.000	No
5	Clark Avenue & Alondra Boulevard	AM	0.646	B	0.652	B	0.006	No
		PM	0.813	D	0.822	D	0.009	No
4	Clark Avenue & Compton Boulevard	AM	0.654	B	0.664	B	0.010	No
		PM	0.707	C	0.721	C	0.014	No
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	AM	0.591	A	0.592	A	0.001	No
		PM	0.646	B	0.649	B	0.003	No
3	Clark Avenue & Rosecrans Avenue	AM	0.570	A	0.580	A	0.010	No
		PM	0.644	B	0.661	B	0.017	No
6	Clark Avenue & SR-91 Westbound Off-Ramp	AM	0.487	A	0.488	A	0.001	No
		PM	0.627	B	0.631	B	0.004	No
90	Lakewood Boulevard & Alondra Boulevard	AM	0.728	C	0.731	C	0.003	No
		PM	1.031	F	1.041	F	0.010	No
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	AM	0.903	E	0.916	E	0.013	No
		PM	0.939	E	0.953	E	0.014	No
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	AM	0.641	B	0.643	B	0.002	No
		PM	0.821	D	0.824	D	0.003	No
2	Lakewood Boulevard & SR-91 Eastbound Ramps	AM	0.640	B	0.642	B	0.002	No
		PM	0.727	C	0.729	C	0.002	No
15	Woodruff Avenue & Alondra Boulevard	AM	0.760	C	0.763	C	0.003	No
		PM	0.971	E	0.978	E	0.007	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

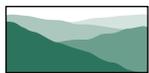
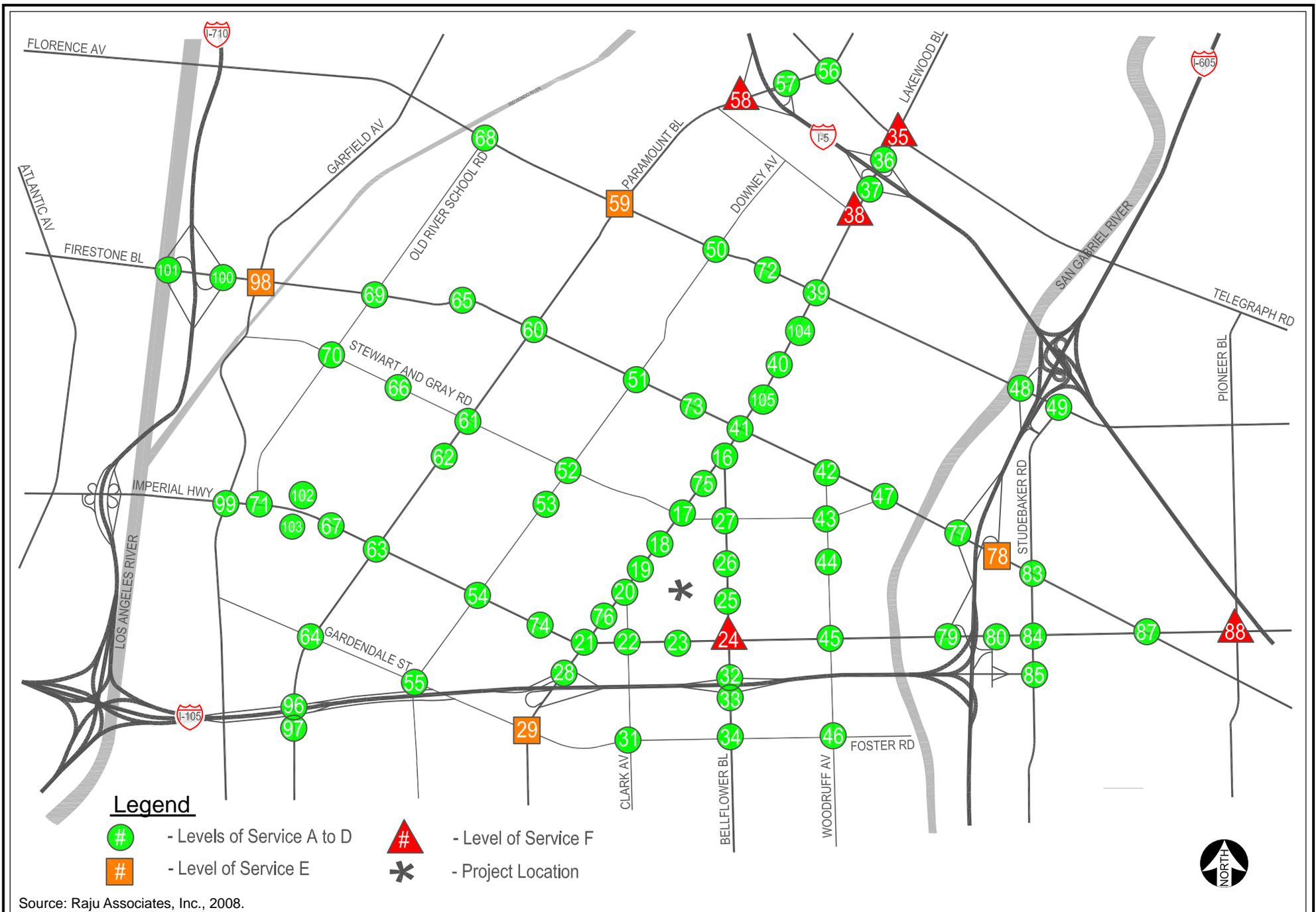
Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
14	Woodruff Avenue & Compton Boulevard	AM	0.592	A	0.599	A	0.007	No
		PM	0.626	B	0.635	B	0.009	No
13	Woodruff Avenue & Rosecrans Avenue	AM	0.835	D	0.843	D	0.008	No
		PM	0.856	D	0.875	D	0.019	No
<b>City of Norwalk</b>								
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	AM	0.757	C	0.771	C	0.014	No
		PM	0.799	C	0.828	D	0.029	No
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	AM	0.754	C	0.761	C	0.007	No
		PM	0.820	D	0.827	D	0.007	No
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	AM	0.756	C	0.757	C	0.001	No
		PM	0.881	D	0.885	D	0.004	No
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	AM	0.910	E	0.937	E	0.027	No
		PM	0.907	E	0.934	E	0.027	No
80	Hoxie Avenue & Imperial Highway	AM	0.770	C	0.775	C	0.005	No
		PM	0.969	E	0.985	E	0.016	No
82	I-605 Northbound Off-Ramp/I- 105 Westbound On-Ramp & Rosecrans Avenue	AM	0.713	C	0.717	C	0.004	No
		PM	0.892	D	0.897	D	0.005	No
77	I-605 Southbound Ramps & Firestone Boulevard	AM	0.838	D	0.880	D	0.042	No
		PM	0.970	E	1.037	F	0.067	Yes
88	Pioneer Boulevard & Imperial Highway	AM	1.026	F	1.043	F	0.017	No
		PM	0.925	E	0.939	E	0.014	No
83	Studebaker Road & Firestone Boulevard	AM	0.809	D	0.830	D	0.021	No
		PM	0.875	D	0.896	D	0.021	No

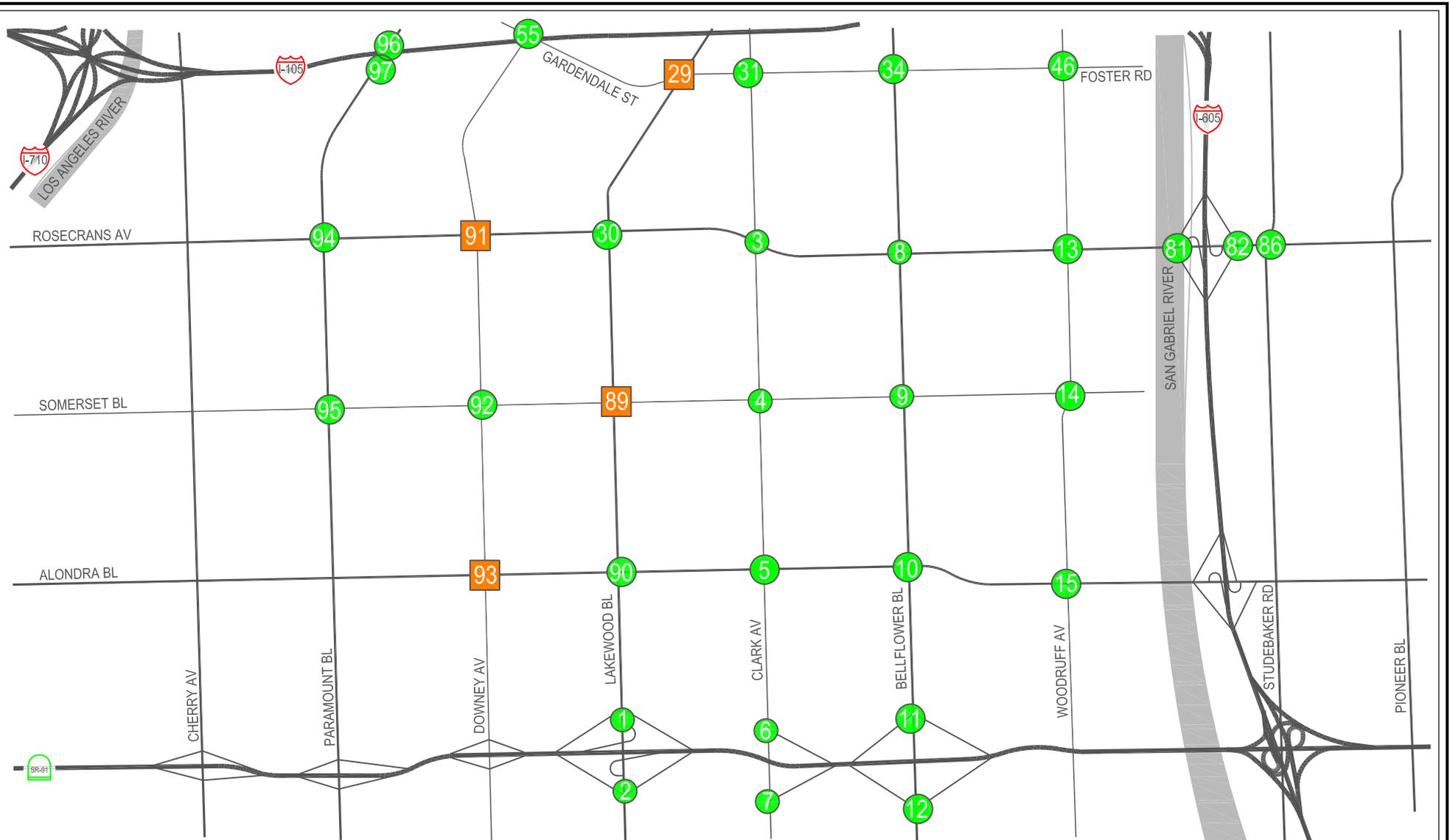
**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
84	Studebaker Road & Imperial Highway	AM	0.861	D	0.870	D	0.009	No
		PM	0.817	D	0.831	D	0.014	No
86	Studebaker Road & Rosecrans Avenue	AM	0.836	D	0.838	D	0.002	No
		PM	0.967	E	0.972	E	0.005	No
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	AM	0.874	D	0.875	D	0.001	No
		PM	0.834	D	0.838	D	0.004	No
<b>City of Paramount</b>								
93	Downey Avenue & Alondra Boulevard	AM	0.912	E	0.915	E	0.003	No
		PM	0.814	D	0.820	D	0.006	No
91	Downey Avenue & Rosecrans Avenue	AM	0.995	E	1.000	E	0.005	No
		PM	1.071	F	1.077	F	0.006	No
92	Downey Avenue & Somerset Boulevard	AM	0.783	C	0.784	C	0.001	No
		PM	0.785	C	0.789	C	0.004	No
94	Paramount Boulevard & Rosecrans Avenue	AM	0.776	C	0.777	C	0.001	No
		PM	0.860	D	0.863	D	0.003	No
95	Paramount Boulevard & Somerset Boulevard	AM	0.888	D	0.888	D	0.000	No
		PM	0.911	E	0.911	E	0.000	No
<b>City of South Gate</b>								
98	Garfield Avenue & Firestone Boulevard	AM	0.941	E	0.947	E	0.008	No
		PM	1.244	F	1.256	F	0.012	No
99	Garfield Avenue & Imperial Highway	AM	0.688	B	0.691	B	0.003	No
		PM	0.719	C	0.726	C	0.007	No
100	I-710 Northbound Off-Ramp & Firestone Boulevard	AM	0.818	D	0.823	D	0.005	No
		PM	0.999	E	1.012	F	0.013	No

**Table IV.L-9  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
101	I-710 Southbound Off-Ramp & Firestone Boulevard	AM	0.850	D	0.857	D	0.007	No
		PM	1.085	F	1.099	F	0.014	No
96	Paramount Boulevard & Somerset Ranch Road North	AM	0.875	D	0.875	D	0.000	No
		PM	0.891	D	0.891	D	0.000	No
97	Paramount Boulevard & Somerset Ranch Road South	AM	0.736	C	0.736	C	0.000	No
		PM	0.827	D	0.829	D	0.002	No
<p><sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location.</p> <p><sup>b</sup> Unsignalized intersections - stop-controlled on all approach.</p> <p><sup>c</sup> Unsignalized intersections - stop-controlled on minor approach(es).</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</p>								

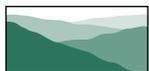




**Legend**

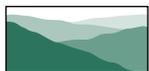
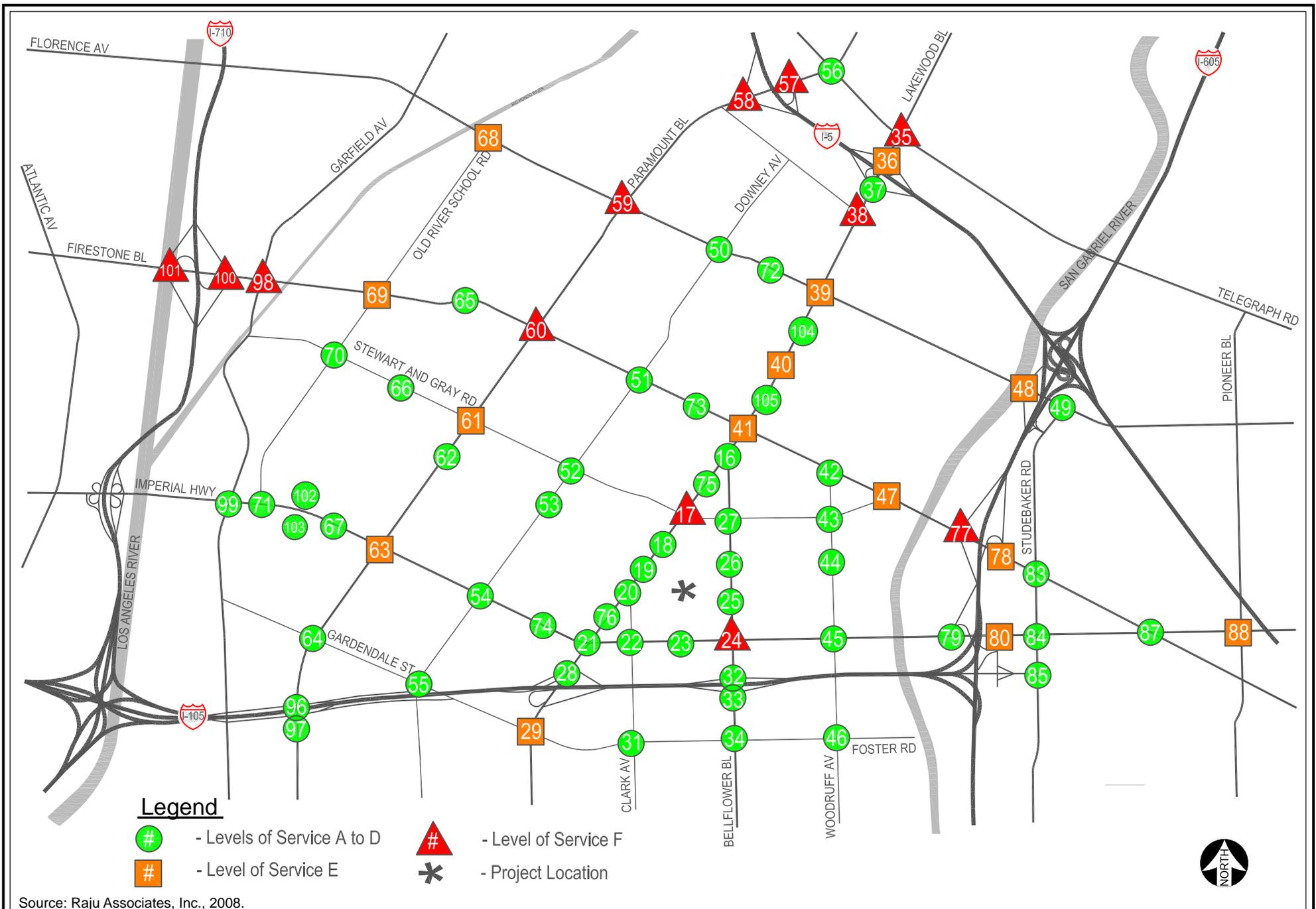
- # - Levels of Service A to D
- # - Level of Service E
- # - Level of Service F

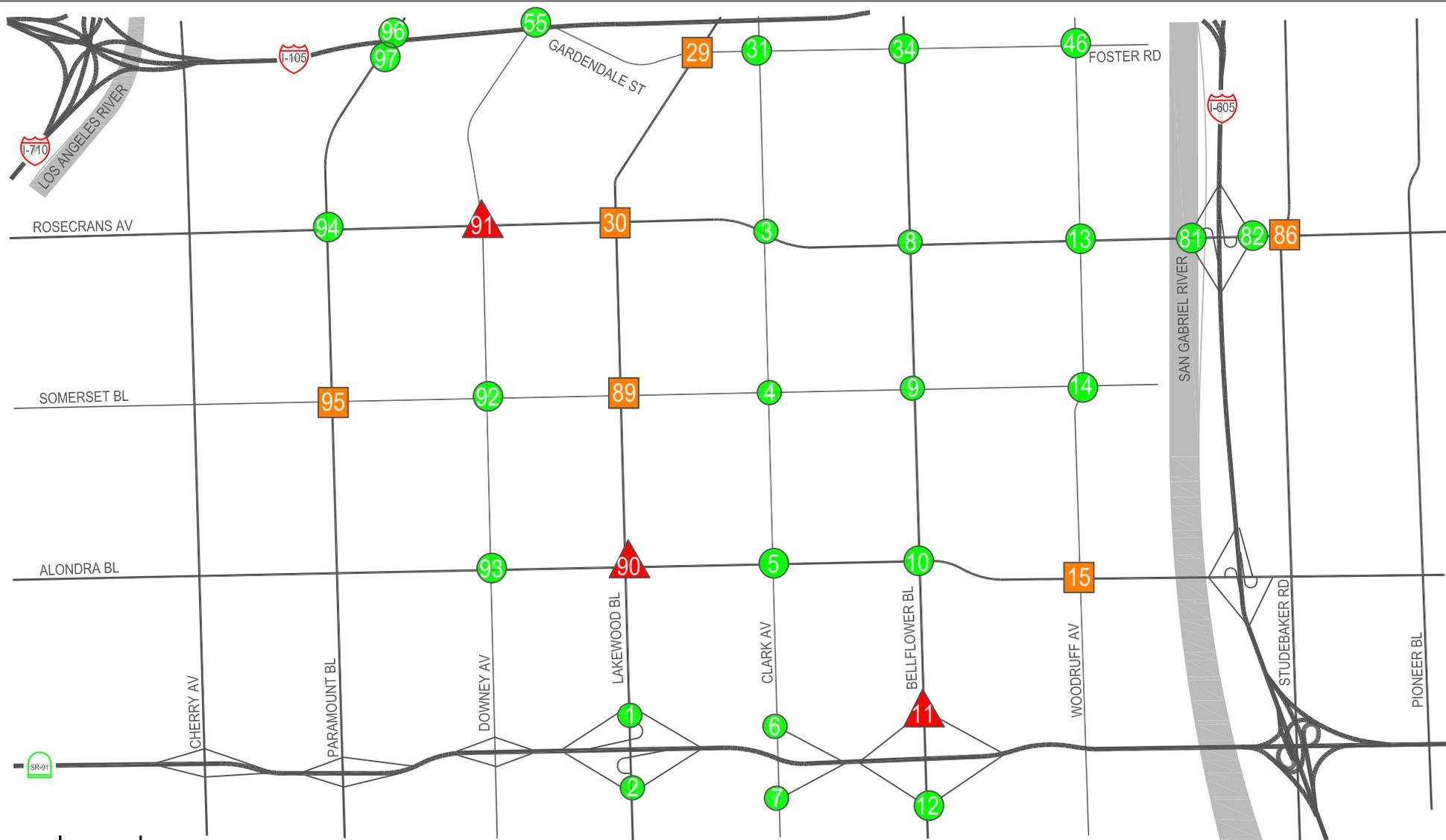
Source: Raju Associates, Inc., 2008.



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Figure IV.L-9  
Future (2020) With Project  
AM Peak Hour-Levels of Service



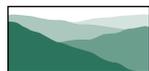


**Legend**

- Levels of Service A to D
- Level of Service E
- Level of Service F



Source: Raju Associates, Inc., 2008.



CHRISTOPHER A. JOSEPH & ASSOCIATES  
Environmental Planning and Research

Figure IV.L-11  
Future (2020) With Project  
PM Peak Hour-Levels of Service

### *Intersection Analysis*

Using the identified significance criterion, the traffic impacts at the analysis locations would be determined. Table IV.L-9 above summarizes the intersection impacts resulting from the Proposed Project before mitigation, during the AM and PM peak hours. Upon project buildout, two intersections during the AM peak hour and four intersections during the PM peak hour would be significantly impacted by the Proposed Project. These intersections include:

- Lakewood Boulevard/Gallatin Road – AM and PM Peak Hours
- Lakewood Boulevard/Stewart and Gray Road – PM Peak Hour
- Bellflower Boulevard/Imperial Highway – AM and PM peak Hours
- I-605 Southbound Ramps/Firestone Boulevard – PM Peak Hour

### *Congestion Management Program*

#### *Intersections*

The congestion management program (CMP) requires that when a traffic impact report is prepared for a project, traffic impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use these facilities.

The CMP guidelines for determining the study area of the analysis for CMP arterial monitoring intersections and for freeway monitoring locations are as follows:

- All CMP arterial monitoring intersections where the Proposed Project would add 50 or more trips during either the AM or PM weekday peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the Proposed Project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

In the vicinity of the Project Site, the following four intersections within the study area are identified as arterial monitoring stations:

- Rosemead Boulevard-Lakewood Boulevard at Telegraph Road
- Lakewood Boulevard at Firestone Boulevard
- Lakewood Boulevard at Rosecrans Avenue
- Firestone Boulevard at Imperial Highway

Table IV.L-10 summarizes the LOS at each of the CMP arterial monitoring locations for existing conditions and future conditions with and without the Proposed Project.

**Table IV.L-10  
Summary of Intersection Level of Service Analysis – CMP Monitoring Locations**

Map #	Intersection	Peak Hour	Existing (2008)		Future (2020) Without Project		Future (2020) with Project		Project Increases in V/C	Significant Impact
			V/C	LOS	V/C	LOS	V/C	LOS		
<b>City of Downey</b>										
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	AM	0.771	C	0.813	D	0.871	D	0.058	No
		PM	0.980	E	0.837	D	0.962	E	0.125	No
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	AM	0.756	C	0.799	C	0.819	D	0.020	No
		PM	0.834	D	0.879	D	0.908	E	0.029	No
35	Rosemead Boulevard / Lakewood Boulevard & Telegraph Road <sup>a</sup>	AM	0.982	E	1.039	F	1.047	F	0.008	No
		PM	1.150	F	1.215	F	1.228	F	0.013	No
<b>City of Norwalk</b>										
87	Firestone Boulevard & Imperial Highway / Orr and Day Road <sup>a</sup>	AM	0.717	C	0.757	C	0.771	C	0.014	No
		PM	0.756	C	0.799	C	0.828	D	0.029	No
<sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location. Source: Raju Associates, Inc., January 2009. Source (table): Christopher A. Joseph & Associates, January 2009.										

As indicated in the table, none of the CMP arterial monitoring locations would be significantly impacted by the development of the Proposed Project.

#### *CMP Freeway Monitoring Stations*

Operating conditions on the freeways are also classified by Level of Service. Level of Service for freeways is based on the measured flow past a point compared to the estimated capacity of that section of roadway. Capacity is calculated by multiplying the lane capacity (2,000 vehicles per hour) by the number of lanes in each segment. The level of service definitions for freeway segments are contained in Table IV.L-6 above.

The freeway operating conditions within the study area were analyzed as per the CMP guidelines. This assessment includes the Santa Ana Freeway (I-5), Century Freeway (I-105), San Gabriel River Freeway (I-605), and Long Beach Freeway (I-710). The CMP freeway monitoring analysis locations include:

- I-5 Freeway at Lemoran Avenue
- I-5 Freeway at Ferris Avenue
- I-105 Freeway west of I-710 Freeway, east of Harris Avenue
- I-105 Freeway east of Bellflower Boulevard, west of I-605 Freeway
- I-605 Freeway north of SR-91 Freeway, south of Alondra Boulevard
- I-605 Freeway north of Telegraph Road
- I-710 Freeway north I-105 Freeway, north of Firestone Boulevard

According to the 2004 CMP impact criteria, a project impact is considered to be significant if the Proposed Project increases traffic demand on a CMP facility by 2 percent of capacity ( $V/C \geq 0.02$ ), causing or worsening LOS F ( $V/C > 1.00$ ). Under this criterion, a project would not be considered to have a significant impact if the analyzed facility is operating at LOS E or better after the addition of project traffic. However, if the facility is operating at LOS F with project traffic and the incremental change in the V/C ratio caused by the project is 0.02 or greater, the project would be considered to have a significant impact. Table IV.L-11 identifies the future “Without Project” and “With Project” operating conditions at the study freeway segments. As shown, the Proposed Project would not have any significant impact during either the AM or PM peak hours.

#### *CMP Transit Analysis*

A transit impact analysis was performed based on the number of project-generated transit trips. There are a total of approximately 64 to 66 buses during the peak hour that serve the study area. The Metro Green Line is within 0.25 to 0.5 miles of the Project Site. Assuming that approximately 33 percent of the existing transit bus seating capacity is available for project trips and that the proposed shuttle bus system provides the required connectivity as well as additional capacity, the anticipated transit demands on a system wide basis would be more than satisfied by the proposed plus existing supply.

#### *Parking and Vehicular Access*

##### *Parking Supply*

The Proposed Project consists of a 1,500 multi-family residential dwelling units, 450 hotel rooms, 675,000 square feet of office use, and 1,200,000 square feet of shopping center/retail use. A total of 5,615 parking spaces will be provided within the Specific Plan area for shopping center, entertainment, hotel and office uses. The residential component would provide parking for its own use. No other uses would be allowed to use the residential spaces and therefore these spaces are not included in the shared parking analysis in the following section.

Of the 5,615 spaces, 1,281 spaces would be on-street parking spaces. This includes parallel parking spaces, angled parking spaces and 90-degree parking spaces. Congressman Steve Horn Way, Central Plaza Drive, Market Street, Emsco Drive, Aviation Boulevard and Theater Street would provide parallel parking spaces. The angled parking spaces would be located along Studio Street, Congressman Steve Horn Way, Ardis Avenue, and Apollo Avenue, while the 90-degree spaces would be located along Main Street.

**Table IV.L-11  
CMP Freeway Monitoring Stations – Operating Conditions – Future (2020) AM and PM Peak Hours**

Freeway Route	Location	Direction	AM Peak Hour								Project Increase in D/C	Significant Project Impacts
			2020 Without Project				2020 With Project					
			Demand	Capacity	D/C <sup>a</sup>	LOS <sup>b</sup>	Demand	Capacity <sup>a</sup>	D/C <sup>a</sup>	LOS <sup>b</sup>		
I-5	At Lemoran Avenue	NB	12,235	8,000	1.53	F(3)	12,235	8,000	1.53	F(3)	0.000	No
		SB	8,548	8,000	1.07	F(0)	8,548	8,000	1.07	F(0)	0.000	No
I-5	Ferris Avenue	NB	11,005	8,000	1.38	F(2)	11,059	8,000	1.38	F(2)	0.007	No
		SB	7,128	8,000	0.89	D	7,202	8,000	0.90	D	0.009	No
I-105	e/o Bellflower Boulevard	WB	11,116	9,000	1.24	F(0)	11,227	9,000	1.25	F(0)	0.012	No
		EB	6,909	9,000	0.77	C	6,975	9,000	0.78	D	0.007	No
I-105	w/o I-710 Fwy	WB	11,116	9,000	1.24	F(0)	11,163	9,000	1.24	F(0)	0.005	No
		EB	7,527	9,000	0.84	D	7,611	9,000	0.85	D	0.009	No
I-605	s/o Alondra Boulevard	NB	13,364	11,000	1.21	F(0)	13,475	11,000	1.23	F(0)	0.010	No
		SB	10,599	11,000	0.96	E	10,665	11,000	0.97	E	0.006	No
I-605	n/o Telegraph Road	NB	8,288	9,000	0.92	D	8,330	9,000	0.93	D	0.005	No
		SB	11,997	9,000	1.33	F(1)	12,100	9,000	1.34	F(1)	0.011	No
I-710	n/o Firestone Boulevard	NB	11,116	8,000	1.39	F(2)	11,124	8,000	1.39	F(2)	0.001	No
		SB	8,765	8,000	1.10	F(0)	8,769	8,000	1.10	F(0)	0.000	No
Freeway Route	Location	Direction	PM Peak Hour								Project Increase in D/C	Significant Project Impacts
			2020 Without Project				2020 With Project					
			Demand	Capacity	D/C <sup>a</sup>	LOS <sup>b</sup>	Demand	Capacity	D/C <sup>a</sup>	LOS <sup>b</sup>		
I-5	At Lemoran Avenue	NB	8,933	8,000	1.12	F(0)	8,933	8,000	1.12	F(0)	0.000	No
		SB	12,593	8,000	1.57	F(3)	12,593	8,000	1.57	F(3)	0.000	No
I-5	Ferris Avenue	NB	8,734	8,000	1.09	F(0)	8,855	8,000	1.11	F(0)	0.015	No
		SB	12,226	8,000	1.53	F(3)	12,326	8,000	1.54	F(3)	0.013	No
I-105	e/o Bellflower Boulevard	WB	7,121	9,000	0.79	D	7,257	9,000	0.81	D	0.015	No
		EB	13,257	9,000	1.47	F(3)	13,406	9,000	1.49	F(3)	0.017	No
I-105	w/o I-710 Fwy	WB	7,960	9,000	0.88	D	8,071	9,000	0.90	D	0.012	No
		EB	8,148	9,000	0.91	D	8,224	9,000	0.91	D	0.008	No
I-605	s/o Alondra Boulevard	NB	10,014	11,000	0.91	D	10,141	11,000	0.92	D	0.012	No
		SB	13,756	11,000	1.25	F(1)	13,905	11,000	1.26	F(1)	0.014	No
I-605	n/o Telegraph Road	NB	11,440	9,000	1.27	F(1)	11,563	9,000	1.28	F(1)	0.014	No
		SB	13,257	9,000	1.47	F(3)	13,359	9,000	1.48	F(3)	0.011	No
I-710	n/o Firestone Boulevard	NB	12,348	8,000	1.54	F(3)	12,360	8,000	1.55	F(3)	0.001	No
		SB	8,962	8,000	1.12	F(0)	8,967	8,000	1.12	F(0)	0.001	No

**Table IV.L-11**  
**CMP Freeway Monitoring Stations – Operating Conditions – Future (2020) AM and PM Peak Hours**

<sup>a</sup> Demand-to-Capacity ratio (D/C) calculated based on a capacity of 2,000 vehicles per lane per hour applied to through lanes. A capacity of 1,000 vehicles per lane per hour in each direction is added for HOV lanes.

<sup>b</sup> Freeway mainline Levels of Service is based on the following D/C scale:

D/C of  $>0.00 - 0.35 = LOS A$

D/C of  $>0.35 - 0.54 = LOS B$

D/C of  $>0.54 - 0.77 = LOS C$

D/C of  $>0.77 - 0.93 = LOS D$

D/C of  $>0.93 - 1.00 = LOS E$

D/C of  $>1.00 - 1.25 = LOS F(0)$

D/C of  $>1.25 - 1.35 = LOS F(1)$

D/C of  $>1.35 - 1.45 = LOS F(2)$

D/C of  $>1.45 = F(3)$

Source: Raju Associates, Inc., November 2008.

Source (table): Christopher A. Joseph & Associates, November 2008.

Three surface parking lots containing approximately 400 spaces would be located adjacent to Lakewood Boulevard and 10 parking garages located within the Project Site would contain the remaining 3,930 parking spaces. The project parking plan is shown in Figure IV.L-12

#### *Parking Demand Projections*

The peak parking demand for the Proposed Project was estimated by examining the parking demands for both weekdays and weekend days during a typical month (April), a peak summer month (July) and peak holiday shopping month (December) using a nationally-accepted Shared Parking Model advanced by the Urban Land Institute (ULI). The parking demand analysis conducted is based on the methodology contained in *Shared Parking*, Second Edition, Urban Land Institute (ULI), 2005 and the ULI's Shared Parking Model.

#### *Shared Parking Analysis*

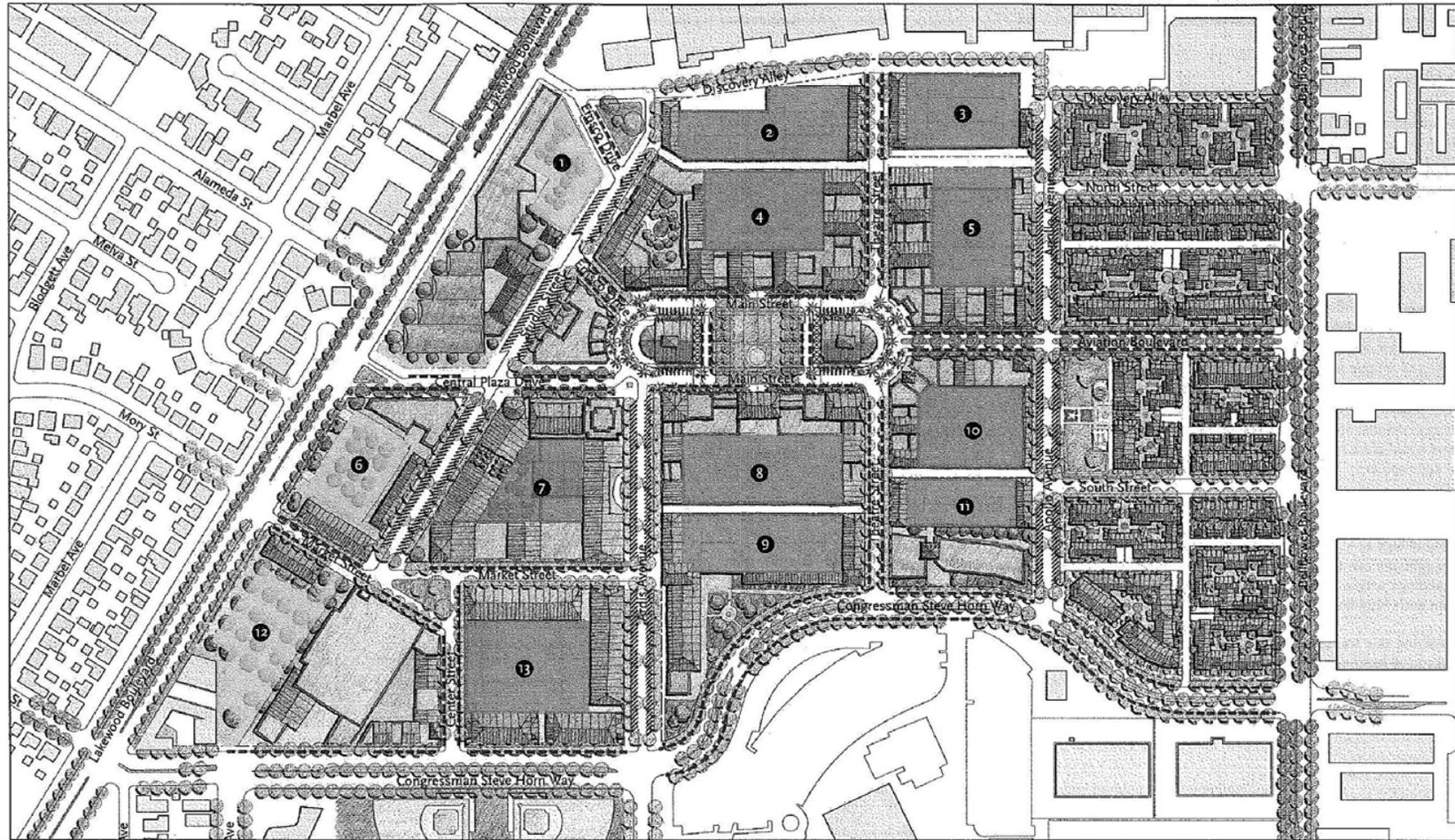
Shared parking is the use of parking spaces to serve two or more individual land uses without conflict or encroachment. The ability to share parking spaces is the result of two conditions - firstly, the variations in accumulation of vehicles by hour, by day, or by season at the individual land uses and secondly, the relationship among the land uses that result in visiting multiple land uses on the same auto trip. As noted previously, the residential parking is reserved for residents only. Residential use is not included in shared parking analysis.

The key goal of shared parking analysis is to find the balance between providing adequate parking to support a development from a commercial viewpoint and minimizing the negative aspects of excessive land area or resources devoted to parking. Mixed-use developments that share parking result in greater density, better pedestrian connections, and, in turn, reduce reliance on driving.

Utilizing the methodology contained in *Shared Parking* and ULI's Shared Parking Model, a shared parking analysis was performed for the Proposed Project. The Shared Parking Model provides parameters that describe the variation of parking demand rates by weekday/weekend day, variation of demand by time of day and month of year for various land uses. ULI's Shared Parking Model parking demand rates were used in this analysis.

Table IV.L-12 provides a summary of peak parking demand at the Proposed Project site during weekdays and weekend days of different seasons. From Table IV.L-12, the following observations can be made:

- The Project's peak parking demand during a typical month (April) was estimated to be approximately 4,421 spaces occurring at 2 P.M. in the afternoon on weekdays.
- The Project's peak parking demand during a summer month (July) was estimated to be 4,374 spaces also occurring at 2:00 P.M. in the afternoon on weekdays.



**PARKING PLAN**

**On-Street Parking**

-----	Parallel	752 stalls
////	Head-In	493 stalls
	Head-In	36 stalls

**Pervious Parking Courts**

▒	Parking Garage	3,824 stalls
▒	Surface Parking [a]	384 stalls

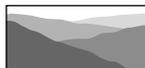
**Parking (Per Block)**

1	92 stalls [a]	8	180 stalls
2	936 stalls	9	100 stalls
3	720 stalls	10	280 stalls
4	540 stalls	11	288 stalls
5	180 stalls	12	180 stalls
6	132 stalls [a]	13	378 stalls
7	222 stalls		

**Total Parking:** 5,615 stalls [a] shown/calculated as surface parking but allowed to be in parking garage



Source: Moule & Polyzoides, Architects and Urbanists and Raju Associates, Inc., 2008.



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Figure IV.L-12  
Project Parking Plan

**Table IV.L-12  
Estimated Peak Project Parking Demand by Season**

<b>Proposed Project Tierra Luna Specific Plan</b>	<b>Typical Month (April) Peak Parking Demand</b>	<b>Summer Month (July) Peak Parking Demand</b>	<b>Shopping/Holiday Month (December) Peak Parking Demand</b>	<b>Overall Peak Parking Demand</b>
<b>Weekday</b>	4,421	4,374	5,585	5,585
<b>Weekend Day</b>	3,972	3,018	4,200	4,200
<i>Note: Demands were estimated using the "Shared Parking Model" based on ULI's Shared Parking II Edition, 2005 document</i>				
<i>Source: Raju Associates, Inc., November 2008.</i>				
<i>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</i>				

- The Project's peak parking demand during a peak shopping month (December) was estimated to be 5,558 spaces again occurring at 2 P.M. on weekdays.

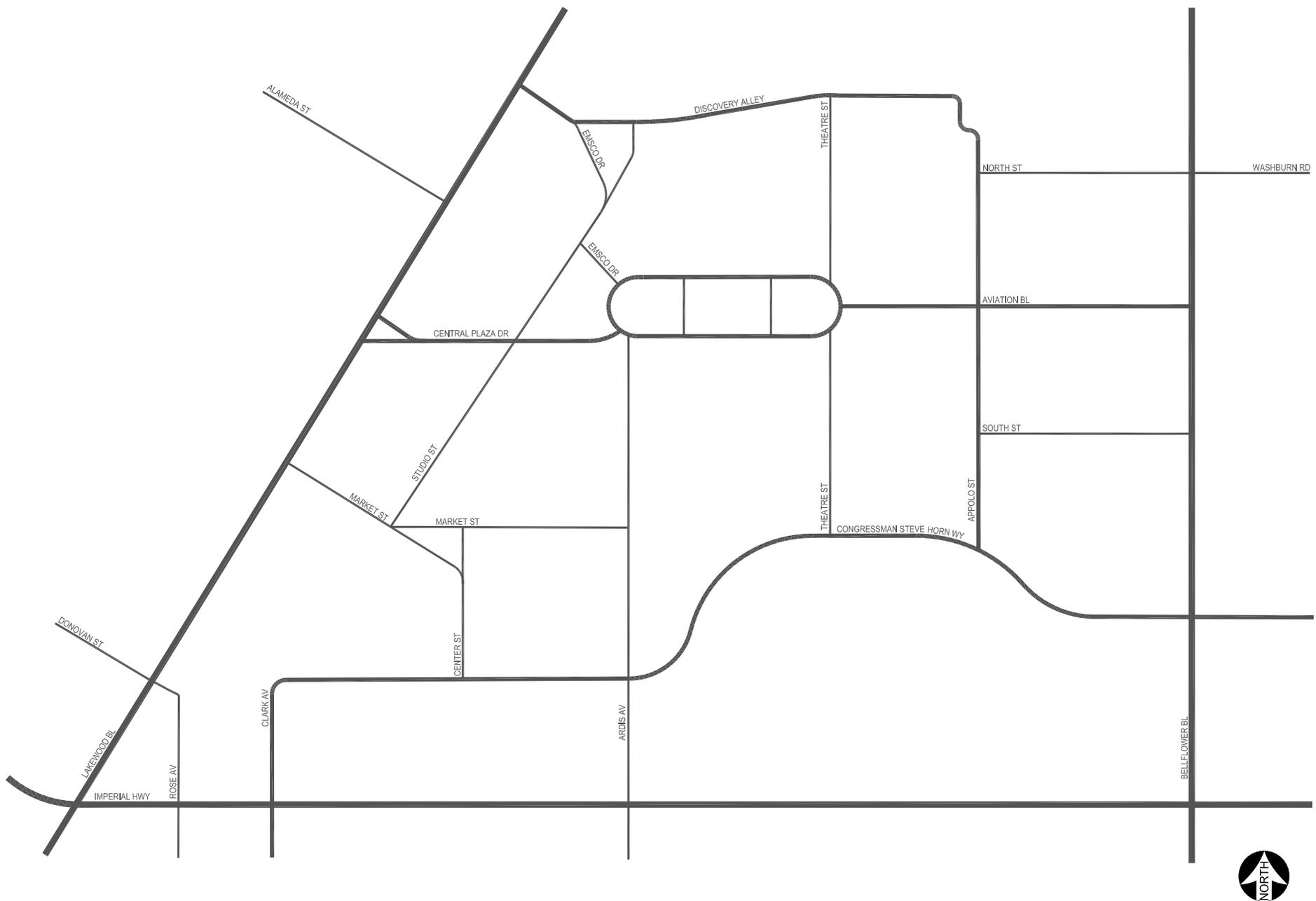
Therefore, the results of the parking demand analysis indicate that the Project would have an overall peak parking demand ranging from 4,200 spaces at 2:00 p.m. on a weekend day to 5,585 spaces at 2:00 p.m. on a weekday during the peak shopping season (month of December). The Proposed Project is providing 5,615 parking spaces (which is more spaces than the projected peak parking demand). Therefore, from a CEQA perspective, there would be no significant impact to parking onsite and in the surrounding area due to the Proposed Project.

