

# Cathedral Square

Project# P05-161

State Clearing House # 2006042162

## Draft Envíronmental Impact Report

PREPARED FOR THE CITY OF SACRAMENTO

March 2007



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#### DRAFT ENVIRONMENTAL IMPACT REPORT Cathedral Square Project (P05-161)

State Clearing House # 2006042162

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1. INTRODUCTION

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## INTRODUCTION

#### 1.0 INTRODUCTION

The Cathedral Square Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act of 1970 (CEQA) as amended. The City of Sacramento is the lead agency for the environmental review of the Cathedral Square project and has the principal responsibility for approving the project. As required by Section 15121 of the California Environmental Quality Act Guidelines (CEQA Guidelines), this Environmental Impact Report (EIR) assesses the potential environmental impacts resulting from approval, construction, and operation of the proposed project, and identifies feasible means of minimizing potential adverse environmental impacts.

#### 1.1 **PROJECT DESCRIPTION**

The project site is located at the southwest corner of 11<sup>th</sup> and J Streets in the downtown area of the City of Sacramento, and is currently occupied by four buildings ranging from one to three stories. The buildings are primarily vacant, but contain a small amount of retail and restaurant uses. The properties surrounding the site include an office building and Elks Lodge building to the north, commercial to the west, an office building and church to the east, and an art gallery and theater to the south. All surrounding properties are zoned commercial (C-3 SPD). The property consists of Assessor's Parcel Numbers 006-0103-007, 006-0103-008, 006-0103-009 and 006-0103-015.

The project involves the demolition of the existing structures and the construction of a 25-story, 472,020 square foot (sq. ft.) building located on 0.67 acres. The Cathedral Square project would contain 233 residential units, approximately 10,100 sq. ft. of ground floor retail, and 326 parking stalls.

The proposed building would be 25 stories high and approximately 250 feet in height. The building would have a 30-foot step back along 11<sup>th</sup> Street above the 5th floor (approximately 70 feet high) to preserve the Capitol View Corridor. The lobby would be located on 11<sup>th</sup> Street to create a more pedestrian friendly entrance. The building would have six general floor plate components: below ground level, the first floor, the second through the fourth floor, the fifth floor, the residential tower, and penthouse levels.

#### 1.2 PURPOSE OF EIR

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues.

The EIR is an informational document that informs decision makers and the general public of the potential significant environmental effects of a proposed project. An EIR must identify possible means to minimize the significant effects and describe a reasonable range of feasible alternatives to the project. The lead agency, which is the City of Sacramento for this project, is required to consider the information in the EIR along with any other available information in deciding whether to approve the application. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

#### 1.3 TYPE OF DOCUMENT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project level EIR* pursuant to CEQA guidelines Section 15161. This type of analysis examines the environmental impacts of a specific development project. A *project level EIR* should focus primarily on the changes in the environment that would result from the development of the project. The EIR should examine all phases of the project including planning, construction, and operation.

#### 1.4 Use of Previously Prepared Documentation

The Cathedral Square EIR relies in part on data, environmental evaluations, mitigation measures and other components of EIRs and plans prepared by the City for areas within the project vicinity. These documents are listed here and used as source documents for this EIR. All documents are available for public review and inspection at the City of Sacramento Development Services Department, Environmental Planning Services, 2101 Arena Boulevard, Second Floor, Sacramento, California 95834.

- 1. *City of Sacramento General Plan*, City of Sacramento, adopted January 19, 1988, with amendments through September 2000.
- 2. Draft and Final Environmental Impact Report, City of Sacramento General Plan, (SCH #86101310) City of Sacramento, Draft EIR is dated March 2, 1987, and Final EIR is dated September 30, 1987.
- 3. City of Sacramento Zoning Code, City of Sacramento.
- 4. *Guide to Air Quality Assessment in Sacramento County*, Sacramento Metropolitan Air Quality Management District, July 2004.

The Cathedral Square EIR relies mostly on the information contained in the technical reports prepared by subconsultants for the project including the Transportation and Circulation Analysis prepared by Dowling Transportation Consultants (June 2006), the Air Quality Analysis prepared by Don Ballanti (July 2006), the Noise/Vibration Analysis prepared by Bollard Acoustical

Consultants (July 2006), the Cultural/Historical Resources Analysis prepared by Peak & Associates (January 2007), and the Supplemental Cultural/Historical Resources Analysis prepared by Historic Environment Consultants (March 2007).

#### 1.5 EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an initial study. Once the decision is made to prepare an EIR, the lead agency sends a Notice of Preparation (NOP) to appropriate government agencies, and when required, to the State Clearinghouse (SCH) in the Office of Planning and Research (OPR), which ensures that responsible State agencies reply within the required time. The SCH assigns an identification number to the project, which then becomes the identification number for all subsequent environmental documents on the project. Applicable agencies have 30 days to respond to the NOP, indicating, at a minimum, reasonable alternatives and mitigation measures they wish to have explored in the Draft EIR and whether the agency will be a responsible agency or a trustee agency for the project.

As soon as the Draft EIR is completed, a notice of completion is filed with the OPR and a public notice is published to inform interested parties that a Draft EIR is available for agency and/or public review and to provide information regarding location of drafts and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a specified period, typically 45 days, during which time reviewers may make comments. The lead agency must evaluate and respond to comments in writing, describing the disposition of any significant environmental issues raised and explaining in detail the reasons for not accepting any specific comments concerning major environmental issues. Should comments received result in the addition of significant new information to an EIR, after public notice is given, the revised EIR or affected chapters must be recirculated for another public review period with related comments and responses.

Once the lead agency is satisfied that the EIR has adequately addressed the pertinent issues in compliance with CEQA, a Final EIR will be prepared comprised of the Draft EIR, comments, responses to comments, and any errata and/or changes. The Final EIR is made available for review by the public or commenting agencies. Before approving a project, the lead agency shall certify that the Final EIR has been completed in compliance with CEQA; has been presented to the decision-making body of the lead agency; has been reviewed and considered by that body, and that the Final EIR reflects the lead agency's independent judgment and analysis.

A Notice of Preparation (NOP) for this Draft EIR was released for a 30-day review ending May 30, 2006 (See Appendix A). Comments provided by public agencies and the public in response to the NOP were received by the City of Sacramento and are provided in Appendix B. In addition, an Initial Study was prepared to focus the scope of the Cathedral Square EIR (See Appendix C).

The Draft EIR will be circulated for a 45-day public review period. Comments received during the comment period will be addressed in the Final EIR. The City of Sacramento Planning Commission and/or City Council, in accordance with CEQA, will review the Draft and Final EIR prior to certification.

Before approving a project for which a certified Final EIR has identified significant environmental effects, the lead agency must make one or more specific written findings for each of the identified significant impacts. These findings are limited to the following:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of other public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such another agency.
- Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR (CEQA Guidelines, Section 19091 (a)).

If there remain significant environmental effects, even with the adoption of all feasible mitigation measures or alternatives, the agency must adopt a "statement of overriding considerations" before it can proceed with the project. The statement of overriding consideration must be supported by substantial evidence in the record (CEQA Guidelines, Sections 15092, 15093).

These overriding considerations include the economic, legal, social, technological, or other benefits of the proposed project. The lead agency must balance these potential benefits against the project's unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the lead agency may consider the adverse environmental impacts to be "acceptable"(CEQA Guidelines, Section 15093 (a)). These benefits should be set forth in the statement of overriding considerations, and may be based on the Final EIR and/or other information in the record of proceedings (CEQA Guidelines, Section 15093 (b)).

#### 1.6 SCOPE OF THE DRAFT EIR

Pursuant to the State CEQA Guidelines, the scope of this Draft EIR includes specific issues and concerns identified as potentially significant. The Initial Study prepared for the proposed project concluded that potential impacts related to several environmental issues would be considered less-than-significant. The less-than-significant impacts are summarized in Chapter 4.0. Those items identified in the Initial Study as potentially significant are addressed in this Draft EIR.

The City of Sacramento determined that the preparation of an EIR was appropriate due to potentially significant environmental impacts that could be caused by implementing the proposed project. This Draft EIR evaluates the existing environmental resources in the vicinity of the project site, analyzes potential impacts on those resources resulting from the proposed project, and identifies mitigation measures that could avoid or reduce the magnitude of those impacts.

Resources identified for study in this Draft EIR include:

- Aesthetics;
- Air Quality;
- Cultural and Historic Resources;
- Noise and Vibration;
- Public Services and Utilities; and
- Transportation and Circulation.

The evaluation of effects is presented on a resource-by-resource basis in Chapters 4.1 through 4.6. Each sub-chapter is divided into four sections: Introduction, Existing Environmental Setting, Regulatory Background, and Impacts and Mitigation Measures.

Impacts that are determined to be significant in Chapter 4, and for which feasible mitigation measures are not available to reduce those impacts to a less-than-significant level, are identified as *significant and unavoidable*. Chapter 5 in the Draft EIR presents a discussion and comprehensive list of all significant and unavoidable impacts presented in Chapter 4.

#### 1.7 LEAD AGENCY, RESPONSIBLE AGENCY, PROJECT SPONSOR, AND CONTACT PERSONS

The City of Sacramento (City) is the lead agency for preparation of the Cathedral Square Project EIR. Sections 15050 and 15367 of the State CEQA Guidelines define the lead agency as the public agency, which has the principal responsibility for carrying out or approving a project.

The environmental consultant to the City is Raney Planning and Management, Inc. with subconsultants Dowling Transportation (transportation and circulation analysis), Don Ballanti (air quality analysis), Bollard Acoustical Consultants (noise/vibration analysis), Historic Environment Consultants (historical resources analysis), and Peak & Associates (cultural/historical resources analysis). Preparers and contributors to this report are listed in Chapter 8 of this EIR. The key lead agency contact person is:

City of Sacramento Environmental Project Manager Mr. Michael Parker, Assistant Planner 2101 Arena Boulevard, Suite 200 Sacramento, CA 95834 916- 808-7483 Fax: 916-808-7189

#### 1.8 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Sacramento received six comment letters on the Notice of Preparation (NOP) for the Cathedral Square EIR. A copy of each letter is provided in Appendix B of this EIR. The letters were authored by representatives of state, county and local agencies, and project area residents

identified below. The primary comments and/or concerns stated in each letter are briefly listed below and directed, when applicable, to the appropriate section(s) of the EIR.

The following state agencies, county agencies, local agencies, and project area land owners submitted comments on the Cathedral Square NOP:

- Haggard, Wendy <u>Sacramento Regional County Sanitary District (SRCSD)</u> Ms. Haggard indicated that the project is within the limits of SRCSD and the Urban Service Boundary (USB). The project is outside the boundary of County Sanitation District-1 (CSD-1). SRCSD facilities and the master plan does not propose any projects within the area. The above concerns are addressed in Chapter 4.5, **Public** Services & Utilities.
- De Terra, Bruce Office of Transportation
  - Mr. De Terra indicated that the City would be incorporating the project trips generation numbers into a Downtown Traffic Study, which would be used to identify cumulative impacts to the State Highway System from development downtown determining appropriate mitigation measures and proportional funding levels. In addition, Mr. De Terra states that any traffic impacts would require mitigation. The above concerns are addressed in Chapter 4.6, **Transportation & Circulation**.
- Borkenhagen, Jeane <u>Sacramento Metropolitan Air Quality District</u> Ms. Borkenhagen requests that the proposed project follow the SMAQD Guidelines with respect to construction-related NO<sub>x</sub> and PM<sub>10</sub> emissions. Concerns are addressed in Chapter 4.2, **Air Quality**.
- Garcia-Heberger, Sid <u>Crest Theatre</u> Mr. Garcia-Heberger indicates that the management team at the Crest Theatre is concerned about the impacts related to construction and operation of the project on their business. The above issues are addressed in Chapter 4.4 and Chapter 4.6, Noise & Vibration and Transportation & Circulation, respectively.
- Shupe, Gerald A. <u>Briggs Family Trust</u> Mr. Shupe indicates that the management team at Briggs Family Trust is concerned about the following impacts related to construction and operation of the project on tenants located in their building: 1011-1025 K Street.
  - Loss of tenants to construction activity;
  - Utility disruption;
  - Vibrations from pile driving; and
  - Alleyway access for businesses on K Street.

The above issues are addressed in Chapter 4.4 and Chapter 4.6, Noise & Vibration and Transportation & Circulation, respectively.

- Morgan, Scott <u>State Clearinghouse</u> The State Clearinghouse letter distributes information to responsible agencies for their comment. The letter does not present issues or concerns regarding the Cathedral Square project.
- Mike Mirmazaheri <u>Department of Water Resources</u> The DWR letter indicates that the project my be subject to Reclamation Board jurisdiction if any excavation or construction activities are proposed within floodways, levees, and 10 feet landward of landside levee toes.

The above issues are addressed in the Initial Study, included as Appendix C of the DEIR.

#### 1.9 ORGANIZATION OF THE DRAFT EIR

The Draft EIR is organized into the following sections:

#### **Chapter 1 - Introduction**

Provides an introduction and overview describing the intended use of the Draft EIR and the review and certification process.

#### **Chapter 2 - Executive Summary**

Summarizes the elements of the project and the environmental impacts that could result from implementation of the proposed project and provides a table which lists impacts, describes proposed mitigation measures, and indicates the level of significance of impacts after mitigation.

#### **Chapter 3 - Project Description**

Provides a detailed description of the proposed project, including its location, background information, major objectives, and technical characteristics.

#### **Chapter 4 - Environmental Setting, Impacts, and Mitigation Measures**

Describes the existing land use setting for the project, including the proposed project's relationship to adopted plans and policies. Chapter 4 also contains a project-specific analysis of environmental issue areas. The subsection for each environmental issue contains an introduction and description of the setting of the project site, identifies project-specific impacts and recommends appropriate mitigation measures.

#### **Chapter 5 - CEQA Considerations**

Provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts, potential growth-inducing impacts, secondary impacts, and significant irreversible changes to the environment.

#### **Chapter 6 - Project Alternatives**

Describes the alternatives to the proposed project.

#### **Chapter 7 - References**

Provides bibliographic information for all references and resources cited.

#### **Chapter 8 - EIR Authors and Persons Consulted**

Lists report authors who provided technical assistance in the preparation and review of the Draft EIR.

#### Appendices

Include the NOP, responses to the NOP, the Initial Study and Environmental Checklist, Air Quality Analysis, Noise Analysis, and additional technical information.