#### *Access and Circulation Evaluation*

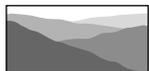
The street network plan is illustrated in Figure IV.L-13. As shown, the street network is fully interconnected with several east-west and north-south streets within the Specific Plan area providing access and circulation. The north-south streets include Ardis Avenue, Center Street, Studio Street, Theater Street, and Apollo Street. The east-west streets include Central Plaza Drive, Main Street, Market Street, Emsco Drive, North Street, Aviation Boulevard, South Street and Discovery Alley. The east-west streets, with the exception of Emsco Drive, would provide connectivity between Lakewood Boulevard and Bellflower Boulevard. Clark Avenue, Washburn Road and Congressman Steve Horn Way are the major streets that connect the Specific Plan area uses to the external street system.

The street network consists of a primary grid and a secondary grid. The primary grid includes streets that are logical extensions of existing intersections abutting the plan area perimeter. These streets provide access at convenient locations or at existing intersections and provide the overall framework for the secondary grid.

The primary grid includes Clark Avenue, Congressman Steve Horn Way, Ardis Avenue, Central Plaza Drive, Apollo Street, Aviation Boulevard, and Discovery Alley. The remaining streets make up the secondary grid. The secondary grid consists of streets that connect the primary grid with entirely new streets and define the overall network of streets and blocks. These streets not only provide access and circulation possibilities for vehicular traffic but also provide excellent pedestrian circulation possibilities



Source: Raju Associates, Inc., 2008.



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Environmental Planning and Research

Figure IV.L-13  
Street Network Plan

within the site. They also encourage the concept of “park once” and access various uses within the site by providing well- streets within the street network plan shown in Figure IV.L-13 follows:

- Apollo Avenue – Apollo Avenue is a north-south commercial street that would extend the length of the Project Site, providing connectivity from Congressman Steve Horn Way to Discovery Alley. Angled on-street parking would be provided on both sides of the street.
- Ardis Avenue – Ardis Avenue is a local north-roadway. It provides connectivity from Main Street to Imperial Highway and points south. Angled on-street parking is being proposed on both sides of the street from Main Street to Congressman Steve Horn Way.
- Theater Street – Theater Street is a north-south commercial street that traverses from Discovery Alley to Main Street and from Main Street to Congressman Steve Horn Way. On-street parking will be provided on both sides of the street along these segments.
- Center Street – Center Street is a commercial street that runs in a north-south direction. It provides connectivity from Market Street to Congressman Steve Horn Way with on-street parking on both sides of the street.
- Studio Street – Studio Street is a north-south commercial street. It runs diagonally north-easterly to south-westerly from Discovery Alley to Market Street with angled on-street parking on both sides of the street.
- Central Plaza Drive – Central Plaza Drive is an east-west local roadway that would run from Lakewood Boulevard to Main Street. On-street parking will be provided on both sides of the street.
- Market Street – Market Street is a commercial street that runs in an east-west direction. It will provide connectivity from Lakewood Boulevard to Ardis Avenue. On-street parking will be provided on both sides of the street from Lakewood Boulevard to Center Street. On-street parking will be provided only on the north side of the street from Center Street to Ardis Avenue.
- North Street – North Street is an east-west residential street that will align with Washburn Avenue at Bellflower Boulevard. This roadway will provide connectivity from Apollo Avenue to Bellflower Boulevard and Washburn Avenue. No parking will be allowed along this roadway.
- Aviation Boulevard – Aviation Boulevard is a local roadway that will run in an east-west direction from Main Street to its terminus at Bellflower Boulevard. On-street parking will be allowed on both sides of the street along this stretch.
- South Street – South Street is a residential roadway located between Aviation Boulevard and Congressman Steve Horn Way. This roadway traverses in an east-west direction, providing connectivity from Aviation Boulevard to Bellflower Boulevard. No parking will be allowed along this roadway.

- Main Street – Main Street is an east-west plaza street providing circulation opportunities around the central plaza and connecting to Ardis Avenue, Central Plaza Drive, Theater Street, Emsco Drive and Aviation Boulevard. On-street parking will be allowed on both sides of the street.
- Emsco Drive – Emsco Drive is a commercial street traversing diagonally in a north-westerly and south-easterly direction. The northern segment of Emsco Drive will provide connection between Discovery Alley and Studio Street. The southern segment of Emsco Drive will connect Studio Street to Main Street. On-street parking would be allowed on both sides of the streets along these segments.

#### *Access Intersections Traffic Conditions*

Two access network scenarios were evaluated. Access Plan A involves limited right-turn in and right-turn out access at the intersection of Lakewood Boulevard/Central Plaza Drive. Access Plan B involves changes to Access Plan A at the intersections of Lakewood Boulevard/Central Plaza Drive and Lakewood Boulevard/Alameda Street. In this access scheme (Plan B), current left-turning traffic at the Lakewood Boulevard/Alameda Street intersection would be diverted and the intersection would be re-configured to operate as a right-turn in and right-turn out limited access intersection. The access intersection of Lakewood Boulevard/Central Plaza Drive will be controlled by a traffic signal to provide full access under this alternative Access Plan B.

The ability of the project's access points (intersections) to accommodate the anticipated traffic levels was evaluated for both access network scenarios. A LOS analysis for both scenarios was conducted at the following access point locations:

- Lakewood Boulevard/Discovery Alley
- Lakewood Boulevard/Central Plaza Drive
- Lakewood Boulevard/Market Street
- Bellflower Boulevard/North Street-Washburn Road
- Bellflower Boulevard/South Street
- Bellflower Boulevard/Aviation Boulevard
- Bellflower Boulevard/Congressman Steve Horn Way
- Clark Avenue/Imperial Highway
- Ardis Avenue/Imperial Highway

The resulting LOS analysis of each of these access schemes is provided below.

**Access Plan A.** Under Access Plan A, the intersections of Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street would provide full access along the Lakewood Boulevard corridor. Traffic signals are recommended at these locations if signal warrants are satisfied. The intersection of Lakewood Boulevard/Central Plaza Drive would be stop-controlled and would be limited to right-turn in and right-turn out only. Along the Bellflower Boulevard corridor, full access would be provided at Bellflower Boulevard/North Street-Washburn Avenue and Bellflower Boulevard/Congressman Steve Horn

Way which are currently (and will remain) controlled by traffic signals. The intersections of Bellflower Boulevard/Aviation Boulevard and Bellflower Boulevard/South Street will be stop-controlled and will not provide full access. Along the Imperial Highway corridor, the intersections of Clark Avenue/Imperial Highway and Ardis Avenue/Imperial Highway would provide full access and are currently (and will remain) controlled by traffic signals.

The Future (2020) with Project traffic volumes at these intersections and traffic controls are shown in Figure IV.L-14. These volumes were generated using the same methodology as described in Appendix IV.L-1. Since these are driveway locations, pass-by credit was not taken at these locations.

Using the same ICU (for signalized locations) and HCS (for stop-controlled locations) LOS methodologies described in Appendix IV.L-1, the access intersection locations were analyzed and evaluated. Table IV.L-13 summarizes the LOS at each of the project access points. As indicated in the table, all of the access points are projected to operate at acceptable LOS D or better under Future (2020) with Project Conditions.

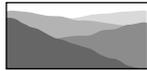
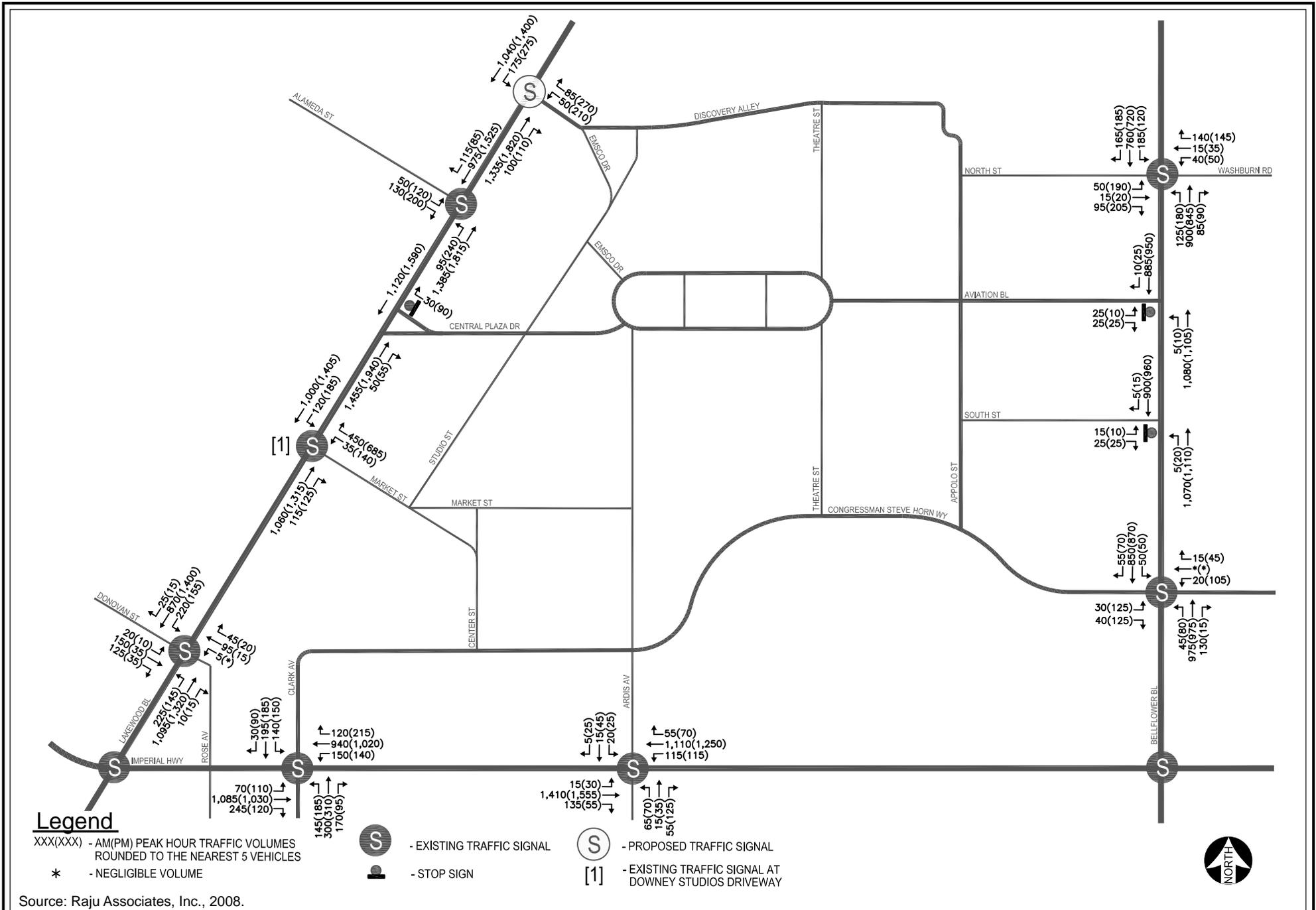
Based on the projected traffic volumes, it is recommended that traffic signals be installed at Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street when signal warrants are satisfied. Traffic signal warrants were conducted at each of these locations and the warrants were satisfied.

**Access Plan B.** Under Access Plan B, current left-turning traffic at the Lakewood Boulevard/Alameda Street intersection are diverted and the intersection is re-configured to operate as right-turn in and right-turn out location. The access intersection of Lakewood Boulevard/Central Plaza Drive will be controlled by a traffic signal to provide full access. The remaining access locations would not change from Access Plan A. The traffic control plan is shown in Figure IV.L-15.

Due to full access at Lakewood Boulevard/Central Plaza Drive and the diverted left-turns from Lakewood Boulevard/Alameda Street, the traffic volumes under Access Plan B were adjusted to reflect these access changes. The resulting traffic volumes are shown in Figure IV.L-15 and represent Future (2020) with Project traffic volumes. Similar to Access Plan A, these volumes were generated using the same methodology as described in Appendix IV.L-1 and pass-by credit was not taken at these access locations.

Table IV.L-13 summarizes and compares the LOS at each of the project access points under both Access A and Access Plan B. As indicated in the table, all of the access points are projected to operate at acceptable LOS D or better under Future (2020) with Project Conditions. Under both scenarios, the intersection of Lakewood Boulevard/Stewart and Gray Road would be significantly impacted during the PM peak hour. The proposed improvements, however, at this intersection would fully mitigate the project-related impact at this location under both scenarios.

Based on the projected traffic volumes, it is recommended that traffic signals be installed at Lakewood Boulevard/Central Plaza Drive, Lakewood Boulevard/Discovery Alley and Lakewood Boulevard/Market Street when signal warrants are satisfied. Traffic signal warrants were conducted at each of these locations based on the assumption for access and distribution of uses and the warrants were satisfied.



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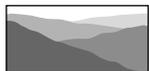
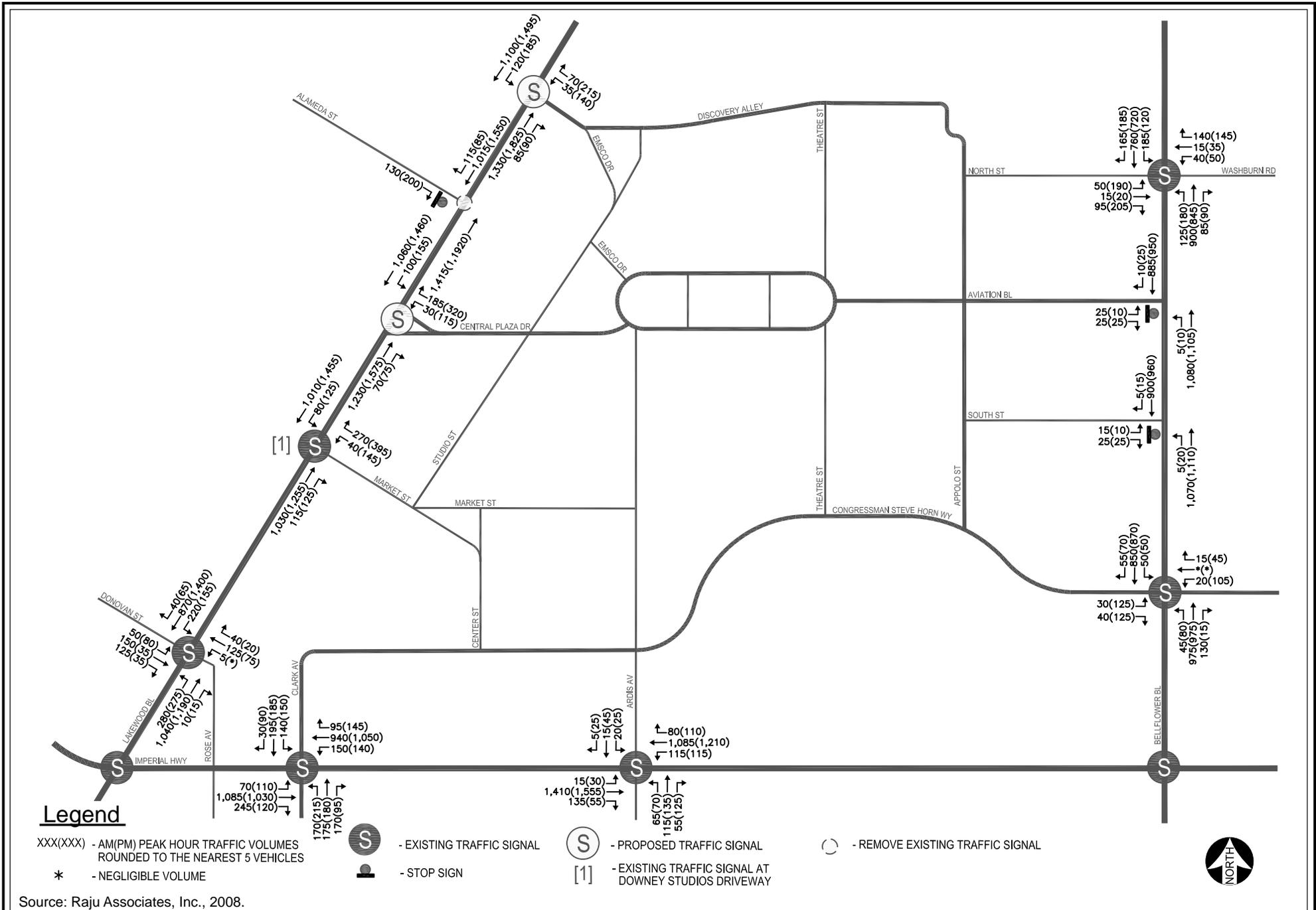
Figure IV.L-14  
Future (2020) With Project Peak Hour Traffic Volumes  
Access Locations - Access Plan A

**Table IV.L-13  
Summary of Intersection Level of Service Analysis – Access Locations**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Access Plan A				Access Plan B					
			V/C	LOS	Future (2020) With Project		Project Increase in V/C	Significant Impact	Future (2020) With Project		Project Increase in V/C	Significant Impact		
					V/C or Delay	LOS			V/C or Delay	LOS				
17	Lakewood Blvd & Stewart and Gray Rd	AM	0.777	C	0.844	D	0.067	No	0.844	D	0.067	No		
		PM	0.885	D	1.007	F	0.122	Yes	1.007	F	0.122	Yes		
		AM			With Mitigation	0.793	C	0.016	No	With Mitigation	0.793	C	0.016	No
		PM			0.948	E	0.063	No	0.953	E	0.068	No		
18	Lakewood Blvd. & Landing Center Dr.	AM	0.414	A	0.449	A	0.035	No	0.445	A	0.031	No		
		PM	0.610	B	0.732	C	0.122	No	0.722	C	0.112	No		
	Lakewood Blvd. & Discovery Alley	AM	n/a		0.543	A	-	No	0.490	A	-	No		
		PM	n/a		0.806	D	-	No	0.702	C	-	No		
19	Lakewood Blvd. & Alameda St.	AM	0.382	A	0.421	A	0.039	No	12.5 sec <sup>a</sup>	B	-	No		
		PM	0.548	A	0.661	B	0.113	No	17.9 sec <sup>a</sup>	C	-	No		
	Lakewood Blvd. & Central Plaza Dr.	AM	n/a	-	12.4 sec <sup>a</sup>	B	-	No	0.486	A	-	No		
		PM	n/a	-	16.6 sec <sup>a</sup>	C	-	No	0.644	B	-	No		
	Lakewood Blvd. & Market Street	AM	n/a	-	0.627	B	-	No	0.507	A	-	No		
		PM	n/a	-	0.827	D	-	No	0.635	B	-	No		
76	Lakewood Blvd. & Donovan Street-Rose Ave.	AM	0.604	B	0.654	B	0.050	No	0.668	B	0.064	No		
		PM	0.476	A	0.536	A	0.060	No	0.691	B	0.215	No		
26	Bellflower Blvd. & Washburn Rd-North St.	AM	0.527	A	0.652	B	0.125	No	0.652	B	0.125	No		
		PM	0.455	A	0.757	C	0.302	No	0.757	C	0.320	No		
	Bellflower Blvd. & Aviation Blvd.	AM	n/a		26.5 sec <sup>a</sup>	D	-	No	26.5 sec <sup>a</sup>	D	-	No		
		PM	n/a		19.7 sec <sup>a</sup>	C	-	No	19.7 sec <sup>a</sup>	C	-	No		
25	Bellflower Blvd. & Congressman Steve Horn Wy.	AM	0.447	A	0.513	A	0.066	No	0.513	A	0.066	No		
		PM	0.656	B	0.586	A	-0.070	No	0.586	A	-0.070	No		

**Table IV.L-13**  
**Summary of Intersection Level of Service Analysis – Access Locations**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Access Plan A				Access Plan B			
					Future (2020) With Project		Project Increase in V/C	Significant Impact	Future (2020) With Project		Project Increase in V/C	Significant Impact
					V/C or Delay	LOS			V/C or Delay	LOS		
23	Ardis Ave& Imperial Hwy.	AM	0.528	A	0.550	A	0.022	No	0.613	B	0.085	No
		PM	0.535	A	0.625	B	0.090	No	0.688	B	0.153	No
22	Clark Ave. & Imperial Hwy.	AM	0.671	B	0.705	C	0.034	No	0.666	B	-0.005	No
		PM	0.583	A	0.648	B	0.065	No	0.645	B	0.062	No
<sup>a</sup> <i>Unsignalized intersections – stop controlled on minor approach.</i> <i>Source: Raju Associates, Inc., November 2008.</i> <i>Source (table): Christopher A. Joseph &amp; Associates, November 2008.</i>												



## CUMULATIVE IMPACTS

The traffic volumes analyzed are the sum of the volumes of the Tierra Luna Specific Plan Project, background traffic growth, and base year (2008) existing volumes. Consequently, impacts of regional growth are already incorporated into the traffic model and are reflected in the “Without Project” condition in Table IV.L-13 above. Impacts of the Proposed Project, in conjunction with the related projects, are shown in the “With Project” column in Table IV.L-13. Traffic growth associated with the Proposed Project and the related projects would significantly impact two intersections during the AM peak hour and four intersections during the PM peak hour. As such, buildout of the Proposed Project and the related projects would result in a cumulative traffic impact.

## MITIGATION MEASURES

### Intersection Improvements

The various intersection improvements proposed to alleviate the significant impacts of the Tierra Luna Specific Plan Project are described in this section. Because the intersections analyzed in this study are geographically located in two governmental jurisdictions, the improvements have been organized in the following sections by jurisdiction.

In order to address the projects impacts, the following mitigation measures are recommended for implementation by the project:

#### City of Downey

- L-1. Lakewood Boulevard/Gallatin Road – Option 1: The improvement at this intersection includes a separate northbound right-turn lane. This improvement can be achieved by widening Lakewood Boulevard by two feet on the east side of the street for approximately 200 feet. The northbound approach would provide a left-turn lane, two through lanes, and a separate right-turn lane.
- L-2. Option 2: This improvement includes a second eastbound left-turn lane. This improvement can be achieved by restriping the existing eastbound through lane to a shared left-through lane. The eastbound approach would provide a left-turn lane, a shared left-through lane and a separate right-turn lane. The traffic signal would be modified to include split phasing operations for the eastbound and westbound Gallatin Road approaches.
- L-3. Lakewood Boulevard/Stewart & Gray Road – The improvement at this intersection includes a separate eastbound right-turn lane. This improvement can be achieved by removing the median island on the west leg of the intersection and widening on the south side of Stewart & Gray Road by two to four feet for approximately 125 feet. The eastbound approach would provide a left-turn lane, two through lanes and a separate right-turn lane.
- L-4. Bellflower Boulevard/Imperial Highway – The improvement at this intersection includes dual

left-turn lanes on the northbound and southbound approaches. This improvement can be achieved by widening on the west side of Bellflower Boulevard (north of Imperial Highway) and on the east side of Bellflower Boulevard (south of Imperial Highway) by approximately two to twelve feet for approximately 250 feet. The northbound and southbound approaches would provide dual left-turn lanes, two through lanes and a separate right-turn lane.

#### City of Norwalk / CALTRANS

- L-5. I-605 Southbound Ramps/Firestone Boulevard – The improvement at this intersection includes a second westbound left-turn lane. This improvement can be achieved by restriping the existing painted chevron on the westbound approach. The westbound approach would provide dual left-turn lanes and two through lanes.

#### **Project Design Features**

One of the analyzed study intersections includes improvements that are part of the project design features.

- L-6. Bellflower Boulevard/Washburn Road – As part of the Tierra Luna Specific Plan, a fourth leg of the intersection, the west leg, will be constructed. The eastbound approach would provide a left-turn lane and a shared through-right turn lane.

#### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

The results of the implementation of the recommended improvements are summarized in Table IV.L-14. As indicated in the table, the recommended improvements would fully mitigate the project-related impacts at the four impacted intersections.

**Table IV.L-14**  
**Summary of Intersection Level of Service Analysis – Future Conditions With Mitigation Measures**

Map #	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact	Future (2020) With Project Mitigation		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS			V/C	LOS		
<b>City of Downey</b>												
24	Bellflower Blvd & Imperial Hwy	AM	1.173	F	1.255	F	0.082	Yes	1.126	F	-0.047	No
		PM	1.224	F	1.360	F	0.136	Yes	1.241	F	0.017	No
38	Lakewood Blvd & Gallatin Rd.	AM	1.090	F	1.110	F	0.020	Yes	1.062	F	-0.028	No
		PM	1.077	F	1.125	F	0.048	Yes	1.087	F	0.010	No
17	Lakewood Blvd & Stewart and Gray Rd.	AM	0.777	C	0.844	D	0.067	No	0.793	C	0.016	No
		PM	0.885	D	1.007	F	0.122	Yes	0.948	E	0.063	No
<b>City of Norwalk</b>												
77	1-605 South bound Ramps & Firestone Blvd.	AM	0.838	D	0.880	D	0.042	No	0.825	D	-0.013	No
		PM	0.970	E	1.037	F	0.067	Yes	0.987	E	0.017	No
Source: Raju Associates, Inc, January 2009.												
Source (table): Christopher A. Joseph & Associates, January 2009.												

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**M. UTILITIES**  
**1. WASTEWATER**

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**INTRODUCTION**

This section of the EIR evaluates the potential impacts of the Proposed Project on the wastewater, water, solid waste, electricity, and natural gas supplies and infrastructure in the project area.

**ENVIRONMENTAL SETTING**

**Existing Conditions**

*County Sanitation Districts of Los Angeles County*

The County Sanitation Districts of Los Angeles County (CSDLAC) provide wastewater treatment services in the project area. CSDLAC's service area covers approximately 800 square miles and encompasses 78 cities and unincorporated territory within Los Angeles County and serves a population of approximately 5.3 million persons.<sup>1</sup>

CSDLAC is comprised of 24 independent special districts that work together under a Joint Administration Agreement. The City of Downey, and thus the Project Site, is located within the boundaries of District No. 2. CSDLAC constructs, operates, and maintains facilities to collect, treat, recycle, and dispose of wastewater and industrial wastes. Individual districts operate and maintain their own portions of the collection system whereas local jurisdictions are responsible for the collection of wastewater through local sewers.<sup>2</sup>

*City of Downey Department of Public Works*

Sewer infrastructure in the project area is provided and maintained by the City of Downey Department of Public Works (DPW) Utilities Division and CSDLAC, serving a population of over 113,000 persons in a 12.6 square mile service area.<sup>3</sup> CSDLAC owns and maintains the trunk lines and wastewater treatment facilities while the City owns and maintains the smaller collection mains. The City of Downey DPW Utilities Division is further broken down into four service sections: Water Services Section, Sanitary

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<sup>1</sup> Los Angeles County Sanitation Districts, *Who are the Sanitation Districts?*, website: <http://www.lacsd.org/about/default.asp>, July 9, 2008.

<sup>2</sup> Los Angeles County Sanitation Districts, *Who are the Sanitation Districts?*, website: <http://www.lacsd.org/about/default.asp>, July 9, 2008.

<sup>3</sup> City of Downey, *Department of Public Works, Department Overview*, website: <http://downeygis.org/PW3/DepartmentOverview.htm>, July 8, 2008.

Sewer Services Section, Storm Drain Services Section, and Miscellaneous Services Section. The two service sections that pertain to wastewater are the Sanitary Sewer Services Section and the Storm Drain Services Section.

#### *Sanitary Sewer Services Section*

The Sanitary Sewer Services Section consists of the Sanitary Sewer Maintenance Section. This section is responsible for maintenance and repair of the City's main line sanitary sewer system and lift stations. Maintenance consists of annual flushing of the system to prevent blockages. This section is also responsible for clearing and unblocking the sanitary sewer mains when a stoppage occurs.<sup>4</sup>

#### *Storm Drain Services Section*

The Storm Drain Services Section consists of the Storm Drain Maintenance Section, which is responsible for the maintenance, repair, and cleaning of City-owned catch basins, drainage culverts, dry wells, and storm water lift stations at underpasses on Imperial Highway and Paramount Boulevard. The Storm Drain Maintenance Section is not responsible for main line storm drains and catch basins that are not City-owned, which are maintained by the Los Angeles County Department of Public Works and Caltrans.<sup>5</sup>

As shown in Table IV.M-1, existing uses on the Project Site currently generate approximately 10,252 gallons of wastewater per day.

**Table IV.M-1  
Existing Uses Wastewater Generation**

<b>Land Use</b>	<b>Average Wastewater Generation (gallons/day)<sup>a</sup></b>
Studio Uses	10,252
<b>Total</b>	<b>10,252</b>
<i>sf = square feet</i> <sup>a</sup> <i>As determined based on water meter reads for the Project Site over the past two years, adjusted to reflect water consumption as 128% of wastewater generation.</i> <i>Source: City of Downey Department of Public Works.</i> <i>Source (table): Christopher A. Joseph &amp; Associates, 2009.</i>	

<sup>4</sup> City of Downey, Department of Public Works, Utility Services, Sanitary Sewer Services, website: <http://www.downeygis.org/pw3/SanitarySewer.htm>, July 8, 2008.

<sup>5</sup> City of Downey, Department of Public Works, Utility Services, Storm Drain Services, website: <http://www.downeygis.org/pw3/StormDrain.htm>, July 8, 2008.

## Regulatory Framework

### *Wastewater Facilities Plan/Integrated Resources Plan*

The City's sewer system is subject to Section 201 of the Federal Clean Water Act (CWA). According to the CWA, the City must adopt a facilities plan in accordance with the United States Environmental Protection Agency (USEPA) Rules and Regulations, 40 Code of Federal Regulations (CFR), Section 35.917.

### *Wastewater System Facilities*

Approximately 50 percent of wastewater in the City of Downey flows to the Joint Water Pollution Control Plant (JWPCP) and the remaining 50 percent flows to the Los Coyotes Water Reclamation Plant (WRP). While both treatment facilities serve the City, because of its location, wastewater from the Project Site would flow to the JWPCP.<sup>6</sup> Each of these facilities is maintained by CSDLAC.

### *Joint Water Pollution Control Plant*

The JWPCP is located at 24501 South Figueroa Street, approximately 11.8 miles southwest of the Project Site, in the City of Carson. It provides primary and secondary treatment for approximately 320 million gallons of wastewater per day and serves a population of approximately 3,500,000 persons.<sup>7</sup> The JWPCP is subject to the Clean Water Enforcement and Pollution Prevention Act of 1999 (SB 709) and the Los Angeles Regional Water Quality Control Board (LARWQCB) National Pollutant Discharge Elimination System (NPDES), permit CA0053813.<sup>8</sup> The JWPCP has a design capacity of approximately 400 million gallons-per-day (MGD) and currently receives an average flow of approximately 330 MGD of wastewater.<sup>9</sup> Thus, the JWPCP has a remaining capacity of approximately 70 MGD.

### *Los Coyotes Water Reclamation Plant*

The Los Coyotes WRP is part of CSDLAC's Joint Outfall System which serves 17 of the County's Sanitation Districts. These 17 Sanitation Districts are signatory to a Joint Outfall Agreement that

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<sup>6</sup> *City of Downey 2005 Urban Water Management Plan Update, Figure 8-2, City of Downey Wastewater Flow Analysis, pg. 8-3.*

<sup>7</sup> *Los Angeles County Sanitation Districts, About, Wastewater Facilities, Joint Water Pollution Control Plant, website: [http://www.lacsd.org/about/wastewater\\_facilities/jwpcp/default.asp](http://www.lacsd.org/about/wastewater_facilities/jwpcp/default.asp), August 11, 2008.*

<sup>8</sup> *United States Environmental Protection Agency, Enforcement and Compliance History Online, City of Carson Compliance Search, website: <http://www.epa-echo.gov/cgi-bin/ideaotis.cgi>, August 11, 2008.*

<sup>9</sup> *Phone correspondence with Dale Dollins, Treatment Operator, Joint Water Pollution Control Plant, November 10, 2008.*

provides a regional, interconnected system of facilities and serves 73 cities, including the City of Downey, as well as unincorporated portions of the County.<sup>10</sup>

The Los Coyotes WRP is located at 16515 Piuma Avenue, approximately 3.14 miles southeast of the Project Site, in the City of Cerritos. This plant began operation in 1970 with an initial primary and secondary treatment capacity of 12.5 MGD. Currently, the Los Coyotes WRP has a design capacity of approximately 60 MGD, and treats an average flow of 37.5 MGD.<sup>11</sup> Thus the Los Coyotes WRP has a remaining capacity of approximately 22.5 MGD. This facility serves a population of approximately 370,000 persons. Over five million gallons of treated water per day is reused at over 200 reuse sites including landscape irrigation of schools, golf courses, parks, and nurseries as well as industrial use.<sup>12</sup> The Los Coyotes WRP is subject to the Clean Water Enforcement and Pollution Prevention Act of 1999 (SB 709) and LARWCQB NPDES, Permit CA0054011.<sup>13</sup>

#### *Wastewater Conveyance Facilities*

CSDLAC is comprised of approximately 1,400 miles of main trunk sewers that convey wastewater to 11 wastewater treatment plants. These treatment plants treat approximately 500 million gallons per day (mgd), 200 mgd of which are available for reuse.

The LARWQCB enforces 40 CFR Section 122.21(m), which prohibits the bypassing of water treatment facilities and sanitary sewer overflows.

In addition to the CFR, the sewer conveyance system is subject to regulation by the South Coast Air Quality Management District, which responds to claims regarding odors.

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<sup>10</sup> Los Angeles County Sanitation Districts, *About, Wastewater Facilities*, website: [http://www.lacsd.org/about/wastewater\\_facilities/default.asp](http://www.lacsd.org/about/wastewater_facilities/default.asp), August 11, 2008.

<sup>11</sup> Phone Correspondence with Dale Dollins, Treatment Operator, Joint Water Pollution Control Plant, November 10, 2008.

<sup>12</sup> Los Angeles County Sanitation Districts, *About, Wastewater Facilities, Los Coyotes Water Reclamation Plant*, website: [http://www.lacsd.org/about/wastewater\\_facilities/joint\\_outfall\\_system\\_water\\_reclamation\\_plants/los\\_coyotes.asp](http://www.lacsd.org/about/wastewater_facilities/joint_outfall_system_water_reclamation_plants/los_coyotes.asp), August 11, 2008.

<sup>13</sup> United States Environmental Protection Agency, *Enforcement and Compliance History Online, City of Cerritos Compliance Search*, website: <http://www.epa-echo.gov/cgi-bin/ideaotis.cgi>, August 11, 2008.

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the determination of significance of a project's impact on wastewater is based on whether the project would cause one or more of the following conditions to occur:

- (a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- (b) Require or result in the construction of a new wastewater treatment facility or expansion of existing facilities, the construction of which could cause significant environmental effects;
- (c) 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; or
- (d) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

### Project Impacts

The Proposed Project would involve demolition of existing studio uses and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses.

The Proposed Project is anticipated to generate approximately 512,700 gallons per day (gpd) of wastewater (see Table IV.M-2). This represents a net increase of 502,448 gpd at the Project Site.

There are no known sewer line deficiencies in the project vicinity. Construction activities required to connect project buildings to the existing infrastructure would involve construction of laterals within the Project Site. Impacts related to wastewater conveyance would be less than significant.

The wastewater generated by the Proposed Project would subsequently be conveyed to the JWPCP. As discussed above, the remaining capacity at the JWPCP is approximately 70 MGD. The 502,448 gpd net increase in wastewater over the existing uses represents approximately 0.8 percent of the remaining capacity at the JWPCP. The JWPCP, therefore, has sufficient remaining capacity to accommodate the Proposed Project. Impacts upon wastewater treatment capacity therefore would be less than significant.

**Table IV.M-2  
Proposed Project Wastewater Generation**

Land Use	Size	Generation Rate	Total (gallons/day)
Office	675,000 sf	150 gal./1,000 sf/day	101,250
Retail	1,200,000 sf	80 gal/1,000 sf/day <sup>a</sup>	96,000
Hotel	450 rooms	130 gal/room/day	58,500
Residential	1,700,000 sf (approx. 1,500 units)	148 gal/unit/day <sup>b</sup>	222,000
Open Space	200,000 sf	94 gal/1,000 sf/day <sup>c</sup>	18,800
Parking Facilities	850,000 sf	19 gal/1,000 sf/day	16,150
<b>Proposed Project Total</b>			<b>512,700</b>
<b>Existing Uses Total</b>			<b>10,252</b>
<b>Net Increase in Wastewater Generation</b>			<b>502,448</b>
<i>sf = square feet</i> <sup>a</sup> Calculated utilizing the "Store" generation factor. <sup>b</sup> Calculated utilizing the "Five Units or More" residential generation factor. <sup>c</sup> Calculated utilizing the "Golf Course, Camp, and Park" generation factor. Source: County Sanitation Districts of Los Angeles County, 2004. Source (table): Christopher A. Joseph & Associates, 2009.			

## CUMULATIVE IMPACTS

Implementation of the Proposed Project in combination with the related projects identified in Section II. Environmental Setting, would increase demands on wastewater treatment services. As shown in Table IV.M-3, Cumulative Wastewater Generation, the related projects would generate approximately 336,831 gallons of wastewater per day.

**Table IV.M-3  
Cumulative Wastewater Generation**

<b>Related Projects in the Cities of Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera, and Bell Gardens</b>			
Land Use	Size	Generation Rate <sup>a</sup>	Total (gallons/day)
Single Family Residential <sup>b</sup>	636 du	180 gallons/unit/day	114,480
Multi-Family Residential	166 du	160 gallons/unit/day	26,560
Office	126,476 sf	150 gallons/1,000 sf/day	18,971
Retail	1,267,859 sf	80 gallons/1,000 sf/day	101,429
Industrial/Warehouse	1,128,718 sf	20 gallons/1,000 sf/day	22,574
Restaurant <sup>c</sup>	13,160 sf	80 gallons/1,000 sf/day	1,053
Elementary School	1,600 students	8 gallons/student/day	12,000
High School	1,500 students	12 gallons/student/day	19,200
<i>Subtotal</i>			<i>316,267</i>
<b>Related Projects in the City of Downey</b>			
Multi Family Residential	17 du	160 gallons/unit/day	2,720
Office	68,918 sf	150 gallons/1,000 sf/day	10,338
Retail	36,943 sf	80 gallons/1,000 sf/day	2,955

**Table IV.M-3  
Cumulative Wastewater Generation**

Industrial/Warehouse	200,000 sf	20 gallons/1,000 sf/day	4,000
Church	27,528 sf	20 gallons/1,000 sf/day	551
		<i>Subtotal</i>	<i>20,564</i>
		<b>Related Projects Total</b>	<b>336,831</b>
		<b>Proposed Project Net Total</b>	<b>533,248</b>
		<b>Cumulative Total</b>	<b>870,079</b>
<p><i>Note: du = dwelling units, emp = employees, sf = square feet</i></p> <p><sup>a</sup> All generation rates utilized are from County Sanitation Districts of Los Angeles County, 2004.</p> <p><sup>b</sup> Assumes two bedrooms.</p> <p><sup>c</sup> Calculated utilizing the "Retail" generation rate.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, October 2008.</p>			

CSDLAC would provide trunk sewer conveyance for the identified related projects. However, each of the related projects would need to obtain a final approval from their respective Sanitation Districts for sewer connection permits. The sewer line capacity for each related project would be evaluated on a case-by-case basis and would be mitigated to the extent feasible in accordance with CEQA. Therefore, cumulative impacts on wastewater conveyance infrastructure would be less than significant.

For a conservative analysis, it is assumed that all of the related projects would rely on the wastewater treatment services provided by the JWPCP and the Los Coyotes WRP. As shown in Table IV.M-3, the Proposed Project, in conjunction with the related projects, is estimated to generate approximately 870,079 gallons of wastewater per day. As previously discussed, the design capacity of the JWPCP is approximately 400 MGD and the design capacity of the Los Coyotes WRP is approximately 22.5 MGD. The JWPCP currently has an average wastewater flow of approximately 330 MGD while the Los Coyotes WRP currently has an average wastewater flow of approximately 37.5 MGD. Therefore, the JWPCP has a remaining capacity of approximately 70 MGD and the Los Coyotes WRP has a remaining capacity of approximately 22.5 MGD. The cumulative wastewater generation would be well within the design capacity of the JWPCP, representing approximately 0.5 percent of the remaining capacity. Cumulative wastewater generation would also represent approximately 1.5 percent of the remaining capacity of the Los Coyotes WRP. Therefore, cumulative impacts on wastewater treatment capacity would be less than significant.

## MITIGATION MEASURES

Impacts related to wastewater conveyance and treatment would be less than significant. No mitigation measures are required.

## LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts on wastewater conveyance and treatment capacity infrastructure would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### M. UTILITIES

#### 2. WATER

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##### INTRODUCTION

Under the California Water Code, for proposed major projects that meet identified thresholds, the City or County serving as lead agency for a project under the California Environmental Quality Act (CEQA) is required to identify any public water system that may supply water to the Proposed Project and request that the water system determine whether the projected water demand associated with the Proposed Project was included as part of the most recently adopted Urban Water Management Plan (UWMP) prepared pursuant to Water Code section 10910.

##### Regulatory Framework

###### *State*

State of California Senate Bill (SB) 610 became effective January 1, 2002, amending Sections 10910-10915 of the Water Code, and requiring that counties and cities consider the availability of adequate water supplies for certain new large development projects. SB 610 requires that cities and counties, as part of the CEQA review process, obtain water supply assessments (WSAs) from local water providers that analyze the sufficiency of water supplies available to serve proposed large development projects. Pursuant to SB 610, projects that are required to obtain WSAs are defined as:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons;
- A proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons;
- A proposed hotel or motel of more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons;
- A mixed-use project that falls in one or more of the above identified categories;
- A project not falling in one of the above-identified categories, but that would demand water equal or greater to a 500 dwelling unit project; or
- If a public water system has fewer than 5,000 service connections, then “project” means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of ten percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an

increase of ten percent or more in the number of the public water system's existing service connections (Water Code Section 10912).

Pursuant to SB221, approval of a map or development agreement that includes a "subdivision" must be conditioned upon obtaining a Water Supply Verification. SB 221 defines a "subdivision" as follows:

- "Subdivision" means a proposed residential development of more than 500 units, except that for a public water system that has fewer than 5,000 service connections, "subdivision" means any proposed residential development that would account for an increase of ten percent or more in the number of the public water system's existing service connections.

Approvals under the Subdivision Map Act may be required in conjunction with residential development permitted under the proposed Tierra Luna Specific Plan project (Proposed Project).

In accordance with the requirements set forth above, the City of Downey Community Development Department, serving as lead agency for the Proposed Project under CEQA, identified the City of Downey (Department of Public Works, Utilities Division, Water Supply Section) as the public water system that will supply water to the Proposed Project.

In response, the Department of Public Works prepared a WSA, pursuant to the requirements of Water Code Sections 10910-10915, which is contained in Appendix IV.M-2 to this EIR. The WSA was prepared in compliance with all current regulations, guidance and case law governing the preparation of water supply assessments. This section provides an independent analysis of water supply issues for the Proposed Project that takes into account the findings contained in that report.

### ***Urban Water Management Plan***

The City of Downey 2005 Urban Water Management Plan Update (2005 Downey UWMP) was prepared in accordance with Sections 10610 through 10656 of the Water Code. These sections of the Water Code require all urban water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually, to file UWMPs with the California Department of Water Resources (DWR) every five years. The UWMPs are to serve as a description and evaluation of current and future water usage, supply, reclamation, and demand management activities.

The adopted 2005 Downey UWMP was used in the preparation of the EIR for the Proposed Project and is hereby incorporated in full by reference.<sup>14</sup> Further information and analyses derived from the City's 2005 UWMP are provided in the WSA and this section. The analysis shows that the water demand for the Proposed Project was accounted for in the 2005 Downey UWMP (Water Code section 10910 subd. (c)(2)). However, the WSA also includes a detailed discussion of water supply sufficiency to ensure a

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<sup>14</sup> This document is available for review at the City of Downey, Community Development Department, City Hall Counter, 11111 Brookshire Avenue, Downey, CA 90241, during normal business hours.

conservative analysis of the most recent project demand and water supply information available to the City.

### ***Local Regulatory Framework***

The City of Downey has instituted comprehensive water conservation measures. Chapter 3.5, Section 7358(c) of the City of Downey Municipal Code encourages landscaping and irrigation systems to be designed to achieve water conservation. Additionally, Chapter 4, Issue 4.1 of the City of Downey General Plan recommends the use of recycled water for non-potable water needs. Parts of the City have dual pipes for potable and recycled water that enables public and private properties to use recycled water for landscaping and non-potable water needs.<sup>15</sup> The City of Downey also is a member agency of the California Urban Water Conservation Council (CUWCC) which identifies 14 best management practices for water conservation.

The Project Site is located within the existing Downey Landing Specific Plan (DLSP),<sup>16</sup> which includes the following water conservation measures (taken verbatim from the DLSP) that are to be implemented in projects located within the DLSP area:

- “Prior to the issuance of building permits, the project applicant (shall) specifically, as part of the construction drawings, (identify) the implementation of ultra-low flow toilets, water conserving faucets, and other water conserving appliances, as appropriate.
- Prior to final design, project applicants shall coordinate with the City of Downey to determine if the anticipated water needs exceed supply. If the demand exceeds supply, appropriate measures shall be implemented to provide adequate water supply to the site.
- Prior to the completion of the final design, the project applicants shall design an on-site public water loop system that joins main water lines on Lakewood Boulevard, Bellflower Boulevard and Clark Avenue.<sup>17</sup>
- Prior to the final design, the project applicants shall coordinate with the City of Downey and the Central Basin Water District to determine if the provision of reclaimed<sup>18</sup> water is a desirable

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<sup>15</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.1, Water Supply, January 25, 2005.

<sup>16</sup> While the DLSP is the current governing land use regulation for the proposed Tierra Luna Specific Plan site (Project Site), the proposed Tierra Luna Specific Plan, if approved, would supersede the DLSP as the governing land use regulation for the Project Site. The same requirements would apply under the Tierra Luna Specific Plan.

<sup>17</sup> This extension was completed subsequent to approval and construction of parts of the DLSP.

action. If the use of reclaimed water in Downey Landing is a desired goal of the City and the Central Basin Water District, the applicant shall do the following:

- Submit a final reclaimed water usage analysis plan and final public reclaimed water extension plan.
- Design and install the necessary reclaimed water extension along Lakewood Boulevard in order to service the proposed project. Each applicant is to bear its share of the costs for any necessary reclaimed water extension.
- Design and install a double piping system in or around the proposed buildings, as feasible, for the use of reclaimed water for non-potable plumbing, landscaping, cooling towers and industrial uses per Sections 13550-13556 of the California Water Code.”

## **EXISTING WATER SUPPLY AGENCIES**

Potable water in the City of Downey is supplied by four water purveyors: City of Downey; City of Santa Fe Springs; Golden State Water Company; and Los Angeles County Ranchos Los Amigos. The City of Downey supplies water to approximately 95 percent of the City, with the remaining five percent being served by the other three companies.<sup>19</sup> The City of Downey is currently the only purveyor of potable water to the Project Site.

### **City of Downey**

The City extracts groundwater from City-operated wells. Aquifers beneath the City are part of the Central Groundwater Basin (Central Basin), which underlies much of the central and eastern portions of Los Angeles County. As set forth in greater detail below, the Central Basin is naturally recharged in the following ways: regional rainfall, underflow from adjacent basins, and runoff from surrounding uplands and mountains. The Central Basin also receives supplemental water through use of imported water as well as highly treated recycled water.

The City supplies approximately 16 million gallons per day (mgd) of water for domestic use and fire protection and is responsible for ensuring that water quality is compliant with State and federal requirements, regulations, and standards. The City maintains 20 active wells, four water booster pump

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<sup>18</sup> “Reclaimed water” is the reference taken directly from the DLSP; this term has been supplanted in engineering practice by the term “recycled water”, which is used throughout this WSA. For purposes of this WSA, the terms “reclaimed water” and “recycled water” are interchangeable.

<sup>19</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.1, Water Supply, pg. 4-2, adopted January 25, 2005.

stations (currently out-of-service), three Metropolitan Water District (MWD) imported water emergency connections and five emergency water connections with adjacent water agencies.<sup>20</sup>

Water storage is essential for the conservation of water to supply daily peaks, meet high demand conditions and provide for firefighting and emergencies. The City does not actively use any of its storage reservoirs. Instead, the City uses the aquifers within the Central Groundwater basin, from which it pumps groundwater directly into the potable water transmission/distribution system for delivery to customers. To serve the residents, businesses, and industry in Downey, the City is responsible for the maintenance and repair of approximately 300 miles of water mains, 23,000 service line connections, 5,500 valves, City owned backflow devices, and 1,500 fire hydrants.<sup>21</sup>

### **Water Replenishment District of Southern California**

The Water Replenishment District of Southern California (WRD) is the regional groundwater management agency for the Central and West Coast Basins, two of the most utilized groundwater basins in the state. WRD manages groundwater for approximately 4,000,000 residents in 43 cities within southern Los Angeles County. The WRD service area is comprised of approximately 420 square miles and supplies approximately 250,000 acre-feet of water for groundwater replenishment per year (or approximately 223,000,000 gallons per day (gpd)).<sup>22</sup> WRD ensures availability of a reliable supply of groundwater through clean water projects, water supply programs, and effective management principles.<sup>23</sup> Additionally, WRD is responsible for allocating water among various jurisdictions and addressing potential water supply shortfalls by purchasing imported and recycled water for recharging into the Central Basin.<sup>24</sup> Active pumpers pay a replenishment assessment for every acre-foot of groundwater that is pumped from the Central Basin. This assessment helps pay for the purchase of replenishment water, spreading activities, supplies and other WRD activities. WRD has broad statutory authority to manage groundwater and other water resources in the Central Basin, which authority has been recognized and upheld by the California Court of Appeal (see Water Code Sections 60000 et seq.; *Central and West Basin Water Replenishment District v. So. Cal. Water Company* (2003) 109 Cal.App.4<sup>th</sup> 891). As further

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<sup>20</sup> Source: Brian Ragland, Deputy Director of Public Works, City of Downey, October 1, 2008.

<sup>21</sup> City of Downey, Department of Public Works, Utilities Division, Water Services, website: <http://www.downeygis.org/pw3/Water.htm>, July 10, 2008.

<sup>22</sup>  $1,000,000 \text{ gpd} = 1,120 \text{ acre-feet per year}$ .  $(250,000 \text{ af/y} \div 1,120 \text{ af/y}) = 223$ .  $223 \times 1,000,000 \text{ gpd} = 223,000,000 \text{ gpd}$ .

<sup>23</sup> Water Replenishment District of Southern California, About Us, website: [http://www.wrd.org/about/index.php?id\\_abt=1](http://www.wrd.org/about/index.php?id_abt=1), July 11, 2008.

<sup>24</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.1, Water Supply, pg. 4-2, adopted January 25, 2005.

detailed below, WRD has exercised its powers to implement comprehensive groundwater management in the Central Basin to assure the availability of groundwater supplies.

The Los Angeles County Department of Public Works (LACDPW) owns, operates and maintains the spreading grounds that are utilized to replenish the Central Basin. The recharge occurs in the spreading grounds adjacent to the Rio Hondo and the San Gabriel River, within the unlined portion of the San Gabriel River and behind the Whittier Narrows Dam in the Whittier Narrows Reservoir. WRD coordinates regular meetings with LACDPW, MWD, the County Sanitation Districts of Los Angeles County (CSDLAC), and other water interests to discuss replenishment water availability, spreading grounds operations, scheduling of replenishment deliveries, seawater barrier improvements, upcoming maintenance activities, and facility outages or shutdowns. WRD tracks groundwater levels in the Montebello Forebay weekly to assess general conditions in the Central Basin and determine the level of artificial replenishment needed. WRD also monitors the amount of recycled water used at the spreading grounds and seawater barriers to maximize use while complying with any regulatory limits. Finally, WRD works to ensure that the conservation of stormwater is maximized at the spreading grounds so as to offset the need to purchase replenishment water.

Pursuant to the Water Replenishment Districts Act, the WRD publishes an annual Engineering Survey and Report which “presents the necessary information on which the Board of Directors can declare whether funds shall be raised to purchase water for replenishment during the ensuing year, as well as to finance projects and programs aimed at accomplishing groundwater replenishment.”<sup>25</sup>

### **California Department of Water Resources**

Groundwater resources within the Central Basin are monitored and regulated by the California Department of Water Resources (DWR), in its role as the court-appointed Watermaster for the Central Basin adjudication. The Central Basin was adjudicated in 1965 in the case of *Central and West Basin Water Replenishment District v. Adams* (Los Angeles Superior Court Case No. 786656) (Judgment). The Central Basin adjudication is similar to the 1961 case that adjudicated the neighboring West Coast Basin in *California Water Service Company v. City of Compton* (Los Angeles Superior Court Case No. 506806). Both cases resulted in judgments that establish the terms and conditions pursuant to which groundwater can be extracted from the basins. In each case, DWR was appointed as Watermaster to administer implementation of the judgments and carry out other administrative functions. Additional discussion of the Central Basin adjudication and Judgment is provided below.

The Central Basin is comprised of approximately 227 square miles and is generally bound by the Newport-Inglewood Uplift to the southwest, the Los Angeles-Orange County line to the southeast, and an irregular line that roughly follows Stocker Street, Martin Luther King Boulevard, Alameda Street,

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<sup>25</sup> *Water Replenishment District of Southern California, Engineering Survey and Report 2008, Chapter I Introduction, March 21, 2008.*

Olympic Boulevard, the boundary between the City of Los Angeles and unincorporated East Los Angeles, and the foot of the Merced and Puente Hills to the north.

Groundwater production in the Central Basin is restricted and closely monitored pursuant to the terms of the Central Basin Judgment. As set forth above, DWR serves as the court-appointed Watermaster for the Central Basin to assist in implementing and enforcing the provisions of the Central Basin Judgment. In addition to various other duties, the Watermaster is responsible for monitoring all groundwater extractions in the Central Basin and reporting all significant water-related events to the Court and to the parties to the Judgment.<sup>26</sup>

### **Metropolitan Water District of Southern California**

The MWD is the largest water wholesaler for domestic and municipal uses in Southern California. MWD imports water supplies from Northern California through the State Water Project (SWP) facilities owned and operated by DWR, and from the Colorado River through MWD's own Colorado River Aqueduct. As discussed herein, MWD supplies are integral to the City's water supply functions, in that MWD water is utilized both as a source of replenishment supply for the Central Basin and is also available for direct use by local water providers. Indeed, the City of Downey can purchase MWD imported water, if necessary, from the Central Basin Municipal Water District (CBMWD), which is one of 26 member agencies belonging to MWD.<sup>27</sup> The City maintains three MWD/CBMWD imported water connections to supplement its groundwater supplies in the event of an emergency. In addition to importing water to supplement local supplies, MWD helps its members to develop increased water conservation, recycling, storage and other resource management programs.

### **Central Basin Municipal Water District**

The CBMWD was formed in 1952 and as indicated above, is a member agency of MWD. In that role, CBMWD purchases imported water from the MWD and wholesales that supply to cities, mutual water companies, investor-owned utilities and private companies in southeast Los Angeles County. CBMWD also supplies water used for groundwater replenishment and provides the region with recycled water for municipal, commercial and industrial use. There are 24 cities in CBMWD's service area, including the City of Downey.

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<sup>26</sup> *State of California, Department of Water Resources, Southern District, Watermaster Service in the Central Basin, Los Angeles County, October 2007.*

<sup>27</sup> *Metropolitan Water District of Southern California, Member Agencies, Member Agency List, website: <http://www.mwdh2o.com/mwdh2o/pages/memberag/member04.html>, July 10, 2008.*

## EXISTING CITY WATER SUPPLIES

### Potable Water

The City currently relies on groundwater to serve its potable water demands. As noted above, the source of the City's groundwater supply is the Central Basin. Groundwater production in the Central Basin is regulated and closely managed pursuant to the 1965 Judgment established in *Central and West Basin Water Replenishment District v. Adams* (Los Angeles Superior Court Case No. 786656). In essence, the Judgment limits total extractions from the Central Basin by establishing maximum amounts of groundwater that each party can extract from the Basin on an annual basis. This limit is referred to as the "Allowed Pumping Allocation" (APA), which corresponds to 80 percent of each party's total adjudicated groundwater rights. Including the City of Downey, there are 132 groundwater rights holders and 73 active pumpers within the Central Basin, as of June 30, 2008.<sup>28</sup> Under the Judgment, the APA for the City of Downey was established at 4,570 acre-feet-per-year (AFY). However, a series of water rights purchases since the time of the Judgment has increased the City's APA to 16,554 AFY as of 2008.<sup>29</sup> All pumping activities have taken place within the City's limits, directly from the Central Groundwater Basin. In order to meet supply demands that exceeded the City's groundwater pumping rights, the City has leased water rights from other water rights holders.

### Recycled Water

CBMWD purchases and resells tertiary treated recycled water produced by the CSDLAC to the City of Downey. Since FY 2000/2001, the City has purchased an average of 668 AFY of recycled water from CBMWD. Recycled water is presently used for irrigation of landscaping and in several ponds within the City of Downey. The use of recycled water has gained wide support in the community and there are more potential customers who would like to begin using recycled water to meet some of their water demands.

As noted above, the Downey Landing Specific Plan EIR identified construction of recycled water lines and dual piping as mitigation for water supply impacts resulting from that project. Recycled water supply lines have been constructed adjacent to the Project Site, which provide reliable access to recycled water at the Project Site.<sup>30</sup>

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<sup>28</sup> DWR, *Watermaster Service in the Central Basin, Los Angeles County, July 1, 2007 – June 30, 2008, October, 2008, p.7.*

<sup>29</sup> *City of Downey, 2005 Urban Water Management Plan Update, Table 3-4, page 3-8.*

<sup>30</sup> *City of Downey, Department of Public Works, October 2008.*

## EXISTING PROJECT SITE WATER DEMAND

### *Potable Water Demand*

Currently, existing land uses within Project Site consume approximately 13,123 gallons of potable water per day (see Table IV.M-4). Water consumption for the existing uses was based on the average bi-monthly water meter readings at the site between 2006 and 2008.

**Table IV.M-4  
Existing Uses Water Demand**

Land Use	Average Water Consumption (gallon/day) <sup>a</sup>
Studio Uses	13,123
<sup>a</sup> As determined based on water meter reads for the Project Site over the past two years. Source: City of Downey Department of Public Works, July 2008.	

### *Recycled Water Demand*

As noted above, recycled water supply mains were constructed in Lakewood Boulevard as part of previous development within the DLSP. Additional recycled water mains are located in Clark Avenue, Congressman Steve Horn Way and Bellflower, which provide service to the DLSP area and the Project Site. While the Project Site includes some landscaped areas that are presently irrigated using recycled water, such use is minimal. This analysis therefore conservatively assumes that no recycled water demand is associated with the existing uses on the Project Site.

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the determination of significance of a project's impact on water is based on whether the project would:

- (a) Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause a significant environmental effect.
- (b) Not have sufficient water supplies available to serve the project from existing entitlements and resources, and would require new or expanded entitlements.

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## **PROJECTED PROJECT SITE WATER DEMAND**

### **Project Description**

Buildout of the Proposed Project would involve the removal of the existing uses and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses. Specifically, the Proposed Project would permit up to 675,000 square feet of office uses, up to 1,200,000 square feet of retail uses, up to 450 hotel rooms, and up to 1,700,000 square feet (approximately 1,500 units) of residential uses including live/work units. The Proposed Project also would provide up to 125,000 square feet of public open space and 850,000 square feet of parking facilities to be provided in several multi-level parking structures, on-street parking, and surface parking lots located throughout the Project Site.

### **Project Design Features**

In keeping with City, State and regional policies regarding maximum conservation of potable water supplies, including replacement of potable water use with recycled water where possible, the City in its role as the local land use agency will impose certain requirements upon the Project, which shall include the following required project design features in the Tierra Luna Specific Plan:

#### ***Water Conservation***

Since the drought of the 1990s, the City of Downey has implemented water conservation programs to help limit water demand in its service area. Conservation programs have included public education and coordination with CBMWD for the distribution of rebate incentives and plumbing retrofit hardware. The results of these programs, in conjunction with the enforcement of plumbing and building codes, have resulted in significant reductions in potable water use within the Downey service area. The Project will be required to include design features and incorporate demand management devices in conformance with all current City ordinances and conservation programs and policies.

The City of Downey's current water conservation programs with CBMWD include:

- Zero Water Consumption Urinal Program;
- Ultra Low Flow Toilets;
- Pre-rinse Space Nozzle Rebates;
- High Efficiency Clothes Washer Rebates;
- Weather Based Irrigation Controller Rebates;
- Commercial Clothes Washer Rebates;
- Water Broom Rebates.

Development within the Project Site shall be required to comply with all existing water conservation requirements established by the City of Downey. In addition, such development shall include the following additional water conservation measures that would reduce potable water demand:

- High-Efficiency Water Heaters: High efficiency water heaters are required;
- Low-Flow Showers: Low-flow showers with a flow rate of 1.8 gallons per minute (gpm) versus 2.5 gpm are required in residences and hotel rooms;
- Low-Flow Kitchen Sinks: Low-flow kitchen sinks with a flow rate of 1.8 gpm versus 2.5 gpm are required;
- Low-Flow Lavatories: Low-flow bathroom sinks with a flow rate of 1.8 gpm versus 2.5 gpm are required in residences and hotel rooms. Current code already requires very low flow aerators on commercial lavatories.
- Low-Flow Urinals: Low-flow 0.5 gallons per flush (gpf) versus standard 1.0 gpf urinals are required; and
- Efficient Toilets (1.1 gpf): Very efficient low-flow toilets are required. An average flush volume of 1.1 gpf, typical of some of the high efficient toilets currently on the market (e.g., Sloan Flushmate IV equipped toilets and some dual-flush toilets), is required. Current code requirement is 1.6 gpf.

### ***Dual Plumbing***

In addition, development within the Project Site shall be required to include a double piping system in and around proposed buildings for the use of recycled water for non-potable plumbing, cooling towers and industrial uses per Sections 13550-13556 of the Water Code.

### ***Landscape Irrigation***

Under the provisions of the Specific Plan, development within the Project Site shall be required to provide irrigation for landscaped areas with recycled water, by extending mains and service laterals from the existing recycled water infrastructure in Lakewood Boulevard, Clark Avenue, Congressman Steve Horn Way and Bellflower Boulevard. Use of recycled water is presently permitted in this area and would only require approval of the City's Building Department as to the proper installation of the required infrastructure. However, additional project design features would be included that would reduce total recycled water demand associated with landscaping. These features would include:

- "Smart" Irrigation Controller: A "Smart" irrigation controller (a.k.a. weather-based controller, evapotranspiration controller, or ET controller) that automatically adjusts the irrigation schedule based on plant evapotranspiration requirements and current weather conditions is required;

- **Efficient Drip Irrigation:** A high-efficiency scenario (e.g., extensive use of drip irrigation and good design practices) with 90 percent irrigation efficiency is required; and
- **Efficient Landscaping Palette:** The use of water efficient, drought tolerant landscaping palettes (e.g., MWD's "California Friendly" landscaping program, xeriscaping, etc.) is required.

### ***Implementation***

As project phases are identified, project applicants, in conjunction with the City of Downey, shall be required to develop a plan for water service with the City's Department of Public Works and any water service shall be contingent upon payment of all applicable rates and charges which, depending on the timing of the development, may include, but not be limited to:

- Funding for purchase and/or lease, of APA in the Central Basin in an amount adequate to serve the projected demand associated with the development. No environmental impacts would be associated with this activity (see Appendix IV.M-2);
- Funding for participation in a groundwater storage program, should one be developed by the City. No environmental impacts would be associated with this activity (see Appendix IV.M-2); and/or
- Funding for other projects and/or programs designed to offset potable water demands of the existing uses and/or new development.

### **Net Project Water Demand**

#### ***Potable Water Demand***

The City of Downey does not specify particular water consumption factors for the various land uses in the City. Rather, Project-related water consumption is estimated using wastewater generation factors developed by the County Sanitation Districts of Los Angeles County (CDSLAC). Since not all water that comes out of the tap (i.e., water consumption) goes down the drain (i.e., wastewater generation), in reality, water consumption is greater than wastewater generation. As such, the wastewater generation estimated from the CDSLAC factors is adjusted to determine the equivalent amount of water demand. The City of Los Angeles Bureau of Sanitation estimates that the differential between water consumption and wastewater generation is approximately 18 percent for residential uses and 28 percent for non-residential uses.<sup>31</sup> Therefore, the CDSLAC wastewater generation factors used in this analysis were adjusted upward by 18 percent for residential uses and 28 percent for residential uses. With application of these adjustments, this methodology represents a conservative assessment of potential future water demand associated with the land uses proposed under the Specific Plan and is consistent with industry standards for estimating water demand from projects.

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<sup>31</sup> City of Los Angeles, Bureau of Sanitation, Sewer Generation Rates Table, 2002.

As shown in Table IV.M-5, full buildout under the Proposed Project by 2020 would have a total projected water demand of approximately 654,960 gpd (approximately 734 AFY). This represents a net increase of 641,837 gpd (approximately 719 AFY) after the water demand created by existing uses is removed.<sup>32</sup>

**Table IV.M-5  
Proposed Project Water Demand**

Land Use	Size	Consumption Rate	Total (gallons/day)
Office	675,000 sf	192 gal./1,000 sf/day	129,600
Retail	1,200,000 sf	102.4 gal/1,000 sf/day	122,880
Hotel	450 rooms	166.4 gal/room/day	74,880
Residential	1,700,000 sf (approx. 1,500 units)	188.8 gal/unit/day	283,200
Irrigated Open Space <sup>c</sup>	200,000sf	120 gal/1,000 sf/day <sup>a</sup>	24,000
Parking Facilities	850,000 sf	24 gal/1,000 sf/day <sup>b</sup>	20,400
<b>Proposed Project Total</b>			<b>654,960</b>
<b>Existing Uses Total</b>			<b>13,123</b>
<b>Net Increase in Water Demand</b>			<b>641,837</b>
<b>Net Increase in Potable Water Demand</b>			<b>617,837</b>
<b>Net Increase in Recycled Water Demand</b>			<b>24,000</b>
<i>sf = square feet</i>			
<sup>a</sup> Los Angeles County Sanitation District, Average Wastewater Generation Factors, Table 1, Loadings for Each Class of Land Use, March 23, 2004, "Golf Course, Camp, and Park" generation factor.			
<sup>b</sup> Los Angeles County Sanitation District, Average Wastewater Generation Factors, Table 1, Loadings for Each Class of Land Use, March 23, 2004.			
<sup>c</sup> While the Project Description for the Proposed Project identifies 125,000 square feet of open space, this amount covers only major public open spaces, such as parks and town squares. An additional 75,000 square feet is expected to be utilized for other landscaping/open space purposes, including tree wells, planter boxes, medians and similar spaces that would require irrigation. This area was added to the area identified in the Project Description to yield 200,000 square feet of irrigated landscaped area for purposes of this water demand projection.			
Source: County Sanitation Districts of Los Angeles County, 2004; calculated as 118% of wastewater generation for residential uses and 128% of wastewater generation for non-residential uses per City of Los Angeles Bureau of Sanitation, Sewer Generation Rates Table, March 20, 2002.			
Source (table): Christopher A. Joseph & Associates, 2009.			

Of the totals shown in Table IV.M-5, the water demand associated with open space uses (24,000 gpd, or approximately 27 AFY) would represent landscape irrigation that would be provided by connecting to the recycled water mains adjacent to the Project Site. Therefore, the net increase in potable water demand associated with the buildout permitted under the proposed Tierra Luna Specific Plan would be 617,837 gallons per day, or approximately 692 AFY. This figure is used throughout this analysis as the potable

<sup>32</sup> Even though a small amount of existing square footage included in historic buildings presently located on the site would remain, these uses would be included in the total buildout permitted under the proposed Specific Plan.

water demand of the Proposed Project in determining whether sufficient potable water supplies would be available to serve the Proposed Project.

### ***Recycled Water Demand***

The net increase in recycled water demand associated with buildout under the Proposed Project would be 24,000 gpd, or approximately 27 AFY. This figure is used throughout this analysis as the recycled water demand of the Proposed Project in determining whether sufficient recycled water supplies would be available to serve the Proposed Project.

## **PROJECTED WATER SUPPLIES AVAILABLE TO SERVE THE PROJECT**

### ***Potable Water***

According to the 2005 Downey UWMP Update, groundwater pumping within the City is expected to increase from 17,660 AFY in 2007/2008 to approximately 20,935 AFY over the next 20-year period, an increase of approximately 3,275 AFY. The increased potable water demand included in these projections reflects the projected growth in demand from existing uses as well as future growth and development within the City. While the Proposed Project potable water demand of 692 AFY was not specifically identified within these projections, the projected potable water demand associated with the Proposed Project would be part of the forecast of the potable water demand associated with future development in the City, and would be consistent with, and is therefore included in, the overall forecasts of future potable water demand within the City. Projected pumping amounts that exceed the City's APA would be made up through additional purchases or lease of APA, and/or annual carryover.

After implementation of all water conservation measures and maximum use of recycled water associated with the Project Design Features described above, the Project's total projected potable water demand would be reduced to approximately 615 AFY. However, the assessments provided in this section are based on a conservative assumption that total projected potable water demand associated with buildout of the proposed Specific Plan would be 692 AFY. In reality, however, that demand is likely to be less in light of the Project Design Features being incorporated into the development.

As discussed above, extractions of groundwater from the Central Basin are strictly regulated by the Judgment, as monitored and administered by the Watermaster. Transactions involving lease or sale of APA are permitted under the Judgment and must be approved by the Watermaster. Within this structure, any increase in pumping needed to serve the proposed Specific Plan would be offset by equal reductions in APA permitted elsewhere in the Central Basin. Therefore, any additional pumping to serve the proposed Specific Plan would not represent additional extractions not already provided for in the Judgment and therefore additional resources/entitlements are not required. Because this activity would involve use of facilities and procedures presently used by the City to obtain City-wide groundwater supplies, no additional environmental impacts would be associated with this activity.

Based on the historic availability of APA for lease within the Central Basin,<sup>33</sup> the City anticipates that its projected groundwater pumping needs will be met through a combination of its existing APA and lease/purchase of additional APA. The City has engaged in leasing and purchase of APA since 1990 and has never failed to obtain all required additional supplies through this process. In addition to the average 22,000 AF that has been leased annually in the Central Basin, the difference between the total APA (217,367 AF) and the actual amount pumped (211,116 AF) represents an additional 6,251 AF in 2007/2008 available for lease/purchase. Moreover, examination of actual vs. projected demand<sup>34</sup> suggests that the City's projections may be conservative and that it may not be necessary for the City to serve the entire projected demand, as set forth in the 2005 Downey UWMP Update, particularly in the later years of the projection horizon.<sup>35</sup> Finally, the Central Basin Judgment authorizes an Exchange Pool to provide additional water rights for parties without a supplementary water supply. Under this procedure, a request for Exchange Pool water may be made when a party's estimated needs exceed its total supply, including leases. Exchange Pool water is made available to requesting parties at costs specified in the Judgment by means of Voluntary and Required Subscriptions from other parties having excess supplies. Experience has shown that Voluntary Subscriptions have always been sufficient to meet the highest priority requests and no Required Subscriptions have been needed.<sup>36</sup> Based on all of these considerations, the City anticipates that any and all amounts that might be needed in order to increase the City's APA to a level needed to serve the Proposed Project and other uses in the City will be available for lease or purchase as necessary and that, through this process, the City will maintain sufficient APA to meet its needs as identified in the 2005 Downey UWMP Update. Because these amounts would be available within the framework already established under the Judgment, leased or purchased water amounts would be considered to be within the existing entitlements and resources available to the City to meet projected total demand in the City over the next 20-year time frame.

The WSA includes a detailed discussion of natural and artificial replenishment of water extracted from the Central Basin, along with potential constraints on the sources of replenishment water. These constraints include recent litigation involving potential limitations on deliveries of imported water from the State Water Project as a result of potential effects on endangered species, as well as other litigation with potential to affect water supplies that are directly or indirectly related to the water supply of the City.<sup>37</sup> WRD oversees substantial replenishment of the Central Basin on an annual basis. Moreover,

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<sup>33</sup> See Appendix IV.M-2 to this EIR, Table 4.

<sup>34</sup> See Appendix IV.M-2 to this EIR, Table 6.

<sup>35</sup> Another factor that may affect these projections is potential decrease in demand that could occur in the event that water costs in the City rise if the City is required to pay more for lease/purchase of rights in the event the market tightens.

<sup>36</sup> State of California, Department of Water Resources, *Watermaster Service in the Central Basin, Los Angeles County, 2007-2008, Appendix A, p. 40.*

<sup>37</sup> See Appendix IV.M-2 to this EIR, pages 17-30.

WRD has undertaken numerous initiatives to identify alternatives to imported water for replenishment. MWD has also identified increased groundwater storage as a component of its strategy to increase MWD's reliability despite reductions in water deliveries.<sup>38</sup> Through all of these strategies, WRD has established a reliable, sustainable framework for maintaining groundwater supply in the Central Basin. WRD is expected to continue to employ its statutory authority and responsibility to maintain the reliability of the Central Basin as the primary source of Downey's water supply. Coupled with the limitations on annual extractions from the Central Basin as set forth in the Judgment, the water supplies available from the Central Basin will be sufficient to meet projected water demand in the City. Since the City's future water demand will continue to be met through its existing water source, no additional environmental impacts would be associated with the future water supply of the City. As such, the Proposed Project is not expected to require or result in the construction of new water facilities or expansion of existing facilities. In addition, as discussed above, the Proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources. Impacts related to potable water supply would therefore be less than significant.

### ***Recycled Water***

CBMWD currently purchases and resells tertiary treated recycled water produced by the CSDLAC to the City of Downey. Since FY 2000/2001, the City has purchased an average of 668 AFY of recycled water from CBMWD. Recycled water is presently used for irrigation of landscaping and in several ponds within the City of Downey. The use of recycled water has gained wide support in the community and there are more potential customers seeking to use recycled water to meet some of their water demands. CBMWD views the use of recycled water as a key component of its efforts to augment potable water supplies and reduce dependence on imported water. Likewise the City of Downey plans to continue increasing its use of recycled water in the next 20 years in the hopes of reducing its reliance on other water resources such as the pumping of groundwater and purchasing of imported supplies. According to CSDLAC, the amount of recycled water available for use within the Central Basin is much greater than the amount currently being used. In addition, recycled water is not subject to hydrologic variation and is therefore anticipated to be available to meet projected demands for the next 20 years including dry year scenarios, subject to standards governing the use of recycled water.

There are currently no limits on the volumes of recycled water that can be purchased, nor are any such limits anticipated in the future. The projected recycled water demand of the City of Downey contained in the 2005 UWMP Update reflects the projected growth in demand from existing uses as well as future growth within the City. While the Proposed Project's recycled water demand of 27 AFY was not specifically identified within these projections, the projected recycled water demand associated with the Proposed Project would be part of the forecast of the water demand for future development in the City, and would be consistent with, and therefore included in, the overall forecasts of future recycled water demand within the City. The Citywide projected demand for recycled water is within the projections of

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<sup>38</sup> See Appendix IV.M-2 to this EIR, page 30.

recycled water supplies expected to be available from the Los Coyotes WRP. Therefore, reliable recycled water supplies are expected to be available to meet the City's needs in both the near-term and long term.

As noted above, the Downey Landing Specific Plan EIR identified construction of recycled water lines and dual piping as mitigation for water supply impacts resulting from that project. Recycled water supply lines have been constructed and the Project Site presently has access to a source of recycled water. The only activities required for the Proposed Project to access the existing recycled water supply lines would be construction of laterals to connect to the existing distribution system. The environmental impacts of this activity are reflected in the analysis of construction activity in Sections IV.C.1, Air Quality, and IV.I, Noise, of this EIR. Such construction would be consistent with applicable codes, as enforced by the City of Downey, CBMWD and the Los Angeles County Department of Public Health. These requirements ensure that recycled water systems are properly installed and operated in accordance with proper recycled water safety practices. Because increased use of recycled water simply increases utilization of an existing source of supply, no additional environmental impacts would be associated with use of this water source.

As such, the Proposed Project would not require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause a significant environmental effect. In addition, the Proposed Project would have sufficient water supplies available to serve the project from existing entitlements and resources. Impacts related to recycled water supply would be less than significant.

### ***Local Water Infrastructure***

As there are no known infrastructure deficiencies in the project vicinity, it is anticipated that the existing infrastructure system can adequately serve the Proposed Project. Construction activities required to connect project buildings to the existing infrastructure would involve construction of water mains and connections within the Project Site. Impacts related to local water infrastructure would be less than significant.

### ***Water Quality***

Buildout of the Proposed Project would result in a net increase in potable water demand of approximately 692 AFY over the existing uses. As mentioned above, the City of Downey receives all of its potable water supply from the local groundwater supplied by the Central Groundwater Basin. Specifically, the City monitors the 20 active well sites. These active wells extract water from deep aquifers whose water quality meets standards without treatment.<sup>39</sup> However, the City provides continual monitoring of the wells and outlines goals, policies and programs to monitor and improve groundwater quality; monitor production well water quality; provide annual water quality reports; coordinate with local, regional, state, and federal efforts to protect the groundwater supply and enhance groundwater quality; and discourage business practices and land use classes that contribute to soil contamination that degrade groundwater

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<sup>39</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.2, Water Quality, January 25, 2005.

quality.<sup>40</sup> Such business practices and land uses include, but are not limited to, the following: automobile gas stations, dry cleaners, injection wells, metal plating/finishing/fabricating, fleet/truck/bus terminals, furniture repair/manufacturing, and machine shops.<sup>41</sup>

### ***Fire Flow***

The City of Downey Municipal Code (DMC) has adopted Appendix B, Fire Flow Requirements for Buildings, of the 2006 International Fire Code to establish the City's fire flow requirements. The Proposed Project would be required to comply with requirements set forth in the DMC. Fire flow demand would be accommodated through construction of infrastructure within the Project Site that is capable of accommodating the City's requirements. Therefore, impacts of the Proposed Project on fire flow would be less than significant.

## **CUMULATIVE IMPACTS**

### **Potable Water**

Implementation of the Proposed Project, in combination with the related projects identified in Section III, Environmental Setting, would increase potable water demand within the City of Downey. As shown in Table IV.M-6, Cumulative Potable Water Demand, the related projects served by the City of Downey would consume approximately 32,392 gallons of water per day. In conjunction with the Proposed Project, total cumulative potable water demand of the Proposed Project and related projects would be 650,229 gpd, or approximately 729 AFY. In addition, according to the 2005 Downey UWMP Update, groundwater pumping within the City is expected to increase from 17,660 AFY in 2007/2008 to approximately 20,935 AFY over the next 20-year period, an increase of approximately 3,275 AFY. The increased potable water demand included in these projections reflects the projected growth in demand from existing uses as well as future growth and development within the City. While the cumulative potable water demand of 729 AFY was not specifically identified within these projections, the projected cumulative potable water demand would be part of the forecast of the potable water demand associated with future development in the City, and would be consistent with, and is therefore included in, the overall forecasts of future potable water demand within the City.

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<sup>40</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.2, Water Quality, January 25, 2005.

<sup>41</sup> City of Downey Annual Water Quality Report, Water Testing Performed in 2007.

**Table IV.M-6  
Cumulative Potable Water Demand**

<b>Related Projects in the City of Downey</b>			
<b>Land Use</b>	<b>Size</b>	<b>Consumption Rate<sup>a</sup></b>	<b>Total (gallons/day)</b>
Multi Family Residential	17 du	188.8 gallons/unit/day <sup>b</sup>	3,210
Office	68,918 sf	192 gallons/1,000 sf/day	13,232
Retail	36,943 sf	102.4 gallons/1,000 sf/day	3,783
Industrial/Warehouse	200,000 sf	25.6 gallons/1,000 sf/day	5,120
Church	27,528 sf	256 gallons/1,000 sf/day	7,047
<b>Related Projects Total</b>			<b>32,392</b>
<b>Proposed Project Net Total</b>			<b>617,837</b>
<b>Cumulative Total</b>			<b>650,229</b>
<p><i>Note: du = dwelling units, emp = employees, sf = square feet</i></p> <p><sup>a</sup> <i>All generation rates utilized are from City of Los Angeles Bureau of Sanitation, Sewer Generation Rates Table, March 20, 2002.</i></p> <p><sup>b</sup> <i>Assumes two bedrooms.</i></p> <p><i>Source (table): Christopher A. Joseph &amp; Associates, October 2008.</i></p>			

As discussed above, the City currently relies on local groundwater from the Central Basin to supply potable water needs. Based on the historic availability of APA for lease within the Central Basin, the City anticipates that its projected groundwater pumping needs, including the cumulative demand associated with the Proposed Project and related projects, will be met through a combination of its existing APA and lease/purchase of additional APA. In addition, WRD is expected to continue to employ its statutory authorities and responsibilities to maintain the reliability of the Central Basin as the primary source of Downey's water supply. Coupled with the limitations on annual extractions from the Central Basin as set forth in the Judgment, the water supplies available from the Central Basin will be sufficient to meet future cumulative water demand in the City over the next 20-year period.

Further, each related project would be required to comply with local and State water conservation programs as well as implement water conservation measures. Based on all of these factors, cumulative impacts related to potable water supply would be less than significant.

### **Recycled Water**

Because recycled water demand associated with the related projects listed above, along with other projects which could access recycled water supplies through CBMWD is dependent upon the design characteristics of individual projects as well as access to recycled water distribution infrastructure, quantification of cumulative recycled water demand within the service area of CBMWD would be speculative. CBMWD is expected to continue to expand its recycled water distribution system to make recycled water more available to help reduce potable water demand. CBMWD projects that recycled water use within its service area will grow from 3,150 AF in 2005 to 15,500 AF by 2030.<sup>42</sup> This

<sup>42</sup> *Central Basin Municipal Water District, 2005 Urban Water Management Plan, Tables 8-4 and 8-5.*

projection would accommodate the recycled water demand of the Proposed Project and related projects. As noted above, according to CSDLAC, the amount of recycled water available for use within the Central Basin is much greater than the amount currently being used. Recycled water supplies are expected to be unconstrained for the foreseeable future. Cumulative impacts related to recycled water supply would be less than significant.

### **Water Quality**

The Proposed Project, in conjunction with the related projects would cumulatively consume approximately 729 AFY. As stated above, the City's water is extracted from deep aquifers whose water quality is such that it currently complies with standards and is used without treatment. Water quality for projects within the City would continue to be monitored by the City. Additionally, the quality of water being supplied to the related projects located outside of the City would be required to comply with local, State, and federal regulations. Therefore, cumulative impacts on water quality would be less than significant.

### **MITIGATION MEASURES**

As impacts related to water supply and infrastructure would be less than significant, no mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts on water supply and infrastructure would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### M. UTILITIES

#### 3. SOLID WASTE

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##### ENVIRONMENTAL SETTING

##### Solid Waste Collection and Disposal

Within the City of Downey, solid waste management, including collection and disposal services and landfill operation, is administered by various public agencies and private companies. Waste collection for all single-family homes and multi-family residences containing four or fewer dwelling units is provided through the City's franchised residential solid waste hauler.<sup>43</sup> Waste generated by commercial and industrial sources is collected by Calmet, a private contractor. Private contractors can dispose of waste at a landfill of their choosing.

As shown in Table IV.M-7, existing uses on-site generate approximately 4,500 pounds of solid waste per day.

**Table IV.M-7**  
**Existing Uses Solid Waste Generation**

Land Use	Size	Generation Rate	Total (pounds/day)
Studio Uses	750,000 sf	6 lbs./1,000 sf/day <sup>a</sup>	4,500
<b>Total</b>			<b>4,500</b>

*sf = square feet*  
*Note: Generation rate utilized is from the California Integrated Waste Management Board, Estimated Solid Waste Generation Rates. This generation rate is sourced from another document as referenced.*  
<sup>a</sup> Utilizing the "Office" generation factor  
*Source: California Integrated Waste Management Board, Estimated Solid Waste Generation Rates for Commercial Establishments, Stevenson Ranch Draft EIR (Phase IV), LA County, April 1992, website: <http://www.ciwmb.ca.gov/wastechar/wastegenrates/Commercial.htm>, July 14, 2008.*  
*Source (table): Christopher A. Joseph & Associates, July 2008.*

##### *Landfills*

Waste disposal sites, (i.e., landfills) are operated by the County of Los Angeles as well as by private companies. In addition, transfer stations are utilized to temporarily store debris until larger haul trucks are available to transport the materials directly to the landfills. Landfill availability is limited by several factors, including: (1) restrictions to accepting waste generated only within a particular landfill's jurisdiction and/or watershed boundary, (2) tonnage permit limitation, (3) types of waste, and (4) operational constraints. Planning to serve long-term disposal needs is constantly being conducted at the

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<sup>43</sup> *City of Downey Department of Public Works, Integrated Waste Management, website: <http://www.downeygis.org/pw3/IntegratedWasteManagement.htm>, July 11, 2008.*

regional level (e.g., siting new landfills within the County and transporting waste outside the region). Most commonly, the City of Downey is serviced by the Puente Hills Landfill and Frank R. Bowerman Landfill, both of which accept residential, commercial, and construction waste.