## 2. EXECUTIVE SUMMARY

### **EXECUTIVE SUMMARY**

#### 2.0 INTRODUCTION

This summary chapter provides an overview of the Cathedral Square (proposed project) and the conclusions of the environmental assessment. Chapter 3 provides a detailed description of the project, and Chapter 4, Sections 4.1 through 4.6, provide the environmental analysis and assessment. The Executive Summary Chapter also summarizes the impacts of the alternatives to the proposed project that are described in Chapter 6, Project Alternatives.

#### 2.1 **PROJECT DESCRIPTION**

The project site is located on the southwest corner of 11<sup>th</sup> and J Streets in the downtown area of the City of Sacramento, and is currently occupied by four buildings ranging from one to three stories. The buildings are primarily vacant, but contain a small amount of retail and restaurant uses. The properties surrounding the site include an office building and Elks Lodge building to the north, commercial to the west, an office building and church to the east, and an art gallery and theater to the south. All surrounding properties are zoned commercial (C-3 SPD). The property consists of Assessor Parcel Numbers 006-0103-007, 006-0103-008, 006-0103-009 and 006-0103-015.

The project involves the demolition of the existing structures and the construction of a 25-story, 472,020 square foot (sq. ft.) building located on 0.67 acres. The Cathedral Square project would contain 233 residential units, approximately 10,100 sq. ft. of retail, and 326 parking stalls (See figures included in Chapter 3).

The proposed building would be 25 stories high, approximately 250 feet in height. The building would have a 30-foot step back along 11<sup>th</sup> Street above the 5<sup>th</sup> floor (at approximately 70 feet high) to preserve the Capitol View Corridor. The Lobby would be located on 11<sup>th</sup> Street to create a more pedestrian friendly entrance. The building would have six general floor plate components: below ground level, the first floor, the second through the fourth floor, the fifth floor, the residential tower, and penthouse levels.

#### 2.2 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. For these areas, this Draft EIR discusses the impacts and mitigation measures that could be implemented by the City of Sacramento to reduce potential adverse impacts to a level that is considered less-than-significant. The impacts and mitigation measures are also summarized in Table 2-1 at the end of this chapter. An impact that remains significant

after mitigation is considered an unavoidable adverse impact of the proposed project. The mitigation measures presented in the Draft EIR form the basis of the Mitigation Monitoring Program.

#### Aesthetics

Aesthetic values are found in scenic qualities of natural and urbanized environments and include natural areas, architecture, and historic sites. The Aesthetics section of the Draft EIR describes existing visual and aesthetic resources for the project site and vicinity, and evaluates potential impacts of the project with respect to development of the area. In addition, the Sacramento General Plan goals and policies pertaining to aesthetics are described.

The Aesthetics analysis determined that impacts pertaining to the creation of light and/or glare affecting adjacent property from the project would be reduced to less-than-significant with the incorporation of mitigation measures identified in the section. In addition, the section concluded that the degradation of visual character and shadows cast on adjacent property would result in less-than-significant impacts.

#### Air Quality

The Air Quality section provides discussion of the potential air quality impacts of the proposed project, including those associated with both project construction and project operation. The analysis also includes air quality impacts from both stationary and mobile sources, along with the potential affects associated with changes in air quality, exposure of sensitive receptors to substantial pollutant concentrations, cumulative emissions, and long term effects. In addition, the project's relationship and conformity with the General Plan air quality policies, State and regional air quality plans, and Sacramento Metropolitan Air Quality Management District impact thresholds are analyzed.

The Air Quality analysis determined that particulate matter emissions from project construction would be reduced to less-than-significant with the incorporation of mitigation measures identified in the section. In addition, the section concluded that temporary emissions of nitrogen oxides, increases in carbon monoxide concentrations, increases in ozone precursors, wind effects, and contributions to the cumulative increase in ozone precursors would result in less-than-significant impacts.

#### **Cultural and Historic Resources**

This section of the EIR addresses known historic and prehistoric resources in the project vicinity and the potential for unknown resources to exist. The analysis summarizes the existing setting and briefly describes the potential effects to historical, archaeological, and paleontological resources. The analysis both identifies the thresholds of significance of possible impacts associated with the project, and develops mitigation measures.

The Cultural/Historic Resources analysis determined that impacts to previously unknown archaeological resources would be reduced to less-than-significant with the incorporation of

mitigation measures identified in the section. However, the section concluded that even with incorporation of mitigation measures, impacts to historical buildings, the Copenhagen Alley District, and impacts to underground sidewalks on-site would be significant and unavoidable. This impact would lead to significant contribution to the cumulative loss of historic resources, which would also be significant and unavoidable.

#### Noise and Vibration

This chapter describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to the conversion and operation of the proposed Cathedral Square project, including the potential noise and vibration impacts due to construction. The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant impacts to levels that are less-than-significant.

The Noise & Vibration analysis determined that the project related increase in existing traffic noise levels, the effects of traffic noise levels on the project outdoor residential activity area, commercial/loading dock noise, current traffic noise, and cumulative traffic noise would result in less-than-significant impacts. Impacts related to traffic noise levels in interior residential areas were found to be significant, but were reduced to less-than-significant with the incorporation of mitigation measures identified in the section. However, demolition noise, construction noise, and pile-driving vibrations from the project would be significant and unavoidable.

#### **Public Services and Utilities**

The Public Services and Utilities chapter describes the public service systems and facilities in the project area and the associated potential impacts resulting from the development of the proposed project. Utilities and services considered in the analysis include water supply, stormwater/wastewater treatment and collection, solid waste collection and disposal, electric power, and natural gas. The Public Services and Utilities chapter also discusses thresholds of significance for impacts, and develops mitigation measures and monitoring strategies.

The Public Services and Utilities section determined that solid waste/recycling impacts would be reduced to a less-than-significant level with the incorporation of mitigation measures identified in the section. In addition, the section concludes that the increased demand for water supply, stormwater/wastewater collection and treatment, gas and electric facilities, and cumulative impacts to public services and facilities would result in less-than-significant impacts.

#### **Transportation and Circulation**

This section summarizes the effects on the transportation and circulation system resulting from vehicle trips associated with the proposed development of the project site under baseline conditions and cumulative conditions. Mitigation measures proposed reflect City policies and practices, while considering phasing, feasibility, and the availability of right-of-way.

#### Baseline Plus Project

The Transportation and Circulation analysis found the impacts pertaining to 13 study intersections, freeway mainline and ramp queue, pedestrian circulation, and transit systems under baseline conditions plus project are considered to be less-than-significant. The analysis found that that the proposed project would result in significant impacts to on-site circulation (vehicle circulation on the streets, alleys, and driveways adjacent to the project), freeway merge/diverge/weave areas, bicycle circulation, and parking under baseline plus project conditions. The impacts pertaining to bicycle circulation, onsite circulation, and parking would be reduced to less-than-significant with the incorporation of mitigation measures identified in the section. However, impacts to freeway merge/diverge/weave areas would remain significant and unavoidable.

#### Near-Term Plus Project (2013)

The section found significant impacts to the 13 study intersections, freeway mainline, freeway merge/diverge/weave areas, and ramp queues in the year 2013 scenario. The impacts pertaining to the study intersection would be reduced to less-than-significant with the incorporation of mitigation measures identified in the section. However, impacts to freeway mainline, freeway merge/diverge/weave areas, and ramp queues would remain significant and unavoidable. The analysis also found the impacts pertaining transit systems, bikeways, and pedestrian circulation under near-term plus project are considered to be less-than-significant.

#### Long-Term Plus Project (2030)

The section found that long-term plus project would have significant impacts to 13 study intersections, freeway mainline, freeway merge/diverge/weave areas, and ramp queues in the year 2030 scenario. The impacts pertaining to the study intersections would be reduced to less-than-significant with the incorporation of mitigation measures identified in the section. However, impacts to freeway mainline, freeway merge/diverge/weave areas, and ramp queues would remain significant and unavoidable.

#### 2.3 SUMMARY OF PROJECT ALTERNATIVES

The following summary describes the alternatives to the proposed project that are evaluated for environmental impacts in this Draft EIR. For a complete discussion of project alternatives, see Chapter 6, Project Alternatives.

#### Alternatives Considered But Dismissed

- Off Site Alternative; and
- All Office Alternative.

#### Off Site Alternative

The Off Site Alternative concludes that the construction of the proposed project be constructed on an alternative project site location. The Offsite Alternative would have the same type and intensity of uses as the proposed project and would therefore, generate the same type of environmental impacts as the proposed project. In addition, the Applicant does not own an alternative location in which to construct the proposed project. Therefore, a feasible off site location that would meet the requirements of the proposed project, as well as meet the applicant's objectives, does not exist.

#### All Office Alternative

The All Office Alternative would involve the construction of a high-rise office building with ground floor retail on the project site, consistent with the existing zoning. The alternative would not include residential uses. The All Office Alternative is considered to be impracticable because office and retail uses would generate significantly more vehicle trips than residential uses, the cultural and historical resources impacts would be the same, and the alternative would not meet the basic objectives of the project to provide high-density urban housing in the Central Business District.

#### Alternatives Considered

- No Project Alternative;
- Reduced Intensity Alternative; and
- Historic Preservation Alternative.

#### No Project Alternative

Under the No Project Alternative, the proposed project would not be constructed, and the site would remain in the present state. The No Project Alternative would not result in any construction-related impacts or traffic impacts as identified for the proposed project.

#### Reduced Intensity Alternative

Under the Reduced Intensity Alternative, the proposed project would have reductions pertaining to building height, number of residential units, and square footage of living space. The alternative would reduce the building to 17 stories, the number of residential units to 154, and the square footage of living space to approximately 169,000 square feet of living space. The alternative would not reduce the amount of commercial and office space. The Reduced Intensity Alternative would reduce construction-related impacts, aesthetics, noise, and traffic related impacts identified for the proposed project.

#### Historic Preservation Alternative

The Historic Preservation Alternative would involve the redesign of the proposed project to incorporate portions of the Underground Features and the Copenhagen Alley District into the

design and facade of the proposed project. In particular, the rear elevations would be preserved and attached to the rear elevation of the proposed tower. This alternative would preserve much of the architectural detail from the alleyway. However, the historic quality of the buildings includes their spatial relationship to each other. Under the Historic Preservation Alternative (Brick-by-Brick Method), the variety of façade depths would be lost. As a result, although the alternative would result in a reduced impact, the impact to cultural resources would remain significant.

#### **Environmentally Superior Alternative**

In addition to the discussion and comparison of impacts of the alternatives to the proposed project, CEQA requires that an "environmentally superior" alternative be selected and the reasons for such selection disclosed. The environmentally superior alternative must reduce the overall impact of the proposed project.

The No Project Alternative would be the environmentally superior alternative to the proposed project because the alternative would not result in the redevelopment of the project site. As a result, traffic would not be increased and subsequently air quality in the vicinity of the site would not be further impacted, etc. However, because the No Project Alternative would not achieve any of the project objectives, the environmentally superior alternative would be the Reduced Intensity Alternative. The Reduced Intensity Alternative would achieve the objectives outlined for the project. As stated above, the Reduced Intensity Alternative would reduce the residential space, but would not reduce the commercial and office space. Under the Reduced Intensity Alternative, fewer vehicle trips would be generated and air quality impacts would be reduced.

#### 2.4 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The following table (Table 2-1) summarizes the impacts identified in the environmental assessment section of this Draft EIR. The level of significance of each impact, any mitigation measures required for each impact, and the resultant level of significance after mitigation are also shown.

	Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation	
			<b>4.1</b> A	esthetics		
4.1-1	The proposed project could substantially degrade the existing visual character or quality of the project site and its surrounding uses by conflicting with applicable City policies or design guidelines.	LS	4.1-1	None required.	N/A	
4.1-2	The proposed project could create substantial shadows over public open space.	LS	4.1-2	None required.	N/A	
4.1-3	The proposed project could create light or glare that could cause public hazard or annoyance for a sustained period of time.	PS	4.1-3	Highly reflective mirrored glass walls shall not be used as a primary building material for façades. Instead, Low E glass or an equivalent approved by the City's Development Services Department, shall be used in order to reduce the reflective qualities of the building.	LS	
4.1-4	The proposed project could create light or glare that could cause public hazard or annoyance for a sustained period of time.	LS	4.1-4	None required.	N/A	
4.1-5	The proposed project, in	LS	4.1-5	None required.	N/A	

	Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation	
	combination with cumulative development in the Central City, could create cumulative light or glare that could affect adjacent properties.					
			4.2 Air (	Quality		
4.2-1	Particulate matter emissions (PM <sub>10</sub> ) from project- associated construction activities.	PS	4.2-1(a)	The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non- compliant equipment. A visual survey of all in- operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing	LS	

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation	
		4.2-1(b)	<ul> <li>in this section shall supercede other SMAQMD or state rules or regulations.</li> <li>Prior to issuance of a grading permit, the applicant/developer shall incorporate the following measures into the construction contract documents, which shall be submitted for the review and approval of the City Engineer:</li> <li>Strict compliance with SMAQMD's Rule 403, or approved equivalent, shall be written into construction contracts.</li> <li>Keep soil moist at all times.</li> <li>Maintain at least two feet of freeboard (i.e. the minimum required space between the top of the load and the top of the trailer) for any hauling vehicles containing potential particulate matter.</li> <li>Use emulsified diesel or diesel catalysts on applicable heavy-duty construction equipment.</li> <li>Water soil piles three times daily.</li> </ul>		

	Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Level of Significance prior to MitigationMitigation MeasuresS					Level of Significance after Mitigation		
4.2-2	Construction of the proposed project could result in temporary emissions of Nitrogen Oxides.	LS	4.2-2	None required.	N/A		
4.2-3	Project Traffic would result in an increase in carbon monoxide concentrations.	LS	4.2-3	None required.	N/A		
4.2-4	Development of the project would result in increases in emission of ozone precursors.	LS	4.2-4	None required.	N/A		
4.2-5	Wind effects on the proposed project.	LS	4.2-5	None required.	N/A		
4.2-6	Development of the project would generate emissions of ozone precursor emissions that contribute to a cumulative regional impact.	LS	4.2-6	None required.	N/A		
		4	4.3 Cultura	al Resources	Γ		
4.3-1	Project grading could unearth previously unknown archaeological resources.	PS	4.3-1(a)	Prior to the issuance of grading permits, an archeological monitor shall be hired by the applicant and approved by the City to train the construction grading crew prior to commencement of demolition and excavation activity in regard to the types of artifacts, rock, or bone that they are likely to find, and when work shall be stopped for	LS		