#### *Puente Hills Landfill*

The Puente Hills Landfill is owned by the County of Los Angeles Sanitation District 18 and operated by the County of Los Angeles Sanitation District 2. This landfill has a restricted watershed and is prohibited, by the Sanitation Districts' Board of Directors' ordinance, from accepting waste generated within the City of Los Angeles and Orange County. The Puente Hills Landfill is comprised of approximately 1,365 acres and, as of October 14, 2006, the landfill has a remaining capacity of approximately 49,348,500 cubic yards and a permitted maximum daily intake of approximately 13,200 tons per day.<sup>44</sup>

#### *Frank R. Bowerman Landfill*

The Frank R. Bowerman (FRB) Landfill is owned and operated by the County of Orange Integrated Waste Management Department. This landfill is comprised of approximately 725 acres with 341 acres permitted for refuse disposal. The FRB Landfill has a remaining capacity of approximately 59,411,872 cubic yards and a permitted maximum daily intake of 8,500 tons per day.<sup>45</sup> However, FRB Landfill is currently in the process of requesting a Revised Full Solid Waste Facilities Permit from the California Integrated Waste Management Board (CIWMB). If granted, this permit would allow for an increase in disposal acreage of 193 acres, as well as increase the landfill's capacity 130 million cubic yards over the current permitted capacity. This increase in capacity would extend the life of the landfill to a new estimated closure date of 2053 and increase the maximum permitted daily intake from 8,500 to 11,500 tons per day.<sup>46</sup>

#### ***Recycling Facilities***

Waste generated in the City may also be diverted from landfills and recycled. The Los Angeles County Sanitation Districts develop and implement recycling and composting programs within the County. A list of solid waste disposal facilities, including recycling facilities, is maintained by the CIWMB. While the

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<sup>44</sup> California Integrated Waste Management Board, Solid Waste Information System, Puente Hills Landfill, website: <http://www.ciwmb.ca.gov/SWIS/detail.asp?PG=DET&SITESCH=19-AA-0053&OUT=HTML>, July 14, 2008.

<sup>45</sup> California Integrated Waste Management Board, Solid Waste Information System, Frank R. Bowerman Landfill, website: <http://www.ciwmb.ca.gov/SWIS/detail.asp?PG=DET&SITESCH=30-AB-0360&OUT=HTML>, July 30, 2008.

<sup>46</sup> Letter correspondence with Kathy Simmons, Integrated Waste Coordinator, City of Downey, Department of Public Works, August 5, 2008.

final choice in recycling facilities rests with the project applicant, the facility located in closest proximity to the Project Site would be the Downey Area Recycling and Transfer Facility (DART). DART is located approximately 0.80 miles east of the Project Site and is currently permitted to accept 5,000 tons of material per day. Additionally, the City of Downey provides a curbside recycling program, the Downey At-Home Recycling Team, for all single-family homes and multi-family residences comprised of four or fewer dwelling units.

### ***Household Hazardous Waste***

Household hazardous waste (HHW) within the City of Downey is collected at Free Household Hazardous Waste Roundups which are sponsored by the Los Angeles County Department of Public Works and the Sanitation Districts of Los Angeles County. HHW Roundups are one-day drive-through collection events where residents can drive to a specified location to drop off HHW. HHW Roundups are free and are scheduled in different locations throughout the County.<sup>47</sup>

Additionally, the County has partnered with the City of Los Angeles to allow County residents to utilize City of Los Angeles collection events and permanent centers. The City of Los Angeles operates six permanent collection centers known as S.A.F.E. (solvents/automotive/flammables/electronics) Centers. The nearest permanent S.A.F.E. Center to the Project Site is the Washington Boulevard S.A.F.E. Center located approximately 8.36 miles northwest of the Project Site at 2649 E Washington Boulevard in Los Angeles. This S.A.F.E. Center accepts paint, solvents, automotive fluids and filters, cleaning products, pool and garden chemicals, batteries, and electronic waste.<sup>48</sup>

Further, the CIWMB has certified used motor oil collection centers located throughout the State. These locations accept uncontaminated oil throughout the year. A list of these locations can be obtained from CIWMB or the City of Downey Department of Public Works.

### ***Construction and Demolition Debris***

The United States Environmental Protection Agency (USEPA) report, Characterization of Building-Related Construction and Demolition Debris in the United States characterizes the quantity and composition of building-related construction and demolition debris generated in the United States, and

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<sup>47</sup> County of Los Angeles, Department of Public Works, *Events for Collecting Household Hazardous Waste*, website: <http://ladpw.org/epd/hhw/collection.cfm>, July 15, 2008.

<sup>48</sup> City of Los Angeles Bureau of Sanitation, *S.A.F.E. Centers: Permanent Collection Centers, Los Angeles: Washington Boulevard S.A.F.E. Center*, website: [http://www.lacity.org/san/solid\\_resources/pdfs/safe-washington-flyer\\_english.pdf](http://www.lacity.org/san/solid_resources/pdfs/safe-washington-flyer_english.pdf), July 15, 2008.

summarized the waste management practices for this waste stream.<sup>49</sup> The report also includes building-related construction and demolition debris generation rate estimates based on empirical data for new construction sites gathered by the National Association of Homebuilders (NAHB) Research Center; the Metropolitan Service District (METRO) in Portland, Oregon; Woodbin 2, a non-profit organization in Wake County, North Carolina; McHenry County, Illinois; and Cornell University. The following information is based on this USEPA report.

The California State definition of construction and demolition debris includes concrete, asphalt, wood, drywall, metals, and many miscellaneous and composite materials generated by demolition and new construction of structures such as residential and commercial building and roadways. Construction debris from building sites typically consists of trim scraps of construction materials, such as wood, sheetrock, masonry, and roofing materials. There is typically much less concrete in construction debris than demolition debris, although some construction projects produce considerable quantities of concrete, depending on the technology used to build the concrete walls. Scrap from residential construction sites typically represents between six and eight percent of the total weight of the building materials delivered to the site, excluding the foundation, concrete floors, driveways, patios, etc. There is typically very little waste concrete to dispose of from residential construction projects. When buildings are demolished, large quantities of waste may be produced in a relatively short period of time, depending on the demolition technique used. The demolition project duration can vary depending on the technique used (i.e., implosion with explosives, use of crane and wrecking ball, or deconstruction of structures). In actual practice, the vast majority of demolition projects use a combination of the last two basic techniques depending on the materials used in the original project, the physical size of the structure, the surrounding building that cannot be disturbed or impacted, and the time allocated for the project. One hundred percent of the weight of a building, including the concrete foundations, driveways, patios, etc., may be generated as construction and demolition debris when a building is demolished. On a per building basis, demolition waste quantities may be 20 to 30 times as much as construction debris.

### **Regulatory Framework**

The California Integrated Waste Management Act of 1989 (AB 939) was enacted to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible. Specifically, the Act required city and county jurisdictions to identify an implementation schedule to divert 50 percent of the total waste stream from landfill disposal by the year 2000. The Act also requires each city and county to promote source reduction, recycling, and safe disposal or transformation.

AB 939 further requires each city to conduct a Solid Waste Generation Study and to prepare a Source Reduction and Recycling Element (SRRE) to describe how it would reach the goals. The SRRE contains

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<sup>49</sup> USEPA Report No EPA530-98-010, *Characterization of Building Related Construction and Demolition Debris in the United States, July 1998*, website: <http://www.epa.gov/epaoswer/hazwaste/sqg/c&d-rpt.pdf>, July 15, 2008.

programs and policies for fulfillment of the goals of the Act, including the above-noted diversion goals and must be updated annually to account for changing market and infrastructure conditions. As projects and programs are implemented, the characteristics of the waste stream, the capacities of the current solid waste disposal facilities, and the operational status of those facilities are upgraded, as appropriate. California cities and counties are required to submit annual reports to the CIWMB to update it on their progress toward the AB 939 goals (i.e., source reduction, recycling and composting, and environmentally safe land disposal).<sup>50</sup>

To help reach the goals of AB 939, the City of Downey has implemented the Downey At-Home Recycling Team; in 1990, the City adopted a source reduction and recycling program; and the City continues to work with various City agencies to implement education programs.<sup>51</sup> The General Plan outlines goals, policies, and programs to help reduce solid waste generation in the City.

To further help the City comply with AB 939, City Council adopted Ordinance No. 07-1217, Construction and Demolition Waste Management, on August, 17, 2007. This Ordinance requires that, for each “covered project”<sup>52</sup>, a waste management plan must be drafted indicating that one hundred percent of inert debris, which includes asphalt, brick, concrete, rock, gravel, stone, soil, and tile, and at least 50 percent of the remaining construction and demolition debris generated by the project be diverted and recycled.<sup>53</sup>

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

In accordance with guidance provided in Appendix G of the State CEQA Guidelines, the determination of significance of a project’s impact on solid waste is based on whether the project would cause one or more of the following conditions to occur:

- (a) Be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs.

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<sup>50</sup> California Public Resources Code, §40050 et seq.

<sup>51</sup> City of Downey General Plan, Chapter 4, Conservation, Issue 4.7, Solid Waste Disposal, January 25, 2005.

<sup>52</sup> Per DMC § 5810, a covered project is any construction or renovation project within the City, the total costs of which are projected to be greater than or equal to \$100,000, and any demolition project within the City, the total costs of which are projected to be greater than or equal to \$100,000 or are 1,000 square feet or greater.

<sup>53</sup> City of Downey Municipal Code, Article V, Chapter 8, § 5850.

- (b) Comply with federal, State, and local statutes and regulations related to solid waste.

### **Project Impacts**

Solid waste would be generated at the Project Site by both short-term construction activities and long-term operation of the proposed land uses. The solid waste collection and disposal needs during the construction and operation of the Proposed Project would be met by private contractors.

#### *Construction Impacts*

Development of the Proposed Project would involve demolition of approximately 750,000 square feet of existing studio uses and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses. Specifically, the Proposed Project would develop up to 675,000 square feet of office uses, 1,200,000 square feet of retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site.

Construction waste would be generated during demolition and construction activities. While site grading would occur and would require soil export, the soil exported would not be disposed of in a landfill. Only demolition and construction waste would be disposed of at area landfills. Construction and demolition debris includes concrete, asphalt, wood, drywall, metals, and other miscellaneous and composite materials. Much of this material would be recycled and salvaged to the maximum extent feasible. Materials not recycled would be disposed of at landfills. AB 939 compliance requires that at least 50 percent of the construction and demolition waste be recycled/reused. Additionally, compliance with City Ordinance No. 07-1217 requires that one hundred percent of inert debris, as defined previously, and 50 percent of all remaining construction and demolition debris be diverted and recycled/reused. With recycling of most of the construction waste generated during the construction and demolition phases, buildout of the Proposed Project would have less than significant short term construction impacts on landfills and solid waste services.

#### *Operational Impacts*

Operation of the Proposed Project would result in the ongoing generation of solid waste. As shown in Table IV.M-8, over the long term, the Proposed Project would be expected to generate approximately 17,925 pounds or 9.0 tons of solid waste per day. This represents a net increase of approximately 13,425 pounds or 6.7 tons of solid waste per day over existing uses.

**Table IV.M-8  
Proposed Project Solid Waste Generation**

Land Use	Size	Generation Rate <sup>a</sup>	Total (pounds/day)
Office	675,000 sf	6 lbs/1,000 sf/day <sup>b</sup>	4,050
Retail	1,200,000 sf	5 lbs/1,000 sf/day <sup>c</sup>	6,000
Hotel	450 rooms	4.166 lbs/hotel room/day	1,875
Residential	1,700,000 sf (approx. 1,500 units)	4 lbs/dwelling unit/day <sup>d</sup>	6,000
<b>Proposed Project Total</b>			<b>17,925</b>
<b>Existing Uses Total</b>			<b>4,500</b>
<b>Net Increase in Solid Waste Generation</b>			<b>13,425</b>
<i>sf = square feet</i> <sup>a</sup> All Generation rates utilized are from the California Integrated Waste Management Board, Estimated Solid Waste Generation Rates. This list of generation rates was compiled sourcing generation rates utilized in other documents as referenced. <sup>b</sup> Calculated utilizing the "Office" generation factor, Stevenson Ranch Draft EIR (Phase IV), LA County, April 1992. <sup>c</sup> Calculated utilizing the "Commercial" generation factor, County of Los Angeles Department of Regional Planning, Vesting Tentative Tract No. 47905, August 1992. <sup>d</sup> Calculated utilizing the "Multifamily" residential generation factor, County of Los Angeles Department of Regional Planning, Vesting Tentative Tract No. 47905, August 1992. Source: California Integrated Waste Management Board, Estimated Solid Waste Generation Rates, website: <a href="http://www.ciwmb.ca.gov/wastechar/wastegenrates/default.htm">http://www.ciwmb.ca.gov/wastechar/wastegenrates/default.htm</a> , July 15, 2008. Source (table): Christopher A. Joseph & Associates, July 2008.			

The Puente Hills Landfill is permitted to accept a maximum of 13,200 tons of solid waste per day and currently intakes approximately 10,515 tons of solid waste per day, giving this landfill the capacity to accept an additional 2,685 tons of solid waste per day.<sup>54</sup> The Proposed Project would generate approximately 13,425 net pounds, or 6.7 tons, of solid waste per day, which represents approximately 0.25 percent of the remaining daily intake capacity and approximately 0.05 percent of the maximum permitted daily intake at the Puente Hills Landfill. In addition, the Frank R. Bowerman Landfill is currently permitted to accept a maximum of 8,500 tons of solid waste per day. Solid waste generated by the Proposed Project represents approximately 0.08 percent of the maximum daily intake at this landfill.

Solid waste disposal can be supplemented by disposal of recyclable materials at DART. The facility is located approximately 0.80 miles east of the Project Site and has a permitted daily intake of 5,000 tons. DART

<sup>54</sup> Los Angeles County Sanitation Districts, Puente Hills Landfill, Puente Hills Landfill Annual Monitoring Report 2007, Appendix 3, Summary of Waste Received, Disposed, Recycled or Otherwise Diverted, website: <http://www.lacsd.org/civica/filebank/blobdload.asp?BlobID=3228>, July 15, 2008.

Additionally, operations within the City and on the Project Site would continue to be subject to the requirements set forth in AB 939 requiring each city and county to divert 50 percent of their solid waste from landfill disposal through source reduction, recycling, and composting. Furthermore, the Proposed Project would also be required to comply with City Ordinance No. 07-1217, which requires that one hundred percent of inert debris (as defined previously) and 50 percent of the remaining construction and demolition debris generated be diverted and reused or recycled. The increase in solid waste generated by the Proposed Project would not result in the need for additional recycling or disposal facilities. Therefore, impacts associated with solid waste service would be less than significant.

## CUMULATIVE IMPACTS

As shown in Table IV.M-9, Cumulative Solid Waste Generation, the related projects would generate approximately 23,242 pounds of solid waste per day.

**Table IV.M-9  
Cumulative Solid Waste Generation**

<b>Related Projects in the Cities of Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera, and Bell Gardens</b>			
<b>Land Use</b>	<b>Size</b>	<b>Generation Rate<sup>a</sup></b>	<b>Total (lbs/day)</b>
Single Family Residential <sup>b</sup>	636 du	10 lbs./dwelling unit/day	6,360
Multi-Family Residential <sup>c</sup>	166 du	4 lbs/dwelling unit/day	664
Office <sup>d</sup>	126,476 sf	6 lbs/1,000 sf/day	759
Retail <sup>e</sup>	1,267,859 sf	5 lbs/1,000 sf/day	6,339
Industrial/Warehouse <sup>f</sup>	1,128,718 sf	5 lbs/1,000 sf/day	5,644
Restaurant <sup>e</sup>	13,160 sf	5 lbs/1,000 sf/day	66
Elementary School <sup>g</sup>	1,600 students	0.5 lbs/student/day	800
High School <sup>g</sup>	1,500 students	0.5 lbs/student/day	750
<i>Subtotal</i>			<b>21,382</b>
<b>Related Projects in the City of Downey</b>			
Multi Family Residential <sup>c</sup>	17 du	4 lbs/dwelling unit/day	68
Office <sup>d</sup>	68,918 sf	6 lbs/1,000 sf/day	414
Retail <sup>e</sup>	36,943 sf	5 lbs/1,000 sf/day	185
Industrial/Warehouse <sup>f</sup>	200,000 sf	5 lbs/1,000 sf/day	1,000
Church <sup>h</sup>	27,528 sf	7 lbs/1,000 sf/day	193
<i>Subtotal</i>			<b>1,860</b>
<b>Related Projects Total</b>			<b>23,242</b>
<b>Proposed Project Net Solid Waste Generation</b>			<b>4,500</b>
<b>Cumulative Total</b>			<b>27,742</b>
<p><i>Note: du = dwelling units, emp = employees, sf = square feet, lbs = pounds</i></p> <p><sup>a</sup> All Generation rates utilized are from the California Integrated Waste Management Board, Estimated Solid Waste Generation Rates. This list of generation rates was compiled sourcing generation rates utilized in other documents as referenced.</p> <p><sup>b</sup> Calculated utilizing the "Single Family" residential generation rate, County of Los Angeles Department of Regional Planning, Vesting Tentative Tract No. 47905, August 1992.</p> <p><sup>c</sup> Calculated utilizing the "Multifamily" residential generation rate, County of Los Angeles Department of Regional Planning, Vesting Tentative Tract No. 47905, August 1992.</p> <p><sup>d</sup> Calculated utilizing the "Office" generation rate, Stevenson Ranch Draft EIR (Phase IV), LA County, April 1992.</p> <p><sup>e</sup> Calculated utilizing the "Commercial" generation rate, County of Los Angeles Department of Regional Planning, Vesting Tentative Tract No. 47905, August 1992.</p>			

**Table IV.M-9  
Cumulative Solid Waste Generation**

<sup>f</sup>	Calculated utilizing the "Industrial" generation rate, Stevenson Ranch Draft EIR (Phase IV), LA County, April 1992.
<sup>g</sup>	Calculated utilizing the "Educational Facilities" generation rate, Stevenson Ranch Draft EIR (Phase IV), LA County, April 1992.
<sup>h</sup>	Calculated utilizing the "Public/Institutional" generation rate, Draft EIR for the Central Commercial Redevelopment Project (Monterey Park Redevelopment Agency), 1992.
Source (table): Christopher A. Joseph & Associates, October 2008.	

As shown in Table IV.M-9, the net total solid waste generated by the Proposed Project would be approximately 4,500 pounds per day. The Proposed Project, in conjunction with the related projects identified in Section III, Environmental Setting, would generate a net total of approximately 27,742 pounds, or 13.9 tons, of solid waste per day (see Table IV.M-9). Similar to the Proposed Project, each of the related projects would participate in regional source reduction and recycling programs pursuant to AB 939 and projects located within the City would also be required to comply with City Ordinance 07-1217, further reducing the amount of solid waste to be disposed of at the Puente Hills Landfill. Each related project would have the option of choosing its own recycling facility from the facilities listed by the Los Angeles County Department of Public Works, the Los Angeles County Sanitation Districts, and the California Integrated Waste Management Board. Therefore, per the requirements of AB 939, the Proposed Project and the related projects would dispose of approximately 13,871 pounds, or 6.9 tons, or solid waste per day in the landfill.

The Puente Hills Landfill is permitted to accept a maximum of 13,200 tons of solid waste per day and currently intakes approximately 10,515 tons, which gives the landfill a remaining daily intake capacity of approximately 2,685 tons. As mentioned above, the Proposed Project, in conjunction with the related projects would cumulatively generate approximately 13,871 pounds, or 6.9 tons, of solid waste per day. This represents approximately 0.26 percent of the remaining daily intake capacity and approximately 0.05 percent of the total maximum permitted daily intake at the Puente Hills Landfill. Further, the Frank R. Bowerman Landfill is currently permitted to accept a maximum of 8,500 tons of solid waste per day. Solid waste generated by the Proposed Project, in conjunction with the related projects, represents approximately 0.08 percent of the permitted daily intake at this landfill. Thus, the cumulative increase in solid waste generated by the Proposed Project and the related projects would not result in the need for additional disposal facilities. Therefore, cumulative impacts associated with solid waste service would be less than significant.

## **MITIGATION MEASURES**

No mitigation measures are required.

## **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts on solid waste services would be less than significant.

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**IV. ENVIRONMENTAL IMPACT ANALYSIS**  
**M. UTILITIES**  
**4. ELECTRICITY**

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**ENVIRONMENTAL SETTING**

**Electricity Supplies**

The City of Downey’s electricity is provided by Southern California Edison. Southern California Edison (SCE) is the largest supplier of electricity in the State with a service population of more than 13 million people in a service area comprised of 50,000 square miles of central, coastal, and Southern California containing more than 180 cities, excluding the City of Los Angeles and a few other cities.<sup>55</sup> SCE obtains electricity from various generating sources that utilize hydroelectric, coal, nuclear, natural gas and renewable energy resources to generate power. SCE obtains power for the City of Downey from the following sources: Big Creek Hydro Facilities in Shaver Lake, California; Four Corners Power Plant in Fruitland, New Mexico; Mountainview Power Plant in Redlands, California; the Palo Verde Nuclear Generating Station in Wintersburg, Arizona; and the San Onofre Nuclear Generating Station located in San Clemente, California.

As shown in Table IV.M-10, existing uses on-site currently consume approximately 26,250 kilowatt hours (KW-Hours) of electricity per day.

**Table IV.M-10**  
**Existing Uses Electricity Consumption**

Land Use	Size	Consumption Rate <sup>a</sup>	Total (KW-Hours/day)
Studio Uses	750,000 sf	0.035 KW-Hours/sf/day <sup>b</sup>	26,250
<b>Total</b>			<b>26,250</b>
<i>sf = square feet</i> <sup>a</sup> SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993. <sup>b</sup> Utilizing the “Office” consumption rate. Source (table): Christopher A. Joseph & Associates, July, 2008.			

**Big Creek Hydro Facilities**

SCE’s Big Creek Hydro Facilities are located in Shaver Lake, California. Big Creek was America’s first large-scale integrated hydroelectric project and consists of 23 generating units in nine powerhouses.

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<sup>55</sup> Edison International, Our Company, Southern California Edison, website: <http://www.edison.com/ourcompany/sce.asp>, July 29, 2008.

These facilities contain six major reservoirs with a storage capacity of more than 560,000 acre-feet. The Big Creek Facilities have a generating capacity of approximately 1,000 Mega-watts (MW).<sup>56</sup>

#### ***Four Corners Power Plant***

Four Corners Power Plant, located in Fruitland, New Mexico, is one of largest coal-fired generating stations in the United States. This plant is operated by Arizona Public Service Company and is comprised of five units. One hundred percent of the power generated by units 1, 2, and 3 is owned by Arizona Public Service Company. Power generated by units 4 and 5 are split between several owners including: Southern California Edison, Arizona Public Service Company, El Paso Electric, PNM, Salt River Project, and Tucson Electric Power with approximately 48 percent owned by Southern California Edison.<sup>57</sup> Four Corners Power Plant has a capacity of approximately 2,048 MW, supplying approximately 754 MW to Southern California Edison.<sup>58</sup>

#### ***Mountainview Power Plant***

Mountainview Power Plant, located in Redlands, California, began operation in 2005 and was the first new major Los Angeles Basin power plant to be built in 30 years. This is a natural gas plant that operates on a combined-cycle design, which allows it to operate 30 percent more efficiently than older plants. Mountainview Power Plant is owned and operated by Southern California Edison with one hundred percent of the power generated by the plant supplied to SCE customers. Mountainview Power Plant has a capacity of approximately 1,054 Mega-watts.<sup>59</sup>

#### ***Palo Verde Nuclear Generating Station***

The Palo Verde Nuclear Generating Station, located in Wintersburg, Arizona, is the largest nuclear plant in the United States. The power generated by this plant is allocated to several owners including: Arizona Public Service Company, Salt River Project, Southern California Edison, El Paso Electric, PNM, Southern California Public Power Authority, and the Los Angeles Department of Water and Power, with

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<sup>56</sup> Edison International, *Our Company, Southern California Edison, Big Creek Hydro Facilities*, website: <http://www.edison.com/ourcompany/sce.asp?id=2078>, July 29, 2008.

<sup>57</sup> PNM, *Four Corners Power Plant*, website: <http://www.pnm.com/systems/4c.htm>, July 29, 2008.

<sup>58</sup> Edison International, *Our Company, Southern California Edison, Four Corners Generating Station*, website: <http://www.edison.com/ourcompany/sce.asp?id=2081>, July 29, 2008.

<sup>59</sup> Edison International, *Our Company, Southern California Edison, Mountainview Power Plant*, website: <http://www.edison.com/ourcompany/sce.asp?id=6754>, July 29, 2008.

approximately 16 percent provided to Southern California Edison customers.<sup>60</sup> Palo Verde Nuclear Generating Station has a capacity of approximately 3,600 Mega-watts.<sup>61</sup>

### ***San Onofre Nuclear Generating Station***

The San Onofre Nuclear Generating Station (SONGS) is located in San Clemente, California. SONGS is jointly owned by Southern California Edison, San Diego Gas and Electric, and the City of Riverside, with approximately 78 percent of the power generated by this plant supplied to Southern California Edison's customers. This plant has a capacity of approximately 2,200 Mega-watts.<sup>62</sup>

### ***Renewable Energy Sources***

In addition to the power-generating stations described above, SCE also uses various sources of renewable energy including wind and solar power, as well as biomass and geothermal sources. Currently, approximately 17 percent of SCE's energy comes from renewable energy sources; SCE is working to achieve a goal of having at least 20 percent of our energy provided by renewable sources.<sup>63</sup> SCE has an agreement with Alta Windpower Development LLC that secures upwards of 1,500 Mega-watts of power generated by projects to be built in the Tehachapi area of California. SCE also purchases approximately 92 percent of the solar power generated in the United States. Additionally, SCE has purchased approximately 1,436 million kilowatt hours of electricity from 21 biomass energy producers. Biomass energy producers convert biomass into electricity using landfills, sewage treatment plants, and direct combustion. Further, approximately 62 percent (approximately 7.71 billion kilowatt hours) of SCE's renewable energy comes from geothermal sources which are converted to electricity by utilizing hot water or steam captured in wells to turn generators.<sup>64</sup>

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<sup>60</sup> PNM, Palo Verde Nuclear Generating Station, website: <http://www.pnm.com/systems/pv.htm>, July 29, 2008.

<sup>61</sup> Edison International, Our Company, Southern California Edison, Palo Verde Nuclear Generating Station, website: <http://www.edison.com/ourcompany/sce.asp?id=2080>, July 29, 2008.

<sup>62</sup> Edison International, Our Company, Southern California Edison, San Onofre Nuclear Generating Station (SONGS), website: <http://www.edison.com/ourcompany/sce.asp?id=2082>, July 29, 2008.

<sup>63</sup> Southern California Edison, Power & Our Environment, Renewable Energy, website: <http://www.sce.com/PowerandEnvironment/Renewables/>, July 30, 2008.

<sup>64</sup> Southern California Edison, Power & Our Environment, Renewable Energy, website: <http://www.sce.com/PowerandEnvironment/Renewables/>, July 30, 2008.

## **Electricity Distribution System**

In total, SCE operates 16 utility interconnections and 4,990 transmission and distribution circuits to provide electricity to its customers. The power supplied to SCE customers is distributed through a network of suspended overhead power lines as well as underground utility connections.

## **Regulatory Framework**

### ***Title 24 of the California Code of Regulations***

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and non-residential buildings and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines.

### ***Western Electricity Coordinating Council and the North American Electric Reliability Council***

The Western Electricity Coordinating Council (WECC) is responsible for coordinating and promoting electricity reliability to the north from Alberta and British Columbia, Canada to northern Baja California, Mexico in the southern portion of its jurisdiction, and the 14 western states in between.<sup>65</sup> It is the largest of the eight regional councils of the North American Electric Reliability Council (NERC). Membership in the WECC is voluntary; SCE is a part of the California-Mexico Power area of the WECC. The WECC has implemented Standard BAL-STD-002-0 to require reliable operation of the interconnected power system while ensuring that adequate generating capacity be available at all times to account for varying demands and avoid loss of firm load following transmission or generation contingencies. Specifically, WECC Standard BAL-STD-002-0 requires:

- Supply requirements for load variations;
- Replace generating capacity and energy lost due to forced outages of generation or transmission equipment;
- Meet on-demand obligations; and
- Replace energy lost due to curtailment of interruptible imports.

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<sup>65</sup> *Western Electricity Coordinating Council, About WECC, website: <http://www.wecc.biz/wrap.php?file=wrap/about.html>, July 30, 2008.*

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *State CEQA Guidelines*

The State of California CEQA Guidelines provide no specific thresholds for impacts associated with electricity consumption.

### Project Impacts

The Proposed Project would involve demolition of existing studio uses and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses. Specifically, the Proposed Project would develop up to 675,000 square feet of office uses, 1,200,000 square feet of retail uses, 450 hotel rooms and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site.

As shown in Table IV.M-11, the Proposed Project is estimated to consume approximately 129,555 KW-Hours of electricity per day. This represents a net increase of approximately 103,305 KW-Hours of electricity per day over existing uses.

**Table IV.M-11  
Proposed Project Electricity Consumption**

Land Use	Size	Consumption Rate <sup>a</sup>	Total (KW-Hours/day)
Office	675,000 sf	0.035 KW-Hours/sf/day	23,625
Retail	1,200,000 sf	0.037 KW-Hours/sf/day	44,400
Hotel	450 rooms	22.5 KW-Hours/hotel room/day	10,125
Residential	1,700,000 sf (approx. 1,500 units)	15.42 KW-Hours/unit/day	23,130
Open space	125,000 sf	0.029 KW-Hours/sf/day <sup>b</sup>	3,625
Parking Facilities	850,000 sf	0.029 KW-Hours/sf/day <sup>b</sup>	24,650
<b>Proposed Project Total</b>			<b>129,555</b>
<b>Existing Uses Total</b>			<b>26,250</b>
<b>Net Increase in Electricity Consumption</b>			<b>103,305</b>

*sf = square feet*

<sup>a</sup> SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.

<sup>b</sup> Calculated utilizing the "Miscellaneous" consumption rate.

Source (table): Christopher A. Joseph & Associates, July 2008.

### ***Electricity Supplies***

As the City of Downey is located within the western United States power grid, SCE is required to meet certain operational, supply, and reliability criteria as established by the WECC and the NERC. These criteria establish certain reserve margin requirements that SCE must meet to accommodate any unforeseen contingencies. Additionally, energy conservation standards established by Title 24 of the California Code of Regulations, including, but not limited to, glazing, lighting, shading, and water and space heating systems, would be incorporated into new buildings. As part of the building permit process, the Proposed Project will incorporate and exceed the Title 24 standards by five percent in order to reduce the amount of electricity consumed by the Proposed Project. The applicant would thus be required to incorporate the energy conservation measures identified in Mitigation Measures M-1 through M-5 into the project design. As such, impacts on electricity supplies related to buildout of the Proposed Project would be less than significant.

### ***Electricity Distribution System***

SCE undertakes expansion and/or modification of electricity distribution infrastructure and systems to serve future growth in the City of Downey, and the rest of its customers, as required in the normal process of providing electrical service. There are currently no deficiencies in the distribution system, however, if it is determined that the existing distribution infrastructure is inadequate to deliver the Proposed Project's estimated electricity consumption, SCE, as a regulated utility, is required to provide necessary upgrades to its facilities. As such, impacts on electricity distribution infrastructure would be less than significant.

## **CUMULATIVE IMPACTS**

As shown in Table IV.M-12, Cumulative Electricity Consumption, the related projects associated with the Proposed Project would consume approximately 108,788 KW-Hours of electricity per day.

**Table IV.M-12  
Cumulative Electricity Consumption**

<b>Related Projects in the Cities of Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera, and Bell Gardens</b>			
<b>Land Use</b>	<b>Size</b>	<b>Generation Rate<sup>a</sup></b>	<b>Total Electricity Consumed (KW hours/day)</b>
Single Family Residential	636 du	15.42 KW-Hours/unit/day	9,807
Multi-Family Residential	166 du	15.42 KW-Hours/unit/day	2,560
Office	126,476 sf	0.035 KW-Hours/sf/day	4,427
Retail	1,267,859 sf	0.037 KW-Hours/sf/day	46,911
Industrial/Warehouse <sup>b</sup>	1,128,718 sf	0.029 KW-Hours/sf/day	32,733
Restaurant	13,160 sf	0.13 KW-Hours/sf/day	1,711
Elementary School	1,600 students	N/A <sup>c</sup>	--
High School	1,500 students	N/A <sup>c</sup>	--
<i>Subtotal</i>			<b>98,149</b>

**Table IV.M-12  
Cumulative Electricity Consumption**

<b>Related Projects in the City of Downey</b>			
Multi Family Residential	17 du	15.42 KW-Hours/unit/day	262
Office	68,918 sf	0.035 KW-Hours/sf/day	2,412
Retail	36,943 sf	0.037 KW-Hours/sf/day	1,367
Industrial/Warehouse <sup>b</sup>	200,000 sf	0.029 KW-Hours/sf/day	5,800
Church <sup>b</sup>	27,528 sf	0.029 KW-Hours/sf/day	798
		<i>Subtotal</i>	<i>10,639</i>
		<b>Related Projects Total</b>	<b>108,788</b>
		<b>Proposed Project Total</b>	<b>103,305</b>
		<b>Cumulative Total</b>	<b>212,093</b>
<p><i>Note: du = dwelling units, sf = square feet, KW = kilowatt</i></p> <p><sup>a</sup> All consumption rates are from SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.</p> <p><sup>b</sup> Calculated utilizing the "Miscellaneous" consumption rate.</p> <p><sup>c</sup> No consumption rate available or no consumption rate available in the units provided.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, October 2008.</p>			

The Proposed Project, in conjunction with the related projects identified in Section III, Environmental Setting, would increase electricity consumption. As shown in Table IV.M-12, the Proposed Project is estimated to consume a net total of approximately 103,305 KW-Hours per day. The electricity consumed by the Proposed Project, in combination with related projects would be approximately 212,093 KW-Hours per day.

As the Proposed Project and the related projects are located within the western United States power grid, SCE is required to meet certain operational, supply, and reliability criteria as established by the WECC and the NERC. These criteria establish certain reserve margin requirements that SCE must meet to accommodate any unforeseen contingencies. Additionally, energy conservation standards established by Title 24 of the California Code of Regulations would be incorporated into new buildings as part of the building permit process and thus reduce the amount of electricity consumed by the related projects in combination with the Proposed Project by addressing insulation, glazing, lighting, shading, and water and space heating systems. As such, cumulative impacts on electricity supplies would be less than significant.

## MITIGATION MEASURES

The Proposed Project's impacts on electricity services would be less than significant. Nonetheless, the following mitigation measures are required to further reduce potential impacts.

- M-1. Design windows (e.g., tinting, double pane glass, etc.) to reduce thermal gain and loss and thus cooling loads during warm weather, and heating loads during cool weather.
- M-2. Install thermal insulation in walls and ceilings that exceed requirements established by the State of California Energy Conservation Standards.

- M-3. Install high-efficiency lamps for all outdoor security lighting.
- M-4. Time control interior and exterior lighting. These systems must be programmed to account for variations in seasonal daylight times.
- M-5. Finish exterior walls with light-colored materials and high-emissivity characteristics to reduce cooling loads. Finish interior walls with light-colored materials to reflect more light and thus increase lighting efficiency.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

With implementation of the above listed mitigation measures, impacts on electricity services would be less than significant.

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## IV. ENVIRONMENTAL IMPACT ANALYSIS

### M. UTILITIES

#### 5. NATURAL GAS

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##### ENVIRONMENTAL SETTING

###### Natural Gas Supplies

The Southern California Gas Company (SCG) provides natural gas resources to the City of Downey and nearly the rest of southern and central California from the United States/Mexico border to Visalia, California. SCG serves approximately 20.3 million customers in more than 500 communities in the region described.<sup>66</sup> The availability of natural gas is based upon present conditions of gas supply and regulatory policies as the SCG is under the jurisdiction of the California Public Utilities Commission (PUC) and other Federal regulatory agencies. In addition, SCG makes available to its customers energy efficiency programs with rebates and incentives for the purpose of reducing natural gas consumption.

SCG obtains its gas resources from several sedimentary basins including the San Juan Basin in New Mexico, the Permian Basin in West Texas, Rocky Mountains, Western Canada, and local California supplies.<sup>67</sup> SCG also anticipates that re-gasified liquid natural gas (LNG) will play a large role in satisfying future natural gas demand.<sup>68</sup>

As shown in Table IV.M-13, the existing uses on the Project Site currently consume approximately 50,250 cubic feet (cf) of natural gas per day.

**Table IV.M-13**  
**Existing Uses Natural Gas Consumption**

Land Use	Size	Consumption Rate <sup>a</sup>	Total (cf/day)
Studio Uses	750,000 sf	0.067 cf/sf/day <sup>b</sup>	50,250
<b>Total</b>			<b>50,250</b>

*sf = square feet*  
<sup>a</sup> SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.  
<sup>b</sup> Utilizing the "Office" generation rate.  
Source (table): Christopher A. Joseph & Associates, July, 2008.

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<sup>66</sup> Southern California Gas Company, About Us, Company Profile, website: <http://www.socalgas.com/aboutus/profile.html>, July 22, 2008.

<sup>67</sup> The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.

<sup>68</sup> The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.

### ***Southwestern United States Gas Supplies***

Natural gas obtained from these sources, particularly the San Juan Basin in New Mexico, will provide the majority of gas sold by SCG. Supplies from the San Juan Basin peaked in 1999 and have been declining at an annual rate of -1.4 percent. However, the Permian Basin provides additional natural gas supplies. Natural gas supplies from both the San Juan Basin and the Permian Basin are delivered to the Southern California region through the El Paso Natural Gas Company and the Transwestern Pipeline Company pipelines.<sup>69</sup>

### ***Rocky Mountain Gas Supplies***

Natural gas obtained from the Rocky Mountains is considered to be a viable alternative to the traditional source of natural gas in the southwestern United States. Production of natural gas from the Rocky Mountain Region doubled from 2000 to 2007. These natural gas supplies are delivered to the Southern California region through the Kern River Gas Transmission Company's pipeline. However, access to Rocky Mountain gas is also available through pipeline interconnection with the San Juan Basin.<sup>70</sup>

### ***Canadian Gas Supplies***

Natural gas obtained from Canada and delivered to Southern California is expected to decline over the next several years as new pipeline capacity to the Midwest and Eastern United States is expected to divert natural gas supplies. An increase in supplies from the Permian Basin is anticipated to replace the diverted Canadian natural gas supplies.<sup>71</sup>

### ***Liquefied Natural Gas Supplies***

The Costa Azul LNG terminal in Baja California, Mexico, was completed in May 2008.<sup>72</sup> As such, SCG anticipates that future natural gas demand will be met by re-gasified LNG. Exact amounts available and the locations of future re-gasification terminals are not certain; however, significant amounts of re-gasified LNG are expected to be supplied to the Southern California region from the newly completed Costa Azul terminal.

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<sup>69</sup> *The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.*

<sup>70</sup> *The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.*

<sup>71</sup> *The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.*

<sup>72</sup> *The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.*

## **Natural Gas Distribution System**

### ***Interstate Distribution System***

Natural gas is supplied to the Southern California region through a system of interstate pipelines. Current capacities in the interstate pipeline system provide over 4,000 million cubic feet per day (MMcf/day) with approximately 3,230 MMcf/day of the existing capacity utilized for southern California customers' anticipated demand.<sup>73</sup> Thus, there is an excess capacity of approximately 770 MMcf/day in the interstate pipeline system.

### ***Local Distribution System***

The SCG provides natural gas resources to the City of Downey through existing gas mains located under the streets and public rights-of-way. SCG has approximately 48,000 miles of existing gas mains of which approximately 44,000 miles are dedicated to distribution and approximately 3,319 miles are dedicated to storage and transmission. Natural gas services are provided in accordance with SCG's policies and extension rules on file with the California Public Utilities Commission (PUC) at the time contractual agreements are made. Natural gas is delivered to the Project Site through natural gas facilities in the vicinity of the Project Site.

## **Energy Efficiency Programs**

SCG offers Energy Efficiency (EE) programs to provide incentives for customers and developer to reduce natural gas consumption.

### ***Advanced Home Program***

Under this program, SCG provides incentive funds to make upgrades on new single-family and both low-rise and high-rise multi-family construction. In order to benefit from this program, new home construction must comply with Title 24 of the California Code of Regulations and with one of the following measures: (1) HVAC system is properly sized, refrigerant and leak verified, and tested to be in compliance with air conditioner machine (ACM) protocols, (2) duct system and HVAC system is designed, sized, and verified to satisfy ACM protocols, (3) duct systems are field verified that leakage is less than six percent, (4) to ensure the overall quality of the insulation installation process and meet the California Energy Commission (CEC) protocols for installation and verification according to the ACM, and (5) installation of high efficiency tankless water heaters.<sup>74</sup>

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<sup>73</sup> *The California Gas and Electric Utilities, 2006 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2006\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2006_CGR.pdf), July 22, 2008.*

<sup>74</sup> *The Southern California Gas Company, Energy Efficiency, Advanced Home Program, website: <http://www.socalgas.com/construction/ahp/>, July 22, 2008.*

## Regulatory Framework

### *Title 24 of the California Code of Regulations*

Energy consumption by new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations. The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings provided these standards meet or exceed those provided in Title 24 guidelines.

## ENVIRONMENTAL IMPACTS

### Thresholds of Significance

#### *Appendix G of the State CEQA Guidelines*

The State of California CEQA Guidelines provide no specific thresholds for impacts associated with natural gas consumption.

### Project Impacts

The Proposed Project would involve demolition of existing studio uses and the construction of up to 3,950,000 square feet of residential, commercial, office, and public open space uses. Specifically, the Proposed Project would develop up to 675,000 square feet of office uses, 1,200,000 square feet of retail uses, 450 hotel rooms, and 1,700,000 square feet (approximately 1,500 units) of residential use to include live/work units, for-sale units, and for-rent units. The Proposed Project would also develop up to 125,000 square feet of open space, feature 850,000 square feet of parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site.

As shown in Table IV.M-14, the Proposed Project is estimated to consume approximately 428,850 cf of natural gas per day. This represents a net increase of approximately 378,600 cf of natural gas consumed per day over existing uses.