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>further evaluation. One trained crew member shall be on-site during all demolition and excavation activities, with the assigned responsibility of "monitor". If any earth-moving activities uncove artifacts, exotic rock, or unusual amounts of bond or shell, work shall be halted in the immediate area of the find and shall not be resumed untit after the archeological monitor has inspected and evaluated the deposit and determined the appropriate means of curation. The appropriate mitigation measures may include as little a recording the resource with the California Archaeological Inventory database or as much a excavation, recordation, and preservation of the sites that have outstanding cultural or historia significance.</li> <li>4.3-1(b) Prior to construction in right-of-way, the applicant shall coordinate removal and storage of granite.</li> </ul>			
		<ul> <li>curbs and corners with the City's Department of Transportation.</li> <li>4.3-1(c) During construction, if bone is uncovered that may be human, the California Native American Heritage Commission, located in Sacramento, and the California Californi California California California Californ</li></ul>			

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation
				Should human remains be found, the Coroner's office shall be immediately contacted and all work halted until final disposition by the Coroner. Should the remains be determined to be of Native American descent, the Native American Heritage Commission shall be consulted to determine the appropriate disposition of such remains.	
4.3-2	Impacts to historic buildings.	S	4.3-2	The applicant shall create an interpretive display in the new building that reflects the age, history and character of the project area buildings. Historically important individuals and businesses were associated with this early downtown block. Their lives and contributions to the Sacramento community could be included in an informative and interesting display. The display shall be submitted to the Preservation Director for review and approval prior to building occupancy.	SU
4.3-3	Impacts to the Copenhagen Alley District.	S	4.3-3(a)	Prior issuance of Demolition Permits, the architectural design shall be revised to integrate some design aspects of the alley façade, with respect to the scale of details and appropriate compatible materials, into the new construction. The revised design treatment shall include alley- compatible materials that would recall the detail concepts of the former buildings in terms of scale, detail, simplicity and spatial features. The addition	SU

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation			
		of contemporary bay windows in appropriate proportions and scale would at least reflect the historic concept of living above the stores that was so much a part of downtown life for many decades. This would not reduce the impact of the Project but would make the new construction more compatible with the remainder of the alley and provide a pertinent historic reference. In addition, the buildings should be recorded photographically and the images used in an interpretive display at some location on the site of the new building(s). The revised design and interpretive display shall be submitted for the review and approval of the Preservation Director.				
		4.3-3(b) The applicant shall prepare an interpretative display featuring the spatial aspects and relationships of the buildings and the alley. The display shall include a three dimensional model for display on the Project site that illustrates the spatial relationships of the Copenhagen Alley District, and demonstrating the importance of these relationships to the original alley configuration and experience. The display shall be submitted for the review and approval of the Preservation Director prior to building occupancy.				

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES						
	Level of Significance prior to MitigationMitigation Measures		Level of Significance after Mitigation			
4.3-4	Impacts to underground sidewalks.	S	4.3-4	The applicant shall retain in place the segment of the underground sidewalk area at 1020 J Street, stabilize the segment, and use the segment as an interpretive display that helps explain how and why the downtown city streets were raised circa 1869. Viewing the actual final configuration contributes substantially to understanding the "hollow sidewalk" features and history, a unique Sacramento heritage. The segments to be retained shall be shown on plans submitted, including a temporary shoring plan, for the review and approval of the Preservation Director prior to the issuance of Demolition Permits for the remaining elements of the proposed project.	SU	
4.3-5	Disturbance or destruction of previously unknown archaeological resources in combination with other development in the Sacramento area.	S	4.3-5	Implement Mitigation Measures 4.3-1 to 4.3-4.	SU	
4.4 Noise and Vibration						
4.4-1	Demolition and Construction Noise Impacts.	S	4.4-1	None feasible.	SU	
4.4-2	Project-Related Increase in Existing Traffic Noise Levels.	LS	4.4-2	None required.	N/A	
4.4-3	Traffic Noise Levels at	LS	4.4-3	None required.	N/A	
NI = No Impact; N/A = Not Applicable; LS = Less-than-Significant; PS = Potentially Significant; S = Significant; SU = Significant and Unavoidable						

	Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
Impact		Level of Significance prior to Mitigation	Mitigation Measures		Level of Significance after Mitigation		
	Proposed Outdoor Residential Activity Areas on the Project Site.						
4.4-4	Traffic Noise Levels at Proposed Interior Residential Areas on the Project Site.	PS	4.4-4	All residential windows, which face J Street, shall have a minimum Sound Transmission Class (STC) rating of 32. This requirement shall be indicated on the building drawings and in the contract specifications.	LS		
4.4-5	Commercial/Loading Dock Noise at Existing and Proposed Residential Uses.	LS	4.4-5	None required.	N/A		
4.4-6	Construction-induced vibration impact.	S	4.4-6(a)	<ul> <li>Compliance with the following mitigation measures shall be indicated on the building drawings for the review and approval of the City Building Official prior to the issuance of the building permit.</li> <li>All pile driving holes shall be pre-drilled.</li> <li>Provide protective coverings or temporary shoring of historic features on or underneath adjacent buildings as directed by the City Building Official.</li> </ul>	SU		

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES							
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation			
			<ul> <li>The pre-existing condition of all buildings within a 50-foot radius shall be recorded in order to evaluate damage from construction activities. Fixtures and finishes within a 50-foot radius of construction activities susceptible to damage shall be documented (photographically and in writing) prior to construction.</li> <li>If fire sprinkler failures are reported in adjacent buildings, the contractor shall provide increased monitoring of adjacent buildings during construction and repairs to sprinkler systems shall be provided as soon as practicable after being informed of the damage.</li> </ul>				
		4.4-6(b)	Should damage occur to adjacent structures despite the above measures, construction operations shall be halted and the problem activity shall be identified. A qualified engineer shall establish vibration limits based on soil conditions and the types of buildings in the immediate area. The contractor shall monitor the buildings				
	Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES						
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	Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation		
				throughout the remaining construction period and follow all recommendations of a qualified structural engineer to repair any damage that has occurred to the pre-existing state, and to avoid any further structural damage. The project applicant shall be responsible for repairing any damaged areas to pre-existing conditions.			
4.4-7	Future (Cumulative) increase in traffic noise levels.	LS	4.4-7	None required.	N/A		
		4.5 P	Public Ser	vices and Utilities			
4.5-1	Impacts related to increased demand for water supply.	LS	4.5-1	None required.	N/A		
4.5-2	Increased demand for stormwater and wastewater collection and treatment.	LS	4.5-2	None required.	N/A		
4.5-3	Increased demand for solid waste disposal/recycling services.	PS	4.5-3	Prior to the commencement of demolition, the project developer shall submit a recycling plan for construction materials to the City Building Official for review and approval. The plan shall include which materials would be acceptable for disposal in the sanitary landfill or be recycled/reused. Documentation of the material type, amount, where taken and receipts for verification and certification statements shall be included in the plan. The project developer shall submit a performance	LS		

	Table 2-1     SUMMARY OF IMPACTS AND MITIC ATION MEASURES						
	Impact     Level of Significance prior to Mitigation     Mitigation     Measures						
				deposit, as established in the project's conditions of approval with the City to ensure recycling of demolition materials. In addition the project developer shall cover all staff costs related to the review, monitoring and enforcement of this condition through the deposit account.			
4.5-4	Impacts to gas and electric facilities.	LS	4.5-4	None required.	N/A		
4.5-5	Long-term impacts to public services and facilities from the proposed project in combination with existing and future developments in the Sacramento area.	LS	4.5-5	None required.	N/A		
		4.6 Tra	ansportat	ion and Circulation			
4.6-1	Impacts to study intersections under baseline plus project conditions.	NI	4.6-1	None required.	N/A		
4.6-2	Impacts to freeway mainline under baseline plus project conditions.	LS	4.6-2	None required.	N/A		
4.6-3	Impacts to freeway merge/diverge/weave area under baseline plus project conditions.	S	4.6-3	None feasible.	SU		
<b>4.6-4</b>	Impacts to freeway ramp	LS	4.6-4	None required.	N/A		

Table 2-1     SUMMARY OF IMPACTS AND MUTICATION MEASURES						
	Impact	Level of Significance prior to Mitigation		Level of Significance after Mitigation		
	queue under baseline plus project conditions.					
4.6-5	Impacts to transit system under baseline plus project conditions.	LS	4.6-5	None required.	N/A	
4.6-6	Impacts to bicycle circulation under baseline plus project conditions.	PS	4.6-6	Bicycle access consistent with the City of Sacramento Bikeway Master Plan shall be provided between J Street and the alley at the south edge of the project site.	LS	
4.6-7	Impacts to pedestrian circulation under baseline plus project conditions.	LS	4.6-7	None required.	N/A	
4.6-8	Impacts to on-site circulation under baseline plus project conditions.	PS	4.6-8	Restrict loading dock operation to off-peak hours. This would minimize conflict between vehicles maneuvering into or out of the loading dock and traffic on J Street.	LS	
4.6-9	Impacts to parking under baseline plus project conditions.	PS	4.6-9	Prior to the issuance of grading permits, the project proponent shall revise the project site plans to demonstrate compliance with the City of Sacramento bicycle parking requirements for the review and approval of the City Development Services Department and Development Engineering Department	LS	
4.6-10 NI =	Impacts to study intersections under near term plus project condition.	PS = Less-than-Signi	4.6-10(a)	At the 3 <sup>rd</sup> Street / J Street intersection, modify the traffic signal phase splits during the a.m. peak period by increasing the phase time for the Potentially Significant: S = Significant; SU = Significant and	LS Unavoidable	

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>southbound I-5 off-ramp approach (eastbound) to 40 seconds, maintaining the 50 second phase time for the northbound I-5 off-ramp, and decreasing the north and southbound 3<sup>rd</sup> Street phase time to 10 seconds. This mitigation measure would reduce average vehicle delay by 33 seconds during the a.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(b) At the 3<sup>rd</sup> Street / L Street intersection, modify the westbound approach to provide one left-turn lane, two through lanes (to the northbound I-5 onramp), and one right-turn lane. This mitigation measure would reduce average vehicle delay by 40 seconds during the p.m. peak hour and maintain LOS C operations during the a.m. peak hour. The mitigation measure would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the city by 40 seconds during the p.m. peak hour and maintain LOS C operations during the a.m. peak hour. The mitigation measure would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and restriping of this intersection.</li> </ul>			

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>4.6-10(c) At the 3<sup>rd</sup> Street / N Street intersection, modify the traffic signal phase splits during the a.m. peak period by increasing the southbound 3<sup>rd</sup> Street signal phase time to 34 seconds, decreasing the eastbound N Street approach to 15 seconds, and maintaining the phase time for the eastbound Tower Bridge approach at 21 seconds. This mitigation measure would improve traffic operations to LOS C during the a.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(d) At the 3<sup>rd</sup> Street / P Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 32 seconds for the westbound 3<sup>rd</sup> Street approach and decreasing the southbound 3<sup>rd</sup> Street approach to 18 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level.</li> </ul>			

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(e) At the 5<sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the westbound L Street approach and decreasing the northbound and southbound 5<sup>th</sup> Street approaches to 42 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a less-thansignificant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation.</li> </ul>			
		4.6-10(f) At the 7 <sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 22 seconds for the westbound L Street approach and decreasing the northbound and southbound 5 <sup>th</sup> Street approaches to 28 seconds. This mitigation measure would improve traffic operations to LOS			

Table 2-1           SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>C during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(g) At the 8<sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 25 seconds for the westbound L Street approach and decreasing the northbound 8<sup>th</sup> Street signal phase time to 25 seconds. This mitigation measure would improve traffic operations to LOS B during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> </ul>			
		4.6-10(h) At the 9 <sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the eastbound J Street approach and decreasing the southbound 9 <sup>th</sup> Street signal phase			

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation	
		4.6-10(i)	time to 22 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a <b>less-than-significant</b> level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection. At the 10 <sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the eastbound J Street approach and decreasing the northbound 10 <sup>th</sup> Street signal phase time to 22 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a <b>less-than-significant</b> level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.		
		4.6-10(j)	At the 12 <sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 22		

Table 2-1         SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>seconds for the eastbound J Street approach and decreasing the 12<sup>th</sup> Street signal phase time to 28 seconds This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(k) At the 15<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the phase time for the eastbound J Street approach to 30 seconds, and decreasing the southbound 15<sup>th</sup> Street signal phase time to 20 seconds. This mitigation measure would reduce average vehicle delay by 61.4 seconds during the p.m. peak hour and would reduce the near-term cumulative impact to a less-thansignificant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation for the applicant of the southbourd 15<sup>th</sup> Street signal phase time to 20 seconds. This mitigation measure would reduce average vehicle delay by 61.4 seconds during the p.m. peak hour and would reduce the near-term cumulative impact to a less-thansignificant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> </ul>			
		4.6-10(l) At the $15^{th}$ Street / X Street intersection, modify the			

Table 2-1           SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>traffic signal phase splits during the p.m. peak period by increasing the phase time for the southbound 15<sup>th</sup> Street approach to 28 seconds, decreasing the eastbound U.S. 50 off-ramp phase time to 28 seconds, and maintaining 17 seconds for the X Street approach. This mitigation measure would reduce average vehicle delay by 34.4 seconds during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-10(m) At the 16<sup>th</sup> Street / H Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the phase time for the northbound 15<sup>th</sup> Street approach to 26 seconds, decreasing the phase times for the eastbound H Street left and through movements to 18 and 24 seconds, respectively, and maintaining 6 seconds for the westbound H Street right-turning movement. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a less-than-significant level. The</li> </ul>			

Table 2-1       SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation	
			applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection		
4.6-11 Impacts to freeway mainline under near term plus project condition.	S	4.6-11	None feasible.	SU	
4.6-12 Impacts to freeway merge / diverge / weave areas under near term plus project condition.	S	4.6-12	None feasible.	SU	
4.6-13 Impacts to freeway ramp queues under near term plus project condition.	S	4.6-13	None feasible.	SU	
4.6-14 Impacts to transit system under near term plus project condition.	LS	4.6-14	None required.	N/A	
4.6-15 Impacts to bikeway under near term plus project condition.	LS	4.6-15	None required.	N/A	
4.6-16 Impacts to pedestrian circulation under near term plus project condition.	LS	4.6-16	None required.	N/A	
4.6-17 Impacts to study intersection under long term plus project condition	PS	4.6-17(a)	At the 3 <sup>rd</sup> Street / J Street intersection, implement the near-term Mitigation Measure (a) (modification of signal phase splits) and also	LS	

Table 2-1           SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation		
		<ul> <li>modify the lanes on the southbound I-5 off-ramp approach (eastbound) to provide one combination left-through lane, one through lane, one combination through-right lane, and one exclusive right turn lane. This mitigation measure would reduce average vehicle delay during the a.m. peak hour by 32.5 seconds and would improve traffic operations during the p.m. peak hour to LOS C. This mitigation measure would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and restriping of this intersection.</li> <li>4.6-17(b) At the 3<sup>rd</sup> Street / L Street intersection, implement the near-term Mitigation Measure (b) (modification of the westbound approach lanes) and also modify the traffic signal phase splits during the p.m. peak period by increasing the southbound 3<sup>rd</sup> Street approach to 23 seconds, decreasing the westbound L Street signal phase time to 38 seconds, and decreasing the northbound 3<sup>rd</sup> Street left-turning movement to 9 seconds. This mitigation measure would reduce average vehicle delay by 43.5 seconds during the p.m. peak hour</li> </ul>			

Table 2-1           SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul> <li>and provide LOS C traffic operations during the a.m. peak hour. This mitigation measure would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-17(c) At the 3<sup>rd</sup> Street / N Street intersection, implement the near-term Mitigation Measure (c) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the a.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> </ul>	
		4.6-17(d) At the 3 <sup>rd</sup> Street / P Street intersection, implement the near-term Mitigation Measure (d) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact	

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation
		4.6-17(e)	to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection. At the 5 <sup>th</sup> Street / I Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 30 seconds for the northbound and southbound 5 <sup>th</sup>	
			Street approaches and decreasing the westbound I Street approach to 70 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than- significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.	
		4.6-17(f)	At the 5 <sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (e) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact	

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation
			to a <b>less-than-significant</b> level.	
		4.6-17(g)	At the 7 <sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (f) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a <b>less-than-significant</b> level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.	
		4.6-17(h)	At the 8 <sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (g) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS B during the p.m. peak hour and would reduce the long-term cumulative impact to a <b>less-than-significant</b> level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.	
		4.0-17(1)	the near-term Mitigation Measure (h)	

SUMMA	Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation	
		<ul> <li>(modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-17(j) At the 10<sup>th</sup> Street / J Street intersection, implement the near-term Mitigation Measure (i) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation fair share to recover the costs of the City's Traffic Operation fair share to recover the costs of the City's Traffic Operation fair share to recover the costs of the City's Traffic Operation.</li> </ul>		
		4.6-17(k) At the 12 <sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the eastbound J Street approach to 23 seconds and decreasing the southbound 12th Street and northbound right-turn		

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES			
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation
		<ul> <li>movement signal phase time to 27 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.</li> <li>4.6-17(1) At the 15<sup>th</sup> Street / J Street intersection, implement the near-term Mitigation Measure (k) (modification of signal phase splits). This mitigation measure would reduce average delay by 59.2 seconds during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation.</li> </ul>	
		4.6-17(m) At the 15 <sup>th</sup> Street / X Street intersection, implement the near-term Mitigation Measure (l) (modification of signal phase splits). This mitigation measure would reduce average vehicle delay by 32.8 seconds during the p.m. peak hour and would	

SUMMA	RY OF IMP	Table ACTS AN	e 2-1 D MITIGATION MEASURES	
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation
		4.6-17(n)	reduce the long-term cumulative impact to a less- than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection. At the 16 <sup>th</sup> Street / H Street intersection, implement the near-term Mitigation Measure (m) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.	
4.6-18 Impacts to freeway mainline under long term plus project condition.	S	4.6-18	None feasible.	SU
4.6-19 Impacts to freeway merge / diverge / weave areas under long term plus project condition.	S	4.6-19	None feasible.	SU

SUMMA	RY OF IMP	Tab ACTS A	ole 2-1 ND MITIGATION MEASURES	
Impact	Level of Significance prior to Mitigation		Mitigation Measures	Level of Significance after Mitigation
4.6-20 Impacts to freeway ramp queues under long term plus project condition.	S	4.6-20	None feasible.	SU
	I	Initia	al Study	
VII Hazards and Hazardous Materials.	PS	VII-1	Prior to issuance of a demolition permit by the City for any on-site structures, the project proponent shall provide a site assessment which determines whether any structures to be demolished contain asbestos and/or lead-based paint. If any structures contain asbestos, the application shall include an asbestos abatement plan consistent with local, state, and federal standards, subject to the City Building Official approval.	LS
		VII-2	Prior to the issuance of demolition permits for existing onsite structures, the project proponent shall provide a site assessment, which determines whether any structures to be demolished contain lead-based paint. If such paint is found all loose and peeling paint shall be removed and disposed of by a licensed and certified lead paint removal contractor, in accordance with local, state, and federal regulations. The demolition contractor	

Table 2-1 SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance prior to Mitigation	Mitigation Measures	Level of Significance after Mitigation	
		shall be informed that all paint on the buildings shall be considered as containing lead. The contractor shall take appropriate precautions to protect his/her workers, the surrounding community, and to dispose of construction waste containing lead paint in accordance with local, state, and federal regulations subject to the City Building Official approval.		

# **3. PROJECT DESCRIPTION**

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# **PROJECT DESCRIPTION**

#### 3.0 INTRODUCTION

The Project Description describes the components of the proposed Cathedral Square project, in addition to the background and project objectives.

#### 3.1 **PROJECT LOCATION**

The proposed project is located at the southwest corner of 11<sup>th</sup> and J Streets in the downtown area of the City of Sacramento. (See Figure 3-1, Regional Location Map and Figure 3-2, Project Location.) The project site is identified by the Sacramento County Assessor as APNs 006-0103-007, 006-0103-008, 006-0103-009 and 006-0103-015. The buildings currently on the project site are identified by the street addresses: 1019 J Street, 1020 J Street, and 1024-1030 J Street.

The project site is currently zoned C-3 SPD and is located within the Central Business District Special Planning District. All surrounding properties are also zoned commercial (C-3 SPD) and consist of a vacant office buildings and the Association of California School Administrators office building to the north, the Elks Lodge building to the northeast, a commercial office building to the east, the Cathedral of the Blessed Sacrament to the southeast, Cathedral Square (including the Smith Gallery, CSAC Conference Center in the Historic Ransohoff Building, and Pyramid Alehouse) to the south, and commercial buildings (including Rodney's Cigars & Liquors, J's Café, FTC, Yummy Choice Chinese, and the Patiño Building containing attorney offices and the University of Northern California Lorenzo Patiño School of Law) to the west. The Central Business District area includes approximately 70 blocks in the downtown Sacramento area. The C-3 zone is intended for intense retail, commercial and office development. Residential uses are permitted in the C-3 zone with a Plan Review for apartments or a Special Permit for alternative housing.

#### 3.2 PROJECT SETTING AND SURROUNDING LAND USES

The project site is currently occupied by three buildings and a gravel parking area encompassing approximately 0.67-acres. The on-site buildings were constructed between 1886 and 1915. Of the three buildings, only 1024-1030 J Street is currently occupied on the ground floor by Mother India, Lee's Hair Design, Capitol Clothing Company, and Pacific Promotional Design. The upper floors of 1024-1030 J Street are currently unoccupied. The building at 1019 J Street is currently vacant and has not been occupied since 1994 as a result of extensive fire damage. Due to this damage, the building is uninhabitable and is not in condition for repair or remodel. The building at 1020 J Street is currently vacant and has not been occupied in recent years.



Figure 3-1 Regional Location Map

Draft EIR Cathedral Square March 2007

Figure 3-2 Project Location



#### 3.3 **PROJECT OBJECTIVES**

- Create a development that enhances and revitalizes Downtown Sacramento, specifically the J, K, and L Street Corridors.
- Provide high-density urban development within Downtown to make other Downtown projects more economically viable.
- Provide a restaurant and retail on the ground floor that benefits the residents of the project as well as visitors Downtown.
- Develop a for-sale high-density residential project, which is financially feasible, while maintaining consistency with the City's vision for Downtown.

#### 3.4 PROJECT COMPONENTS

The proposed project includes the construction of a 25-story, 472,020-square foot building with parking, commercial retail, and residential units located on 0.67 acres (See Figure 3-3, Site Plan). Construction would be conducted in three phases over 25 months: demolition (one month), site preparation (two months), building construction and completion of the exterior and interior (22 months).

#### High Rise

The building would be approximately 250 feet in height and would contain a 30-foot step back along 11<sup>th</sup> Street above the 5<sup>th</sup> floor, at approximately 70 feet, to preserve the Capitol View Corridor. The exterior of the building would be precast concrete with glass curtain walls. Finishes used to cover the concrete walls would include smooth stone, split stone, white metal, and stucco (See Figure 3-4, Building Elevations).

#### **Below Ground Levels**

The basement of the building would be divided into two parking levels. Parking level one would contain 77 parking spaces, while level 2 would contain 74 spaces. Levels one and two would be comprised of both designated spaces and tandem spaces. It should be noted that tandem parking requires a Special Permit.

#### Ground floor

The ground floor of the project would comprise approximately 10,000 square feet and be designated primarily for retail. A restaurant with an outdoor café may also occupy the space. The lobby for the residential units of the building would also be located on the ground floor; however, the entrance would be located on 11<sup>th</sup> Street in order to create a more pedestrian-friendly entrance. Additionally, 26 parking spaces would be located on this level. The Mezzanine would also be accessible from the ground floor level.



#### Draft EIR Cathedral Square March 2007





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Rosevilla, CA 95678 (916) 788-8122 (916) 788-0800 Contact: Lynn A. Toth

): 249'-8"
): <b>263'-8</b> "
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**Cathedral Square** 

Condominiums 11th and J Street

1010 11th Street

© 2018 Kwentheast Architecture/Plenning. Inc. New Data Auraria

#### PLANNING REVIEW SUBMITTAL

Data	03.10.2006
Scule	1" = 30'-0"
Project Name.	11th and J Street
Project No.	0516.00

Figure 3-4 **Building Elevations** 



Draft EIR CATHEDRAL SQUARE March 2007

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whor	St. Anton Investors, LLC 1801   Street Suite 202 Secramento, CA 95814 T: (916) 444-9808 F: (916) 444-9808 Contact: Steven Eggert
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ivil Engineer	Psomas 1075 Creekside Ridge Dr. Suite 200 Roseville, CA 95678 (916) 788-8122 (916) 788-0600 Contact: Lynn A. Toth

#### **Cathedral Square**

Condominiums 11th and J Street 1010 11th Street

#### Sacramento, CA 95814

NOTE If this drawing is not 11"x17" it has been size. Scale noted on drawing/details are no lo © 2008 Kwanifeeel Achitecture/Planning, I Rev. Data Remarks

#### PLANNING REVIEW SUBMITTAL

03. 10. 2006 1" = 40'-0"

Project Name:

11th and J Street Sacramento, CA 0515.00

#### **ELEVATIONS** Sheet No.

A3.02

#### Mezzanine floor

The mezzanine level would include 2,446 square feet of commercial space connected to the ground level commercial space. Twenty-three parking spaces would also be located on this level. In addition, the mezzanine would be connected to the ground floor lobby by an elevator.

#### Level 2

Level 2 would contain 58 additional parking spaces for the building. Similar to the basement levels, this parking level would also have a combination of designated and tandem parking spaces.

#### **Residential Levels**

The project would provide 233 residential units on floors 3 through 25. The residential tower and penthouse levels would be located above the fifth floor. Units would range in size from 730 sq. ft. to 2,000-plus sq. ft. In addition, the  $5^{th}$  floor would include 1,543 sq. ft. of community space and a pool.

#### Infrastructure

In addition to the proposed project building, the project would include water, sewer, and drainage infrastructure in order to serve the site.

#### Water System

The project site is served by a system of water mains providing key connection points, which would serve the Cathedral Square site. A 12-inch main would be constructed between 10<sup>th</sup> and 11<sup>th</sup> Street and connect to existing City water main. Additionally, an 8-inch line would be constructed for both residential and retail components of the building to satisfy fire flow requirements. The water lines would be installed in the alley located between J Street and K Street. The proposed project would include 4-inch domestic water lines for the residential component of the project, and a 2-inch domestic water line for the retail component.

#### Wastewater (Sewer) System

The proposed project is served by the combined sewer and storm (CSS) drain system, which is operated by the City of Sacramento. The CSS conveys wastewater to treatment facilities provided by the Sacramento Regional County Sanitation District (SRCSD).

Currently, improvements are being made to the CSS network in anticipation of future growth and to provide additional capacity as outlined in the 2006-2011 Capitol Improvement Plan. The project site would be served by a 12-inch CSS line along 11<sup>th</sup> Street, which would connect to the CSS line in the alleyway. The paved alley between 10<sup>th</sup> and 11<sup>th</sup> Streets contains two sanitary sewer lines. Both sewer lines in the paved alley between 10<sup>th</sup> and 11<sup>th</sup> Street would be removed and replaced by one 21-inch sewer system line.

#### Storm Drainage

Storm drainage for the proposed project would flow from roof drains to the CSS line under the proposed sidewalks of the project site. In addition, stormwater not captured by the roof drains would flow to existing storm drain inlets on both J Street and 11<sup>th</sup> Street, which also flow to the CSS line.

#### 3.5 **PROJECT ENTITLEMENTS**

The City of Sacramento has discretionary authority and is the lead agency for the proposed project. The City's processing of the Cathedral Square application would require approval of the following entitlements:

- Certification of the EIR;
- Tentative Map Approval to subdivide the site into 233 condominium units;
- A Special Permit for a Major Project in order to construct the 472,020 sq. ft., 25-story building in the Central Business District Special Planning District (C-3 SPD) zone;
- Special Permit for condominium development;
- Special Permit for tandem parking;
- Design Review Commission; and
- Preservation Commission review.