**Table IV.M-14**  
**Proposed Project Natural Gas Consumption**

Land Use	Size	Consumption Rate <sup>a</sup>	Total (cf/day)
Office	675,000 sf	0.067 cf/ sf/day	45,225
Retail	1,200,000 sf	0.1 cf/sf/day	120,000
Hotel	375,000 sf (450 rooms)	0.167 cf/sf/day	62,625
Residential	1,700,000 sf (approx. 1,500 units)	134 cf/unit/day	201,000

**Table IV.M-14  
Proposed Project Natural Gas Consumption**

<b>Land Use</b>	<b>Size</b>	<b>Consumption Rate<sup>a</sup></b>	<b>Total (cf/day)</b>
Open space	125,000 sf	N/A	N/A
Parking Facilities	850,000 sf	N/A	N/A
<b>Proposed Project Total</b>			<b>428,850</b>
<b>Existing Uses Total</b>			<b>50,250</b>
<b>Net Increase in Natural Gas Consumption</b>			<b>378,600</b>
<i>Notes: sf = square feet, cf = cubic feet</i>			
<sup>a</sup> SCAQMD, CEQA Air Quality Handbook, Table A9-12-A, 1993.			
<i>Source (table): Christopher A Joseph &amp; Associates, July, 2008.</i>			

### ***Natural Gas Supplies***

According to the 2008 California Gas Report, natural gas supplies from the southwestern United States (i.e., the San Juan Basin and the Permian Basin) are expected to meet southern California's gas demand.<sup>75</sup> Furthermore, Title 24 of the California Code of Regulations establishes energy conservation standards for new construction. These energy conservation standards address insulation, glazing, lighting, shading, and water and space heating systems. Per the requirements of the City of Downey, the applicant would be required to incorporate the energy conservation measures identified in Mitigation Measure M-1 through M-5, which exceed Title 24 standards by five percent (see section IV.M. Utilities, 4. Electricity), into the project design. With modern energy efficient construction materials and implementation of these mitigation measure, development of the Proposed Project would be consistent with the City's energy conservation standards also helping to reduce demand for natural gas. Therefore, impacts of the Proposed Project on natural gas supplies would be less than significant.

### ***Natural Gas Distribution System***

SCG operates in an environment where interstate pipeline capacity exists in excess of anticipated demand.<sup>76</sup> Therefore, there is adequate pipeline capacity to deliver natural gas to the City of Los Angeles. Further, SCG maintains natural gas facilities in the project vicinity.

The Southern California Gas Company undertakes expansion and/or modification of the natural gas infrastructure to serve future growth within its service area as part of the normal process of providing

<sup>75</sup> *The California Gas and Electric Utilities, 2008 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2008\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf), July 22, 2008.*

<sup>76</sup> *The California Gas and Electric Utilities, 2006 California Gas Report, website: [http://www.socalgas.com/regulatory/documents/cgr/2006\\_CGR.pdf](http://www.socalgas.com/regulatory/documents/cgr/2006_CGR.pdf), July 22, 2008.*

service. Connection to existing infrastructure would occur within the Project Site. As such, impacts of the Proposed Project on natural gas distribution infrastructure would be less than significant.

## CUMULATIVE IMPACTS

As shown in Table IV.M-15, Cumulative Natural Gas Consumption, the related projects associated with the Proposed Project would consume approximately 312,446 net cf of natural gas per day. The Proposed Project, in conjunction with the related projects, would cumulatively consume a total of approximately 691,046 cf of natural gas per day (see Table IV.M-15).

**Table IV.M-15**  
**Cumulative Natural Gas Consumption**

<b>Related Projects in the Cities of Santa Fe Springs, Commerce, Lynwood, Paramount, South Gate, Bellflower, Norwalk, Pico Rivera, and Bell Gardens</b>			
<b>Land Use</b>	<b>Size</b>	<b>Consumption Rate<sup>a</sup></b>	<b>Total Natural Gas Consumed (cf/day)</b>
Single Family Residential	636 du	222 cf/unit/day	141,192
Multi-Family Residential	166 du	134 cf/unit/day	22,244
Office	126,476 sf	0.067 cf/sf/day	8,474
Retail	1,267,859 sf	0.1 cf/sf/day	126,786
Industrial/Warehouse <sup>b</sup>	1,128,718 sf	N/A <sup>b</sup>	--
Restaurant <sup>c</sup>	13,160 sf	0.1 cf/sf/day	1,316
Elementary School	1,600 students	N/A <sup>b</sup>	--
High School	1,500 students	N/A <sup>b</sup>	--
<i>Subtotal</i>			<b>300,012</b>
<b>Related Projects in the City of Downey</b>			
Multi Family Residential	17 du	134 cf/unit/day	2,278
Office	68,918 sf	0.067 cf/sf/day	4,618
Retail	36,943 sf	0.1 cf/sf/day	3,694
Industrial/Warehouse <sup>b</sup>	200,000 sf	N/A <sup>b</sup>	--
Church <sup>d</sup>	27,528 sf	0.067 cf/sf/day	1,844
<i>Subtotal</i>			<b>12,434</b>
<b>Related Projects Total</b>			<b>312,446</b>
<b>Proposed Project Net Total</b>			<b>378,600</b>
<b>Cumulative Total</b>			<b>691,046</b>
<i>Note: du = dwelling units, sf = square feet, cf = cubic feet</i>			
<sup>a</sup> All consumption rates are from SCAQMD, CEQA Air Quality Handbook, Table A9-11-A, 1993.			
<sup>b</sup> No consumption rate available or no consumption rate available in the units provided.			
<sup>c</sup> Calculated utilizing the "Retail" generation rate.			
<sup>d</sup> Calculated utilizing the "Office" generation rate.			
Source (table): Christopher A. Joseph & Associates, October 2008.			

As discussed above, natural gas supplies from the southwestern United States (i.e., the San Juan Basin and the Permian Basin) are expected to meet Southern California's gas demand. Furthermore, Title 24 of the California Code of Regulations establishes energy conservation standards for new construction. These energy conservation standards address insulation, glazing, lighting, shading, and water and space

heating systems. With modern energy efficient construction materials, the Proposed Project and the related projects would be consistent with the City and State energy conservation standards also helping to reduce demand for natural gas. As such, cumulative impacts on natural gas resulting from development of the Proposed Project and the related projects would be less than significant.

### **MITIGATION MEASURES**

Impacts to natural gas service would be less than significant. No mitigation measures are required.

### **LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Impacts on natural gas supplies and infrastructure would be less than significant.

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## V. GENERAL IMPACT CATEGORIES

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### A. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the State CEQA Guidelines requires that an EIR describe any significant impacts which cannot be avoided. Specifically, Section 15126.2(b) states:

*Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.*

Based on the analysis contained in Section IV of this Draft EIR, implementation of the Proposed Project would result in significant unavoidable environmental impacts relative to: air quality and construction noise.

#### **Air Quality**

As shown in Table IV.C-11, the Proposed Project's impacts on local air quality resulting from construction activities would be potentially significant for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions. The Project's construction-related NO<sub>2</sub> emissions would exceed the SCAQMD's 0.18 ppm threshold of significance at all of the surrounding off-site receptors during all the construction activities, while the PM<sub>10</sub> and PM<sub>2.5</sub> emissions would exceed the SCAQMD's 10.4 µg/m<sup>3</sup> threshold of significance at some of the off-site receptors primarily during the grading and excavation activities. With implementation of Mitigation Measure C-3, which would require that all heavy-duty diesel-powered construction equipment used onsite to be retrofitted with either lean-NO<sub>x</sub> or diesel oxidation catalysts to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, and Mitigation Measure C-4, which would require that all heavy-duty diesel-powered equipment operating and refueling at the Project Site (excluding haul trucks) be equipped with diesel particulate filters to the extent that it is economically feasible and the equipment are readily available in the South Coast Air Basin, the overall pollutant concentrations of NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions would be reduced during Project construction. The reductions in NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> concentrations resulting from implementation of Mitigation Measures C-3 and C-4 are shown in Figure IV.C-16, Estimated Worst-Case Daily Construction Pollutant Concentrations for NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at Off-Site Receptors with Mitigation. As shown in Table IV.C-16, despite the reductions in NO<sub>2</sub> concentrations due to implementation of Mitigation Measure C-3, the NO<sub>2</sub> concentrations would still exceed the SCAQMD's threshold of 0.18 ppm at all of the off-site receptors. As such, the localized air quality impact associated with NO<sub>2</sub> concentrations at the off-site receptors would be significant and unavoidable.

With implementation of Mitigation Measure C-4, the PM<sub>10</sub> concentrations would be reduced at Off-Site Receptor Locations 7, 8, and 9 to levels below the SCAQMD's 10.4 µg/m<sup>3</sup> threshold for PM<sub>10</sub>, while the concentrations at Off-Site Receptor Locations 1 and 6 would remain above 10.4 µg/m<sup>3</sup>. As such, the localized air quality impact associated with PM<sub>10</sub> concentrations at these off-site receptors would be significant and unavoidable. However, in circumstances where implementation of Mitigation Measure C-

4 is determined to be infeasible (i.e., meaning that the cost of the equipment use is more than 20 percent greater than the cost of standard equipment and that the equipment has to be imported from another basin), then the localized air quality impact associated with PM<sub>10</sub> concentrations at Off-Site Receptor Locations 7, 8, and 9 would be significant and unavoidable.

In terms of PM<sub>2.5</sub>, implementation of Mitigation Measure C-4 would reduce the concentration at Off-Site Receptor Location 6, which was found to be significant prior to mitigation, to below the SCAQMD's 10.4 µg/m<sup>3</sup> threshold. As such, the localized air quality impact associated with PM<sub>2.5</sub> concentrations during Project construction would be less than significant. However, in circumstances where implementation of Mitigation Measure C-4 is determined to be infeasible (i.e., meaning that the cost of the equipment use is more than 20 percent greater than the cost of standard equipment and that the equipment has to be imported from another basin), then the localized air quality impact associated with PM<sub>2.5</sub> concentrations at Off-Site Receptor Location 6 would be significant and unavoidable.

The Proposed Project's impacts on regional air quality resulting from operational activities would be potentially significant for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> emissions. The exceedance of the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> would occur during both the summertime (smog season) and wintertime (non-smog season), and is primarily due to the net increase in motor vehicles traveling to and from the Project Site (i.e., the Proposed Project would generate a net increase of 32,118 vehicle trips to the Project Site). The net increase of 32,118 vehicle trips generated by the Proposed Project already includes adjustments to account for internal trips, transit trips, and pass-by trips that would result from the mixed-use nature of the Proposed Project as well as the existing public transportation available to serve the Project Site. Consequently, unless the 32,118 vehicle trips generated by the Proposed Project are reduced, the operational emissions would exceed the SCAQMD thresholds for ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub>. Currently there is no feasible mitigation available to further reduce the number of vehicles trips generated by the Proposed Project, and consequently the emissions associated with these trips. Thus, the regional air quality impact associated with ROG, NO<sub>x</sub>, CO, and PM<sub>2.5</sub> emissions generated during Project operation would be significant and unavoidable.

## Noise

Exterior noise levels at nearby noise-sensitive uses may exceed 85 dBA. It should be noted, however, that the increase in noise levels at the off-site locations during construction at the Project Site would be temporary in nature, and would not generate continuously high noise levels, although occasional single-event disturbances from grading and construction are possible. Implementation of Mitigation Measures I-1 through I-8, which would require the implementation of noise reduction devices and techniques during construction at the Project Site, would serve to reduce the noise levels associated with construction of the Proposed Project to the maximum extent feasible. Notwithstanding, construction of the Proposed Project would still have the potential to exceed the 85 dBA at the surrounding off-site sensitive receptors. Thus, as construction noise generated by the Proposed Project could exceed the maximum level set forth in Section 4606.5 of the DMC, construction-related noise impacts would be significant and unavoidable.

## **B. GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECTS**

Section 15126.2(d) of the State CEQA Guidelines requires a discussion of the ways in which a Proposed Project could induce growth. This includes ways in which a project would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) of the State CEQA Guidelines states:

*“Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”*

The Proposed Project would foster economic growth and revitalize a blighted and underutilized area in the City of Downey by adding residents and businesses to the Project Site. These residents could, in turn, patronize existing local businesses and services in the area while the addition of new businesses would provide new retail for the existing population. Additionally, as described under Section IV.J, Population, Housing, and Employment short-term and long-term employment opportunities would be provided during construction and operation of the Proposed Project.

The Proposed Project would increase the permanent population of the area by approximately 4,883 persons. This increased residential population would patronize local businesses and services in the area, which would foster economic growth. As shown in Section IV.J, the Proposed Project’s direct impacts on population, housing and employment would be less than significant. In addition, the Proposed Project would not induce growth in an area that is not already developed with infrastructure to accommodate such growth, including, among other things, extensive public transportation. Off-site utility infrastructure adjacent to the Project Site would adequately service the Proposed Project. Further, the Proposed Project, as an urban redevelopment, would be adequately served by existing public services such as fire, police, and public schools.

## **C. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

Section 15126.2(c) of the CEQA Guidelines states that the “uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely.” Section 15126.2(c) further states that “irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

The types and level of development associated with the Proposed Project would consume limited, slowly renewable, and non-renewable resources. This consumption would occur during construction of the Proposed Project and would continue throughout its operational lifetime. The development of the Proposed Project would require a commitment of resources that would include (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people to and from the Project Site.

Construction of the Proposed Project would require consumption of resources that are not replenishable or which may renew slowly as to be considered non-renewable. These resources would include certain types of lumber and other forest products, aggregate materials used in concrete and asphalt (e.g., sand, gravel and stone), metals (e.g., steel, copper and lead), petrochemical construction materials (e.g., plastics) and water. Fossil fuels, such as gasoline and oil, would also be consumed in the use of construction vehicles and equipment.

The commitment of resources required for the type and level of proposed development would limit the availability of these resources for future generations for other uses during the operation of the Proposed Project. However, this resource consumption would be consistent with growth and anticipated change in the Los Angeles region.

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## VI. ALTERNATIVES TO THE PROPOSED PROJECT

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The CEQA Guidelines require that EIRs include the identification and evaluation of a reasonable range of alternatives designed to reduce the significant environmental impacts of a project, while still meeting basic project objectives. The CEQA Guidelines also set forth the intent and extent of alternatives analysis to be provided in an EIR. Those considerations are discussed below.

### **Alternatives to the Proposed Project**

Section 15126.6 subdivision (a) of the CEQA Guidelines states: “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparable merits of the alternatives. While an EIR need not consider every conceivable alternative to a project, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

### **Purpose**

Section 15126.6 subdivision (b) of the CEQA Guidelines states: “Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment, the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly.”

### **Selection of a Reasonable Range of Alternatives**

Section 15126.6 subdivision (c) of the CEQA Guidelines states: “The range of potential alternatives to the Proposed Project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency’s determination. Additional information explaining the choice of the alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.”

### **Level of Detail**

The State CEQA Guidelines do not require the same level of detail in the alternatives analysis as in the analysis of the Proposed Project. Section 15126.6, subdivision (d) of the CEQA Guidelines states: “The

EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.”

### **Overview of Selected Alternatives**

The alternatives analyzed for the Proposed Project include:

Alternative A: No Project/No Development Alternative

Alternative B: No Project/Existing Specific Plan Build-out Alternative

Alternative C: Reduced Density Alternative

Alternative D: Reduced-Site Alternative

Alternative E: All-Commercial Alternative

These alternatives were included for analysis because of their potential to reduce the significant and unavoidable impacts of the Proposed Project related to air quality and construction noise.

### **Alternatives Rejected as Being Infeasible**

As described above, section 15126.6 subdivision (c) of the CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency’s determination. The development of an alternate site was considered and rejected as being an infeasible alternative for the Proposed Project. The project applicant does not currently own or control other potential sites for the Proposed Project in the City of Downey, nor can the project applicant reasonably acquire or otherwise have access to such alternative sites. Accordingly, no other sites afford the same level of development opportunity as the site identified for the Proposed Project.

### **Assumptions and Methodology**

The anticipated means for implementing the alternatives can influence the assessment and/or probability of impacts for those alternatives. For example, a project may have the potential to generate impacts, but considerations in project design may also afford the opportunity to avoid or reduce such impacts. The alternatives analysis is presented as a comparative analysis to the Proposed Project, and assumes that all applicable mitigation measures proposed for the project would apply to each alternative. Impacts associated with the alternatives are compared to project-related impacts and are classified as great, less, or essentially similar to (or comparable to) the level of impacts associated with the Proposed Project.

The following alternatives analysis compares the potential environmental impacts of the alternatives with those of the Proposed Project for each of the environmental topics analyzed in detail in Section IV (Environmental Impact Analysis) of the EIR.

### **Project Objectives**

The objectives of the Proposed Project, as set forth by the project applicant, are as follows:

- To create a new and unique regional destination for Downey.
- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- To facilitate development that is compatible with surrounding land uses.
- To achieve an environment reflecting a high level of concern for architecture, landscape, and urban design principles by developing a high quality, comprehensively-designed project.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.
- To provide unique new retail opportunities for Downey residents.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- To create new and good-paying jobs by facilitating development of modern office space.
- To positively impact the City of Downey's fiscal tax base.

### **ALTERNATIVE A - NO PROJECT/NO DEVELOPMENT ALTERNATIVE**

The No Project/No Development Alternative assumes the project does not proceed and that the Project Site remains in its current state. Under the No Project/No Development Alternative, the buildings and surface parking lots currently located on the Project Site would remain at their current levels of operation. Although no new development would occur on the Project Site under the No Project/No Development Alternative, this Alternative assumes the development of the related projects in the area of the Project Site.

### **Aesthetics**

Under the No Project/No Development Alternative, the Proposed Project would not be constructed. No development would occur on the Project Site. The existing, underutilized buildings located on the Project Site would remain in their current locations and surface parking lots on the remainder of the Project Site would remain in operation. Since no new development would occur on the Project Site, there would be no occurrence of the potentially beneficial effects of providing a consistently and coherently designed project to replace the existing view of an underutilized site.

### **Air Quality**

Under the No Project/No Development Alternative, the Proposed Project would not be constructed and existing buildings and surface parking lots would remain. No new construction activities would occur on the Project Site. Since no grading associated with new construction or construction activities would occur on the Project Site, no short-term air quality impacts typically associated with these activities would occur. No increase in the amount of vehicle traffic would be expected to occur and no long-term air quality impacts would be anticipated from the No Project/No Development Alternative. Therefore, air quality impacts associated with the No Project/No Development Alternative would be lower than the Proposed Project. The No Project/No Development Alternative also would avoid the short-term significant and unavoidable impacts of the Proposed Project with respect to NO<sub>x</sub>, VOC, and NO<sub>2</sub> emissions during the application of architectural coatings. The No Project/No Development Alternative therefore, would result in less than significant impacts with respect to local CO concentrations, SO<sub>x</sub>, and PM<sub>10</sub>.

### **Cultural Resources**

Under the No Project/No Development Alternative no new construction or physical modification of the Project Site would occur. The existing buildings located on the Project Site, and any historical features at the Project Site, would remain in their current locations and surface parking lots on the remainder of the Project Site would continue operation. Additionally, no ground disturbing work would occur, therefore, no potential for impacts to archaeological or paleontological resources would occur. Therefore, potential impacts to cultural resources under the No Project/No Development Alternative would be less than significant.

### **Geology and Soils**

Under the No Project/No Development Alternative, no new construction or demolition would occur. The Project Site is not at risk of impacts from liquefaction, slope instability, or subsidence. There are no known surface faults located on the Project Site, although the Project Site would still be susceptible to seismic ground shaking. Under the No Project/No Development Alternative, no buildings or structures would be constructed or demolished; therefore no additional people would be exposed to impacts associated with seismic ground shaking. The likelihood of flooding resulting from a seiche would be low

and impacts would be less than significant. However, the Project Site is located in a 500-year flood plain area as identified by FEMA.<sup>1</sup> The City (“City”) is currently in the process of upgrading its flood protection system for the portion of the City that includes the Project Site; with implementation of this upgraded system, the Project Site would be able to withstand a one-in-500-year flood event. No impacts from wind or water-borne erosion would occur under the No Project/No Development Alternative, as soil disturbance and construction would not occur. Therefore, impacts from geology and soils under the No Project/No Development Alternative would be less than significant.

### **Hazards and Hazardous Materials**

Under the No Project/No Development Alternative, no new construction, grading, or demolition would occur. The existing buildings located on the Project Site would remain in their current locations and surface parking lots on the remainder of the Project Site would continue operation. No sources of contamination would be brought onto the Project Site (e.g., no construction materials, maintenance supplies, etc.). The Project Site has been subject to soil and groundwater assessments. The existing buildings would remain on-site, therefore any asbestos containing materials or lead based paint present in those buildings would remain undisturbed. As such, impacts to hazards and hazardous materials from the No Project/No Development Alternative would be less than significant.

### **Hydrology and Water Quality**

Under the No Project/No Development Alternative, no new construction, grading, or demolition would occur on the Project Site. The existing buildings located on the Project Site would remain in their current locations and surface parking lots on the remainder of the Project Site would continue operation. The Project Site would remain in a mostly impervious state. The Project Site is not at risk of impacts from seiche, tsunami, or mudflows that could adversely impact the groundwater supply. Stormwater would continue to run off the Project Site to the surrounding streets. Currently, the existing parking lots have the potential to build up residual oil from parked cars, which can lead to water contamination. The potentially beneficial impacts of the Proposed Project with respect to stormwater runoff quality that would result from implementation of Best Management Practices, as required under the Los Angeles County Standard Stormwater Mitigation Plan, would not occur under this alternative. Therefore, water quality impacts under the No Project/No Development Alternative would be greater than those identified under the Proposed Project.

As no new construction would occur under the No Project/No Development Alternative, the potential to encounter groundwater during excavation activities of the Proposed Project would not exist. The Project Site is an important area of groundwater recharge. Nonetheless, impacts to groundwater under the No Project/No Development Alternative would be less than significant.

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<sup>1</sup> Federal Emergency Management Agency, National Flood Insurance Program, website: <http://www.fema.gov/plan/prevent/fhm/index.shtm>, accessed June 18, 2008.

The Project Site is located within an identified 500-year flood plain area as identified by FEMA. However, the City is currently in the process of upgrading its flood protection system for the portion of the City that contains the Project Site; with implementation of this upgraded system, the Project Site would be able to withstand a one-in-500-year flood event. Additionally, the Project Site has no proximity to other waterways, major dams, or upgradient bodies of water. Therefore, under the No Project/No Development Alternative, the potential impact associated with flooding due to the failure of a levee or dam would not result in, or expose people or property to, significant impacts related to flooding and would be the same as that associated with the Proposed Project.

### **Land Use and Planning**

Under the No Project/No Development Alternative, no development would occur and the Project Site would remain in its present condition. The Project Site would retain its current General Plan designations and zoning classifications. The existing on-site uses would be compatible with the existing land uses in the Project Site vicinity and would be consistent with the local and regional plans and policies. Therefore, impacts from the No Project/No Development Alternative would be less than significant.

### **Noise**

Under the No Project/No Development Alternative, no new construction, grading, or demolition would occur on the Project Site and existing buildings and surface parking lots would remain in their current condition. Since no grading and construction activities would occur under the No Project/No Development Alternative, no short-term construction noise impacts would occur. The No Project/No Development Alternative would avoid the significant and unavoidable impacts of the Proposed Project related to construction. Since the Project Site would not be developed, no operational noise impacts are anticipated as a result of increased vehicle traffic. Therefore, the impacts to operational noise from the No Project/No Development Alternative would be less than significant.

### **Population, Housing, and Employment**

Under the No Project/No Development Alternative, the Proposed Project would not be constructed. The existing buildings located on the Project Site would remain in their current locations and surface parking lots on the remainder of the Project Site would continue operation. No new permanent population, housing, or employment would be added to the City. Therefore, the No Project/No Development Alternative would be consistent with the adopted Southern California Association of Governments' growth forecasts for the project area and the City. Impacts to population, housing, and employment therefore would be less than significant.

### **Public Services**

#### ***Fire Protection***

Under the No Project/No Development Alternative, the Proposed Project would not be constructed. The existing buildings located on the Project Site would remain in their current locations and surface parking

lots on the remainder of the Project Site would continue operation. The level and intensity of fire protection services required under the No Project/No Development Alternative would not change from existing conditions. Therefore, impacts to fire protection services under the No Project/No Development Alternative would be less than significant.

### ***Police Protection***

Under the No Project/No Development Alternative, the Proposed Project would not be constructed and existing buildings and surface parking lots would remain. The level and intensity of police protection services required under the No Project/No Development Alternative would not change from existing conditions. Therefore, impacts to police protection services under the No Project/No Development Alternative would be less than significant.

### ***Schools***

Under the No Project/No Development Alternative, the Proposed Project would not be constructed and existing buildings and surface parking lots would remain. No new student generation would occur under the No Project/No Development Alternative, compared to 911 students that would be generated under the Proposed Project. Therefore, impacts to schools under the No Project/No Development Alternative would be less than significant.

### ***Recreation and Parks***

Under the No Project/No Development Alternative, the Proposed Project would not be constructed and existing buildings and surface parking lots would remain. No new permanent population would be generated and no additional demand would occur on recreation and park facilities in the City. Therefore, impacts to recreation and parks under the No Project/No Development Alternative would be less than significant.

### ***Libraries***

Under the No Project/No Development Alternative, the Proposed Project would not be constructed and existing buildings and surface parking lots would remain. No new permanent population and no additional demand on library facilities in the City would occur. Therefore, impacts to libraries under the No Project/No Development Alternative would be less than significant.

### ***Traffic/Transportation/Parking***

Under the No Project/No Development Alternative, no new development would occur. Therefore, no new traffic trips would be generated. Under the No Project/No Development Alternative, existing uses on the Project Site are anticipated to continue and no additional traffic would be generated. As discussed in Section IV.L, Traffic/Transportation/Parking, future traffic without the Proposed Project is anticipated to increase. Traffic impacts associated with the No Project/No Development Alternative would be less than those associated with the Proposed Project. However, the No Project/No Development Alternative would

not avoid increased congestion and declines in level of services that are projected to occur on the street system during the AM and PM peak hours without the Proposed Project due to future growth in the area. Nonetheless, impacts from the No Project/No Development Alternative with respect to traffic/transportation/parking would be less than significant.

## **Utilities**

### ***Wastewater***

Under the No Project/No Development Alternative, no new development would occur and no additional wastewater service would be generated. Therefore, wastewater service impacts from the No Project/No Development Alternative would be less than significant.

### ***Water***

Under the No Project/No Development Alternative, no new development would occur and no additional water demand would be generated. Therefore, water service impacts from the No Project/No Development Alternative would be less than significant.

### ***Solid Waste***

Under the No Project/No Development Alternative, no new development would occur. As such, no construction activity would occur and no additional solid waste would be generated. Therefore, solid waste disposal impacts from the No Project/No Development Alternative would be less than significant.

### ***Electricity***

Under the No Project/No Development Alternative, no new development would occur and no additional electricity demand would be generated. Therefore, electricity impacts from the No Project/No Development Alternative would be less than significant.

### ***Natural Gas***

Under the No Project/No Development Alternative, no new development would occur and no additional natural gas demand would be generated. Therefore, natural gas impacts from the No Project/No Development Alternative would be less than significant.

## **Relationship to Project Objectives**

The No Project/No Development Alternative would avoid most of the environmental impacts associated with the Proposed Project. However, the No Project/No Development Alternative would not satisfy any of the project objectives. Specifically, the No Project/No Development Alternative would not meet the following objectives:

- To create a new and unique regional destination for Downey.

- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- To facilitate development that is compatible with surrounding land uses.
- To achieve an environment reflecting a high level of concern for architecture, landscape, and urban design principles by developing a high quality, comprehensively-designed project.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.
- To provide unique new retail opportunities for Downey residents.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- To create new and good-paying jobs by facilitating development of modern office space.
- To positively impact the City of Downey's fiscal tax base.

## **B. NO PROJECT/EXISTING SPECIFIC PLAN BUILD-OUT**

Under the No Project/Existing Specific Plan Build-out Alternative, the proposed Tierra Luna Specific Plan area is assumed to be built out in accordance with the existing Downey Landing Specific Plan, specifically in accordance with Option 2 identified in that Specific Plan. Pursuant to State CEQA Guidelines section 15126.6, subdivision (e)(2):

*“The ‘no project’ analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the Proposed Project were not approved, based on current plans, and consistent with available infrastructure and community services.”*

Under the existing Downey Landing Specific Plan, Option 2, the proposed Tierra Luna Specific Plan area corresponds to Planning Areas IIA, IIB, IIC, and IID and totals 83 acres, compared to 79 acres for the

Proposed Project.<sup>2</sup> As shown in Table VI-1, the existing Specific Plan would permit development in this area of up to 1,345,500 square feet of technology and business park uses (including media and studio uses), and up to 243,000 square feet of industrial uses. Unlike the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would not include retail, residential, or hotel uses. The combination of uses, when contrasted with the Proposed Project, represents an overall reduction of approximately 2,361,500 square feet (or 60 percent) of development.<sup>3</sup> All other land use regulations and mitigation measures established by the Downey Landing Specific Plan and its associated Mitigation Monitoring and Reporting Program would continue to apply to the Project Site under this alternative.

**Table VI-1**

**Comparison of the No Project/Existing Specific Plan Build-out Alternative to the Proposed Project**

<b>Land Use</b>	<b>Size</b>
<b>Proposed Project</b>	
Office	675,000 sf
Retail	1,200,000 sf
Hotel	450 rooms
Residential	1,700,000 sf (approx. 1,500 units)
<b>Proposed Project Total</b>	<b>3,950,000</b>
<b>No Project/Existing Specific Plan Build-out Alternative</b>	
Technology and Business Parks	1,345,000 sf
Industrial	243,000 sf
<b>Alternative Total</b>	<b>1,588,500 sf</b>
<i>Proposed Project Total</i>	<i>3,950,000 sf</i>
<b>Overall Net Reduction Compared to Proposed Project</b>	<b>2,361,500 sf</b>

### **Aesthetics**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be a 60 percent reduction in on-site development, including no development of retail, hotel, or residential uses, when compared to the Proposed Project. The entire Project Site would be developed, similar to the Proposed Project; however, as there would be a 60 percent reduction in on-site construction, the building heights would be lower in comparison to the Proposed Project. Similar to the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would provide transitional height between the Downey Landing Retail Center located to the north, residential uses and Kaiser Permanente, industrial, commercial, and

<sup>2</sup> *Environmental Impact Report for Downey Landing Specific Plan, City of Downey, February, 2002, Figure 2-2a and 2-2b.*

<sup>3</sup> *Environmental Impact Report for Downey Landing Specific Plan, City of Downey, February, 2002, Table 2-2.*

medical facilities to the east, a Kaiser Permanente Hospital, Kaiser Permanente medical office building, and future Medical Center located to the south, and residential neighborhoods located to the west. Viewshed impacts of the No Project/Existing Specific Plan Build-out Alternative would be less than the Proposed Project due to reduced building heights. Therefore, visual character impacts of the No Project/Existing Specific Plan Build-out Alternative would be less than significant. Signage regulations under this Alternative would allow similar signage as located elsewhere within the Downey Landing Specific Plan area. This would include signs similar to those that would be permitted under the Proposed Project, including media tower signs. Impacts of signage under this Alternative would be less than significant, same as the Proposed Project. Security and safety lighting included within the No Project/Existing Specific Plan Build-out Alternative would be similar to the Proposed Project. The potentially beneficial impact of removing existing sources of glare associated with surface parking lots would occur under this alternative. As a result, lighting and glare impacts of the No Project/Existing Specific Plan Build-out Alternative would be less than significant. Shade and shadow impacts of the No Project/Existing Specific Plan Build-out Alternative would also be lower than the Proposed Project due to reduced building heights, and would be less than significant, the same as the Proposed Project.

### **Air Quality**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be a 60 percent reduction in on-site development, including no development of retail, hotel or residential uses, when compared to the Proposed Project. Similar to the Proposed Project, site excavation and grading would result in  $\text{NO}_x$  and ROG levels exceeding SCAQMD thresholds, since a similar amount of land (83 acres under the No Project/Existing Specific Plan Build-out Alternative and 79 acres under the Proposed Project) would be disturbed to prepare the site, construct buildings, and install landscaping. As such, daily emissions associated with the site grading and excavation phase of the No Project/Existing Specific Plan Build-out Alternative would be similar to the Proposed Project and significant and unavoidable. Under the No Project/Existing Specific Plan Build-out Alternative, total construction activity would be less than the Proposed Project and total construction emissions over the build-out of the Project Site would be less than the Proposed Project. However, within each construction phase, similar levels of construction activity could occur as compared to the Proposed Project. Therefore, daily emissions levels would be similar to the Proposed Project and would be significant and unavoidable for  $\text{NO}_x$  and ROG emissions. In addition, impacts of the Alternative, similar to the Proposed Project, on local air quality resulting from construction activities would be significant and unavoidable for  $\text{NO}_2$  and  $\text{PM}_{10}$  at certain sensitive receptor locations.

The total number of daily vehicle trips under the No Project/Existing Specific Plan Build-out Alternative would be lower because of the reduced size of this alternative compared to the Proposed Project and the exclusion of retail, hotel, and residential uses, which generate higher trip rates. This decrease in vehicle trips would reduce daily regional emissions generated by vehicles utilizing the Project Site. However, since the Proposed Project operational emissions exceed the SCAQMD thresholds for VOC,  $\text{NO}_x$ , and CO

by substantial margins<sup>4</sup>, the approximately 62 percent reduction in daily trips under the No Project/Existing Specific Plan Build-out Alternative (see Table VI-2) would not be sufficient to reduce emission levels below SCAQMD significance thresholds. Therefore, even though regional operational emissions would be lower under this alternative, regional emissions under both the No Project/Existing Specific Plan Build-out Alternative and the Proposed Project would be significant and unavoidable. Also, since the No Project/Existing Specific Plan Build-out represents a smaller scale project than the Proposed Project, the reduction in vehicle trips would result in a reduced volume of greenhouse gases. In addition, because this alternative would not include residential uses, it would result in lower demand on energy and water supplies, which would decrease overall greenhouse gas emissions. Due to the lack of residential uses within the Alternative, however, the potential benefits from development of a mixed-use community, which offers the opportunity for further reductions in vehicle trips and associated greenhouse gas emissions that would occur under the Proposed Project, would not occur under the Alternative. Overall, the greenhouse gas impacts of this alternative would be less than significant, same as the Proposed Project.

### **Cultural Resources**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. There are no buildings of historical significance adjacent to the Project Site; accordingly, the No Project/Existing Specific Plan Build-out Alternative would not impact the historical integrity of any adjacent buildings. The No Project/Existing Specific Plan Build-out Alternative would demolish the same on-site buildings, leaving in place the same historic features on the Project Site as with the Proposed Project. The No Project/Existing Specific Plan Build-out Alternative would be required to be compliant with the Memorandum of Agreement, identified in Section IV.D. Cultural Resources, with respect to buildings that may be demolished and those that would be retained, which would reduce impacts to on-site historic resources to a less than significant level. Similar to the Proposed Project, under the No Project/Existing Specific Plan Build-out Alternative, ground disturbing work would occur which could potentially impact archaeological and/or paleontological resources. Therefore, under the No Project/Existing Specific Plan Build-out Alternative, potential impacts to cultural resources would be less than significant, same as the Proposed Project.

### **Geology and Soils**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The Project Site is not at risk for impacts from liquefaction, slope instability, or subsidence. There are no known surface faults located on the Project Site. However, the

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<sup>4</sup> As shown in Table IV.C-12, regional emissions from the Proposed Project exceed the SCAQMD thresholds by between 76 percent ( $PM_{2.5}$ ) and 380 percent (VOC).

Project Site would still be susceptible to seismic ground shaking. Similar to the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would be constructed in accordance with the City's Building Code and any applicable State and local laws and regulations. The No Project/Existing Specific Plan Build-out Alternative would have the same impacts as the Proposed Project with respect to wind- and water-borne erosion since both would result in the same area of soil disturbance. Therefore, under the No Project/Existing Specific Plan Build-out Alternative, impacts associated with the exposure of individuals to seismic ground shaking hazards and erosion would be less than significant, same as the Proposed Project.

### **Hazards and Hazardous Materials**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. Because the residential uses included in the Proposed Project would not be developed, the No Project/Existing Specific Plan Build-out Alternative would not require additional approvals from the Regional Water Quality Control Board regarding subsurface conditions (including soil vapor) that would allow sensitive residential uses to be constructed on that portion of the Project Site, including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. In addition, the No Project/Existing Specific Plan Build-out Alternative would not include a mixed-use project containing residential units and would thus not be subject to approval by current property owners within the former NASA Industrial Property site. Impacts of this alternative would be less than significant in this regard, same as the Proposed Project.

As with the Proposed Project, existing buildings (except those historical resources preserved in place pursuant to the Memorandum of Agreement) would be demolished; this could result in the release of asbestos-containing materials and lead-based paint into the environment if demolition activities are not conducted in accordance with all applicable rules and regulations, which would be the same as for the Proposed Project. Therefore, like the Proposed Project, impacts associated with asbestos-containing materials and lead-based paint would be less than significant with adherence to existing rules and regulations governing the removal and disposal of asbestos-containing materials and lead-based paint.

Similar to the Proposed Project, prior to the construction of the No Project/Existing Specific Plan Build-out Alternative, any unknown underground storage tanks (USTs) that may not have been identified or specified in the hazardous materials investigations would be removed. The Downey Fire Department (DFD) would be consulted prior to the removal of USTs to ensure that nearby sensitive receptors would not be adversely affected during the removal process and that any contaminated soil would be properly handled and disposed of. In addition, due to the age and nature of some of the uses on-site, it is possible that Polychlorinated biphenyls (PCB)-containing fixtures may be present on the Project Site. Appropriate mitigation measures are required and would be followed to ensure the safe removal of PCBs. Therefore, hazards and hazardous materials impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

## **Hydrology and Water Quality**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. Similar to the Proposed Project, under the No Project/Existing Specific Plan Build-out Alternative, excavation and grading would occur which would expose the site soils to impacts from wind or water-borne erosion during construction. The amount of impervious surfaces after construction would be less than under the Proposed Project. Existing sources of water contamination on surface parking lots (e.g., oil from parked cars, etc.) would be removed under this alternative. Potentially beneficial impacts of the Proposed Project with respect to storm water runoff quality that would result from implementation of Best Management Practices, as required under the Los Angeles County Standard Stormwater Mitigation Plan, would still occur under this alternative. Therefore, water quality impacts under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the potential to encounter groundwater during excavation activities of the No Project/Existing Specific Plan Build-out Alternative exists. Similar to the Proposed Project, this alternative does not include deep excavations that would intercept underground aquifers. Impacts to groundwater under this Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, stormwater runoff from the No Project/Existing Specific Plan Build-out Alternative would be directed towards and discharged into the existing public storm drain system. Therefore, stormwater runoff impacts under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

The Project Site is located within an identified 500-year flood plain area as identified by FEMA. However, the portion of the City that includes the Project Site is currently in the process of upgrading its flood protection system; with implementation of this upgraded system, the Project Site would be able to withstand a one-in-500-year flood event. Additionally, the Project Site has no proximity to other waterways, major dams, or upgradient bodies of water. Similar to the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative involves the construction of commercial, business park, office, retail, and other uses on-site, thereby increasing the number of people in the inundation area. However, the No Project/Existing Specific Plan Build-out Alternative would result in fewer people on-site at one time as the density is reduced by 60 percent. Therefore, like the Proposed Project, the potential impact associated with flooding under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, the same as the Proposed Project.

## **Land Use and Planning**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The No Project/Existing Specific Plan Build-out Alternative would be consistent and compatible with the surrounding land uses, as well as regional plans and policies, related to

concentration of development in urban areas served by transit. Since it would not include the residential component of the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would not be fully consistent with the intent of the Mixed Use land use designation of the General Plan that applies to the Project Site. The Mixed Use designation is intended to promote livable communities concepts that allow added flexibility in addressing land use needs and focus on areas where livable community's concepts are most likely to encourage similar projects through the City. Since the Project Site is included in one of only three such mixed use areas identified in the City, this alternative would reduce the potential opportunities for implementation of this concept within the City.

In addition, even though the No Project/Existing Specific Plan Build-out Alternative would have reduced trip generation compared to the Proposed Project (see Table VI-2, below), this reduction is due to the reduced size of this alternative compared to the Proposed Project. The Proposed Project has a greater potential than this alternative to reduce the levels of trips generated by its component parts because of the synergy between residential and commercial uses that allows multiple destinations to be accessed by one automobile trip. By removing the residential component, the No Project/Existing Specific Plan Build-out Alternative would be less able to achieve trip reductions and reduction in criteria pollutants and greenhouse gas emissions as a result of this effect compared to the Proposed Project, even though the levels of total emissions would be lower because of the reduced size of the Alternative. Moreover, the No Project/Existing Specific Plan Build-out Alternative would not require the additional approvals from the Regional Water Quality Control Board regarding subsurface conditions (including soil vapor) that would allow sensitive residential uses to be constructed on that portion of the Project Site, potentially including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. The No Project/Existing Specific Plan Build-out Alternative would not require other land use entitlements as it would work within the framework of the existing Specific Plan. Similar to the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would be generally consistent with applicable land use regulations and plans, and impacts would be less than significant, same as the Proposed Project.

### **Noise**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. During construction, noise levels would be the same as the Proposed Project because the same type of construction activities and equipment usage would be taking place. Construction noise impacts of the No Project/Existing Specific Plan Build-out Alternative would be significant and unavoidable due to the proximity of sensitive receptors to the Project Site, same as the Proposed Project. However, the duration of these activities would be shorter due to the smaller buildings being constructed.

Due to the reduction in daily trips, traffic noise would be reduced. Noise impacts associated with the operation of the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

## Population, Housing, and Employment

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The Proposed Project would result in a net increase of approximately 5,262 jobs on-site. The No Project/Existing Specific Plan Build-out Alternative would result in a net increase of approximately 7,023 jobs on-site,<sup>5</sup> which is 1,761 more jobs than under the Proposed Project.<sup>6</sup> However, employment growth associated with both this alternative and the Proposed Project would be within SCAG forecasts for the City of Downey.

The Proposed Project would result in an increase of approximately 4,883 permanent residents on-site.<sup>7</sup> Under the No Project/Existing Specific Plan Build-out Alternative no residential uses are proposed. Therefore, permanent population generation would be lower than the Proposed Project. As no residential units currently exist on-site, the No Project/Existing Specific Plan Build-out Alternative would not result in the displacement of substantial numbers of people. Impacts of this alternative related to population growth and population displacement therefore would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the No Project/Existing Specific Plan Build-out Alternative would not induce unanticipated growth in the City. Therefore, population, housing and employment impacts associated with the operation of the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

## Public Services

### *Fire Protection*

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. On-site population would be reduced compared to the Proposed Project, as there would be no retail, residential, or hotel uses. Furthermore, the type and frequency of required fire protection services is based on the uses included in the project, which would exclude residential and hotel

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<sup>5</sup> Calculated using the same employment generation factors as were used for the Proposed Project.