# 4. Environmental Setting, Impacts, and Mitigation

# 4.0 INTRODUCTION TO THE ANALYSIS

# **INTRODUCTION TO THE ANALYSIS**

#### 4.0.0 INTRODUCTION

Chapter 4 analyzes the potential impacts of the Cathedral Square Project on a range of environmental issue areas. Sections 4.1 through 4.6 describe the focus of the analysis, references and other data sources for the analysis, the environmental setting as related to the specific issue, project-specific impacts and mitigations measures, and cumulative impacts of the proposed project for each issue area. The format of each of these sections is described below.

#### 4.0.1 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code § 21068). The Guidelines implementing CEQA direct that this determination be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within the impact discussion in each section, and are consistent with significance criteria set forth in the CEQA Guidelines.

#### 4.0.2 ISSUES ADDRESSED IN THIS DRAFT EIR

The Initial Study, included as Appendix C in this DEIR, identified some environmental impacts as potentially significant that required further analysis. The Initial Study includes a full and complete analysis of those issues found to have less-than-significant impacts. This Draft EIR provides the additional analysis necessary to address the technical environmental impacts not fully resolved in the Initial Study. Consistent with the conclusions of the Initial Study, the following environmental issues are addressed in this chapter of the Draft EIR:

- Aesthetics;
- Air quality;
- Cultural and Historic Resources;
- Noise and Vibration;
- Public Services and Utilities; and
- Transportation and Circulation.

#### 4.0.3 SECTION FORMAT

Each section in Chapter 4 addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **environmental setting** as the description pertains to that particular issue. The setting description is followed by the **regulatory background** and the **impacts and mitigation measures** discussion. The *impacts and mitigation measures* discussion contains the **significance** 

**criteria**, followed by the **methods of analysis**. The *impact and mitigation measures* discussion includes impact statements prefaced, by a number in bold-faced type. An explanation of each impact and an analysis of the impacts significance follow each impact statement. All mitigation measures pertinent to each individual impact follow directly after the impact statement. The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below:

#### 4.x-1 Statement of Impact

Discussion of impact for the proposed project in paragraph format.

Statement of *level of significance* of impact prior to mitigation is included at the end of each impact discussion.

#### Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures as well as the applicability of the mitigation measure to the alternative.

- *4.x-1(a) Recommended mitigation measure(s) presented in italics and numbered in consecutive order.*
- $4.x-1(b) \qquad etc. etc.$

# 4.1 AESTHETICS

## AESTHETICS

### 4.1.0 INTRODUCTION

Aesthetic values are found in scenic qualities of natural and urbanized environments and include natural areas, architecture, and historic sites. This section of the EIR describes existing visual and aesthetic resources for the project site and the region, and evaluates potential impacts of the project with respect to urbanization of the area. In addition, the Sacramento General Plan goals and policies pertaining to aesthetics are described. The California Environmental Quality Act (CEQA) describes the concept of aesthetic resources in terms of scenic vistas, scenic resources, the existing visual character or quality of the project site, and light and glare impacts.

The following impact analysis is based on information drawn from the *City of Sacramento General Plan<sup>1</sup>*, the *Draft Environmental Impact Report for the City of Sacramento General Plan Update<sup>2</sup>*, and a shadow study conducted by Kwan Henmni Architecture and Planning (2006). A site survey was also conducted by members of Raney Planning & Management, Inc. in June 2006. Pertinent comments received in response to the Notice of Preparation (NOP) for the proposed project have been integrated into the analysis.

#### 4.1.1 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing condition of visual resources in the Cathedral Square project area, located within the City of Sacramento limits, downtown Sacramento.

#### **Regional Setting**

While the Sacramento region has significant high quality open space areas devoted to agriculture and recreational uses, the City of Sacramento is predominantly an urbanized area. However, Sacramento sits at the confluence of the American and Sacramento Rivers. The City of Sacramento General Plan also identifies "special urban open space qualities which should be preserved" (p. 6-1). A wide variety of plant life both native and non-native exists within the urbanized areas of Sacramento, the most predominant of which is the large number of street trees throughout the City. The General Plan identified approximately 200,000 street and park trees within the City limits, and new plantings surpass removals by about 2,000 per year. The Sacramento Tree Foundation's *State of the Trees Report* (2000) identifies approximately 1.74 million trees within the City of Sacramento with 155,000 publicly managed in park and street settings.

In addition to the vegetative aesthetic resources of the Sacramento region, the Sacramento area contains numerous historic structures listed on both the National Register of Historic Places and the list of State Historical Landmarks; not only for historical significance, but also as

representative examples of various periods of architecture. Many of these historic resources can be considered aesthetic resources because of their visually significant architecture.

#### **Project Area Setting**

The proposed project is located within the City of Sacramento Central Business District (CBD), and the Central City Community Plan Area. The Central City Community Plan boundary encompasses the property lying between the Sacramento River on the west, the American River of the north, Alhambra Boulevard on the east, and Broadway on the south. The properties fronting upon the eastern side of Alhambra Boulevard and the southern side of Broadway are also within the Central City. This area includes downtown Sacramento (CBD), which is characterized by office, commercial, parks, and municipal uses. Municipal uses in the Central City area are distinguished by the California State Capitol building, located on 10<sup>th</sup> Street between L and N Streets. Office uses include mixed-use one-to-three story buildings, as well as multi-story skyscrapers.

Sacramento's downtown skyline is visible from miles around the City, including from eastbound I-80 on the Sacramento-Yolo Causeway, from westbound I-80 above the City of Roseville, from northbound I-5 between Elk Grove and Sacramento, and from southbound I-5 north of the downtown area. Distinctive features of the skyline include the Wells Fargo Center, the California Environmental Protection Agency (EPA) building, the U.S. Federal Courthouse, and by night, the blue light of the Esquire Plaza.

Nearby buildings of similar height as the proposed project include the 230 feet tall Elks Building on the northeast corner of J Street and 11<sup>th</sup> Street, and the 200 feet tall California Western Life Insurance building at 926 J Street. The proposed project would be approximately 20 feet taller than Elks Building located diagonally across J Street. Other buildings in the area range from two to ten stories in height, and would be significantly shorter than the proposed project. In addition, the Metropolitan Project proposed for the northeast corner of 10<sup>th</sup> Street and J Street would, if approved, result in the construction of a 420-foot mixed-use tower.

The project site is bordered by J Street to the north and by 11<sup>th</sup> Street to the east. Commercial property is located to the west of the project site with additional office and professional space situated northerly from the project, across J Street. The Cathedral office building and the Cathedral of the Blessed Sacrament church are located east of the project site across 11<sup>th</sup> Street. The Smith Art Gallery and the Crest Theater are located to the south of the site, across the shared alleyway.

#### **Project Features**

Currently, the project site is occupied by a mixture of one to three story buildings with a variety of architectural styles, colors, signage, and rear setbacks. The existing structures would be demolished and cleared, to allow the construction of a 25-story high-rise condominium and retail facility on the approximately 0.67 acre site. The project would total 472,020 square feet, 252,350 square feet of which would be comprised of 233 residential units. The project would include the
necessary utilities and infrastructure, which would tie into existing off-site infrastructure, to serve the proposed project.

#### **Public and Residential Uses**

Public uses within the vicinity of the proposed project include the State Capitol Building located at 10<sup>th</sup> Street (with Capitol Park to the east of the Capitol). Saint Rose of Lima Park is located at 705 K Street and Chavez Plaza Park is located at 910 I Street. Old Sacramento is located to the west of the proposed project site, across 3<sup>rd</sup> Street and I-5. Old Sacramento is a State Historic Park and includes office and retail uses, as well as a limited number of residential units, museums, a public boat dock, and bike trails adjacent to the Sacramento River that attract tourists. Portions of several downtown skyscrapers are visible from the streets in Old Sacramento and from the Sacramento River to the west.

#### Shadows

The creation of a shadow is not in itself an environmental impact; however, shadows alter the climate of the shaded areas. The construction of tall buildings can lead to new shadows of long duration, which could affect public open spaces. The angle of the sun varies, depending on the time of the year and the time of day. Because the sun is always in the southern portion of the sky, shadows would not be cast by the proposed project on areas to the south. During the winter months, the sun is lower in the southern sky, and during summer months, the sun can be nearly directly overhead at midday. In winter, as the sun rises in the east, a shadow would be cast to the west. As the sun travels from east to west, the shadow would travel easterly; as the sun rises higher in the sky, the shadow would shorten. At midday, the shadow would extend to the north and be shortest. The pattern of shadows would not extend as far in the summer. In addition, because of the climate in Sacramento, shade in the summertime would be considered a benefit.

Potential impacts from the new shadow in urban area are a function of quantity and duration of the new shadow and the sensitivity of users of affected open space to that shadow. Pedestrian sensitivity is primarily a function of the type of activity affected and of climatological factors determining pedestrian comfort. Pedestrian's sensitivity to shadow impact is determined to a great degree by their activity and the time of year. As stated above, because of the hot summer climate in Sacramento, shade would generally be considered a positive benefit. Conversely, shade in the winter would not be considered positive.

Pedestrians in public outdoor areas, including parks, seating areas, and heavily used sidewalks, are considered the primary sensitive receptors to new shadow because activities in these locations are highly sunlight-and microclimate-dependent, and those activities tend to extend for longer periods of time.

#### 4.1.2 REGULATORY BACKGROUND

Specific federal or State regulations do not exist for regulating the visual quality of an area. However, applicable policies and regulations established by the City of Sacramento are listed below.

#### **City of Sacramento Zoning Ordinance**

The Zoning Ordinance is an aesthetic review mechanism used by the City to maintain or improve aesthetics qualities within the City. Established codes regulate location, height, and size of buildings or structures, as well as signs, parking, and landscaping.

#### Sacramento Urban Design Plan and Design Guidelines

The City of Sacramento Development Services Department and Sacramento Housing and Redevelopment Agency adopted the Sacramento Central Business District Urban Design Plan (Urban Design Plan) on February 18, 1987. The Urban Design Plan is organized as a trilogy of documents: the Urban Design Framework, the Architectural Design Guidelines, and the Streetscape Design Guidelines. Each is a resources document that provides policy guidelines to the Design Review Commission, Preservation Commission, Sacramento Housing and Redevelopment Commission, Planning Commission, and the City Council. The Guidelines are intended to be used to give direction rather than prescriptive requirements, and the Design Review Commission and Preservation Commission can interpret individual guidelines. The intent of the Design Guidelines is to insure that all development in the CBD contributes to making the CBD a unique and special place.<sup>3</sup>

The Capitol Corridor Massing Guidelines would also apply to the proposed project. The Massing Guidelines require a 50-foot setback from the centerline of the Capitol View Corridor (11<sup>th</sup> Street). The project site is adjacent to 11<sup>th</sup> Street with the Capitol View Corridor. (See Figure 4.1-1, Capitol View Corridor).

The following policies apply to the proposed project.

- 5.0 <u>Massing Guidelines</u>
- 5.1 Policies
- 2. The massing guidelines create a setting that frames and compliments important landmarks.
- 4. Edges and entries to the downtown are defined and enhanced.

Figure 4.1-1 Capitol Corridor



Chapter 4.1 – Aesthetics

#### 6.0 <u>Building Design Elements-General Requirements</u>

#### 6.1 Color, Texture, and Material

- New developments should respond in a compatible manner to the existing color, texture and materials used on surrounding significant buildings.
- All Major Projects should utilize compatible materials on all four sides of the building.
- The street level portion of the all new developments must use durable and quality materials. Examples of these materials include stone (granite, marble), terra cotta or tile, metal (bronze, chrome baked enamel) brick, transparent glass, etc.
- Recommended materials on the tower portion of a building include terra cotta, precast concrete, glass-fiber reinforced concrete (GFRC), brick tile or other equivalent materials.
- Highly reflective mirrored glass walls as the primary design element should be avoided.
- Extensive use of stucco, wood, composites of thin weather resistant skin over nondurable backing and other non-durable materials should be avoided on buildings over three-stories.
- More than two colors and materials should be incorporated into the design. Intense colors, if used, should be accents. Monochromatic color schemes are discouraged.
- Graffiti resistant coating should be applied on alley elevations.

#### 6.2 Fenestrations

- New developments should provide for a hierarchy of horizontal and vertical expression. Patterns should reflect changes in form and proportion. This approach tends to unify the buildings street wall (and tower) with other architectural features (i.e., building entry, corner elements, or variations in massing setbacks).
- New developments should avoid relentless grids and "egg-crate" fenestration.

#### 6.3 Building Rhythm

- New developments should respect building rhythms of adjacent buildings on the same block-face.
- Facades should employ several related rhythms and avoid repetition of one or very few elements at all levels.

#### 6.4 Off-sets, Insets, and Reveals

- New developments should incorporate the use of strong vertical and/or horizontal reveals, off-sets and three dimensional detail between surface planes to create shadow lines and breakup flat surface areas.
- Large areas of uninterrupted blank surface areas should be avoided.

#### 7.0 <u>Pedestrian Edge</u>

#### 7.1 Main Building Entry

- The main access into the building should be prominent in size, use quality materials, and be easily identifiable to reflect as a main building entry. It should face directly on the main public street.
- The scale of the building entry should relate to the overall width and height of the building base.
- Quality window and door metal hardware, frames, and glass are encouraged. Examples include brass, bronze or chrome door and window hardware and frames and butt-joint plate glass.

#### 7.2 Storefront Entries, Windows, and Materials

• Design of storefronts must take into account issues unique to the building's architecture and merchant as well as characteristics of the street or area that make it "work" as a retail place.

#### 7.6 Lighting

- Light Fixtures should be located and designed in a manner to prevent vandalism.
- Light Fixtures adjacent to public streets or ally ways should be high quality and complement the architectural style of the building. Lighting should be oriented to minimize glare on adjacent residential units.

#### 7.7 Signage

- New developments should consider the signage program during the building design phase to insure compatibility with the architectural style of the building.
- Signage should be appropriate in location, design, and materials to the building.

#### 11.0 Landscaping

#### 11.1 On-site Landscaping Guidelines

#### 11.11.1 Ground Level:

- Ground floor building frontage, colonnades, arcades, courtyards and plazas should provide integrated landscape planters when not in conflict with retail space entries and windows.
- Freestanding potted plants of varying sizes are encouraged.
- Open plazas and courtyards should provide for a combination of large growing deciduous and evergreen trees planted in the ground to facilitate mature growth.

- A combination of trees and shrubs of varying sizes and ground cover are encouraged in all planting areas.
- Decorative metal tree grates and vertical protective devices for trees are encouraged.

#### <u>11.11.2 Upper Building Levels:</u>

• Recessed, stepped back portions of the building façade may include planters if appropriate to the design concept.

#### 16.0 Protected View Corridors

#### Policies

1. Landscaping and building massing should enhance views of landmarks.

#### 4.1.3 IMPACTS AND MITIGATION

This section provides the standards of significance and method of analysis used to determine aesthetic impacts.

#### **Standards of Significance**

For the purposes of this EIR, an impact to aesthetic resources would be considered significant if the proposed project would:

- Visually obstruct a scenic vista and/or degrade the existing visual character or quality of the site and its surroundings;
- Substantially damage trees, rocks, and outcroppings;
- Create substantial new shadows of long duration affecting public open spaces; or
- Create a new source of substantial light or glare, which would be cast in such a way as to cause public hazard or annoyance for a sustained period of time.

#### Method of Analysis

The section below gives full consideration to the development of the project site and acknowledges the physical changes to the existing setting. Impacts to the existing environment of the project site are to be determined by the contrast between the site's visual setting before and after proposed development. In this analysis, emphasis has been placed on the transformation of the existing setting into a landscape characterized by a high-rise structure. As both the existing setting visual character would only occur if the proposed project failed to comply with the City of Sacrament Urban Design Guidelines.

#### **Project-Specific Impacts and Mitigation Measures**

# 4.1-1 The proposed project could substantially degrade the existing visual character or quality of the project site and its surrounding uses by conflicting with applicable City policies or design guidelines.

The proposed project would replace four buildings from one to three stories in height, surfaced with a variety of materials and styles, with a twenty-five story glass, steel, stone, and stucco structure. As a result, the proposed project would result in a dramatic change in the size, color, texture, and design of the structures on the project site. The analysis of aesthetic impacts relies upon application of the City's Central Business District Urban Design Plan and Capital Corridor Massing Guidelines. Compliance with these documents would ensure that a project would be substantially consistent with the surrounding character and quality of development; and, as a result, would not result in the degradation of the aesthetic quality of the project area.

As can be seen in Figure 3-4, Building Elevations, the proposed project comply with the building design element in the following ways: the project would use durable, quality materials; use multiple materials in the design; include variations in vertical and horizontal design; as well as incorporate extensive three dimensional details to breakup the surfaces.

The City has not adopted standards regarding visual quality, but relies upon review of the project design to ensure that projects are in keeping with the vision of the City. The proposed project design would be subject to review by the City, which would include review by the Design Review Commission, Preservation Commission, and Planning Commission. The reviewing bodies would use the criteria listed in the adopted Urban Design Plan in analyzing the proposed project design. The considerations of these entities would include: pedestrian levels being appropriate in scale, that detailing would be used on all elevations of the building, and that the proposed project would complement existing downtown high-rise development. Review would also consider the details of fenestration, that massing and planar changes of the appropriate building would create visual interest, and that the overall project provides a distinctive skyline with appropriate detailing and finish at the building top. Therefore, the proposed project is consistent with the City policy. Further, the design review process would ensure that the proposed project would not substantially alter or degrade the existing character or quality of the area or the project site.

However, the proposed project exists within the vicinity designated as a protected view corridor under the Sacramento Urban Design Plan. The Plan protects designated streets from development that would block views and vistas to and from the Capitol. The Capitol View Corridor provides views of the State Capitol. While the Capitol is not fully visible from the sidewalk on 11<sup>th</sup> Street because of the street trees on the sidewalk, construction of the proposed project would change the view from the north looking south down 11<sup>th</sup> Street; however, the proposed project would not eliminate the existing views of the Capitol in the Capitol View Corridor.

As indicated in Figure 4.1-1, the proposed project site would be subject to the height restrictions of Chapter 17.96.100 for the Capitol View protection requirements. Any building on-site cannot exceed 250 feet in height. The proposed project would be 250 feet in height; therefore, the project would comply with the height restrictions.

The intent of the Urban Design Guidelines is to ensure that all development in the CBD contributes to making the CBD a unique and special place. As the proposed project, would comply with the Urban Design Guidelines the project would contribute to the uniqueness and quality of the CBD. In addition, the proposed project would not impede views to and from the State Capitol, or conflict with applicable City policies or design guidelines. Therefore, the proposed project would result in a *less-than-significant* impact.

<u>Mitigation Measure(s)</u> None required.

#### 4.1-2 The proposed project could create substantial shadows over public open space.

For the purpose of this EIR the creation of a substantial new shadow of long duration affecting public open spaces would be a significant impact. New shadows in an existing urban area that are the result of development that is consistent with City height requirements are generally not considered significant. As the proposed project is consistent with City height requirements, shadows would usually not be considered significant. However, the proposed project would cast shadows over an open space, particularly the Cesar E. Chavez Plaza Park.

In a shadow analysis, the proposed project was studied in order to determine the approximate location and length of shadows cast as a result of the proposed project at three times during day light hours. The Winter Solstice date was used to illustrate maximum shadow length and the time periods in which shadows would be cast on the park (See Figures 4.1-2 through 4.1-4).

As shown in Figure 4.1-2, on December 21 at 9 AM, the proposed project would cast its longest shadow in a north-west direction that would extend over the area near 10<sup>th</sup> and J Street, Cesar E. Chavez Plaza, the area located between J Street and I Street at 9<sup>th</sup> Street, and a portion of I Street between 8<sup>th</sup> and 9<sup>th</sup> Street.

As shown in Figure 4.1-3, on December 21 at 12 PM, the proposed project would cast its longest shadow in a northern direction that would extend across J Street and over the building currently occupying the site directly across from the proposed project. As shown in Figure 4.1-4, the shadows would continue to move across the City, and would not result in shading on the park area.

DRAFT EIR CATHEDRAL SQUARE MARCH 2007

#### Figure 4.1-2 Shadow Analysis



DRAFT EIR CATHEDRAL SQUARE MARCH 2007

#### Figure 4.1-3 Shadow Analysis



Draft EIR Cathedral Square March 2007

#### Figure 4.1-4 Shadow Analysis



Regarding shadows in other public areas, such as sidewalks, at times of the year when the sun is low in the sky, even shorter buildings cast shadows on sidewalks. For instance, in winter, a two-story building would cast a shadow in the sidewalk on the south side of the street (because the sun is always in the southern sky) and a four-story building will cast a shadow on both the south and north sidewalks. Therefore, while the proposed project would create shadow, most of the surrounding area already experiences frequent periods of shadow during the day from existing buildings in the downtown area.

As can be seen in Figures 4.1-2 to 4.1-4, the proposed project would only shade Cesar E. Chavez Plaza Park part of the day. In addition, shading would primarily be in the morning hours, which is typically a period of low use. Furthermore, the building would not shade the entire park at any time. Therefore, while the proposed project would contribute to shadow in the surrounding area, based on the information presented above, the effects of shadow caused by the proposed project would be considered *less-thansignificant* as the proposed project would not create a substantial shadow of long duration affecting public open spaces.

Mitigation Measure(s) None required.

### 4.1-3 The proposed project could create light or glare that could cause public hazard or annoyance for a sustained period of time.

Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can create hazards to motorists and nuisances for pedestrians and other viewers.

The proposed project would add light-producing fixtures into the downtown area. Most of the light would be internal, due to the 24-hour activity of the residents and guests of the building. The additional light sources would not significantly affect the ambient light in the downtown area due to the large amount of nightlighting that already exists. Exterior lighting is not clearly indicated on the building elevations. However, as part of the Design Commission review, the project would be required to comply with the City's lighting standards. Therefore, the proposed project would not result in a substantial new source of light.

Exterior materials would include glass, white metal, stucco, and stone facing. The stone and stucco would be earth tones, and would not be considered reflective. White metal makes up a small portion of the design, and is unlikely to create a significant amount of glare. However, a large proportion of the façade would be covered in glass. (See Figure 3-4, Building Elevation). Glass surfaces can create substantial amounts of glare. The Building Design Elements-General Requirements state that "highly reflective glass walls as the primary design element should be avoided. If the glass material used on the surfaces of the high-rise is highly reflective, the proposed project could result in substantial increases in the amount of glare and would be considered a *potentially significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level by reducing the glare generated by the proposed project.

4.1-3 Highly reflective mirrored glass walls shall not be used as a primary building material for façades. Instead, Low E glass, or an equivalent approved by the City's Development Services Department, shall be used in order to reduce the reflective qualities of the building.

#### **Cumulative Impacts and Mitigation Measures**

# 4.1-4 The proposed project, in combination with cumulative development in the Central City, could substantially degrade the existing visual character or quality of the project site and its surroundings.

The CBD is becoming characterized by high-rise structures. The surrounding area and much of the Central City portion of Sacramento is already built out. However, several redevelopment and new construction proposals are under consideration in the City; including, the development of the State of California's West End project. The West End project would be located between 7<sup>th</sup> and 8<sup>th</sup> Streets and N and P Street and could include at least one high-rise building that would be as tall as 23 stories. A 400-foot building project named the Aura Condos is currently under construction at 6<sup>th</sup> Street and Capitol Mall. In addition, The Towers, a 53 story twin tower project is currently under construction between 3<sup>rd</sup> and 4<sup>th</sup> Streets and Capital Mall and L Street.

Future development in the northern area of the CBD includes the redevelopment of the Railyards Specific Plan area and continued redevelopment in the Richard's Boulevard Area. Plans have been submitted for the Railyards project and are currently under environmental review. However, the plans have not yet been approved; therefore, the future level of development that would occur in Railyards Specific Plan area is not known.

Future development in the City of Sacramento Central City Community Plan area and the CBD would result in changes to the existing visual character. However, as stated above, the Sacramento Central Business District Urban Design Plan provides policy guidance to the City's Design Review Commission, the Preservation Commission, the City Planning Commission, and the City Council. The intent of the Design Guidelines is to insure that all development in the CBD contributes to making the CBD a unique and special place.

Like the proposed project, all future developments would be subject to design review to ensure that projects are in keeping with the vision of the City. The design review process, when applied to future development, would ensure that future development would be of high quality design, resulting in a positive contribution to the City's character. Therefore, the cumulative change in the visual character would be *less-than-significant*.

Mitigation Measure(s) None required.

# **4.1-5** The proposed project, in combination with cumulative development in the Central City, could create cumulative light or glare that could affect adjacent properties.

Future development in the City of Sacramento Central City Community Plan area and the CBD would be designed to comply with City of Sacramento lighting and design policies. Compliance with lighting and design policies would serve to minimize the creation of additional sources of light and glare resulting from the construction of additional buildings. Therefore, the cumulative impact on adjacent properties of the proposed project with cumulative development of the Central City would be *less-than-significant*.

Mitigation Measure(s) None required.

#### Endnotes

<sup>&</sup>lt;sup>1</sup> City of Sacramento General Plan, January 1988.

<sup>&</sup>lt;sup>2</sup> City of Sacramento General Plan Update EIR, March 1987

<sup>&</sup>lt;sup>3</sup> Sacramento Housing and Redevelopment Agency, Sacramento Department of City Planning, Sacramento Urban Design Plan, 3.0 Architectural Design Policies, February 18, 1987.

4.2 AIR QUALITY

### AIR QUALITY

#### 4.2.0 INTRODUCTION

This chapter describes the impacts of the proposed project on local and regional air quality. The chapter was prepared using methodologies and assumptions recommended within the indirect source review guidelines of the Sacramento Metropolitan Air Quality Management District (SMAQMD). In keeping with these guidelines the chapter describes existing air quality, construction-related impacts, direct and indirect emissions associated with the project, the impacts of emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts. In addition, this chapter also describes wind and microclimate changes as a result of the proposed project and mitigation measures warranted. The Initial Study found that impacts related to the creation of objectionable odors would be less-than-significant. Information in this chapter is drawn from the *City of Sacramento General Plan Draft EIR<sup>1</sup>* and the *Air Quality Impact Analysis*<sup>2</sup> and a *Wind and Microclimate Analysis*<sup>3</sup>, prepared for the proposed project by Donald Ballanti.

#### 4.2.1 EXISTING ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing air quality in the project area.

#### Climate & Topography

The project site lies in the southern portion of the Sacramento Valley, a broad, flat valley bounded by the coastal ranges to the west and the Sierra Nevada to the east. A sea-level gap in the Coast Range–the Carquinez Strait–is located about 50 miles southwest, and the intervening terrain is very flat. The prevailing wind direction is southwesterly, which is the wind direction when marine breezes flow through the Carquinez Strait. Marine breezes dominate during the spring and summer months, and show a strong daily variation. Highest average wind speeds occur in the afternoon and evening hours; lightest winds occur in the night and morning hours. During fall and winter, when the sea breeze diminishes, northerly winds occur more frequently, but southwesterly winds still predominate. The San Francisco Bay Area Air Basin lies to the west, and the San Joaquin Valley Air Basin is located to the south. Considerable transport of pollutants occurs between these air basins, resulting in Sacramento County air quality being partially determined by the release of pollutants elsewhere.

The major large-scale weather feature controlling the climate is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. The strength and position of the Pacific High varies seasonally. During summer, the Pacific High is strongest and is located off the west coast of the United States. Large-scale atmospheric subsidence associated with the Pacific High, produces an elevated temperature inversion along the West Coast. The base of this inversion is usually located from 1,000 to 3,000 feet above mean sea level (msl), depending on the warmth of the air column, intensity of subsidence and the prevailing weather condition. Vertical mixing is often limited to the base of the inversion, trapping air pollutants in the lower atmosphere. Marine air trapped below the base of the inversion is often condensed into fog or stratus clouds by the cool Pacific Ocean. This condition is typical of the warmer months of the year from roughly May through October. Stratus clouds usually form offshore and move into Bay Area during the evening hours when onshore winds are strongest and solar heating begins to wane. As the land warms the following morning when onshore winds are weakest, the clouds often dissipate, except along the immediate coast. The stratus then redevelops and moves inland late in the day. Otherwise, clear skies and dry conditions prevail during summer. Summer mean maximum temperatures reach about 90° Fahrenheit (F) in this region.