<sup>6</sup> [(45 existing employees) – (7,068 Existing Specific Plan Build-out Alternative employees generated)] = (7,023 net employees generated by the Existing Specific Plan Build-out Alternative) less [(5,262 Proposed Project net total of employees generated)] = [(1,761 Existing Specific Plan Build-out Alternative net total of employees generated)].

<sup>7</sup> Based on an average of 3.255 persons per household, State of California, Department of Finance, E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2001–2008, with 2000 Benchmark, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e5\\_2001-2006/documents/E-5\\_2008](http://www.dof.ca.gov/research/demographic/reports/estimates/e5_2001-2006/documents/E-5_2008).

uses. Therefore, impacts to fire protection services under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

Furthermore, the No Project/Existing Specific Plan Build-out Alternative project traffic is expected to significantly impact several study intersections. As noted below under Traffic/Transportation, this alternative would have significant and unavoidable impacts at two intersections where mitigation measures were not identified in the Downey Landing Specific Plan EIR. However, emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens or driving in the lanes of opposing traffic. Therefore, even under conditions of increased traffic congestion, impacts from the No Project/Existing Specific Plan Build-out Alternative related to emergency response time would be less than significant, same as the Proposed Project.

### ***Police Protection***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. On-site population would be reduced compared to the Proposed Project. Because of reduced on-site population, the type and frequency of police protection services required to serve the Project Site would be reduced compared to the Proposed Project. Furthermore, as police units are most often in a mobile state, it is therefore unknown precisely which route the Downey Police Department would use to access the Project Site when responding to an emergency call. However, any police unit accessing the Project Site from the surrounding area would have to pass through at least one of the study intersections. As noted below under Traffic/Transportation, this alternative would have significant and unavoidable impacts at two intersections where mitigation measures were not identified in the Downey Landing Specific Plan EIR. However, emergency vehicles normally have a variety of options for avoiding traffic, such as using sirens or driving in the lanes of opposing traffic. Therefore, even under conditions of increased traffic congestion under the No Project/Existing Specific Plan Build-out Alternative, impacts to police protection services would be less than significant, same as the Proposed Project.

### ***Schools***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. As the No Project/Existing Specific Plan Build-out Alternative does not include residential uses, which create an increase in permanent population, student generation would be less than the Proposed Project. Furthermore, with a 60 percent decrease in overall development, school facility fees paid by the project would also be less under the No Project/Existing Specific Plan Build-out Alternative. As noted in Section IV.K., however, payment of school fees is deemed to provide full and complete mitigation of impacts to school facilities (Gov. Code, § 65996). Therefore, school impacts under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### **Recreation and Parks**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. As the No Project/Existing Specific Plan Build-out Alternative does not include residential uses, permanent population associated with the No Project/Existing Specific Plan Build-out Alternative would be lower than the Proposed Project and demand on park facilities in the City would be correspondingly lower than the Proposed Project. Therefore, impacts to parks and recreation facilities under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### **Libraries**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. As the No Project/Existing Specific Plan Build-out Alternative does not include residential uses, demand on library facilities in the City would also be less than that estimated for the Proposed Project. Impacts to libraries under the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### **Traffic/Transportation/Parking**

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. Table VI-2 compares trips generated under this alternative to those generated by the Proposed Project.

**Table VI-2**  
**Alternative Analysis – Summary and Comparison of Trip Generation Estimates**  
**Alternative B – No Project/Existing Specific Plan Build-out**

Scenario	Daily Total	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Alternative B – No Project/Existing Specific Plan Build-out <sup>a</sup>	12,096	1,492	284	1,776	275	1,303	1,578
Difference from Proposed Project	(20,022)	440	(378)	62	(1,088)	(432)	(1,520)
% Difference	-62%	42%	-57%	4%	-80%	-25%	-49%
<sup>a</sup> Trip generation estimates obtained from Environmental Impacts Report for Downey Landing Specific Plan, City of Downey, February 2002, Table 3.9-5. Source: Raju Associates, Inc., November 2008.							

As shown in Table VI-2, the No Project/Existing Specific Plan Build-out Alternative would generate a net total of 12,096 daily trips, representing 62 percent fewer trips than the Proposed Project. During the AM

Peak Hour, this alternative would generate 1,776 trips, four percent more trips than under the Proposed Project, and 1,578 PM Peak Hour trips, 49 percent fewer trips than under the Proposed Project.

Table VI-3 summarizes the AM and PM peak hour traffic impacts of the No Project/Existing Specific Plan Build-out Alternative compared to those of the Proposed Project. As shown, this alternative would result in traffic impacts at two of the study intersections during the AM Peak Hour, Nos. 24 (Bellflower Boulevard/Imperial Highway) and 38 (Lakewood Boulevard/Gallatin Road), and three of the study intersections during the PM Peak Hour, Nos. 24, 38, and 77 (I-605 Southbound Ramps/Firestone Boulevard). The Proposed Project would result in traffic impacts at two and four of the study intersections during the AM and PM Peak Hours, respectively. Under the No Project/Existing Specific Plan Build-out Alternative, mitigation measures identified in the Downey Landing Specific Plan EIR would be implemented at the Bellflower Boulevard/Imperial Highway intersection. The Downey Landing Specific Plan EIR did not identify mitigation measures at the other two intersections that would be impacted under the Alternative. Therefore, impacts related to intersection LOS under the No Project/Existing Specific Plan Build-out Alternative would be significant and unavoidable at these two intersections, whereas the Proposed Project impacts would be less than significant at all study intersections.

With respect to parking, the No Project/Existing Specific Plan Build-out Alternative and the Proposed Project would provide parking supply sufficient to meet City requirements. Impacts of the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

## **Utilities**

### ***Wastewater***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. As a result, the No Project/Existing Specific Plan Build-out Alternative would generate less wastewater than the Proposed Project. Wastewater impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### ***Water***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. As a result, the No Project/Existing Specific Plan Build-out Alternative would increase water demand to a lesser degree than the Proposed Project. Similar to the Proposed Project, however, this alternative will require acquisition of additional Allowed Pumping Allocation (APA) that would be obtained through purchase or lease of APA from other water rights holders within

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Downey</b>								
23	Ardis Avenue & Imperial Highway	AM	0.528	A	0.551	A	0.023	No
		PM	0.535	A	0.581	A	0.046	No
33	Bellflower Boulevard & I-105 Eastbound Ramps	AM	0.658	B	0.712	C	0.054	No
		PM	0.711	C	0.773	C	0.062	No
32	Bellflower Boulevard & I-105 Westbound Ramps	AM	0.699	B	0.758	C	0.059	No
		PM	0.675	B	0.717	C	0.042	No
34	Bellflower Boulevard & Foster Road	AM	0.756	C	0.767	C	0.011	No
		PM	0.659	B	0.675	B	0.016	No
24	Bellflower & Imperial Highway	AM	1.173	F	1.258	F	0.085	Yes
		PM	1.224	F	1.293	F	0.069	Yes
25	Bellflower Boulevard & Congressman Steve Horn Way	AM	0.447	A	0.515	A	0.068	No
		PM	0.656	B	0.620	B	-0.036	No
27	Bellflower Boulevard & Stewart and Gray Road	AM	0.725	C	0.862	D	0.137	No
		PM	0.717	C	0.786	C	0.069	No
26	Bellflower Boulevard & Washburn Road	AM	0.527	A	0.657	B	0.130	No
		PM	0.455	A	0.609	B	0.154	No
73	Brookshire Avenue & Firestone Boulevard	AM	0.616	B	0.627	B	0.011	No
		PM	0.802	D	0.818	D	0.016	No
72	Brookshire Avenue & Florence Avenue	AM	0.655	B	0.659	B	0.004	No
		PM	0.778	C	0.780	C	0.002	No
74	Brookshire Avenue & Imperial Highway	AM	0.761	C	0.767	C	0.006	No
		PM	0.750	C	0.757	C	0.007	No

**Table VI-3**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out**  
**Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
31	Clark Avenue & Foster Road	AM	0.691	B	0.700	B	0.009	No
		PM	0.533	A	0.551	A	0.018	No
22	Clark Avenue & Imperial Highway	AM	0.671	B	0.706	C	0.035	No
		PM	0.583	A	0.616	B	0.033	No
53	Downey Avenue & Alameda Street	AM	0.417	A	0.422	A	0.005	No
		PM	0.454	A	0.461	A	0.007	No
51	Downey Avenue & Firestone Boulevard	AM	0.584	A	0.608	B	0.024	No
		PM	0.798	C	0.811	D	0.013	No
50	Downey Avenue & Florence Avenue	AM	0.675	B	0.676	B	0.001	No
		PM	0.682	B	0.683	B	0.001	No
55	Downey Avenue & Gardendale Street	AM	0.516	A	0.516	A	0.000	No
		PM	0.555	A	0.555	A	0.000	No
54	Downey Avenue & Imperial Highway	AM	0.721	C	0.728	C	0.007	No
		PM	0.608	B	0.616	B	0.008	No
52	Downey Avenue & Stewart and Gray Road	AM	0.584	A	0.564	A	0.010	No
		PM	0.735	C	0.753	C	0.018	No
103	Erickson Avenue & Imperial Highway Eastbound Ramps <sup>c</sup>	AM	8.9 sec	A	8.9 sec	A	-	No
		PM	8.3 sec	A	8.3 sec	A	-	No
		AM	0.286	-	0.286	-	0.000	
		PM	0.256	-	0.256	-	0.000	

**Table VI-3**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out**  
**Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
102	Erickson Avenue & Imperial Highway Westbound Ramps <sup>c</sup>	AM	10.1 sec	A	10.1 sec	B	-	No
		PM	8.6 sec	A	8.6 sec	A	-	No
		AM	0.308	-	0.308	-	0.000	
		PM	0.241	-	0.241	-	0.000	
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	AM	0.391	A	0.418	A	0.027	No
		PM	0.545	A	0.576	A	0.031	No
40	Lakewood Boulevard & 5 <sup>th</sup> Street	AM	0.840	D	0.870	D	0.030	No
		PM	0.918	E	0.957	E	0.039	No
19	Lakewood Boulevard & Alameda Street	AM	0.382	A	0.422	A	0.040	No
		PM	0.548	A	0.606	B	0.058	No
16	Lakewood Boulevard & Bellflower Boulevard	AM	0.553	A	0.590	A	0.037	No
		PM	0.557	A	0.601	B	0.044	No
104	Lakewood Boulevard & Cherokee Drive	AM	0.519	A	0.545	A	0.026	No
		PM	0.642	B	0.665	B	0.023	No
20	Lakewood Boulevard & Clark Avenue	AM	0.421	A	0.469	A	0.048	No
		PM	0.480	A	0.520	A	0.040	No
75	Lakewood Boulevard & Clela Street	AM	0.469	A	0.511	A	0.042	No
		PM	0.431	A	0.460	A	0.029	No
76	Lakewood Boulevard & Donovan Street	AM	0.604	B	0.656	B	0.052	No
		PM	0.476	A	0.507	A	0.031	No
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	AM	0.813	D	0.873	D	0.060	No
		PM	0.837	D	0.901	E	0.064	No

**Table VI-3**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out**  
**Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
39	Lakewood Boulevard & Florence Avenue	AM	0.872	D	0.898	D	0.026	No
		PM	0.936	E	0.962	E	0.026	No
38	Lakewood Boulevard & Gallatin Road	AM	1.090	F	1.111	F	0.021	Yes
		PM	1.077	F	1.101	F	0.024	Yes
29	Lakewood Boulevard & Gardendale Street	AM	0.907	E	0.919	E	0.012	No
		PM	0.926	E	0.944	E	0.018	No
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	AM	0.685	B	0.749	C	0.064	No
		PM	0.832	D	0.866	D	0.034	No
37	Lakewood Boulevard & I-5 Southbound Ramps	AM	0.689	B	0.751	C	0.062	No
		PM	0.716	C	0.764	C	0.048	No
21	Lakewood Boulevard & Imperial Highway	AM	0.663	B	0.732	C	0.69	No
		PM	0.792	C	0.836	D	0.044	No
18	Lakewood Boulevard & Landing Center Driveway	AM	0.414	A	0.450	A	0.036	No
		PM	0.610	B	0.672	B	0.062	No
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	AM	0.799	C	0.820	D	0.021	No
		PM	0.879	D	0.894	D	0.015	No
17	Lakewood Boulevard & Stewart and Gray Road	AM	0.777	C	0.846	D	0.069	No
		PM	0.885	D	0.947	E	0.062	No
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	AM	0.726	C	0.746	C	0.020	No
		PM	0.916	E	0.940	E	0.024	No
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	AM	0.795	C	0.802	D	0.007	No
		PM	0.950	E	0.954	E	0.004	No

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
69	Old River School Road & Firestone Boulevard & Burns Avenue	AM	0.713	C	0.718	C	0.005	No
		PM	0.954	E	0.961	E	0.007	No
71	Old River School Road & Imperial Highway	AM	0.772	C	0.775	C	0.003	No
		PM	0.767	C	0.771	C	0.004	No
70	Old River School Road & Stewart and Gray Road	AM	0.739	C	0.742	C	0.003	No
		PM	0.739	C	0.741	C	0.002	No
68	Old River School Road/Tecum Road & Florence Avenue	AM	0.855	D	0.857	D	0.002	No
		PM	0.982	E	0.983	E	0.001	No
62	Paramount Boulevard & Alameda Street	AM	0.649	B	0.654	B	0.005	No
		PM	0.691	B	0.700	B	0.009	No
60	Paramount Boulevard & Firestone Boulevard	AM	0.875	D	0.884	D	0.009	No
		PM	0.996	E	1.006	F	0.010	No
59	Paramount Boulevard & Florence Avenue	AM	0.931	E	0.937	E	0.006	No
		PM	1.067	F	1.072	F	0.005	No
64	Paramount Boulevard & Gardendale Street	AM	0.663	B	0.665	B	0.002	No
		PM	0.761	C	0.763	C	0.002	No
57	Paramount Boulevard & I-5 Northbound Ramps	AM	0.758	C	0.758	C	0.000	No
		PM	1.035	F	1.040	F	0.005	No
58	Paramount Boulevard & I-5 Southbound Ramps <sup>b</sup>	AM	**	F	**	F	-	No
		PM	**	F	**	F	-	No
		AM	0.890	-	0.892	-	0.002	
		PM	1.093	-	1.098	-	0.005	

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
63	Paramount Boulevard & Imperial Highway	AM	0.813	D	0.817	D	0.004	No
		PM	0.953	E	0.961	E	0.008	No
61	Paramount Boulevard & Stewart and Gray Road	AM	0.840	D	0.851	D	0.011	No
		PM	0.928	E	0.932	E	0.004	No
56	Paramount Boulevard & Telegraph Road	AM	0.835	D	0.843	D	0.008	No
		PM	0.853	D	0.860	D	0.007	No
65	Rives Avenue & Firestone Boulevard	AM	0.678	B	0.686	B	0.008	No
		PM	0.738	C	0.743	C	0.005	No
67	Rives Avenue & Imperial Highway <sup>b</sup>	AM	14.9 sec	B	15.1 sec	C	-	No
		PM	14.5 sec	B	15.0 sec	B	-	No
		AM	0.490	-	0.494	-	0.004	
		PM	0.507	-	0.515	-	0.008	
66	Rives Avenue & Stewart and Gray Road	AM	0.572	A	0.574	A	0.002	No
		PM	0.682	B	0.688	B	0.006	No
35	Rosemead Boulevard & Telegraph Road <sup>a</sup>	AM	1.039	F	1.047	F	0.008	No
		PM	1.215	F	1.222	F	0.007	No
47	Stewart and Ray Road & Firestone Boulevard	AM	0.609	B	0.641	B	0.032	No
		PM	0.846	D	0.884	D	0.038	No
49	Studebaker Road & Florence Avenue	AM	0.850	D	0.854	D	0.004	No
		PM	0.841	D	0.843	D	0.002	No
42	Woodruff Avenue & Firestone Boulevard (E)	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
46	Woodruff Avenue & Foster Road	AM	0.501	A	0.505	A	0.004	No
		PM	0.552	A	0.559	A	0.007	No
45	Woodruff Avenue & Imperial Highway	AM	0.721	C	0.741	C	0.020	No
		PM	0.797	C	0.810	D	0.013	No
43	Woodruff Avenue & Stewart and Gray Road	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
44	Woodruff Avenue and Washburn Road	AM	0.457	A	0.457	A	0.000	No
		PM	0.496	A	0.496	A	0.000	No
<b>City of Bellflower</b>								
10	Bellflower Boulevard & Alondra Boulevard	AM	0.633	B	0.635	B	0.002	No
		PM	0.800	C	0.801	D	0.001	No
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	AM	0.880	D	0.881	D	0.001	No
		PM	0.861	D	0.861	D	0.000	No
9	Bellflower Boulevard & Compton Boulevard	AM	0.756	C	0.758	C	0.002	No
		PM	0.823	D	0.826	D	0.003	No
8	Bellflower Boulevard & Rosecrans Avenue	AM	0.765	C	0.770	C	0.005	No
		PM	0.815	D	0.818	D	0.003	No
11	Bellflower Boulevard & SR-91 Westbound Off-Ramp	AM	0.791	C	0.792	C	0.001	No
		PM	1.003	F	1.003	F	0.000	No
5	Clark Avenue & Alondra Boulevard	AM	0.646	B	0.652	B	0.006	No
		PM	0.813	D	0.818	D	0.005	No
4	Clark Avenue & Compton Boulevard	AM	0.654	B	0.664	B	0.010	No
		PM	0.707	C	0.714	C	0.007	No

**Table VI-3**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out**  
**Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	AM	0.591	A	0.592	A	0.001	No
		PM	0.646	B	0.648	B	0.002	No
3	Clark Avenue & Rosecrans Avenue	AM	0.570	A	0.580	A	0.010	No
		PM	0.644	B	0.653	B	0.009	No
6	Clark Avenue & SR-91 Westbound Off-Ramp	AM	0.487	A	0.488	A	0.001	No
		PM	0.627	B	0.629	B	0.002	No
90	Lakewood Boulevard & Alondra Boulevard	AM	0.728	C	0.731	C	0.003	No
		PM	1.031	F	1.036	F	0.005	No
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	AM	0.903	E	0.916	E	0.013	No
		PM	0.939	E	0.946	E	0.007	No
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	AM	0.641	B	0.643	B	0.002	No
		PM	0.821	D	0.823	D	0.002	No
2	Lakewood Boulevard & SR-91 Eastbound Ramps	AM	0.640	B	0.642	B	0.002	No
		PM	0.727	C	0.728	C	0.001	No
15	Woodruff Avenue & Alondra Boulevard	AM	0.760	C	0.763	C	0.003	No
		PM	0.971	E	0.975	E	0.004	No
14	Woodruff Avenue & Compton Boulevard	AM	0.592	A	0.599	A	0.007	No
		PM	0.626	B	0.631	B	0.005	No
13	Woodruff Avenue & Rosecrans Avenue	AM	0.835	D	0.843	D	0.008	No
		PM	0.856	D	0.866	D	0.010	No

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Norwalk</b>								
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	AM	0.757	C	0.772	C	0.015	No
		PM	0.799	C	0.814	D	0.015	No
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	AM	0.754	C	0.761	C	0.007	No
		PM	0.820	D	0.824	D	0.004	No
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	AM	0.756	C	0.757	C	0.001	No
		PM	0.881	D	0.883	D	0.002	No
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	AM	0.910	E	0.938	E	0.028	No
		PM	0.907	E	0.921	E	0.014	No
80	Hoxie Avenue & Imperial Highway	AM	0.770	C	0.775	C	0.005	No
		PM	0.969	E	0.977	E	0.008	No
82	I-605 Northbound Off-Ramp/I-105 Westbound On-Ramp & Rosecrans Avenue	AM	0.713	C	0.717	C	0.004	No
		PM	0.892	D	0.895	D	0.003	No
77	I-605 Southbound Ramps & Firestone Boulevard	AM	0.838	D	0.882	D	0.044	No
		PM	0.970	E	1.004	F	0.034	Yes
88	Pioneer Boulevard & Imperial Highway	AM	1.026	F	1.044	F	0.018	No
		PM	0.925	E	0.932	E	0.007	No
83	Studebaker Road & Firestone Boulevard	AM	0.809	D	0.831	D	0.022	No
		PM	0.875	D	0.886	D	0.011	No
84	Studebaker Road & Imperial Highway	AM	0.861	D	0.870	D	0.009	No
		PM	0.817	D	0.824	D	0.007	No
86	Studebaker Road & Rosecrans Avenue	AM	0.836	D	0.838	D	0.002	No
		PM	0.967	E	0.970	E	0.003	No

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	AM	0.874	D	0.875	D	0.001	No
		PM	0.834	D	0.836	D	0.002	No
<b>City of Paramount</b>								
93	Downey Avenue & Alondra Boulevard	AM	0.912	E	0.915	E	0.003	No
		PM	0.814	D	0.817	D	0.003	No
91	Downey Avenue & Rosecrans Avenue	AM	0.995	E	1.000	E	0.005	No
		PM	1.071	F	1.074	F	0.003	No
92	Downey Avenue & Somerset Boulevard	AM	0.783	C	0.784	C	0.001	No
		PM	0.785	C	0.787	C	0.002	No
94	Paramount Boulevard & Rosecrans Avenue	AM	0.776	C	0.777	C	0.001	No
		PM	0.860	D	0.862	D	0.002	No
95	Paramount Boulevard & Somerset Boulevard	AM	0.888	D	0.888	D	0.000	No
		PM	0.911	E	0.911	E	0.000	No
<b>City of South Gate</b>								
98	Garfield Avenue & Firestone Boulevard	AM	0.941	E	0.947	E	0.006	No
		PM	1.244	F	1.250	F	0.006	No
99	Garfield Avenue & Imperial Highway	AM	0.688	B	0.691	B	0.003	No
		PM	0.719	C	0.723	C	0.004	No
100	I-710 Northbound Off-Ramp & Firestone Boulevard	AM	0.818	D	0.823	D	0.005	No
		PM	0.999	E	1.006	F	0.007	No
101	I-710 Southbound Off-Ramp & Firestone Boulevard	AM	0.850	D	0.857	D	0.007	No
		PM	1.085	F	1.092	F	0.007	No

**Table VI-3  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative B: No Project/Existing Specific Plan Build-out  
Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
96	Paramount Boulevard & Somerset Ranch Road North	AM	0.875	D	0.875	D	0.000	No
		PM	0.891	D	0.891	D	0.000	No
97	Paramount Boulevard & Somerset Ranch Road South	AM	0.736	C	0.736	C	0.000	No
		PM	0.827	D	0.828	D	0.001	No
<p>*** Intersection delay cannot be calculated.</p> <p><sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location.</p> <p><sup>b</sup> Unsignalized intersections - stop-controlled on all approach.</p> <p><sup>c</sup> Unsignalized intersections - stop-controlled on minor approach(es).</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, December 2008.</p>								

the Central Basin. Furthermore, with the acquisition of such water rights there is sufficient water supply to support the development of the Proposed Project, therefore, there would also be sufficient water supply to meet the demand of the Alternative. Water service impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### ***Solid Waste***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The No Project/Existing Specific Plan Build-out Alternative would generate less solid waste for disposal in County landfills than the Proposed Project and the No Project/Existing Specific Plan Build-out Alternative would generate less construction debris for disposal than the Proposed Project. Solid waste disposal impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### ***Electricity***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The No Project/Existing Specific Plan Build-out Alternative would consume less electricity than the Proposed Project. Electrical service impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### ***Natural Gas***

Under the No Project/Existing Specific Plan Build-out Alternative, there would be approximately 60 percent less development on-site when compared to the Proposed Project, including no development of retail, hotel, or residential uses. The No Project/Existing Specific Plan Build-out Alternative would consume less natural gas than the Proposed Project. Natural gas service impacts associated with the No Project/Existing Specific Plan Build-out Alternative would be less than significant, same as the Proposed Project.

### **Relationship to Project Objectives**

The No Project/Existing Specific Plan Build-out Alternative would not avoid the significant and unavoidable environmental impacts associated with the Proposed Project, but would have reduced significant and unavoidable impacts compared to the Proposed Project with respect to regional operational air emissions because of its reduced scale. The No Project/Existing Specific Plan Buildout would have greater impacts than the Proposed Project with respect to traffic and transportation impacts. The No Project/Existing Specific Plan Build-out Alternative would not satisfy many of the project objectives. Specifically, the No Project/Existing Specific Plan Build-out Alternative would not meet the following objectives:

- To create a new and unique regional destination for Downey.
- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.
- To provide unique new retail opportunities for Downey residents.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- Expand the supply of housing and housing types.

### **C. REDUCED DENSITY ALTERNATIVE**

Under the Reduced Density Alternative, the Project Site build-out would be similar to the Proposed Project and would occur over the same area as the Proposed Project. However, the development size would be reduced by approximately 25 percent for a total of 2,962,500 square feet of development. Of the reduced development size, a total of 1,125 residential units totaling 1,275,000 square feet would be developed. Office space would be reduced to 506,250 square feet. Similarly, retail space would be reduced by 25 percent to 900,000 square feet. The Reduced Density Alternative would include 281,250 square feet of hotel use. Open space would be reduced by 20 percent to 93,750 square feet. Building heights would also be reduced by 25 percent under this Alternative. Parking would continue to be located in parking facilities between several multi-level parking structures, on-street parking, and surface parking lots throughout the Project Site and a total of 637,500 square feet would be provided. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

#### **Aesthetics**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, and hotel uses would be constructed, and the building heights would be reduced compared to the Proposed Project. Similar to the Proposed Project, under this alternative, the potentially beneficial effects of providing a consistently and coherently designed project to replace the existing view of an underutilized site would occur. Also similar to the Proposed Project, the Reduced Density Alternative would provide transitional height between the Downey Landing Retail Center located to the north, residential uses and Kaiser Permanente, industrial, commercial, and medical facilities to the east, a Kaiser Permanente Hospital, Kaiser

Permanente medical office building, and future Medical Center located to the south, and residential neighborhoods located to the west. In addition, viewshed impacts of the Reduced Density Alternative would be less than the Proposed Project due to reduced building heights. Visual character impacts of the Reduced Density Alternative would be less than significant, same as the Proposed Project. Security and safety lighting included within the Reduced Density Alternative would be similar to the Proposed Project. Signage regulations under this Alternative would reduce signage (i.e., number of signs) compared to the Proposed Project, but would permit signs similar to those that would be permitted under the Proposed Project, including media tower signs. Impacts of signage under this Alternative would be less than significant, same as the Proposed Project. The potentially beneficial impact of removing existing sources of glare associated with surface parking lots would occur under this alternative. As a result, lighting and glare impacts of the Reduced Density Alternative would be less than significant, same as the Proposed Project. Shade and shadow impacts of the Reduced Density Alternative would also be lower than the Proposed Project due to reduced building heights, and would be less than significant, the same as the Proposed Project.

### **Air Quality**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. Similar to the Proposed Project, site excavation and grading would result in  $\text{NO}_x$  and ROG levels exceeding SCAQMD thresholds, since the same amount of land would be disturbed to prepare the site, construct buildings, and install landscaping. As such, daily emissions associated with the site grading and excavation phase of the Reduced Density Alternative would be similar to the Proposed Project and significant and unavoidable. Under the Reduced Density Alternative, total construction activity would be less than the Proposed Project and total construction emissions over the build-out of the Project Site would be less than the Proposed Project. However, within each construction phase, similar levels of construction activity would be expected to occur as compared to the Proposed Project. Therefore, daily emissions levels would be similar to the Proposed Project and would be significant and unavoidable for  $\text{NO}_x$  and ROG emissions. In addition, impacts of the Alternative, similar to the Proposed Project, on local air quality resulting from construction activities would be significant and unavoidable for  $\text{NO}_2$  and  $\text{PM}_{10}$  at certain sensitive receptor locations.

The total number of daily vehicle trips under the Reduced Density Alternative would be lower because of the reduced size of the Reduced Density Alternative compared to the Proposed Project. This decrease in vehicle trips would reduce the daily regional emissions generated by vehicles utilizing the Project Site. However, since the Proposed Project operational emissions exceed the SCAQMD thresholds for ROG  $\text{NO}_x$ , and CO, by substantial margins<sup>8</sup>, the approximately 20 percent reduction in daily trips under the Reduced Density Alternative (see Table VI-4, below) would not be sufficient to reduce emission levels below SCAQMD significance thresholds. Therefore, even though regional operational emissions would

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<sup>8</sup> As shown in Table IV.C-12, regional emissions from the Proposed Project exceed the SCAQMD thresholds by between 76 percent ( $\text{PM}_{2.5}$ ) and 380 percent (VOC).

be lower under this alternative, regional emissions under both the Reduced Density Alternative and the Proposed Project would be significant and unavoidable. Also, since the Reduced Density Alternative represents a smaller scale project than the Proposed Project, the reduction in vehicle trips would result in a reduced volume of greenhouse gases. In addition, because of the reduced size of the Reduced Density Alternative, this alternative would result in a lower demand on energy and water supplies, which would decrease overall greenhouse gas emissions. This Alternative would provide a mixed-use community that would offer the same opportunity for further reductions in vehicle trips and associated greenhouse gas emissions as would occur under the Proposed Project. Overall, the greenhouse gas impacts of this alternative would be less than significant, same as the Proposed Project.

### **Cultural Resources**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. There are no buildings of historical significance adjacent to the Project Site, thus the Reduced Density Alternative would not impact the historical integrity of any adjacent buildings. The Reduced Density Alternative would demolish the same number of on-site buildings and preserve in place the same historic buildings on the Project Site as would the Proposed Project. The Reduced Density Alternative would be required to be compliant with the Memorandum of Agreement with respect to buildings that may be demolished and those that would be retained, which would reduce impacts to on-site historic resources to a less than significant level. Under the Reduced Density Alternative, ground-disturbing work would occur which could potentially impact archaeological and/or paleontological resources. Therefore, under the Reduced Density Alternative, potential impacts to cultural resources would be less than significant, same as the Proposed Project.

### **Geology and Soils**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. The Project Site is not at risk for impacts from liquefaction, slope instability, or subsidence. There are no known surface faults located on the Project Site; however, the Project Site would still be susceptible to seismic ground shaking. Similar to the Proposed Project, the Reduced Density Alternative would be constructed in accordance with the City's Building Code and any applicable State and local laws and regulations. The Reduced Density Alternative would have the same impacts as the Proposed Project with respect to wind- and water-borne erosion since both would result in the same area of soil disturbance. Therefore, under the Reduced Density Alternative, impacts associated with the exposure of individuals to seismic ground shaking hazards and erosion would be less than significant, same as the Proposed Project.

### **Hazards and Hazardous Materials**

Under the Reduced Density Alternative, 25 percent fewer residential, commercial, retail, hotel, and other uses would be constructed compared to the Proposed Project. Under the Reduced Density Alternative, the residential uses included in the Proposed Project would be developed and, thus, additional approvals would be required from the Regional Water Quality Control Board regarding subsurface conditions

(including soil vapor) that would allow sensitive residential uses to be constructed on portions of the Project Site affected by subsurface contamination, potentially including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. In addition, the Reduced Density Alternative would include a mixed-use project containing residential units that would be subject to approval by current property owners within the former NASA Industrial Property site. Since the implementation of sensitive uses under the Alternative would be subject to the same controls as the Proposed Project, impacts of this alternative in this regard would be less than significant, same as the Proposed Project.

As with the Proposed Project, existing buildings (except those historical resources preserved in place pursuant to the Memorandum of Agreement) would be demolished; this could result in the release of these asbestos-containing materials and lead-based paint into the environment if demolition activities are not conducted in accordance with all applicable rules and regulations, which would be the same as for the Proposed Project. Therefore, impacts associated with asbestos-containing materials and lead-based paint would be less than significant with adherence to existing rules and regulations governing the removal and disposal of asbestos-containing materials and lead-based paint, same as the Proposed Project.

Similar to the Proposed Project, prior to the construction of the Reduced Density Alternative, any unknown USTs that may not have been identified or specified in the hazardous materials investigations would be removed. The DFD would be consulted prior to the removal of USTs to ensure that nearby sensitive receptors would not be adversely affected during the removal process and that any contaminated soil would be properly handled and disposed of. In addition, due to the age and nature of some of the uses on-site, it is possible that PCB-containing fixtures may be present on the Project Site. Appropriate mitigation measures are required to ensure the safe removal of PCBs. Therefore, hazards and hazardous materials impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### **Hydrology and Water Quality**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, and other uses would be constructed compared to the Proposed Project. Similar to the Proposed Project, under the Reduced Density Alternative, excavation and grading would occur which would expose the site soils to impacts from wind or water-borne erosion during construction. The amount of impervious surfaces after construction would be less than under the Proposed Project. Existing sources of water contamination on surface parking lots (e.g., oil from parked cars, etc.) would be removed under this alternative. Potentially beneficial impacts of the Proposed Project with respect to storm water runoff quality that would result from implementation of Best Management Practices, as required under the Los Angeles County Standard Stormwater Mitigation Plan, would still occur under this alternative. Therefore, water quality impacts under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the potential to encounter groundwater during excavation activities of the Reduced Density Alternative exists. Similar to the Proposed Project, this alternative does not include

deep excavations that would intercept underground aquifers. Impacts to groundwater would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, stormwater runoff from the Reduced Density Alternative would be directed towards and discharged into the existing public storm drain system. Therefore, stormwater runoff impacts under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

The Project Site is located within an identified 500-year flood plain area as identified by FEMA. However, the portion of the City that includes the Project Site is currently in the process of upgrading its flood protection system; with implementation of this upgraded system, the Project Site would be able to withstand a one in 500-year flood event. Additionally, the Project Site has no proximity to other waterways, major dams, or upgradient bodies of water. Similar to the Proposed Project, the Reduced Density Alternative involves the construction of residential, office, retail, hotel, and other uses on-site, thereby increasing the number of people in the inundation area. However, the Reduced Density Alternative would result in fewer people on-site at one time as the density is reduced by 25 percent. Therefore, the potential impact associated with flooding under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### **Land Use and Planning**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. The Reduced Density Alternative would be consistent and compatible with the surrounding land uses, as well as local and regional plans and policies. The Reduced Density Alternative would be consistent with and would work to implement regional and local plans and policies, including the General Plan Mixed-Use land use designation of the Project Site. The Reduced Density Alternative would require other land use entitlements which would be the same as the Proposed Project. The Reduced Density Alternative would not pose any substantial incompatibilities with land use regulations and plans, and impacts would be less than significant, same as the Proposed Project.

### **Noise**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. During construction, noise levels would be the same as the Proposed Project because the same type of activities and equipment usage would be taking place. Construction noise impacts of the Reduced Density Alternative would be significant and unavoidable due to the proximity of sensitive receptors to the Project Site. However, the duration of these activities would be shorter due to the smaller buildings being constructed.

Due to the reduction in daily trips, traffic noise would be reduced. Noise impacts associated with the operation of the Reduced Density Alternative would be less than significant, same as the Proposed Project.

## Population, Housing, and Employment

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. The Proposed Project would result in a net increase of approximately 5,262 jobs on-site. The Reduced Density Alternative would result in a net increase of approximately 3,935 jobs on-site,<sup>9</sup> which is 1,327 fewer jobs than under the Proposed Project.<sup>10</sup> Employment growth associated with both the Proposed Project and this alternative would be within SCAG employment forecasts for the City of Downey. The Proposed Project would result in an increase of approximately 4,883 permanent residents on-site.<sup>11</sup> Under the Reduced Density Alternative approximately 3,906 residents would reside on-site,<sup>12</sup> which represents a decrease of 977 residents compared to the Proposed Project. Residents and housing units generated under the Proposed Project and the Reduced Density Alternative would be within the Citywide population and housing projections. As no residential units currently exist on-site, neither the Proposed Project nor the alternative would result in the displacement of substantial numbers of people. Impacts of this alternative related to population growth and population displacement therefore would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the Reduced Density Alternative would not induce unanticipated growth in the City. Therefore, population, housing, and employment impacts associated with the operation of the Reduced Density Alternative would be less than significant, same as the Proposed Project.

## Public Services

### *Fire Protection*

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. On-site daytime, evening, and permanent population would be reduced compared to the Proposed Project. However, while the size of the development would be reduced, the type and frequency of required fire protection services is based on the

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<sup>9</sup> Calculated using the same employment generation factors as were used for the Proposed Project.

<sup>10</sup>  $[(45 \text{ existing employees}) - (3,980 \text{ Reduced Density Alternative employees generated})] = (3,935 \text{ net employees generated by the Reduced Density Alternative}) \text{ less } [(5,262 \text{ Proposed Project net total of employees generated})] = [(1,327 \text{ Reduced Density Alternative net total of employees generated})]$ .

<sup>11</sup> Based on an average of 3.255 persons per household, State of California, Department of Finance, E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2001–2008, with 2000 Benchmark, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e5\\_2001-2006/documents/E-5\\_2008](http://www.dof.ca.gov/research/demographic/reports/estimates/e5_2001-2006/documents/E-5_2008).

<sup>12</sup> Based on an average of 3.255 persons per household, State of California, Department of Finance, E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2001–2008, with 2000 Benchmark, at [http://www.dof.ca.gov/research/demographic/reports/estimates/e5\\_2001-2006/documents/E-5\\_2008](http://www.dof.ca.gov/research/demographic/reports/estimates/e5_2001-2006/documents/E-5_2008).

uses included in the project and would be the same as the Proposed Project. Therefore, impacts to fire protection services under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

Furthermore, the Reduced Density Alternative project traffic is expected to significantly impact several study intersections. However, with the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L. Traffic/Transportation/Parking) impacts at these intersections would be reduced to a less than significant level. Therefore, impacts from the Reduced Density Alternative related to emergency response time would be less than significant, same as the Proposed Project.

### ***Police Protection***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed compared to the Proposed Project. On-site daytime, evening, and permanent population would be reduced compared to the Proposed Project. Because of reduced on-site population, the type and frequency of police protection services required to serve the Project Site would be reduced compared to the Proposed Project. Furthermore, as police units are most often in a mobile state, it is therefore unknown precisely which route the Downey Police Department would use to access the Project Site when responding to an emergency call. Any police unit accessing the Project Site from the surrounding area would have to pass through at least one of the study intersections. However, the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L, Traffic/Transportation/Parking) would reduce impacts at these intersections to a less than significant level. Therefore, under the Reduced Density Alternative, impacts to police protection services would be less than significant, same as the Proposed Project.

### ***Schools***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, and other uses would be constructed compared to the Proposed Project. Student generation would be less than the Proposed Project. Furthermore, with a 25 percent decrease in overall development, school facility fees paid by the project would also be less under the Reduced Density Alternative. As noted in Section IV.K., however, payment of school fees is deemed to provide full and complete mitigation of impacts to school facilities (Gov. Code, § 65996). Therefore, school impacts under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Recreation and Parks***

Under the Reduced Density Alternative, 25 percent fewer hotel, residential, retail, and other uses would be constructed compared to the Proposed Project. Therefore, permanent population associated with the Reduced Density Alternative would be lower than the Proposed Project and demand on park facilities in the City would be correspondingly lower than the Proposed Project. Park fees would also be lower than the Proposed Project, based on the reduction in the number of residential units. Impacts to parks and recreation facilities under the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Libraries***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, and other uses would be constructed as compared to the Proposed Project. Since permanent population associated with the Reduced Density Alternative would be less than that associated with the Proposed Project development, demand on library facilities in the City would also be less than that estimated for the Proposed Project. Impacts to libraries under the Reduced Density Alternative therefore would be less than significant, same as the Proposed Project.

### **Traffic/Transportation/Parking**

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, and other uses would be constructed as compared to the Proposed Project. Table VI-4 compares trips generated under this alternative to those generated by the Proposed Project.

**Table VI-4  
Alternative Analysis – Summary and Comparison of Trip Generation Estimates  
Alternative C – Reduced Density Alternative**

Scenario	Daily Total	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Alternative C – Reduced Density Alternative	25,836	859	546	1,405	1,107	1,385	2,492
Difference from Proposed Project	(6,282)	(193)	(116)	(309)	(256)	(350)	(606)
% Difference	-20%	-18%	-18%	-18%	-19%	-20%	-20%

*Source: Raju Associates, Inc., November 2008.*  
*Source (table): Christopher A. Joseph & Associates December 2008.*

As shown in Table VI-4, the Reduced Density Alternative would generate a net total of 25,836 daily trips, representing 20 percent fewer trips than would be generated by the Proposed Project.<sup>13</sup> This alternative would generate 1,405 trips during the AM Peak Hour, 18 percent fewer than the Proposed Project, and 2,492 trips during the PM Peak Hour, 20 percent fewer than the Proposed Project (see table VI-4, above).