As winter approaches, the Pacific High becomes weaker and shifts south, allowing both low- and high-pressure systems associated with the polar jet stream to affect the region. Mean minimum temperatures in the winter are approximately 38° F. Low pressure systems are usually accompanied by frontal systems that produce periods of cloudiness, strong shifting winds, and precipitation. The number of days with precipitation can vary greatly from year to year, resulting in a wide range of annual precipitation totals. High-pressure systems are also common in winter and can produce cool stagnant conditions. Radiation fog and haze are common during extended winter periods where high-pressure systems influence the weather.

#### Wind and Microclimate

Sacramento's climate includes several wind patterns that have the greatest potential for adversely affecting outdoor comfort. During the summer months the predominant wind direction is south-southwest, reflecting the orientation of the Sacramento Valley and the effect of marine breezes reaching Sacramento through the Carquinez Straits, a sea level gap in the Coast Range. Winds from this direction are the highest on average, and these winds are most dominant in the summer, when they have a profound positive effect on comfort outdoors. Another relative maximum in frequency occurs for northwest to north-northwest.

During the winter months, the predominant wind direction is south through southeast. These winds occur primarily in winter during storms, and are the highest winds measured in Sacramento. Another relative maximum in frequency occurs for northwest to north-northwest. When the strongest winds (greater than 20 mph) are considered, the most important wind directions are southwest, south, southeast and north-northwest. Winds over 20 mph are more common in winter than during the summer, and are often associated with cold fronts.

#### Wind and Building Aerodynamics

The ground-level wind accelerations near buildings are controlled by exposure, massing and orientation. Exposure is a measure of the extent that the building extends above surrounding structures into the wind stream. A building that is surrounded by taller structures is not likely to cause adverse wind accelerations at ground level, while even a small building can cause wind problems if the building is freestanding and exposed.

Massing is important in determining wind impact because massing controls how much wind is intercepted by the structure and whether building-generated wind accelerations occur above-ground or at ground level. In general, slab-shaped buildings have the greatest potential for wind problems. Buildings that have an unusual shape, rounded faces or utilize set-backs have a lesser effect. A general rule is that the more complex the building is geometrically, the lesser the probable wind impact at ground level.

Orientation determines how much wind is intercepted by the structure, a factor that directly determines wind acceleration. In general, buildings that are oriented with their wide axis across the prevailing wind direction will have a greater impact on ground-level winds than a building oriented with the long axis along the prevailing wind direction.

#### Air Pollutants and Ambient Air Quality Standards

Both the EPA and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. The term "ambient air quality" refers to the atmospheric concentration of a specific compound as actually experienced at a particular geographic location. The ambient air quality standards establish levels of contaminants, which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants, because the health and other effects of each pollutant are described in criteria documents.

The National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) are summarized in Table 4.2-1. The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California State standards are more stringent, particularly for ozone and  $PM_{10}$ .

The project is within the Sacramento Metropolitan Air Quality Management District (SMAQMD), which is part of the Sacramento Valley Air Basin (SVAB). The Sacramento Valley Air Basin has been further divided into Planning Areas called the Northern Sacramento Valley Air Basin (NSVAB) and the Greater Sacramento Air Region, designated by the U.S. Environmental Protection Agency (EPA) as the Sacramento Federal Ozone non-attainment area. The non-attainment area consists of all of Sacramento and Yolo County, and parts of El Dorado, Solano, Placer, and Sutter counties.

Table 4.2-1			
Federal and State Ambient Air Quality Standards			
		Federal	
	Averaging	Primary	State
Pollutant	Time	Standard	Standard
Ozone	1-Hour	0.12 PPM	0.09 PPM
	8-Hour	0.08 PPM	
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual Average	0.05 PPM	
	1-Hour		0.25 PPM
PM <sub>10</sub>	Annual Average	$50 \mu g/m^3$	$20 \mu g/m^3$
	24-Hour	$150 \mu g/m^3$	$50 \mu g/m^3$
Notes: PPM = Parts per Million $\mu g/m^3$ = Micrograms per Cubic Meter			
Source: Don Ballanti 2006.			

The FCAA required States to classify basins (or portions thereof) as either "attainment", "nonattainment" or "unclassified" based on whether or not the NAAQS had been achieved, with respect to the criteria air pollutants and applicable standards, and to prepare air quality plans containing emission reduction strategies for those areas designated as "non-attainment." An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "non-attainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that the data does not support either an attainment or a non-attainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category (See Table 4.2-2).

Table 4.2-2 Attainment Status Designations - Sacramento Valley Air Basin (SVAB)				
Pollutant National Designation State Designation				
Ozone (1-hour)	Nonattainment/severe	Nonattainment/severe		
Ozone (8-hour)	Designation to be determined	No state standard		
$PM_{10}$	Nonattainment/serious	Nonattainment		
СО	Unclassified/attainment	Attainment		
Nitrogen dioxide	Unclassified/attainment	Attainment		
Source: SMAQMD 2002.				

The SVAB includes all of Sacramento County, including the City of Sacramento. The SVAB is classified as a "severe" non-attainment area for the federal one-hour ozone standard, with an attainment date of 2005, and is also currently designated as "serious" non-attainment for the federal  $PM_{10}$  standard. The SVAB is considered as an "unclassified" attainment area for CO under federal standards, and attainment under State standards.

The most problematic pollutants in Sacramento are ozone and particulate matter. The major sources and health effects of these pollutants are described below.

#### Toxic Air Contaminants

Many different types of TACs exist with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

#### Ozone

Ozone is the most prevalent of a class of photochemical oxidants formed in the urban atmosphere. The creation of ozone is a result of a complex chemical reaction between hydrocarbons and oxides of nitrogen in the presence of sunshine. Unlike other pollutants, ozone is not released directly into the atmosphere from any sources. The major sources of oxides of nitrogen and reactive hydrocarbons, known as ozone precursors, are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.

The health effects of ozone are eye irritation and damage to lung tissues. Ozone also damages some materials such as rubber, and may damage plants and crops.

#### Particulate Matter

Particulate matter (PM) is a mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small drops of liquid. These particles vary greatly in shape, size, and chemical composition and can be made up of many different particles, including metal, dust, soot, aerosols, and other matter, which are small enough to remain suspended in the air for a long period of time. A portion of the particulate matter in the air is due to natural sources such as wind blown dust and pollen. Man-made sources include combustion, automobiles, field burning, factories, and road dust. Wood burning fireplaces and stoves are a significant source of PM, particularly during cold, stagnant wintertime episodes when levels are highest. Motor vehicle PM emissions include tailpipe and tire wear emissions; however, greater quantities are generated by re-suspended road dust. A portion of the particulate matter in the atmosphere is also a result of photochemical processes. Inhalable PM consists of particles less than 10 microns in diameter, and is defined as "suspended particulate matter," or PM<sub>10</sub>.

The effects of high concentrations of  $PM_{10}$  on humans include aggravation of chronic respiratory illness, such as bronchitis and asthma, and heart/lung disease symptoms. Non-health effects include reduced visibility and soiling of surfaces.

#### Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless, poisonous gas whose primary source is motor vehicle emissions. Concentrations of CO are highest near intersections of major roads. Because meteorological conditions are a significant factor affecting the development of high levels of CO, CO is primarily a winter period pollution problem, when periods of light winds or calm conditions combine with the formation of ground level temperature inversions. Data from previous studies suggest that CO problems occur primarily in the vicinity of major traffic arteries having significant amounts of commercial development where parking lots are prevalent and there are a high number of "cold starts."

CO levels are a public health concern because CO combines readily with hemoglobin and thus reduces the amount of oxygen transported in the blood stream. Federal and State ambient air quality standards for CO have been set at levels intended to keep CO from combining with more than 1.5 percent of the blood's hemoglobin.

#### **Sensitive Receptors**

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Land uses such as schools, hospitals, and convalescent homes are considered to be more sensitive to poor air quality, because the young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems in comparison to the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Although exposure periods are generally short, exercising places a high demand on respiratory functions, which can be impaired by air pollution.

#### **Current Air Quality**

The California Air Resources Board has seven air pollution-monitoring sites within Sacramento County and three within the City of Sacramento. The air quality monitoring stations measure hourly pollutants and record sufficient data to meet EPA and/or ARB criteria for quality assurance. The closest monitoring site to the project area is located at  $13^{th}$  Street and T Street. This monitoring site measures multiple pollutants. A summary of the annual air quality measurements from this monitoring site is shown in Table 4.2-3. According to the nearest monitoring site data, with the exception of ozone, all federal ambient air quality standards are met in the project area. However, the State ambient standards of ozone and PM<sub>10</sub> are regularly exceeded.

In Sacramento, motor vehicles are the major source of reactive organic compounds (ROC), nitrogen oxide ( $NO_X$ ), and CO. Additionally, the 1986 Sacramento Air Quality Plan identified motor vehicle emissions and evaporation of various organic compounds (solvents, fuels, etc.) as the major contributors to regional ozone problems.

Table 4.2-3Air Quality Data Summary for Sacramento T Street Site, 2003-2005				
		Days Standard Were Exceeded During:		
Pollutant	Standard	2003	2004	2005
Ozone	State 1-Hour	4	1	4
Ozone	Federal 1-Hour	0	0	0
Ozone	Federal 8-Hour	1	0	1
$PM_{10}$	State 24-Hour	1	1	4
$PM_{10}$	Federal 24-Hour	0	0	0
Carbon Monoxide	Federal 8-Hour	0	0	0
Carbon Monoxide	State 8-Hour	0	0	0
Nitrogen Dioxide	State 24-Hour	0	0	0
Source: California Air Resources Board. Aerometric Data Analysis and Management (ADAM) System. 2006.				

#### 4.2.2 REGULATORY BACKGROUND

#### Federal

#### Environmental Protection Agency (EPA)

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government.

#### Federal Clean Air Act

The Clean Air Act is a federal law covering the entire country; the states do much of the work to carry out the Act. EPA sets limits on how much of a pollutant can be in the air anywhere in the United States. This ensures that all Americans have the same basic health and environmental protections. The law allows individual states to have stronger pollution controls, but states are not allowed to have weaker pollution controls than those set for the whole country.

The 1990 Clean Air Act gave important new enforcement powers to EPA. Penalizing a company for violating the Clean Air Act used to be very difficult. EPA had to go to court for even minor

violations. Other parts of the 1990 law increased penalties for violating the Act and brought the Clean Air Act's enforcement powers in line with other environmental laws.

#### State

#### California Air Resource Board (CARB)

The California Air Resource Board (CARB), a part of the EPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. The CARB conducts research, sets State ambient air quality measure standards, compiles emission inventories, develops suggested control measures, and provides oversight of locale programs.

#### California Clean Air Act

The California Clean Air Act (CCAA) of 1988 requires nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining the state ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide standards. In compliance with the CCAA, the SMAQMD prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) to mainly address Sacramento County's nonattainment status for ozone and carbon monoxide (CO), and although not required, particulate matter (PM10). The 1991 AQAP was designed to make expeditious progress toward attaining the state ozone standard and contained preliminary implementation schedules for control programs on stationary sources, transportation, and indirect sources, and a vehicle/fuels program.

#### Local

#### Sacramento Metropolitan Air Quality Management District (SMAQMD)

The SMAQMD is the agency primarily responsible for ensuring that National and State Ambient Air Quality Standards are not exceeded and that air quality conditions are maintained in the district. Responsibilities of the SMAQMD include preparing plans for attaining ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the Federal Clean Air Act (FCAA) and the California Clean Air Act (CCAA). In an attempt to achieve national and State Ambient Air Quality Standards and maintain air quality, the SMAQMD has completed the Sacramento 1991 Air Quality Attainment Plan (AQAP), as well as the 1994 Sacramento Regional Clean Air Plan (SRCAP) (SMAQMD 1994).

#### General Plan Goals and Policies for Air Quality

The City of Sacramento does not have specific goals and policies that pertain to air quality, as the City General Plan does not contain an Air Quality Element.

#### 4.2.3 IMPACTS AND MITIGATION

#### Method of Analysis

The potential impacts from the proposed project are analyzed in this chapter for both air quality and wind.

#### Air Quality

The URBEMIS-2002 program was applied to the project to estimate the maximum construction emissions from demolition, site excavation and preparation, equipment exhaust, construction worker vehicle trips and other construction activities. Estimates of regional emissions generated by project traffic and area sources were also made using URBEMIS-2002. A detailed description of the assumption made in the use of the URBEMIS-2002 model output is included in Appendix D.

#### Wind

A qualitative analysis of likely wind impacts was conducted by Donald Ballanti, Certified Consulting Meteorologist (See Appendix E). The proposed project design was evaluated based on exposure, massing and orientation, which control ground-level wind accelerations near buildings.

#### **Standards of Significance**

#### Air Quality

The City of Sacramento has determined that the project would have a significant air quality impact if the project would result in any of the following:

• *Ozone*: the project increases nitrogen oxide (NO<sub>X</sub>) levels above 85 pounds per day for short-term effects (construction).

The project increases either ozone precursors, nitrogen oxides  $(NO_x)$  or reactive organic gases (ROG), above 65 pounds per day for long-term effects (operation).

- *Particulate Matter (PM*<sub>10</sub>): the project emits pollutants at a level equal to, or greater than, five percent of the California Ambient Air Quality Standards (CAAQS) (50 micrograms/cubic meter for 24 hours) if there is an existing or projected violation; however, if a project is below the ROG and NO<sub>X</sub> thresholds, it is assumed that the project is below the PM<sub>10</sub> threshold as well.
- *Carbon Monoxide (CO):* the project results in CO concentrations that exceeds the 1-hour State ambient air quality standard of 20.0 parts per million (ppm) or the 8-hour State ambient standard of 9.0 ppm.

#### Wind

CEQA does not list any specific criterion for the evaluation of wind effects of a project. Neither the state of California nor City of Sacramento has established criteria or standards for wind. For this analysis, the project is considered to have a potentially significant climate impact if the exposure, orientation and massing of the structure can be expected to substantially increase ground-level winds in pedestrian corridors or public spaces near the project site for the most important wind directions in Sacramento. Substantial wind acceleration would have the potential to increase winds to the point where a pedestrian hazard could exist.

#### **Project-Specific Impacts and Mitigation Measures**

## 4.2-1 Particulate matter emissions $(PM_{10})$ from project-associated construction activities.

The proposed project would require the demolition of existing buildings. The physical demolition of existing structures and other infrastructure are construction activities with a high potential for creating air pollutants. In addition to the dust created during demolition, substantial dust emissions could be created as debris is loaded into trucks for disposal. The results of the program are also shown in Table 4.2-4.