Table VI-5 summarizes the AM and PM peak hour traffic impacts of the Reduced Density Alternative compared to those of the Proposed Project. As shown, this alternative would result in traffic impacts at

<sup>13</sup> *Formulas for calculating daily and peak hour trips that would be associated with the uses included in the Proposed Project and this alternative are logarithmic, rather than linear, such that there is not a direct correlation between the reduction in the size of the development under the alternative (25 percent) and resultant reduction in trips (20 percent).*

**Table VI-5**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Downey</b>								
23	Ardis Avenue & Imperial Highway	AM	0.528	A	0.546	A	0.018	No
		PM	0.535	A	0.607	B	0.072	No
33	Bellflower Boulevard & I-105 Eastbound Ramps	AM	0.658	B	0.701	C	0.043	No
		PM	0.711	C	0.808	D	0.097	No
32	Bellflower Boulevard & I-105 Westbound Ramps	AM	0.699	B	0.746	C	0.047	No
		PM	0.675	B	0.742	C	0.67	No
34	Bellflower Boulevard & Foster Road	AM	0.756	C	0.765	C	0.009	No
		PM	0.659	B	0.685	B	0.026	No
24	Bellflower & Imperial Highway	AM	1.173	F	1.240	F	0.067	Yes
		PM	1.224	F	1.333	F	0.109	Yes
25	Bellflower Boulevard & Congressman Steve Horn Way	AM	0.447	A	0.501	A	0.054	No
		PM	0.656	B	0.600	A	-0.056	No
27	Bellflower Boulevard & Stewart and Gray Road	AM	0.725	C	0.833	D	0.108	No
		PM	0.717	C	0.826	D	0.109	No
26	Bellflower Boulevard & Washburn Road	AM	0.527	A	0.629	B	0.102	No
		PM	0.455	A	0.698	B	0.243	No
73	Brookshire Avenue & Firestone Boulevard	AM	0.616	B	0.625	B	0.009	No
		PM	0.802	D	0.827	D	0.025	No
72	Brookshire Avenue & Florence Avenue	AM	0.655	B	0.658	B	0.003	No
		PM	0.778	C	0.781	C	0.003	No
74	Brookshire Avenue & Imperial Highway	AM	0.761	C	0.766	C	0.005	No
		PM	0.750	C	0.761	C	0.011	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
31	Clark Avenue & Foster Road	AM	0.691	B	0.700	B	0.009	No
		PM	0.533	A	0.551	A	0.018	No
22	Clark Avenue & Imperial Highway	AM	0.671	B	0.699	B	0.028	No
		PM	0.583	A	0.635	B	0.052	No
53	Downey Avenue & Alameda Street	AM	0.417	A	0.421	A	0.004	No
		PM	0.454	A	0.464	A	0.010	No
51	Downey Avenue & Firestone Boulevard	AM	0.584	A	0.603	B	0.019	No
		PM	0.798	C	0.818	D	0.020	No
50	Downey Avenue & Florence Avenue	AM	0.675	B	0.676	B	0.001	No
		PM	0.682	B	0.684	B	0.002	No
55	Downey Avenue & Gardendale Street	AM	0.516	A	0.516	A	0.000	No
		PM	0.555	A	0.555	A	0.000	No
54	Downey Avenue & Imperial Highway	AM	0.721	C	0.727	C	0.006	No
		PM	0.608	B	0.621	B	0.013	No
52	Downey Avenue & Stewart and Gray Road	AM	0.584	A	0.592	A	0.008	No
		PM	0.735	C	0.763	C	0.028	No
103	Erickson Avenue & Imperial Highway Eastbound Ramps <sup>c</sup>	AM	8.9 sec	A	8.9 sec	A	-	No
		PM	8.3 sec	A	8.3 sec	A	-	No
		AM	0.286	<sup>d</sup>	0.286	-	0.000	
		PM	0.256	<sup>d</sup>	0.256	-	0.000	
102	Erickson Avenue & Imperial Highway Westbound Ramps <sup>c</sup>	AM	10.1 sec	A	10.1 sec	B	-	No
		PM	8.6 sec	A	8.6 sec	A	-	No
		AM	0.308	-	0.308	-	0.000	
		PM	0.241	-	0.241	-	0.000	

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	AM	0.391	A	0.412	A	0.021	No
		PM	0.545	A	0.594	A	0.049	No
40	Lakewood Boulevard & 5 <sup>th</sup> Street	AM	0.840	D	0.864	D	0.024	No
		PM	0.918	E	0.979	E	0.061	No
19	Lakewood Boulevard & Alameda Street	AM	0.382	A	0.414	A	0.032	No
		PM	0.548	A	0.639	B	0.91	No
16	Lakewood Boulevard & Bellflower Boulevard	AM	0.553	A	0.583	A	0.030	No
		PM	0.557	A	0.626	B	0.069	No
104	Lakewood Boulevard & Cherokee Drive	AM	0.519	A	0.539	A	0.020	No
		PM	0.642	B	0.678	B	0.036	No
20	Lakewood Boulevard & Clark Avenue	AM	0.421	A	0.459	A	0.038	No
		PM	0.480	A	0.543	A	0.063	No
75	Lakewood Boulevard & Cleta Street	AM	0.469	A	0.503	A	0.034	No
		PM	0.431	A	0.477	A	0.046	No
76	Lakewood Boulevard & Donovan Street	AM	0.604	B	0.645	B	0.041	No
		PM	0.476	A	0.524	A	0.048	No
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	AM	0.813	D	0.861	D	0.048	No
		PM	0.837	D	0.938	E	0.101	No
39	Lakewood Boulevard & Florence Avenue	AM	0.872	D	0.892	D	0.020	No
		PM	0.936	E	0.977	E	0.041	No
38	Lakewood Boulevard & Gallatin Road	AM	1.090	F	1.106	F	0.016	No
		PM	1.077	F	1.116	F	0.039	Yes
29	Lakewood Boulevard & Gardendale Street	AM	0.907	E	0.917	E	0.010	No
		PM	0.926	E	0.954	E	0.028	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	AM	0.685	B	0.736	C	0.051	No
		PM	0.832	D	0.886	D	0.054	No
37	Lakewood Boulevard & I-5 Southbound Ramps	AM	0.689	B	0.738	C	0.049	No
		PM	0.716	C	0.792	C	0.076	No
21	Lakewood Boulevard & Imperial Highway	AM	0.663	B	0.718	C	0.055	No
		PM	0.792	C	0.861	D	0.069	No
18	Lakewood Boulevard & Landing Center Driveway	AM	0.414	A	0.443	A	0.029	No
		PM	0.610	B	0.708	C	0.098	No
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	AM	0.799	C	0.815	D	0.016	No
		PM	0.879	D	0.902	E	0.023	No
17	Lakewood Boulevard & Stewart and Gray Road	AM	0.777	C	0.832	D	0.055	No
		PM	0.885	D	0.983	E	0.098	No
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	AM	0.726	C	0.742	C	0.016	No
		PM	0.916	E	0.955	E	0.039	No
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	AM	0.795	C	0.801	D	0.006	No
		PM	0.950	E	0.956	E	0.006	No
69	Old River School Road & Firestone Boulevard & Burns Avenue	AM	0.713	C	0.717	C	0.004	No
		PM	0.954	E	0.964	E	0.010	No
71	Old River School Road & Imperial Highway	AM	0.772	C	0.774	C	0.002	No
		PM	0.767	C	0.773	C	0.006	No
70	Old River School Road & Stewart and Gray Road	AM	0.739	C	0.741	C	0.002	No
		PM	0.739	C	0.742	C	0.003	No
68	Old River School Road/Tecum Road & Florence Avenue	AM	0.855	D	0.857	D	0.002	No
		PM	0.982	E	0.984	E	0.002	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
62	Paramount Boulevard & Alameda Street	AM	0.649	B	0.653	B	0.004	No
		PM	0.691	B	0.705	C	0.014	No
60	Paramount Boulevard & Firestone Boulevard	AM	0.875	D	0.882	D	0.007	No
		PM	0.996	E	1.011	F	0.015	No
59	Paramount Boulevard & Florence Avenue	AM	0.931	E	0.936	E	0.005	No
		PM	1.067	F	1.074	F	0.007	No
64	Paramount Boulevard & Gardendale Street	AM	0.663	B	0.665	B	0.002	No
		PM	0.761	C	0.764	C	0.003	No
57	Paramount Boulevard & I-5 Northbound Ramps	AM	0.758	C	0.758	C	0.000	No
		PM	1.035	F	1.043	F	0.008	No
58	Paramount Boulevard & I-5 Southbound Ramps	AM	***	F	***	F	-	No
		PM	***	F	***	F	-	No
		AM	0.890	-	0.892	-	0.002	
		PM	1.093	-	1.101	-	0.008	
63	Paramount Boulevard & Imperial Highway	AM	0.813	D	0.816	D	0.003	No
		PM	0.953	E	0.965	E	0.012	No
61	Paramount Boulevard & Stewart and Gray Road	AM	0.840	D	0.849	D	0.009	No
		PM	0.928	E	0.934	E	0.006	No
56	Paramount Boulevard & Telegraph Road	AM	0.835	D	0.842	D	0.007	No
		PM	0.853	D	0.864	D	0.011	No
65	Rives Avenue & Firestone Boulevard	AM	0.678	B	0.685	B	0.007	No
		PM	0.738	C	0.746	C	0.008	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
67	Rives Avenue & Imperial Highway <sup>b</sup>	AM	14.9 sec	B	15.1 sec	C	-	No
		PM	14.5 sec	B	15.0 sec	B	-	No
		AM	0.490	-	0.493	-	0.003	
		PM	0.507	-	0.519	-	0.012	
66	Rives Avenue & Stewart and Gray Road	AM	0.572	A	0.574	A	0.002	No
		PM	0.682	B	0.691	B	0.009	No
35	Rosemead Boulevard & Telegraph Road <sup>a</sup>	AM	1.039	F	1.046	F	0.007	No
		PM	1.215	F	1.225	F	0.010	No
47	Stewart and Ray Road & Firestone Boulevard	AM	0.609	B	0.634	B	0.025	No
		PM	0.846	D	0.906	E	0.060	No
49	Studebaker Road & Florence Avenue	AM	0.850	D	0.853	D	0.003	No
		PM	0.841	D	0.844	D	0.003	No
42	Woodruff Avenue & Firestone Boulevard (E)	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
46	Woodruff Avenue & Foster Road	AM	0.501	A	0.504	A	0.003	No
		PM	0.552	A	0.563	A	0.011	No
45	Woodruff Avenue & Imperial Highway	AM	0.721	C	0.737	C	0.016	No
		PM	0.797	C	0.817	D	0.020	No
43	Woodruff Avenue & Stewart and Gray Road	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
44	Woodruff Avenue and Washburn Road	AM	0.457	A	0.457	A	0.000	No
		PM	0.496	A	0.496	A	0.000	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Bellflower</b>								
10	Bellflower Boulevard & Alondra Boulevard	AM	0.633	B	0.635	B	0.002	No
		PM	0.800	C	0.801	D	0.001	No
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	AM	0.880	D	0.881	D	0.001	No
		PM	0.861	D	0.861	D	0.000	No
9	Bellflower Boulevard & Compton Boulevard	AM	0.756	C	0.758	C	0.002	No
		PM	0.823	D	0.827	D	0.004	No
8	Bellflower Boulevard & Rosecrans Avenue	AM	0.765	C	0.769	C	0.004	No
		PM	0.815	D	0.819	D	0.004	No
11	Bellflower Boulevard & SR-91 Westbound Off-Ramp	AM	0.791	C	0.792	C	0.001	No
		PM	1.003	F	1.003	F	0.000	No
5	Clark Avenue & Alondra Boulevard	AM	0.646	B	0.651	B	0.005	No
		PM	0.813	D	0.820	D	0.007	No
4	Clark Avenue & Compton Boulevard	AM	0.654	B	0.662	B	0.008	No
		PM	0.707	C	0.718	C	0.011	No
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	AM	0.591	A	0.592	A	0.001	No
		PM	0.646	B	0.648	B	0.002	No
3	Clark Avenue & Rosecrans Avenue	AM	0.570	A	0.578	A	0.008	No
		PM	0.644	B	0.658	B	0.014	No
6	Clark Avenue & SR-91 Westbound Off-Ramp	AM	0.487	A	0.488	A	0.001	No
		PM	0.627	B	0.630	B	0.003	No
90	Lakewood Boulevard & Alondra Boulevard	AM	0.728	C	0.730	C	0.002	No
		PM	1.031	F	1.039	F	0.008	No

**Table VI-5  
Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	AM	0.903	E	0.914	E	0.011	No
		PM	0.939	E	0.950	E	0.011	No
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	AM	0.641	B	0.643	B	0.002	No
		PM	0.821	D	0.823	D	0.002	No
2	Lakewood Boulevard & SR-91 Eastbound Ramps	AM	0.640	B	0.642	B	0.002	No
		PM	0.727	C	0.729	C	0.002	No
15	Woodruff Avenue & Alondra Boulevard	AM	0.760	C	0.762	C	0.002	No
		PM	0.971	E	0.977	E	0.006	No
14	Woodruff Avenue & Compton Boulevard	AM	0.592	A	0.598	A	0.006	No
		PM	0.626	B	0.633	B	0.007	No
13	Woodruff Avenue & Rosecrans Avenue	AM	0.835	D	0.842	D	0.007	No
		PM	0.856	D	0.871	D	0.015	No
<b>City of Norwalk</b>								
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	AM	0.757	C	0.768	C	0.011	No
		PM	0.799	C	0.822	D	0.023	No
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	AM	0.754	C	0.760	C	0.006	No
		PM	0.820	D	0.826	D	0.006	No
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	AM	0.756	C	0.757	C	0.001	No
		PM	0.881	D	0.884	D	0.003	No
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	AM	0.910	E	0.932	E	0.022	No
		PM	0.907	E	0.929	E	0.022	No
80	Hoxie Avenue & Imperial Highway	AM	0.770	C	0.774	C	0.004	No
		PM	0.969	E	0.982	E	0.013	No

**Table VI-5**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
82	I-605 Northbound Off-Ramp/I-105 Westbound On-Ramp & Rosecrans Avenue	AM	0.713	C	0.716	C	0.003	No
		PM	0.892	D	0.896	D	0.004	No
77	I-605 Southbound Ramps & Firestone Boulevard	AM	0.838	D	0.872	D	0.034	No
		PM	0.970	E	1.024	F	0.054	Yes
88	Pioneer Boulevard & Imperial Highway	AM	1.026	F	1.040	F	0.014	No
		PM	0.925	E	0.936	E	0.011	No
83	Studebaker Road & Firestone Boulevard	AM	0.809	D	0.826	D	0.017	No
		PM	0.875	D	0.892	D	0.017	No
84	Studebaker Road & Imperial Highway	AM	0.861	D	0.868	D	0.007	No
		PM	0.817	D	0.828	D	0.011	No
86	Studebaker Road & Rosecrans Avenue	AM	0.836	D	0.838	D	0.002	No
		PM	0.967	E	0.971	E	0.004	No
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	AM	0.874	D	0.875	D	0.001	No
		PM	0.834	D	0.837	D	0.003	No
<b>City of Paramount</b>								
93	Downey Avenue & Alondra Boulevard	AM	0.912	E	0.914	E	0.002	No
		PM	0.814	D	0.819	D	0.005	No
91	Downey Avenue & Rosecrans Avenue	AM	0.995	E	0.999	E	0.004	No
		PM	1.071	F	1.076	F	0.005	No
92	Downey Avenue & Somerset Boulevard	AM	0.783	C	0.784	C	0.001	No
		PM	0.785	C	0.788	C	0.003	No
94	Paramount Boulevard & Rosecrans Avenue	AM	0.776	C	0.777	C	0.001	No
		PM	0.860	D	0.862	D	0.002	No

**Table VI-5**  
**Summary of Intersection LOS Analysis - Future (2020) Conditions – Alternative C: Reduced Density Alternative**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
95	Paramount Boulevard & Somerset Boulevard	AM	0.888	D	0.888	D	0.000	No
		PM	0.911	E	0.911	E	0.000	No
<b>City of South Gate</b>								
98	Garfield Avenue & Firestone Boulevard	AM	0.941	E	0.946	E	0.005	No
		PM	1.244	F	1.254	F	0.010	No
99	Garfield Avenue & Imperial Highway	AM	0.688	B	0.690	B	0.002	No
		PM	0.719	C	0.725	C	0.006	No
100	I-710 Northbound Off-Ramp & Firestone Boulevard	AM	0.818	D	0.822	D	0.004	No
		PM	0.999	E	1.009	F	0.010	No
101	I-710 Southbound Off-Ramp & Firestone Boulevard	AM	0.850	D	0.856	D	0.006	No
		PM	1.085	F	1.096	F	0.011	No
96	Paramount Boulevard & Somerset Ranch Road North	AM	0.875	D	0.875	D	0.000	No
		PM	0.891	D	0.891	D	0.000	No
97	Paramount Boulevard & Somerset Ranch Road South	AM	0.736	C	0.736	C	0.000	No
		PM	0.827	D	0.829	D	0.002	No
<p>*** Intersection delay cannot be calculated.</p> <p><sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location.</p> <p><sup>b</sup> Unsignalized intersections - stop-controlled on all approach.</p> <p><sup>c</sup> Unsignalized intersections - stop-controlled on minor approach(es).</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, December 2008.</p>								

one of the study intersections during the AM Peak Hour, No. 24, and three of the study intersections during the PM Peak Hour, Nos. 24, 38, and 77. The Proposed Project would result in traffic impacts at two and four of the study intersections during the AM and PM Peak Hours, respectively. However, similar to the Proposed Project the Reduced Density Alternative would implement mitigation measures L-1 through L-6, in Section IV.L, Traffic/Transportation/Parking. Therefore, impacts related to intersection LOS under the Reduced Density Alternative would be less than significant.

## **Utilities**

### ***Wastewater***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed as compared to the Proposed Project. As a result, the Reduced Density Alternative would generate less wastewater than the Proposed Project. Whereas the Proposed Project would generate a net increase of approximately 106,320 gpd of wastewater, the Reduced Density Alternative would generate a net increase of approximately 79,740 gpd of wastewater. Wastewater impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Water***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed as compared to the Proposed Project. The Reduced Density Alternative would increase water demand in the City to a lesser degree than the Proposed Project. Whereas the Proposed Project would increase water demand by a net amount of approximately 127,583 gpd, the Reduced Density Alternative would increase water demand by a net amount of approximately 95,687 gpd. Similar to the Proposed Project, however, this alternative will require acquisition of additional Allowed Pumping Allocation (APA) that would be obtained through purchase or lease of APA from other water rights holders within the Central Basin. Furthermore, with the acquisition of such water rights there is sufficient water supply to support the development of the Proposed Project; therefore, there would also be sufficient water supply to meet the demand under the Alternative. Water service impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Solid Waste***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed as compared to the Proposed Project. The Reduced Density Alternative would generate less solid waste for disposal in County landfills than the Proposed Project. Whereas the Proposed Project would generate a net increase of approximately 9,181 pounds-per-day (lbs/day) of solid waste, prior to any recycling activities, the Reduced Density Alternative would generate a net increase of approximately 6,886 lbs/day. The Reduced Density Alternative would generate less construction debris for disposal than the Proposed Project. Solid waste disposal impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Electricity***

Under the Reduced Density Alternative, 25 percent fewer residential, office, retail, hotel, and other uses would be constructed as compared to the Proposed Project. The Reduced Density Alternative would consume less electricity than the Proposed Project. Whereas the Proposed Project would consume a net total of approximately 78,551 kilowatt hours (kWh) of electricity per day, the Reduced Density Alternative would consume a net total of approximately 46,164 kWh of electricity per day. Electrical service impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### ***Natural Gas***

Under the Reduced Density Alternative, 25 percent fewer residential, retail, hotel, and other uses would be constructed as compared to the Proposed Project. The Reduced Density Alternative would consume less natural gas than the Proposed Project. Whereas the Proposed Project would consume a net amount of approximately 331,213 cubic feet (cf) of natural gas per day, the Reduced Density Alternative would consume approximately 248,410 cf of natural gas per day. Natural gas service impacts associated with the Reduced Density Alternative would be less than significant, same as the Proposed Project.

### **Relationship to Project Objectives**

The Reduced Density Alternative would not avoid the significant and unavoidable environmental impacts associated with the Proposed Project, but would have reduced significant and unavoidable impacts compared to the Proposed Project with respect to regional operational air emissions because of its reduced scale. However, due to the significant reduction in the scale of the uses proposed by this alternative, it is anticipated that this alternative would not satisfy to a sufficient degree the following project objectives:

- To create a new and unique destination for Downey.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create new and good-paying jobs by facilitating development of modern office space.
- To positively impact the City of Downey's fiscal tax base.

## **D. REDUCED-SITE ALTERNATIVE**

Under the Reduced-Site Alternative, the eastern 20 acres of the Project Site would be preserved as open space. Under this alternative, the same amount of development would be permitted under the Tierra Luna

Specific Plan but would take place within the smaller, approximately 60 acre site. This alternative would result in greater concentration of density in the western 60 acres, but would provide an open space amenity as an offset to this increase in density. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

### **Aesthetics**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. Under this alternative, the potentially beneficial effects of providing a consistently and coherently designed project to replace the existing view of an underutilized site would occur. Similar to the Proposed Project, the Reduced-Site Alternative would provide transitional height between the Downey Landing Retail Center located to the north, a Kaiser Permanente Hospital, Kaiser Permanente medical office building, and future Medical Center located to the south, and residential neighborhoods located to the west. However, viewshed impacts of the Reduced-Site Alternative would be more than the Proposed Project due to increased density and increased building heights on the western 60 acres of the Project Site, but would remain less than significant as the development would be consistent with the height, mass, and visual character of the existing urban community, same as the Proposed Project. Signage regulations under this Alternative would be the same as the Proposed Project and would permit signs similar to those that would be permitted under the Proposed Project, including media tower signs. Impacts of signage under this Alternative would be less than significant, same as the Proposed Project. Security and safety lighting included within the Reduced-Site Alternative would be similar to the Proposed Project. The potentially beneficial impact of removing existing sources of glare associated with surface parking lots would occur under this alternative. As a result, lighting and glare impacts of the Reduced-Site Alternative would be less than significant, same as the Proposed Project. Shade and shadow impacts of the Reduced-Site Alternative would also be greater than the Proposed Project due to increased building heights on the western portion of the Project Site but would be less than significant, same as the Proposed Project.

### **Air Quality**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project. However, there would be a greater concentration of density in the western portion of the Project Site. Total site excavation and grading emissions would be lower than the Proposed Project, since the total graded area would be smaller (approximately 60 acres under the Reduced-Site Alternative vs. approximately 80 acres under the Proposed Project). However, within each construction phase, similar levels of construction activity would be expected to occur as compared to the Proposed Project. Therefore, daily emissions levels would be similar to the Proposed Project and would be significant and unavoidable for NO<sub>x</sub> and ROG emissions. In addition, impacts of the Alternative, similar to the Proposed Project, on local air quality resulting from construction activities would be significant and unavoidable for NO<sub>2</sub> and PM<sub>10</sub> at certain sensitive receptor locations.

Furthermore, as the same square footage and uses would be constructed under the Reduced-Site Alternative as the Proposed Project, the total number of daily vehicle trips would be similar. The

Reduced-Site Alternative would have the same significant and unavoidable air quality impacts as the Proposed Project with respect to operational emissions which exceed the SCAQMD thresholds for ROG, NO<sub>x</sub>, and CO. Since the total development under the Reduced-Site Alternative would be the same as the Proposed Project, it would generate the same amount of greenhouse gases in comparison to the Proposed Project. The Reduced-Site Alternative would provide a mixed-use community that would offer the same opportunity for further reductions in vehicle trips and associated greenhouse gas emissions as would occur under the Proposed Project. Overall, the greenhouse gas impacts of this alternative would be less than significant, same as the Proposed Project.

### **Cultural Resources**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. There are no buildings of historical significance adjacent to the Project Site, thus the Reduced-Site Alternative would not impact the historical integrity of any adjacent buildings. The Reduced-Site Alternative would demolish the same on-site buildings and preserve in place the same historic buildings on the Project Site as would the Proposed Project. The Reduced-Site Alternative would be required to be compliant with the Memorandum of Agreement with respect to buildings that may be demolished and those that would be retained, which would reduce impacts to on-site historic resources to a less than significant level. Similar to the Proposed Project, under the Reduced-Site Alternative, ground disturbing work would occur which could potentially impact archaeological and/or paleontological resources. Therefore, under the Reduced-Site Alternative, potential impacts to cultural resources would be less than significant, same as the Proposed Project.

### **Geology and Soils**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. The Project Site is not at risk for impacts from liquefaction, slope instability, or subsidence. There are no known surface faults located on the Project Site; however, the Project Site would still be susceptible to seismic ground shaking. Similar to the Proposed Project, the Reduced-Site Alternative would be constructed in accordance with the City's Building Code and any applicable State and local laws and regulations. The Reduced-Site Alternative would have the same impacts as the Proposed Project with respect to wind- and water-borne erosion since both would result in the same area of soil disturbance. Therefore, under the Reduced-Site Alternative, impacts associated with the exposure of individuals to seismic ground shaking hazards and erosion would be less than significant, same as the Proposed Project.

### **Hazards and Hazardous Materials**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. Under the Reduced-Site Alternative, the residential uses included in the Proposed Project would be

developed. As such, the Reduced-Site Alternative would require the additional approvals from the Regional Water Quality Control Board regarding subsurface conditions (including soil vapor) that would allow sensitive residential uses to be constructed on that portion of the Project Site, potentially including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. In addition, the Reduced-Site Alternative would provide a mixed-use project containing residential units and would be subject to approval by current property owners within the former NASA Industrial Property site. Since the implementation of sensitive uses under the Alternative would be subject to the same controls as the Proposed Project, impacts of this alternative in this regard would be less than significant, same as the Proposed Project.

As with the Proposed Project, since the existing buildings are located on the western portion of the Project Site, the existing buildings (except those historical resources preserved in place pursuant to the Memorandum of Agreement) would be demolished; this could result in the release of these asbestos-containing materials and lead-based paint into the environment if demolition activities are not conducted in accordance with all applicable rules and regulations, which would be the same as for the Proposed Project. Therefore, impacts associated with asbestos-containing materials and lead-based paint would be less than significant with adherence to existing rules and regulations governing the removal and disposal of asbestos-containing materials and lead-based paint, same as the Proposed Project.

Similar to the Proposed Project, prior to the construction of the Reduced-Site Alternative, any unknown USTs that may not have been identified or specified in the hazardous materials investigations would be removed. The DFD would be consulted prior to the removal of USTs to ensure that nearby sensitive receptors would not be adversely affected during the removal process and that any contaminated soil would be properly handled and disposed of. In addition, due to the age and nature of some of the uses on-site, it is possible that PCB-containing fixtures may be present on the Project Site. Appropriate mitigation measures are required to ensure the safe removal of PCBs. Therefore, hazards and hazardous materials impacts associated with the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### **Hydrology and Water Quality**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project. However, there would be a greater concentration of density in the western portion of the Project Site. Similar to the Proposed Project, under the Reduced-Site Alternative, excavation and grading would occur which would expose the site soils to impacts from wind or water-borne erosion during construction. However, the amount of impervious surfaces after construction would be less than under the Proposed Project due to a 20-acre open space amenity on the eastern portion of the Project Site. Existing sources of water contamination on surface parking lots (e.g., oil from parked cars, etc.) would be removed under this alternative. Potentially beneficial impacts of the Proposed Project with respect to storm water runoff quality that would result from implementation of Best Management Practices, as required under the Los Angeles County Standard Stormwater Mitigation Plan, would still occur under this alternative. Therefore, water quality impacts under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the potential to encounter groundwater during excavation activities of the Reduced-Site Alternative exists. Similar to the Proposed Project, this alternative does not include deep excavations that would intercept underground aquifers. Impacts to groundwater would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, stormwater runoff from the Reduced-Site Alternative would be directed towards and discharged into the existing public storm drain system. However, the reduction in impermeable surfaces on the Project Site would cause a reduction in runoff rates and velocities compared to the Proposed Project. Therefore, stormwater runoff impacts under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

The Project Site is located within an identified 500-year flood plain area as identified by FEMA. However, the portion of the City that includes the Project Site is currently in the process of upgrading its flood protection system; with implementation of this upgraded system, the Project Site would be able to withstand a one in 500-year flood event. Additionally, the Project Site has no proximity to other waterways, major dams, or upgradient bodies of water. Similar to the Proposed Project, the Reduced-Site Alternative involves the construction of office, retail, and other uses on-site, thereby increasing the number of people in the inundation area. Therefore, the potential impact associated with flooding under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### **Land Use and Planning**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. The Reduced-Site Alternative would be consistent and compatible with the surrounding land uses, as well as local and regional plans and policies, including the General Plan Mixed-Use land use designation for the Project Site. Furthermore, a 20-acre open space amenity would be included within this Alternative, which would be available to the public. The Reduced-Site Alternative would be consistent with and would work to implement regional and local plans and policies. The Reduced-Site Alternative would require other land use entitlements which would be the same as the Proposed Project. Similar to the Proposed Project, the Reduced-Site Alternative would not pose any substantial incompatibilities with land use regulations and plans, and impacts would be less than significant, same as the Proposed Project.

### **Noise**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. During construction, noise levels would be the same as the Proposed Project because the same type of activities and equipment usage would be taking place. Construction noise impacts of the Reduced-Site Alternative would be significant and unavoidable due to the proximity of sensitive receptors to the Project Site.

Due to the same amount of daily trips, traffic noise would be similar. Noise impacts associated with the operation of the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### **Population, Housing, and Employment**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. Similar to the Proposed Project, the Reduced-Site Alternative would result in a net increase of approximately 5,262 jobs on-site and would result in an increase of approximately 4,883 permanent residents on-site. These projections would be within the SCAG population and employment projections for the City of Downey. Similar to the Proposed Project, the Reduced-Site Alternative would not induce unanticipated growth in the City. Therefore, population, housing, and employment impacts associated with the operation of the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### **Public Services**

#### ***Fire Protection***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. On-site population would be similar compared to the Proposed Project. Furthermore, the type and frequency of required fire protection services is based on the uses included in the project. Therefore, impacts to fire protection services under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

Furthermore, the Reduced-Site Alternative project traffic is expected to significantly impact several study intersections. However, with the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L, Traffic/Transportation/Parking) impacts at these intersections would be reduced to a less than significant level. Therefore, impacts from the Reduced-Site Alternative related to emergency response time would be less than significant, same as the Proposed Project.

#### ***Police Protection***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. On-site population would be similar compared to the Proposed Project. Because of similar on-site population, the type and frequency of police protection services required to serve the Project Site would be similar when compared to the Proposed Project. Furthermore, as police units are most often in a mobile state, it is therefore unknown precisely which route the Downey Police Department would use to access the Project Site when responding to an emergency call. Any police unit accessing the Project Site from the surrounding area would have to pass through at least one of the study intersections. However, the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L, Traffic/Transportation/Parking) would reduce impacts at these intersections to a less than significant

level. Therefore, under the Reduced-Site Alternative, impacts to police protection services would be less than significant, same as the Proposed Project.

### ***Schools***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. As the Reduced-Site Alternative would include the same amount of residential uses as the Proposed Project student generation would be similar. Furthermore, school facility fees paid by the project would also be similar under the Reduced-Site Alternative. Therefore, school impacts under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### ***Recreation and Parks***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. As the Reduced-Site Alternative would include the same amount of residential uses as the Proposed Project permanent population associated with the Reduced-Site Alternative would be similar and demand on park facilities in the City would be correspondingly similar to the Proposed Project. However, under the Reduced-Site Alternative 20 acres on the eastern portion of the Project Site would be set aside for an open space amenity, providing open space and park facilities to the public that would likely preclude the need for payment of in-lieu park fees. Therefore, impacts to parks and recreation facilities under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### ***Libraries***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. As the Reduced-Site Alternative would include the same amount of residential uses as the Proposed Project demand on library facilities in the City would also be similar. Impacts to libraries under the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### **Traffic/Transportation/Parking**

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. Table VI-6 compares trips generated under this alternative to those generated by the Proposed Project.

**Table VI-6**  
**Alternative Analysis – Summary and Comparison of Trip Generation Estimates**  
**Alternative D – Reduced-Site Alternative**

Scenario	Daily Total	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Alternative D – Reduced-Site Alternative	32,118	1,052	662	1,714	1,363	1,735	3,098
Difference from Proposed Project	0	0	0	0	0	0	0
% Difference	0%	0%	0%	0%	0%	0%	0%

*Source: Raju Associates, Inc., November 2008.*  
*Source (table): Christopher A. Joseph & Associates December 2008.*

As shown in Table VI-6, the Reduced-Density Alternative would generate a net total of 32,118 daily trips, similar to the Proposed Project. This alternative would generate 1,714 trips during the AM Peak Hour and 3,098 trips during the PM Peak Hour, also similar to the Proposed Project. Under this alternative, the eastern 20-acre portion of the Project Site would be preserved as open space; however, points of access, particularly those along Bellflower Boulevard, would not change substantially compared to the Proposed Project. However, similar to the Proposed Project the Reduced-Site Alternative would implement Mitigation Measures L-1 through L-6, in Section IV.L, Traffic/Transportation/Parking. Therefore, traffic impacts of the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### Utilities

#### *Wastewater*

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. As a result, the Reduced-Site Alternative would generate the same amount of wastewater as the Proposed Project. Wastewater impacts associated with the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

#### *Water*

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. As a result, the Reduced-Site Alternative would increase water demand in the City to the same degree as the Proposed Project. Similar to the Proposed Project, however, this alternative will require acquisition of additional Allowed Pumping Allocation (APA) that would be obtained through purchase or lease of APA from other water rights holders within the Central Basin. Furthermore, with the acquisition of such water rights there is sufficient water supply to support the development of the Proposed Project, therefore, there would also be sufficient water supply to meet the demand under the Alternative. Water service impacts associated with the Reduced-Site Alternative would be similar to the Proposed Project and would be less than significant.

### ***Solid Waste***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. The Reduced-Site Alternative would generate the same amount of solid waste for disposal in County landfills as the Proposed Project and the Reduced-Site Alternative would generate the same amount of construction debris for disposal as the Proposed Project. Solid waste disposal impacts associated with the Reduced-Site Alternative would be less than significant, same as the Proposed Project.

### ***Electricity***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. The Reduced-Site Alternative would consume the same amount of electricity as the Proposed Project. Electrical service impacts associated with the Reduced-Site Alternative would be similar to the Proposed Project and would be less than significant, same as the Proposed Project.

### ***Natural Gas***

Under the Reduced-Site Alternative the same square footage and uses would be constructed as with the Project; however, there would be a greater concentration of density in the western portion of the Project Site. The Reduced-Site Alternative would consume the same amount of natural gas as the Proposed Project. Natural gas service impacts associated with the Reduced-Site Alternative would be similar to the Proposed Project and would be less than significant, same as the Proposed Project.

### **Relationship to Project Objectives**

While it would adequately meet all of the Proposed Project's objectives, the Reduced-Site Alternative would not avoid or substantially lessen the significant and unavoidable effects of the Proposed Project.

## **E. ALL-COMMERCIAL ALTERNATIVE**

Under the All-Commercial Alternative, development would occur on the same 79-acre Project Site as the Proposed Project; however, the residential component of the Proposed Project would not be included in the All-Commercial Alternative. The same buildings would be demolished and the same historic buildings would be preserved in place as would occur under the Proposed Project. The same amount of commercial and hotel development would be permitted as would occur under the Proposed Project. As such, the All-Commercial Alternative would include development of up to 675,000 square feet of commercial/office uses, up to 1,200,000 square feet of commercial/retail uses, up to 450 hotel rooms, and up to 125,000 square feet of public open space. Overall development density would be reduced under this Alternative as less total development would be permitted on the same Project Site compared to the Proposed Project. The All-Commercial Alternative would also include parking facilities dispersed among several multi-level parking structures, on-street parking, and/or surface parking lots. Because the residential component of the Proposed Project would be eliminated from this Alternative, it would

represent an overall reduction in development by approximately 1,700,000 square feet (i.e., 1,500 residential units) when compared to the Proposed Project. Development regulations pertaining to building height, location, and setback would be the same as the Proposed Project, with one exception. Under this Alternative, the development regulations for the easternmost 20 acres of the Project Site would be modified to allow for the development of one-story, large-format retail uses facing Bellflower Boulevard, including buildings of similar height, landscaping and set back from the street at the same distance as buildings located within the other retail developments in the vicinity of the Project Site. Access to the Project Site would be similar to the Proposed Project, with primary access provided from Lakewood and Bellflower Boulevards. Internal streets would be provided to provide access to buildings located on the interior of the Project Site, same as the Proposed Project. Signage regulations would be the same as under the Proposed Project. This alternative would be implemented through an amendment to the Downey Landing Specific Plan that would apply solely to the 79-acre Project Site.

### **Aesthetics**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with one-story large format retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The residential uses contained in the Proposed Project would not be included in this Alternative. As such, since lower total development would occur under this alternative on the same size project site as the Proposed Project, the overall development density within the Project Site would be lower under this alternative compared to the Proposed Project. However, the development regulations under the Alternative, including maximum building heights, would be the same as under the Proposed Project and this alternative would permit development of up to 2.25 million square feet of development within the Project Site.

Similar to the Proposed Project, under this Alternative, the potentially beneficial effects of providing a consistently and coherently designed project to replace the existing view of an underutilized site would occur. Under the All-Commercial Alternative, even with the reduction in density, the visual appearance of the western approximately 60 acres of the Project Site would be generally similar to the Proposed Project, since the development regulations governing building heights, locations, and development zones would be the same as the Proposed Project. While the overall density in this area could be reduced and some increase in open space could occur under the Alternative, the substantial development that could still occur in this area under this alternative would provide similar views of urban development as would occur under the Proposed Project. This impact would be less than significant, same as the Proposed Project.

In addition to the type of development that would be permitted on the western approximately 60 acres, large format retail buildings and surface parking lots would also be permitted within the eastern approximately 20 acres of the Project Site under the All-Commercial Alternative. To the extent this area is developed in accordance with the development regulations of the Proposed Project, the effect would be similar to the effects of the Proposed Project. To the extent that this area is developed with one-story, large format retail buildings, the visual appearance of this portion of the Project Site under the All-

Commercial Alternative would be similar to and consistent with other nearby retail centers located on Lakewood Boulevard, Stewart and Gray Road, and Bellflower Boulevard. Overall, the visual appearance of the Project Site would be improved compared to the existing conditions, since underutilized, older structures would be replaced with new structures, coherent design and landscaping. The appearance of this portion of the Project Site also would be consistent with surrounding institutional uses in terms of building height, mass and setback from the street, particularly with regard to the Kaiser Permanente buildings to the south. Also similar to the Proposed Project, the All-Commercial Alternative would provide transitional height and density between the Downey Landing Shopping Center located to the north, residential uses and Kaiser Permanente administrative offices, industrial, and commercial uses to the east, a Kaiser Permanente Hospital, Kaiser Permanente medical office building, and Medical Center located to the south, and residential neighborhoods located to the west. Overall, visual character impacts of the All-Commercial Alternative would be less than significant, same as the Proposed Project.

Signage regulations under this Alternative would be similar to the Proposed Project. These regulations would permit project identification signs (media tower signs) on the perimeter of the Project Site on Lakewood and Bellflower Boulevards and Congressman Steve Horn Way. Under the Alternative, increased signage would likely be associated with the large scale retail uses fronting Bellflower Boulevard, compared to the Proposed Project. However, since such signage would occur within the context of concentrated urban development and other large scale signage at other nearby retail centers, impacts of signage under this alternative would be less than significant, same as the Proposed Project.

Security and safety lighting included within the All-Commercial Alternative would be similar to the Proposed Project. The potentially beneficial impact of removing existing sources of glare associated with surface parking lots would occur under this Alternative. As a result, lighting and glare impacts from the All-Commercial Alternative would be less than significant, same as the Proposed Project. Shade and shadow impacts of the All-Commercial Alternative would be similar to the Proposed Project at the Lakewood Boulevard edge of the Project Site, as the development regulations would be the same as under the Proposed Project, and would potentially be less than the Proposed Project, at the Bellflower Boulevard edge, due to increased setbacks of buildings from the roadway. In both cases, shade and shadow impacts of this alternative and the Proposed Project would be less than significant.

### **Air Quality**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, although the development regulations under this alternative would permit the development of large scale retail buildings on the eastern 20 acres of the Project Site. Similar to the Proposed Project, site excavation and grading would result in NO<sub>x</sub> and ROG levels exceeding SCAQMD thresholds, since the same amount of land would be disturbed to prepare the site, construct buildings, and install landscaping. As such, daily emissions associated with the site grading and excavation phase of the All-Commercial Alternative would be the same as the Proposed Project and significant and unavoidable. Under the All-Commercial Alternative, total construction activity would be less than the Proposed Project and total construction emissions over the build-out of the Project Site would be less than the Proposed Project

because the total development permitted under this alternative would be less than under the Proposed Project. However, within each construction phase, similar levels of construction activity would be expected to occur as compared to the Proposed Project. Therefore, daily emissions levels would be similar to the Proposed Project and would be significant and unavoidable for NO<sub>x</sub> and ROG emissions. In addition, as with the Proposed Project, impacts of the Alternative on local air quality resulting from construction activities would be significant and unavoidable for NO<sub>2</sub> and PM<sub>10</sub> at certain sensitive receptor locations.

The total number of daily vehicle trips under the All-Commercial Alternative would be lower than the Proposed Project because of the removal of residential units from the Alternative, coupled with the same commercial square footage included in the Proposed Project (see Table VI-7 below). This decrease in vehicle trips would reduce the total daily regional air emissions generated by vehicles utilizing the Project Site. However, since the Proposed Project's daily operational emissions would exceed the SCAQMD thresholds for VOC, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> by substantial margins<sup>14</sup>, the approximately 7 percent reduction in daily trips under the All-Commercial Alternative (see Table VI-7, below) would not be sufficient to reduce emission levels below SCAQMD significance thresholds. Therefore, even though regional operational emissions would be lower under the All-Commercial Alternative, regional emissions under both this alternative and the Proposed Project would be significant and unavoidable. Also, since the All-Commercial Alternative would represent a smaller scale project than the Proposed Project, the reduction in vehicle trips would result in a reduced volume of greenhouse gases. In addition, because this alternative would not include residential uses, less energy and water supplies would be required which would decrease overall greenhouse gas emissions. However, due to the lack of residential uses within the Alternative, the potential benefits from development of a mixed-use community, which offers the opportunity for further reductions in vehicle trips and associated greenhouse gas emissions that would occur under the Proposed Project, would not occur under the Alternative. Overall, the greenhouse gas impacts of the Alternative would be less than significant, same as the Proposed Project.

### **Cultural Resources**

Under the All-Commercial Alternative, the commercial and hotel uses identified under the Proposed Project would be developed within the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. There are no buildings of historical significance adjacent to the Project Site; thus, the All-Commercial Alternative would not impact the historical integrity of any adjacent buildings. The All-Commercial Alternative would demolish the same on-site buildings and preserve in place the same historic buildings on the Project Site as would the Proposed Project. The All-Commercial Alternative would be required to be compliant with the Memorandum of Agreement with respect to buildings that may be demolished and those that would be retained, which would reduce impacts to on-site historic resources to a less than

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<sup>14</sup> As shown in Table IV.C-12, regional emissions from the Proposed Project exceed the SCAQMD thresholds by between 76 percent (PM<sub>2.5</sub>) and 380 percent (VOC).

significant level. Under the All-Commercial Alternative, ground-disturbing work would occur which could potentially impact archaeological and/or paleontological resources. Therefore, under the All-Commercial Alternative, potential impacts to cultural resources would be less than significant, same as the Proposed Project.

### **Geology and Soils**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The Project Site is not at risk for impacts from liquefaction, slope instability, or subsidence. There are no known surface faults located on the Project Site; however, the Project Site would still be susceptible to seismic ground shaking. Similar to the Proposed Project, the All-Commercial Alternative would be constructed in accordance with the City's Building Code and any applicable State and local laws and regulations. The All-Commercial Alternative would have the same impacts as the Proposed Project with respect to wind- and water-borne erosion since both would result in the same area of soil disturbance during construction. Therefore, under the All-Commercial Alternative, impacts associated with the exposure of individuals to seismic ground shaking hazards and erosion would be less than significant, same as the Proposed Project.

### **Hazards and Hazardous Materials**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Under the All-Commercial Alternative, the residential uses included in the Proposed Project would not be developed. As such, the All Commercial Alternative would not require the additional approvals from the Regional Water Quality Control Board regarding subsurface conditions (including soil vapor) that would allow sensitive residential uses to be constructed on that portion of the Project Site, potentially including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. In addition, because it would not be a mixed-use project containing residential units, the All-Commercial Alternative would not be subject to approval by current property owners within the former NASA Industrial Property site. Impacts of the alternative in this regard would be less than significant.

As with the Proposed Project, existing buildings (except those historical resources preserved in place pursuant to the Memorandum of Agreement) would be demolished, which could result in the release of asbestos-containing materials and lead-based paint into the environment if demolition activities are not conducted in accordance with all applicable rules and regulations, which would be the same as for the Proposed Project. Therefore, impacts associated with asbestos-containing materials and lead-based paint would be less than significant with adherence to existing rules and regulations governing the removal and disposal of asbestos-containing materials and lead-based paint, same as the Proposed Project.

Similar to the Proposed Project, prior to the construction of the All-Commercial Alternative, any unknown underground storage tanks (USTs) that may not have been identified or specified in the hazardous materials investigations would be removed. The Downey Fire Department would be consulted prior to the removal of USTs to ensure that nearby sensitive receptors would not be adversely affected during the removal process and that any contaminated soil would be properly handled and disposed of. In addition, due to the age and nature of some of the on-site uses, it is possible that PCB-containing fixtures may be present on the Project Site. Appropriate mitigation measures are required to ensure the safe removal of PCBs. Therefore, hazards and hazardous materials impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### **Hydrology and Water Quality**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Similar to the Proposed Project, under the All-Commercial Alternative, excavation and grading would occur which would expose the on-site soils to impacts from wind or water-borne erosion during construction. The amount of impervious surfaces after construction would be less than under the Proposed Project. Some of the existing sources of water contamination on surface parking lots (e.g., oil from parked cars, etc.) would be removed under this Alternative; however, this alternative would include development regulations that would permit large scale retail buildings and surface parking lots on the eastern approximately 20 acres of the Project Site. However, potentially beneficial impacts of the Proposed Project with respect to storm water runoff quality that would result from implementation of Best Management Practices, as required under the Los Angeles County Standard Stormwater Mitigation Plan, would still occur under this Alternative, which would also apply to surface parking lots permitted under the Alternative. Therefore, water quality impacts under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, the potential to encounter groundwater during excavation activities of the All-Commercial Alternative exists. Similar to the Proposed Project, this alternative does not include deep excavations that would intercept underground aquifers. Impacts to groundwater under this Alternative would be less than significant, same as the Proposed Project.

Similar to the Proposed Project, stormwater runoff from the All-Commercial Alternative would be directed towards and discharged into the existing public storm drain system. Therefore, stormwater runoff impacts under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

The Project Site is located within a delineated 500-year flood plain area as identified by FEMA. However, the portion of the City that includes the Project Site is defined as an “area protected from the base flood by a credited flood-protecting system.” Thus, the Project Site would be able to withstand a one in 500-year flood event. Additionally, the Project Site has no proximity to other waterways, major dams, or upgradient bodies of water. The All-Commercial Alternative involves the construction of office, hotel,

retail, public open space uses on-site, thereby increasing the number of people in the inundation area. However, the All-Commercial Alternative would result in fewer people on-site at one time than the Proposed Project, since this Alternative does not include a residential component. The potential impact associated with flooding under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### **Land Use and Planning**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The All-Commercial Alternative would be consistent and compatible with the surrounding land uses, as well as regional plans and policies regarding concentration of new development in urbanized areas served by transit, although to a lesser degree than the Proposed Project since a true mixed-use community would not be developed under the Alternative. Since it would not include the residential component of the Proposed Project, the All-Commercial Alternative would not be fully consistent with the intent of the Mixed Use land use designation of the General Plan that applies to the Project Site. The Mixed Use designation is intended to promote livable communities concepts that allow added flexibility in addressing land use needs and focus on areas where livable communities' concepts are most likely to encourage similar projects through the City. Since the Project Site is included in one of only three such mixed use areas identified in the City, this alternative would reduce the potential opportunities for implementation of this concept within the City.

In addition, even though the All-Commercial Alternative would have reduced trip generation compared to the Proposed Project (see Table VI-7, below), this reduction is due to the reduced size of this alternative compared to the Proposed Project. The Proposed Project has a greater potential to reduce the levels of trips generated by its component parts because of the synergy between residential and commercial uses that allows multiple destinations to be accessed by one automobile trip. By removing the residential component, the All-Commercial Alternative would have a reduced capacity to achieve trip reductions and a reduction in criteria pollutants and greenhouse gas emissions as a result of this effect compared to the Proposed Project, even though the total emissions levels would be lower because of the reduced size of the Alternative. However, the All-Commercial Alternative would be consistent with the provisions of the existing Downey Landing Specific Plan, which designate the eastern approximately 28 acres (Option 1) and eastern and southern approximately 50 acres (Option 2) of the Project Site development as a Commerce Center. The proposed development regulations of this alternative that would permit one-story, large format retail uses on the eastern approximately 20 acres of the Project Site would be consistent with this concept. Although the All-Commercial Alternative would not include media center uses on the western approximately 55 acres (Option 1) and northwestern approximately 33 acres (Option 2) of the Project Site, as identified in the Downey Landing Specific Plan, the commercial uses that would be included under the Alternative would be generally consistent with the intent of the Downey Landing

Specific Plan to reflect flexibility of land uses over time.<sup>15</sup> Moreover, the All-Commercial Alternative would not require the additional approvals from the Regional Water Quality Control Board regarding subsurface conditions (including soil vapor) that would allow sensitive residential uses to be constructed on that portion of the Project Site, potentially including a human health risk assessment and implementation of engineering and institutional controls to protect site occupants. In addition, the All-Commercial Alternative would not provide a mixed-use project containing residential units and would not be subject to approval by current property owners within the former NASA Industrial Property site. The All-Commercial Alternative could require other land use entitlements which would be similar to the Proposed Project. Similar to the Proposed Project, the All-Commercial Alternative would be generally consistent with applicable land use regulations and plans, and impacts would be less than significant, same as the Proposed Project.

### **Noise**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. During construction, noise levels would be similar to the Proposed Project because the same type of activities and equipment usage would be taking place. Construction noise impacts of the All-Commercial Alternative would be significant and unavoidable due to the proximity of sensitive receptors to the Project Site. However, the overall duration of construction activities would potentially be shorter than the Proposed Project due to fewer buildings being constructed.

Due to the reduction in daily trips, traffic noise would be reduced. Noise impacts associated with the operation of the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### **Population, Housing, and Employment**

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Since the commercial uses and square footage of the Proposed Project and Alternative would be the same, this alternative would have the same job-generating characteristics as the Proposed Project, and would result in a net increase of approximately 5,262 jobs on-site. No housing units would be constructed under the All-Commercial Alternative. As such, the All-Commercial Alternative would not result in any permanent on-site population where as the Proposed Project would

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<sup>15</sup> *The Downey Landing Specific Plan notes (p.27), that "if the demand for studio space does not prove economically viable, the size of the Media Center may decrease." As the Media Center decreases in size, the difference is made up through expansion of the Commerce Center component.*

result in an increase of approximately 4,883 permanent residents on-site.<sup>16</sup> The Proposed Project would be consistent with the projected population growth for the City under the adopted SCAG growth forecasts. Since this alternative does not include residential growth, the SCAG residential growth forecasts would not be relevant to the Alternative. Similar to the Proposed Project, the All-Commercial Alternative would not induce unanticipated growth in the City. Therefore, population and housing impacts associated with the operation of the All-Commercial Alternative would be less than significant, same as the Proposed Project. The employment impacts of the All-Commercial Alternative would be less than significant, same as the Proposed Project.

## **Public Services**

### ***Fire Protection***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Because it would not include the residential uses contained within the Proposed Project, the All-Commercial Alternative would have a smaller on-site daytime and evening population and no permanent population as compared to the Proposed Project. However, while the overall size of the development would be reduced, the type and frequency of required fire protection services is based on the uses included in the project, the types and heights of buildings permitted and the overall intensity of development. The All-Commercial Alternative would not include residential uses and would be developed less densely than the Proposed Project. However, this alternative would include the same development regulations as the Proposed Project on the western 60 acres and would permit development of large scale retail buildings on the eastern 20 acres of the Project Site. As such, demand for fire protection services would be similar to the Proposed Project. Therefore, impacts to fire protection services under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

Furthermore, the All-Commercial Alternative project traffic is expected to significantly impact several study intersections. However, with the implementation of Mitigation Measures L-1 through L-6 (see Section IV.L. Traffic/Transportation/Parking), impacts at these intersections would be reduced to a less than significant level. Therefore, impacts from the All-Commercial Alternative related to emergency response time would be less than significant, same as the Proposed Project.

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<sup>16</sup> Based on an average of 3.255 persons per household, State of California, Department of Finance, E-5 Population and Housing Estimates, for Cities, Counties, and the State, 2001–2008, with 2000 Benchmark, website: [http://www.dof.ca.gov/research/demographic/reports/estimates/e5\\_2001-2006/documents/E-5\\_2008](http://www.dof.ca.gov/research/demographic/reports/estimates/e5_2001-2006/documents/E-5_2008).

***Police Protection***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. On-site daytime and evening population would be less than the Proposed Project and there would be no permanent population, since no residential uses would be developed as compared to the Proposed Project. Because of the reduced daytime and evening population, and no permanent population, the type and demand for police protection services at the Project Site would be reduced compared to the Proposed Project. Furthermore, as police units are most often in a mobile state, it is unknown precisely which route the Downey Police Department would use to access the Project Site when responding to an emergency call. However, any police unit accessing the Project Site from the surrounding area would have to pass through at least one of the study intersections. The implementation of Mitigation Measures L-1 through L-6 (see Section IV.L, Traffic/Transportation/Parking) would reduce impacts at these intersections to a less than significant level. Therefore, under the All-Commercial Alternative, impacts to police protection services would be less than significant, same as the Proposed Project.

***Schools***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. No student generation would occur under this alternative because no residential uses would be developed on-site. Because the residential use would not be developed, school facility fees paid by the applicant would be less under the All-Commercial Alternative than under the Proposed Project. However, school facility fees would still be required to be paid under the Alternative. Therefore, school impacts under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

***Recreation and Parks***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. There would be no permanent population associated with the All-Commercial Alternative and demand for on-site park facilities in the City would be lower than the Proposed Project. Therefore, impacts to parks and recreation facilities under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

***Libraries***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project

Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Since there would be no permanent population associated with the All-Commercial Alternative, demand on library facilities in the City would also be less than that estimated for the Proposed Project. Impacts to libraries under the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### Traffic/Transportation/Parking

Under the All-Commercial Alternative, the residential portion described under the Proposed Project would not be developed. The commercial and hotel development would occur on the same 79-acre Project Site and would consist of up to approximately 675,000 square feet of commercial/office uses, up to 1,200,000 square feet of commercial/retail uses, up to 450 hotel rooms, and up to 125,000 square feet of public open space. Under the Alternative, large scale retail buildings would be permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. Overall on-site development density would be reduced. The All-Commercial Alternative would also include parking facilities dispersed among several multi-level parking structures, on-street parking, and surface lots. This Alternative represents an overall reduction in development by approximately 1,700,000 square feet when compared to the Proposed Project. The points of access would not change under this Alternative, as compared to the Proposed Project. Total projected traffic volumes at each access point would be similar to the Proposed Project, as access would continue to be provided to all parts of the Project Site from each of the access points and the basic trip distribution pattern to and from the Project Site would not be substantially changed under the Alternative.

Utilizing the proposed land-use for this Alternative, trip generation estimates were determined and compared to that of the Proposed Project, as shown in Table VI-7. From this table, it can be observed that this Alternative generates a net total of 29,771 daily trip ends, representing seven percent fewer trips than the Proposed Project.

**Table VI-7**  
**Alternative Analysis – Summary and Comparison of Trip Generation Estimates**  
**Alternative E – All-Commercial Alternative**

Scenario	Daily Total	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Alternative E – All-Commercial Alternative	29,771	1,058	368	1,426	1,199	1,741	2,940
Difference from Proposed Project	(2,347)	6	(294)	(288)	(164)	6	(158)
% Difference	-7%	1%	-44%	-17%	-12%	0%	-5%

*Source: Raju Associates, Inc., 2009.*

The average volume to capacity (V/C) ratio (or demand to capacity ratio) of the system will decrease to 0.756 and 0.849 during the AM and PM peak hours, respectively, compared to the average V/C ratio of 0.759 and 0.851 respectively, during the same peak hours for the Proposed Project. The All-Commercial

Alternative and the Proposed Project have the same number of intersections, approximately 12 in the AM and 34 in the PM, projected to operate at unacceptable level of service (LOS E or F).

During the morning and evening peak hours, this Alternative generates 1,426 and 2,940 trips, respectively. This represents approximately 17 percent and five percent fewer trips than the Proposed Project in the morning and evening peak hours, respectively.

Table VI-8 summarizes the AM and PM peak hour traffic impacts of this alternative. This Alternative would result in traffic impacts at one and four of the analysis locations in the AM and PM peak hours, respectively, compared to two and four of the locations impacted by the Proposed Project during the same respective peak hours. On an overall basis, this Alternative would adversely impact traffic to a lesser degree than the Proposed Project. No significant differences in travel patterns outside the project area would be expected between this Alternative and the Proposed Project.

## **Utilities**

### ***Wastewater***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. As a result, the All-Commercial Alternative would generate less wastewater than the Proposed Project. Whereas the Proposed Project would generate a net increase of approximately 502,488 gpd of wastewater when compared with existing conditions, the All-Commercial Alternative would generate a net increase of approximately 280,448 gpd of wastewater, a net decrease of 222,000 gpd compared to the Proposed Project. Wastewater impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### ***Water***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail building permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The All-Commercial Alternative would increase City water demand by a lesser degree than the Proposed Project. Whereas the Proposed Project would result in net demand for of approximately 641,837 gpd when compared with existing conditions, the All-Commercial Alternative would result in net demand for approximately 358,637 gpd, a net decrease in demand of 283,000 gpd compared to the Proposed Project. Both this alternative and the Proposed Project would result in an increase in water demand within the City. Similar to the Proposed Project, this alternative will require acquisition of additional Allowed Pumping Allocation (APA) that would be obtained through purchase or lease of APA from other water rights holders within the Central Basin. Furthermore, with the acquisition

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
<b>City of Downey</b>								
23	Ardis Avenue & Imperial Highway	AM	0.528	A	0.546	A	0.018	No
		PM	0.535	A	0.620	B	0.085	No
33	Bellflower Boulevard & I-105 Eastbound Ramps	AM	0.658	B	0.701	C	0.043	No
		PM	0.711	C	0.826	D	0.115	No
32	Bellflower Boulevard & I-105 Westbound Ramps	AM	0.699	B	0.746	C	0.047	No
		PM	0.675	B	0.754	C	0.079	No
34	Bellflower Boulevard & Foster Road	AM	0.756	C	0.765	C	0.009	No
		PM	0.659	B	0.689	B	0.030	No
24	Bellflower & Imperial Highway	AM	1.173	F	1.241	F	0.068	Yes
		PM	1.224	F	1.353	F	0.129	Yes
25	Bellflower Boulevard & Congressman Steve Horn Way	AM	0.447	A	0.489	A	0.042	No
		PM	0.440	A	0.532	A	0.092	No
27	Bellflower Boulevard & Stewart and Gray Road	AM	0.725	C	0.835	D	0.110	No
		PM	0.717	C	0.846	D	0.129	No
26	Bellflower Boulevard & Washburn Road	AM	0.527	A	0.631	B	0.104	No
		PM	0.455	A	0.742	C	0.287	No
73	Brookshire Avenue & Firestone Boulevard	AM	0.616	B	0.625	B	0.009	No
		PM	0.802	D	0.831	D	0.029	No
72	Brookshire Avenue & Florence Avenue	AM	0.655	B	0.658	B	0.003	No
		PM	0.778	C	0.782	C	0.004	No
74	Brookshire Avenue & Imperial Highway	AM	0.761	C	0.766	C	0.005	No
		PM	0.750	C	0.763	C	0.013	No
31	Clark Avenue & Foster Road	AM	0.691	B	0.700	B	0.009	No
		PM	0.533	A	0.554	A	0.021	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
22	Clark Avenue & Imperial Highway	AM	0.671	B	0.699	B	0.028	No
		PM	0.583	A	0.645	B	0.062	No
53	Downey Avenue & Alameda Street	AM	0.417	A	0.421	A	0.004	No
		PM	0.454	A	0.466	A	0.012	No
51	Downey Avenue & Firestone Boulevard	AM	0.584	A	0.603	B	0.019	No
		PM	0.798	C	0.822	D	0.024	No
50	Downey Avenue & Florence Avenue	AM	0.675	B	0.676	B	0.001	No
		PM	0.682	B	0.684	B	0.002	No
55	Downey Avenue & Gardendale Street	AM	0.516	A	0.516	A	0.000	No
		PM	0.555	A	0.555	A	0.000	No
54	Downey Avenue & Imperial Highway	AM	0.721	C	0.727	C	0.006	No
		PM	0.608	B	0.623	B	0.015	No
52	Downey Avenue & Stewart and Gray Road	AM	0.584	A	0.592	A	0.008	No
		PM	0.735	C	0.768	C	0.033	No
103	Erickson Avenue & Imperial Highway Eastbound Ramps <sup>c</sup>	AM	8.9 sec	A	8.9 sec	A		No
		PM	8.3 sec	A	8.3 sec	A		No
		AM	0.286	-	0.286	-	0.000	
		PM	0.256	-	0.256	-	0.000	
102	Erickson Avenue & Imperial Highway Westbound Ramps <sup>c</sup>	AM	10.1 sec	B	10.1 sec	B		No
		PM	8.6 sec	A	8.6 sec	A		No
		AM	0.308	-	0.308	-	0.000	
		PM	0.241	-	0.241	-	0.000	
105	Lakewood Boulevard & 3 <sup>rd</sup> Street-Stonewood Street	AM	0.391	A	0.413	A	0.022	No
		PM	0.545	A	0.603	B	0.058	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
40	Lakewood Boulevard & 5 <sup>th</sup> Street	AM	0.840	D	0.864	D	0.024	No
		PM	0.918	E	0.990	E	0.072	No
19	Lakewood Boulevard & Alameda Street	AM	0.382	A	0.414	A	0.032	No
		PM	0.548	A	0.655	B	0.107	No
16	Lakewood Boulevard & Bellflower Boulevard	AM	0.553	A	0.583	A	0.030	No
		PM	0.557	A	0.639	B	0.082	No
104	Lakewood Boulevard & Cherokee Drive	AM	0.519	A	0.540	A	0.021	No
		PM	0.642	B	0.685	B	0.043	No
20	Lakewood Boulevard & Clark Avenue	AM	0.421	A	0.459	A	0.038	No
		PM	0.480	A	0.554	A	0.074	No
75	Lakewood Boulevard & Clela Street	AM	0.469	A	0.503	A	0.034	No
		PM	0.431	A	0.485	A	0.054	No
76	Lakewood Boulevard & Donovan Street	AM	0.604	B	0.646	B	0.042	No
		PM	0.476	A	0.533	A	0.057	No
41	Lakewood Boulevard & Firestone Boulevard <sup>a</sup>	AM	0.813	D	0.861	D	0.048	No
		PM	0.837	D	0.956	E	0.119	No
39	Lakewood Boulevard & Florence Avenue	AM	0.872	D	0.893	D	0.021	No
		PM	0.936	E	0.984	E	0.048	No
38	Lakewood Boulevard & Gallatin Road	AM	1.090	F	1.107	F	0.017	No
		PM	1.077	F	1.123	F	0.046	Yes
29	Lakewood Boulevard & Gardendale Street	AM	0.907	E	0.917	E	0.010	No
		PM	0.926	E	0.959	E	0.033	No
28	Lakewood Boulevard & I-105 Westbound Ramps/Eastbound Off-Ramp	AM	0.685	B	0.737	C	0.052	No
		PM	0.832	D	0.896	D	0.064	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
37	Lakewood Boulevard & I-5 Southbound Ramps	AM	0.689	B	0.739	C	0.050	No
		PM	0.716	C	0.806	D	0.090	No
21	Lakewood Boulevard & Imperial Highway	AM	0.663	B	0.719	C	0.056	No
		PM	0.792	C	0.874	D	0.082	No
18	Lakewood Boulevard & Landing Center Driveway	AM	0.414	A	0.443	A	0.029	No
		PM	0.610	B	0.726	C	0.116	No
30	Lakewood Boulevard & Rosecrans Avenue <sup>a</sup>	AM	0.799	C	0.816	D	0.017	No
		PM	0.879	D	0.907	E	0.028	No
17	Lakewood Boulevard & Stewart and Gray Road	AM	0.777	C	0.833	D	0.056	No
		PM	0.885	D	1.001	F	0.116	Yes
36	Lakewood Boulevard & Vista Del Rosa Street/I-5 Northbound Off-Ramp	AM	0.726	C	0.742	C	0.016	No
		PM	0.916	E	0.962	E	0.046	No
48	Little Lake Road/I-605 Southbound Ramps & Florence Avenue	AM	0.795	C	0.801	D	0.006	No
		PM	0.950	E	0.958	E	0.008	No
69	Old River School Road & Firestone Boulevard & Burns Avenue	AM	0.713	C	0.717	C	0.004	No
		PM	0.954	E	0.966	E	0.012	No
71	Old River School Road & Imperial Highway	AM	0.772	C	0.774	C	0.002	No
		PM	0.767	C	0.774	C	0.007	No
70	Old River School Road & Stewart and Gray Road	AM	0.739	C	0.741	C	0.002	No
		PM	0.739	C	0.743	C	0.004	No
68	Old River School Road/Tecum Road & Florence Avenue	AM	0.855	D	0.857	D	0.002	No
		PM	0.982	E	0.984	E	0.002	No
62	Paramount Boulevard & Alameda Street	AM	0.649	B	0.653	B	0.004	No
		PM	0.691	B	0.707	C	0.016	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
60	Paramount Boulevard & Firestone Boulevard	AM	0.875	D	0.882	D	0.007	No
		PM	0.996	E	1.014	F	0.018	No
59	Paramount Boulevard & Florence Avenue	AM	0.931	E	0.936	E	0.005	No
		PM	1.067	F	1.076	F	0.009	No
64	Paramount Boulevard & Gardendale Street	AM	0.663	B	0.665	B	0.002	No
		PM	0.761	C	0.765	C	0.004	No
57	Paramount Boulevard & I-5 Northbound Ramps	AM	0.758	C	0.758	C	0.000	No
		PM	1.035	F	1.044	F	0.009	No
58	Paramount Boulevard & I-5 Southbound Ramps	AM		F	***sec	F	-	No
		PM		F	***sec	F	-	No
		AM	0.890	-	0.892	-	0.002	
		PM	1.093	-	1.102	-	0.009	
63	Paramount Boulevard & Imperial Highway	AM	0.813	D	0.816	D	0.003	No
		PM	0.953	E	0.967	E	0.014	No
61	Paramount Boulevard & Stewart and Gray Road	AM	0.840	D	0.849	D	0.009	No
		PM	0.928	E	0.936	E	0.008	No
56	Paramount Boulevard & Telegraph Road	AM	0.835	D	0.842	D	0.007	No
		PM	0.853	D	0.866	D	0.013	No
65	Rives Avenue & Firestone Boulevard	AM	0.678	B	0.685	B	0.007	No
		PM	0.738	C	0.747	C	0.009	No
67	Rives Avenue & Imperial Highway <sup>b</sup>	AM	14.9 sec	B	15.1 sec	C	-	No
		PM	14.5 sec	B	15.0 sec	B	-	No
		AM	0.490	-	0.493	-	0.003	
		PM	0.507	-	0.521	-	0.014	

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
66	Rives Avenue & Stewart and Gray Road	AM	0.572	A	0.574	A	0.002	No
		PM	0.682	B	0.692	B	0.010	No
35	Rosemead Boulevard & Telegraph Road <sup>a</sup>	AM	1.039	F	1.046	F	0.007	No
		PM	1.215	F	1.227	F	0.012	No
47	Stewart and Ray Road & Firestone Boulevard	AM	0.609	B	0.635	B	0.026	No
		PM	0.846	D	0.916	E	0.070	No
49	Studebaker Road & Florence Avenue	AM	0.850	D	0.853	D	0.003	No
		PM	0.841	D	0.845	D	0.004	No
42	Woodruff Avenue & Firestone Boulevard (E)	AM	0.618	B	0.618	B	0.000	No
		PM	0.672	B	0.672	B	0.000	No
46	Woodruff Avenue & Foster Road	AM	0.501	A	0.504	A	0.003	No
		PM	0.552	A	0.565	A	0.013	No
45	Woodruff Avenue & Imperial Highway	AM	0.721	C	0.737	C	0.016	No
		PM	0.797	C	0.821	D	0.024	No
43	Woodruff Avenue & Stewart and Gray Road	AM	0.525	A	0.547	A	0.022	No
		PM	0.656	B	0.712	C	0.056	No
44	Woodruff Avenue and Washburn Road	AM	0.457	A	0.457	A	0.000	No
		PM	0.496	A	0.496	A	0.000	No
<b>City of Bellflower</b>								
10	Bellflower Boulevard & Alondra Boulevard	AM	0.633	B	0.635	B	0.002	No
		PM	0.800	C	0.801	D	0.001	No
12	Bellflower Boulevard & Beverly Street/SR-91 Eastbound Ramps	AM	0.880	D	0.881	D	0.001	No
		PM	0.861	D	0.861	D	0.000	No
9	Bellflower Boulevard & Compton Boulevard	AM	0.756	C	0.758	C	0.002	No
		PM	0.823	D	0.828	D	0.005	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
8	Bellflower Boulevard & Rosecrans Avenue	AM	0.765	C	0.769	C	0.004	No
		PM	0.815	D	0.820	D	0.005	No
11	Bellflower Boulevard & SR-91 Westbound Off-Ramp	AM	0.791	C	0.792	C	0.001	No
		PM	1.003	F	1.003	F	0.000	No
5	Clark Avenue & Alondra Boulevard	AM	0.646	B	0.651	B	0.005	No
		PM	0.813	D	0.822	D	0.009	No
4	Clark Avenue & Compton Boulevard	AM	0.654	B	0.662	B	0.008	No
		PM	0.707	C	0.720	C	0.013	No
7	Clark Avenue & Palm St/SR-91 Eastbound On-Ramp	AM	0.591	A	0.592	A	0.001	No
		PM	0.646	B	0.649	B	0.003	No
3	Clark Avenue & Rosecrans Avenue	AM	0.570	A	0.578	A	0.008	No
		PM	0.644	B	0.660	B	0.016	No
6	Clark Avenue & SR-91 Westbound Off-Ramp	AM	0.487	A	0.488	A	0.001	No
		PM	0.627	B	0.631	B	0.004	No
90	Lakewood Boulevard & Alondra Boulevard	AM	0.728	C	0.730	C	0.002	No
		PM	1.031	F	1.040	F	0.009	No
89	Lakewood Boulevard & Compton Boulevard/Somerset Boulevard	AM	0.903	E	0.914	E	0.011	No
		PM	0.939	E	0.952	E	0.013	No
1	Lakewood Boulevard & Park Street/SR-91 Westbound Ramps	AM	0.641	B	0.643	B	0.002	No
		PM	0.821	D	0.824	D	0.003	No
2	Lakewood Boulevard & SR-91 Eastbound Ramps	AM	0.640	B	0.642	B	0.002	No
		PM	0.727	C	0.729	C	0.002	No
15	Woodruff Avenue & Alondra Boulevard	AM	0.760	C	0.762	C	0.002	No
		PM	0.971	E	0.978	E	0.007	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
14	Woodruff Avenue & Compton Boulevard	AM	0.592	A	0.598	A	0.006	No
		PM	0.626	B	0.635	B	0.009	No
13	Woodruff Avenue & Rosecrans Avenue	AM	0.835	D	0.842	D	0.007	No
		PM	0.856	D	0.874	D	0.018	No
<b>City of Norwalk</b>								
87	Firestone Boulevard & Imperial Highway/Orr and Day Road <sup>a</sup>	AM	0.757	C	0.769	C	0.012	No
		PM	0.799	C	0.827	D	0.028	No
79	Flatbush Avenue/I-605 Southbound Ramps & Imperial Highway	AM	0.754	C	0.760	C	0.006	No
		PM	0.820	D	0.827	D	0.007	No
81	Flatbush Avenue/I-605 Southbound Off-Ramp & Rosecrans Avenue	AM	0.756	C	0.757	C	0.001	No
		PM	0.881	D	0.885	D	0.004	No
78	Hoxie Avenue/I-605 Northbound Ramps & Firestone Boulevard	AM	0.910	E	0.932	E	0.022	No
		PM	0.907	E	0.933	E	0.026	No
80	Hoxie Avenue & Imperial Highway	AM	0.770	C	0.774	C	0.004	No
		PM	0.969	E	0.984	E	0.015	No
82	I-605 Northbound Off-Ramp/I-105 Westbound On-Ramp & Rosecrans Avenue	AM	0.713	C	0.716	C	0.003	No
		PM	0.892	D	0.897	D	0.005	No
77	I-605 Southbound Ramps & Firestone Boulevard	AM	0.838	D	0.873	D	0.035	No
		PM	0.970	E	1.034	F	0.064	Yes
88	Pioneer Boulevard & Imperial Highway	AM	1.026	F	1.040	F	0.014	No
		PM	0.925	E	0.938	E	0.013	No
83	Studebaker Road & Firestone Boulevard	AM	0.809	D	0.826	D	0.017	No
		PM	0.875	D	0.895	D	0.020	No
84	Studebaker Road & Imperial Highway	AM	0.861	D	0.868	D	0.007	No
		PM	0.817	D	0.830	D	0.013	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
86	Studebaker Road & Rosecrans Avenue	AM	0.836	D	0.838	D	0.002	No
		PM	0.967	E	0.972	E	0.005	No
85	Studebaker Road & I-105 Westbound On-Ramp/Eastbound Off-Ramp	AM	0.874	D	0.875	D	0.001	No
		PM	0.834	D	0.838	D	0.004	No
<b>City of Paramount</b>								
93	Downey Avenue & Alondra Boulevard	AM	0.912	E	0.914	E	0.002	No
		PM	0.814	D	0.820	D	0.006	No
91	Downey Avenue & Rosecrans Avenue	AM	0.995	E	0.999	E	0.004	No
		PM	1.071	F	1.077	F	0.006	No
92	Downey Avenue & Somerset Boulevard	AM	0.783	C	0.784	C	0.001	No
		PM	0.785	C	0.789	C	0.004	No
94	Paramount Boulevard & Rosecrans Avenue	AM	0.776	C	0.777	C	0.001	No
		PM	0.860	D	0.863	D	0.003	No
95	Paramount Boulevard & Somerset Boulevard	AM	0.888	D	0.888	D	0.000	No
		PM	0.911	E	0.911	E	0.000	No
<b>City of South Gate</b>								
98	Garfield Avenue & Firestone Boulevard	AM	0.941	E	0.946	E	0.005	No
		PM	1.244	F	1.255	F	0.011	No
99	Garfield Avenue & Imperial Highway	AM	0.688	B	0.690	B	0.002	No
		PM	0.719	C	0.726	C	0.007	No
100	I-710 Northbound Off-Ramp & Firestone Boulevard	AM	0.818	D	0.822	D	0.004	No
		PM	0.999	E	1.011	F	0.012	No
101	I-710 Southbound Off-Ramp & Firestone Boulevard	AM	0.850	D	0.856	D	0.006	No
		PM	1.085	F	1.098	F	0.013	No

**Table VI-8  
Summary of Intersection Level of Service Analysis - Future (2020) Conditions-Alternative E: All-Commercial**

Map No.	Intersection	Peak Hour	Future (2020) Without Project		Future (2020) With Project Alternative E		Project Increase in V/C	Significant Impact
			V/C	LOS	V/C	LOS		
96	Paramount Boulevard & Somerset Ranch Road North	AM	0.875	D	0.875	D	0.000	No
		PM	0.891	D	0.891	D	0.000	No
97	Paramount Boulevard & Somerset Ranch Road South	AM	0.736	C	0.736	C	0.000	No
		PM	0.827	D	0.829	D	0.002	No
<p><sup>a</sup> Los Angeles County Congestion Management Program (CMP) monitoring location.</p> <p><sup>b</sup> Unsignalized intersections - stop-controlled on all approach.</p> <p><sup>c</sup> Unsignalized intersections - stop-controlled on minor approach(es).</p> <p>Source: Raju Associates, Inc., November 2008.</p> <p>Source (table): Christopher A. Joseph &amp; Associates, January 2009.</p>								

of water rights there is sufficient water supply to support the development of the Proposed Project; therefore, there would also be sufficient water supply to meet the development of the Alternative, which would have lower water demand than the Proposed Project. Water service impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### ***Solid Waste***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The All-Commercial Alternative would generate less solid waste for disposal in County landfills than the Proposed Project. Whereas the Proposed Project would generate a net increase of approximately 9,181 pounds-per-day (lbs/day) of solid waste, prior to any recycling activities, the All-Commercial Alternative would generate a net increase of approximately 3,181 lbs/day, a net decrease of 6,000 pounds per day compared to the Proposed Project. The All-Commercial Alternative would generate the same amount of construction debris for disposal as the Proposed Project. Solid waste disposal impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### ***Electricity***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The All-Commercial Alternative would consume less electricity than the Proposed Project. Whereas the Proposed Project would consume a net total of approximately 78,551 kilowatt hours (kWh) of electricity per day, the All-Commercial Alternative would consume a net total of approximately 55,421 kWh of electricity per day, a net decrease of 23,130 kWh per day compared to the Proposed Project. Electrical service impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### ***Natural Gas***

Under the All-Commercial Alternative, only the commercial and hotel uses identified under the Proposed Project would be developed. These commercial and hotel uses would occupy the same 79-acre Project Site, with large scale retail buildings permitted on the eastern approximately 20 acres of the Project Site, facing Bellflower Boulevard. The All-Commercial Alternative would consume less natural gas than the Proposed Project. Whereas the Proposed Project would consume a net amount of approximately 331,213 cubic feet (cf) of natural gas per day, the All-Commercial Alternative would consume approximately 130,213 cf of natural gas per day, a net decrease of 201,000 cf compared to the Proposed Project. Natural gas service impacts associated with the All-Commercial Alternative would be less than significant, same as the Proposed Project.

### **Relationship to Project Objectives**

The All-Commercial Alternative would not avoid the significant and unavoidable environmental impacts associated with the Proposed Project, but would have reduced significant and unavoidable impacts compared to the Proposed Project with respect to regional operational air emissions because of its reduced scale. While this Alternative would meet most of the project objectives, it would not meet the following project objective:

- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.

### **F. ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

In addition to the discussion and comparison of impacts of a proposed project and the alternatives, Section 15126.6 of the CEQA Guidelines requires that an “environmentally superior” alternative be identified and the reasons disclosed. In general, the environmentally superior alternative is the alternative that has the greatest potential to reduce or avoid the significant adverse impacts of the Proposed Project, while meeting some or all of the project objectives. Based on the alternatives analysis provided above and the Alternatives Comparison Table (see Table VI-9), the No Project/No Development Alternative would reduce or avoid many of the significant adverse impacts of the Proposed Project. Of the five alternatives examined, only the No Project/No Development Alternative would avoid the significant and unavoidable effects of the Proposed Project with respect to construction air quality and construction noise. However, this alternative would fail to meet most of the project objectives including:

- To create a new and unique regional destination for Downey.
- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.
- To facilitate development that is compatible with surrounding land uses.
- To achieve an environment reflecting a high level of concern for architecture, landscape, and urban design principles by developing a high quality, comprehensively-designed project.
- To provide community amenities such as new community gathering places, new restaurants, and new and unique entertainment opportunities in a manner that confers a public benefit, while still adequately addressing the economic viability of the project.
- To create a pedestrian-friendly environment with well-designed and connected spaces in the public realm.

**Table VI-9  
Alternatives Comparison**

<b>Impact Area</b>	<b>Proposed Project Impact With Mitigation</b>	<b>Alternative A: No Project/No Development</b>	<b>Alternative B: No Project/Existing Specific Plan Build-out Alternative</b>	<b>Alternative C: Reduced Density</b>	<b>Alternative D: Reduced-Site Alternative</b>	<b>Alternative E: All-Commercial Alternative</b>
Aesthetics						
Visual Character	Less Than Significant (LTS)	LTS	LTS	LTS	LTS	LTS
Light and Glare	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Shade and Shadow	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Air Quality						
Construction	Significant and Unavoidable (SU)	LTS	SU (Same)	SU (Same)	SU (Same)	SU (Same)
Operation	Significant and Unavoidable	LTS	SU (Lower)	SU (Lower)	SU (Same)	SU (Lower)
Greenhouse Gases	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Cultural Resources	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Geology and Soils	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Hazards and Hazardous Materials	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Hydrology and Water Quality						
Water Quality	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Groundwater	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Flooding	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Land Use and Planning	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Noise						
Construction Noise	Significant and Unavoidable	LTS	SU (Same)	SU (Same)	SU (Same)	SU (Same)
Operational Noise	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Population, Housing, and Employment	Less Than Significant	LTS	LTS	LTS	LTS	LTS

**Table VI-9  
Alternatives Comparison**

<b>Impact Area</b>	<b>Proposed Project Impact With Mitigation</b>	<b>Alternative A: No Project/No Development</b>	<b>Alternative B: No Project/Existing Specific Plan Build-out Alternative</b>	<b>Alternative C: Reduced Density</b>	<b>Alternative D: Reduced-Site Alternative</b>	<b>Alternative E: All- Commercial Alternative</b>
Public Services						
Fire Protection	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Police Protection	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Schools	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Recreation and Parks	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Libraries	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Traffic/Transportation/Parking	Less Than Significant	LTS	SU (Higher)	LTS	LTS	LTS
Utilities						
Wastewater	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Water	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Solid Waste	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Electricity	Less Than Significant	LTS	LTS	LTS	LTS	LTS
Natural Gas	Less Than Significant	LTS	LTS	LTS	LTS	LTS

- To provide unique new retail opportunities for Downey residents.
- To facilitate development of new and unique hotel uses that include conference and meeting space.
- To create new and good-paying jobs by facilitating development of modern office space.
- To positively impact the City of Downey's fiscal tax base.

The CEQA Guidelines require, when a no project alternative is identified as environmentally superior alternative, another alternative must be identified as the environmentally superior alternative.

Accordingly, the All-Commercial Alternative is identified as the environmentally superior alternative. The All-Commercial Alternative would have similar significant and unavoidable impacts as the Proposed Project with respect to construction and construction noise and would reduce the significant and unavoidable impacts of the Proposed Project with respect to regional operational air emissions. Moreover, the All-Commercial Alternative would meet the project objectives except for the following:

- To transform the central portion of the former NASA Industrial site by facilitating redevelopment that creates new hotel, office, retail, restaurant, and, to the extent permitted by environmental conditions, residential uses.

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## VII. PREPARERS OF THE EIR AND PERSONS CONSULTED

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## VIII. ACRONYMS AND ABBREVIATIONS

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AAM	Annual Arithmetic Mean
ACE	Acceptance Checkout Equipment facilities
ACM	air conditioner machine
ACMs	Asbestos-Containing Materials
AEP	Association of Environmental Professionals
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
Basin	South Coast Air Basin
bgs	below ground surface
BMPs	best management practices
C	Center Zone
CAA	Federal Clean Air Act
CAAQS	California ambient air quality standards
CA H2 Net	California Hydrogen Highway Network
CAT	Climate Action Team
CB	Central Groundwater Basin
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CIWMB	California Integrated Waste Management Board
cf	cubic feet
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CMP	Congestion Management Program
CO	carbon monoxide
COHb	carboxyhemoglobin
COR	Corridor Zone
CRHR	California Register of Historical Resources
cVOC	chlorinated volatile organic compounds
CWA	Clean Water Act
DART	Downey Area Recycling and Transfer Facility
DCL	Downey City Library
DEIR	Draft Environmental Impact Report
DFD	Downey Fire Department
DLSP	Downey Landing Specific Plan
DMC	City of Downey Municipal Code
DPD	Downey Police Department
DPW	City of Downey Department of Public Works

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DWR	California Department of Water Resources
DTSC	Department of Toxic Substances Control
DUSD	Downey Unified School District
EAP II	Energy Action Plan II
EE	Energy Efficiency
EIR	Environmental Impact Report
EMSCO	E.M. Smith Company
ERD	Enhanced Reductive Dechlorination
FEMA	Federal Emergency Management Agency
Fish and Game	California Department of Fish and Game
GCCOG	Gateway Cities Council of Governments
GHG	greenhouse gas
GCASP	General Construction Activity Stormwater Permit
GWP	global warming potential
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HFCs	hydrofluorocarbons
HHW	Household Hazardous Waste
HSWA	Hazardous and Solid Waste Act
HWCL	Hazardous Waste Control Law
IRAD	International Risk Assumption Downey, LLC
IRZ	In-situ Reactive Zone
ITS	Intelligent Transportation Systems
kWh	kilowatt/hour
KW-Hours	kilowatt hours
LACO	Los Angeles County
LACSD	Los Angeles County Sanitation Districts
LACTMA	Los County Angeles Metropolitan Transportation Authority
LARWQCB	Los Angeles Regional Water Quality Control Board
LBP	Lead-based paint
lbs/day	pounds per day
LNG	liquid natural gas
LOS	Level of Service
LST	localized significance threshold
MACE	Missile, Airframe, and Control Equipment
MBTA	The Migratory Bird Treaty Act
METRO	Metropolitan Service District
MMcf	million cubic feet
mgd	million gallons per day
MOA	Memorandum of Agreement
msl	mean sea level
MTA	Metropolitan Transportation Authority
MWD	Metropolitan Water District

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NAAQS	national ambient air quality standards
NAHB	National Association of Homebuilders
NAHC	Native American Heritage Commission
NAR	North American Rockwell
NASA	National Aeronautics and Space Administration
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NERC	North American Electric Reliability Council
NFA	No Further Action
NG	Neighborhood Zone
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCBs	Polychlorinated biphenyls
PCE	tetrachloroethene
PFCs	perfluorocarbons
PM <sub>2.5</sub>	fine particulate matter
PM <sub>10</sub>	respirable particulate matter
ppd	pounds per day
ppm	parts per million
PUC	Public Utilities Commission (also see CPUC)
R-3	Medium Density Residential
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act
ROGs	reactive organic gases
ROSES	Rockwell Operational Software Engineering System
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
S&ID	Space and Information Systems Division
SARA	Superfund Amendment and Reauthorization Act
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Gas Company
sf	square feet
SF <sub>6</sub>	sulfur hexafluoride

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SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>4</sub>	sulfates
SONGS	San Onofre Nuclear Generating Station
SOPA	Society of Professional Archaeologists
SO <sub>x</sub>	sulfur oxides
SRA <sub>s</sub>	source receptor areas
SRRE	Source Reduction and Recycling Element
SUSMP	Standard Urban Stormwater Mitigation Plan
SVE	soil vapor extraction
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC <sub>s</sub>	toxic air contaminants
TCE	trichloroethene
TCP <sub>s</sub>	traditional cultural properties
TMDL	Total Maximum Daily Loads
TRU	transportation refrigeration units
TSCA	Toxic Substances Control Act
UCLA	University of California, Los Angeles
USC	University of Southern California
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
VOC	Volatile Organic Compound
WECC	Western Electricity Coordinating Council
WRD	Water Replenishment District of Southern California
WRP	Whittier Narrows Water Reclamation Plant
µg/m <sup>3</sup>	micrograms per cubic meter