Table 4.2-4   Estimated Maximum Daily Construction Emissions						
Maximum Daily Emissions (Pounds/day)						
Construction PhaseROGNOxPM10						
Demolition	2.2	21.0	5.2			
Site Preparation and	6.2	43.8	8.3			
Excavation						
Building Construction	2.9	14.2	0.6			
and Tenant						
Improvements						
SMAQMD Significance		85.0				
Threshold						
Source: Ballanti 2006.						

The project would result in new sources of emissions during construction. During construction equipment and vehicles on the site would release gaseous and particulate emissions, trucks bringing materials to the site and construction employee vehicles. During portions of the construction period, fugitive particulate emissions ( $PM_{10}$ ) would occur due to the action of vehicles/equipment and wind on unpaved areas.

During excavation the potential for dust would be less, but dust emissions are possible when soil is dropped on street surfaces where the soil can be pulverized by the wheels of vehicles and disturbed by passing vehicles.

Dust emissions during demolition and construction would create the potential to exceed locally ambient air quality standards and possibly result in nuisance complaints. Therefore, impacts related to dust associated with project construction activities would be considered *potentially significant*.

Appendix B of SMAQMD's Guide to Air Quality Assessment in Sacramento County provides recommended mitigation measures. If the appropriate measures are implemented, it can be assumed that the impacts of fugitive dust  $(PM_{10})$  caused by the project would be mitigated to a less-than-significant level.

#### Mitigation Measure(s)

The following mitigation measures are required to reduce impacts to a *less-than-significant* level.

- 4.2-1(a)The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.
- 4.2-1(b) Prior to issuance of a grading permit, the applicant/developer shall incorporate the following measures into the construction contract documents, which shall be submitted for the review and approval of the City Engineer:
  - Strict compliance with SMAQMD's Rule 403, or approved equivalent, shall be written into construction contracts.
  - *Keep soil moist at all times.*
  - Maintain at least two feet of freeboard (i.e. the minimum required space between the top of the load and the top of

the trailer) for any hauling vehicles containing potential particulate matter.

- Use emulsified diesel or diesel catalysts, or approved equivalent, on applicable heavy-duty construction equipment.
- Water soil piles three times daily.

## 4.2-2 Construction of the proposed project could result in temporary emissions of Nitrogen Oxides.

Daily emissions of  $NO_X$  are shown in Table 4.2-4. Because construction emissions of  $NO_X$  remain below the SMAQMD's threshold of significance of 85 pounds per day, construction exhaust emissions would have a *less-than-significant* impact on regional air quality.

<u>Mitigation Measure(s)</u> *None required.* 

#### 4.2-3 **Project Traffic would result in an increase in carbon monoxide concentrations.**

The proposed project would result in increased concentrations of carbon monoxide. New vehicle trips would add to carbon monoxide concentrations near streets providing access to the project site. Carbon monoxide is an odorless, colorless, poisonous gas whose primary source in the Sacramento Area is automobiles. Concentrations of this gas are highest near intersection of major roads.

SMAQMD's *Guide to Air Quality Assessment in Sacramento County* contains a screening procedure for determining if a project could have a significant impact on local carbon monoxide concentrations. The method utilizes estimates of background concentrations (adjusted by "rollback" values that reflect trends in country-wide emissions) and an estimated project-related carbon monoxide concentration determined by the peak-hour trip generation of the project.

When applied to the project, the estimated worst-case total concentration (project plus background) was 5.8 parts per million (ppm) for a 1-hour averaging time and 4.1ppm for an 8-hour averaging time. The predicted worst-case concentrations do not exceed or approach the most stringent ambient air quality standards of 20.0 ppm (1-hour) or 9.0 ppm (8-hour). Therefore, the impacts of the proposed project on local carbon monoxide concentrations would be *less-than-significant*.

<u>Mitigation Measure(s)</u> None required.

# 4.2-4 Development of the project would result in increases in emission of ozone precursors.

The operation of the project land uses would include area sources (e.g., combustion of natural gas for heating) and vehicle trips generated by project residents and patrons. Vehicle trips estimates were based on the Traffic Study conducted for the proposed project. The operational estimate results are also shown in Table 4.2-5.

Table 4.2-5Estimated Operational Emissions, in Pounds Per Day			
	ROG	NO <sub>X</sub>	
Project Vehicle Trips	13.0	11.7	
Project Area Sources	15.7	1.9	
Total	28.7	13.6	
SMAQMD Significance	65.0	65.0	
Threshold			
ROG = Reactive Organic Gases			
NOx = Nitrogen Oxides			
Source: Ballanti 2006.			

Operational emissions of regional pollutants associated with the project are shown in Table 4.2-5 for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). Project emissions of ROG and  $NO_X$  do not exceed the SMAQMD's significance threshold of 65 pounds per day.

Current SMAQMD policies regarding mitigation of indirect source air quality impacts provide that projects with emissions exceeding the thresholds of significance prepare an air quality mitigation program to provide a minimum 15-percent reduction in operation emissions. The project would not be subject to this requirement, as project emissions would not exceed the thresholds.

In addition, the trip generation analysis prepared for the project estimates that the downtown location, transit proximity, and mixed-use nature of the proposed project would result in a 23-percent reduction in vehicle trip generation. For these reasons, the project would have a *less-than-significant* impact on regional ozone emissions.

<u>Mitigation Measure(s)</u> *None required*.

#### 4.2-5 Wind effects on the proposed project.

The proposed Cathedral Square project includes the demolition of the existing on-site structures and the construction of a 25-story, 472,020 square foot (sq. ft.) building. The proposed building would be 25 stories high (approximately 250 feet in height). The building would have a 30-foot step-back along 11<sup>th</sup> Street above the 5th floor (at approximately 70 feet high). The project site currently has only limited shelter when

winds blow from the predominant wind directions (southwest, south, southeast, northnorthwest). Additionally, tall structures that would offer substantial shelter are not close to the site.

The proposed project plans show an "L-shaped" tower atop a low-rise base. The tower is oriented with its wide faces towards the northeast and southeast. This massing and orientation is advantageous from a wind standpoint, as the proposed design does not have the wide building faces and sharp corners known to focus wind energy at the ground level.

For southwest and south winds the new tower offers an irregular, discontinuous building face. North-northwest winds would not blow directly into any building face, approaching at a roughly 45-degree angle to the upwind building faces.

The widest face of the tower would intercept southeasterly winds, but the substantial setback (30 feet) on the J Street side of the building would deflect any wind accelerations before they reached the ground.

The project orientation is such that only moderate wind accelerations are expected, and the massing of the project would place these accelerated winds in rooftop areas away from pedestrian spaces. Therefore, wind effects on the proposed project are considered *less-than-significant*.

Mitigation Measure(s) None required.

#### **Cumulative Impacts and Mitigation Measures**

Construction related air quality impacts would be short-term in nature, and would not contribute to the future cumulative air quality condition. Given the low concentrations of carbon monoxide identified in Impact 4.2-3, the cumulative traffic scenario outlined in Chapter 4.6, Transportation and Circulation would not cause a violation of the carbon monoxide standards of significance. Furthermore, if a project remains below the standard of significance for ozone precursors, the project is considered to be below the standard of significance for  $PM_{10}$ . Therefore, the emission of ozone precursors would be the only cumulative air quality impact potentially resulting from the development of the proposed project.

## 4.2-6 Development of the project would generate emissions of ozone precursor emissions that contribute to a cumulative regional impact.

Sacramento Metropolitan Air Quality Management District CEQA guidance provides that if a development will result in air pollutant emissions above the "project alone" significance threshold, the project will result in a significant cumulative air quality impact.

Development projects are also considered cumulatively significant if the project requires a change in the existing land use designation (i.e., general plan amendment and the projected ozone precursor emissions anticipated for the site are greater than under the existing land use designation.)

As "Project Alone" emissions would not exceed the SMAQMD significance thresholds (see Table 4.2-5), and the proposed project does not change the land use designation of the site, the project would not make a "cumulatively considerable" contribution to a cumulative regional impact. Therefore, cumulative ozone emission impacts would be considered *less-than-significant*.

Mitigation Measure(s) None required.

#### Endnotes

<sup>&</sup>lt;sup>1</sup> City of Sacramento General Plan Draft Environmental Report, General Plan Update, March 1987

<sup>&</sup>lt;sup>2</sup> Air Quality Impact Analysis for the Cathedral Square Project, Sacramento, Donald Ballanti, July 2006

<sup>&</sup>lt;sup>3</sup> Wind and Microclimate Analysis for the Cathedral Square Project, Sacramento, Donald Ballanti, July 2006.

### 4.3 CULTURAL AND HISTORIC RESOURCES

### **CULTURAL AND HISTORIC RESOURCES**

#### 4.3.0 INTRODUCTION

This section of the EIR addresses known historic and prehistoric resources in the project vicinity and the potential for unknown resources to exist. The analysis summarizes the existing setting and briefly describes the potential effects to historical, archaeological, and paleontological resources. The analysis will both identify the thresholds of significance of possible impacts associated with the project, and develop mitigation measures that would be necessary to reduce impacts to a less-than-significant level. Information for this section was gathered from the *City of Sacramento General Plan*<sup>1</sup> (1988), the *City of Sacramento General Plan Update EIR*<sup>2</sup>, the Preservation Element of the City of Sacramento General Plan (April, 2000)<sup>3</sup>, the *Cultural Resources Overview for the Cathedral Square Project* prepared by Peak & Associates<sup>4</sup> (updated January, 2007) (contained in Appendix F of the DEIR), and the *Cathedral Square, Cultural Resources Supplementary Report* by Historic Environment Consultants<sup>5</sup> (contained in Appendix G of the DEIR).

#### 4.3.1 EXISTING ENVIRONMENTAL SETTING

#### **Prehistory/Ethnography**

At the time of contact, the project site lay in the territory of the Valley Nisenan. The Nisenan, or Southern Maidu, occupied the upper drainages and the adjacent ridges of the Yuba; the north, middle, and south forks of the American; and at least the upper north side of the Cosumnes River. The eastern limit of their territory is conventionally believed to have extended to the crest of the Sierra. The Nisenan also occupied some areas west of the lower reaches of the Feather River.

The Nisenan were socially integrated at the village or community group level, with the group participating in the decision-making process. The villages would range in size from 15 to 25 people to, at least in the Valley Nisenan, villages of over 500 people. A very large settlement consisted of a major village and associated smaller camps, which could be specialized in nature. A headman, respected by all, residing in the major village had the authority to call upon the smaller associated groups in times of need, although the smaller groups were not compelled to obey.

The Nisenan, as did other Sierran groups, moved into the higher elevations during the hot summer months. The main foraging activity was the collecting of pine nuts, and numerous other species of nuts, roots, and berries. Foraging was primarily the task of women and children. The foraging groups in a locale could range from small, extended family groups, composed of a woman, her immediate female kin, and their adolescent children to whole villages. The men spent most of their time hunting or fishing for a wide variety of fish and game. Hunting often involved communal drives, with the best archers of the village posted to do the killing. Individual hunters made extensive use of decoys and imitative sounds. Most Nisenan never left the territory used by their own village group. However, in most large villages, there were some individuals who engaged in extensive trade with several valley and Sierra groups, such as the Washoe.

#### **Post-Contact Native American History**

Gabriel Moraga led the first recorded Spanish expedition into the project vicinity between 1806 and 1808, in order to scout for new mission sites, return runaway Indians, and punish Indians hostile to Spanish rule. Following exploration of the region, beaver and other fur resources were exploited in the Sacramento Valley by the Hudson Bay Company. In 1827 and 1828, Jedediah Smith led a trapping foray into the project vicinity. Trappers would set up temporary camps in Nisenan territory and relationships were typically friendly. In 1833, a great malaria epidemic swept through the Sacramento Valley, killing an estimated 75 percent of the Valley Nisenan population.

The first permanent European settler in the Sacramento Valley was Captain John Sutter, who set up operations in what is presently the downtown area of Sacramento in 1839. Sutter initially employed the Nisenan to help him in his operations, but later he imported large numbers of Plains Miwok from the Cosumnes River tribelets as laborers. Sutter's relations with these villages – both Miwok and Nisenan – could best be described as feudal.

With the discovery of gold and the subsequent influx of a large Euro-American mining population after 1849, Nisenan numbers were further reduced by disease and genocide. Survivors who did not die of illness or murder were ultimately forced to vacate their ancestral homes. By the 1920s, when University of California anthropologists sought Native American informants who could testify concerning aboriginal lifeways in the areas, only two elderly individuals could be located who retained any knowledge of Sacramento's native heritage.

Several village names have been reported for sites in the City of Sacramento, including Sacum, for the site at City Hall, the subject of recent excavations. Another site, associated with the former location of China Slough, has also been the subject of recent excavations.

#### City of Sacramento

In 1841, Sutter was granted 11 leagues of land by the Mexican government. His settlement, called Rancho New Helvetia, was located within present-day Sacramento and was later known as Sutter's Fort. The settlement served as a trading post and a place of refuge for immigrants. With the discovery of gold at his mill site in Coloma in 1848, Sutter's plans for New Helvetia as an independent state were ruined and gold seekers overran his ranching empire.

From a handful of residents at Sutter's Fort, the population of Sacramento had grown to about 2,000 in October 1849, and to an estimated 3,500 two months later. Early settlement focused on the waterfront, with businesses extending along J Street.

Sacramento became an off-loading point for those destined for the northern mines, and the City profited greatly from the mining trade. Sacramento was situated at a crucial transshipment point and

soon came to dominate commercial activity in the interior of the state. Sacramento became the State capitol in 1854 and continues as the State's political center to the present day.

Early development centered on the downtown central business district. The rapidity of Sacramento's growth provided the economic incentive to quickly transform what was a tent community to a city of wood-frame and brick structures. The more permanent structures served to reduce the damage caused by a series of devastating fires.

Increasingly efficient flood control measures protected the town from inundation, and the subsequent sewage problems, generated by periodic flooding of the Sacramento and American Rivers. Undertakings to prevent flooding included building and strengthening levees, re-channeling the American River, and raising streets in the main business district by approximately 12 feet. In 1868, the "S" curve of the American River was bypassed by digging an entirely new channel, which joined the Sacramento River north of the rail yards, and reduced the frequency of flooding that once occurred within the present-day Richards Area. A major raising of the City streets occurred in the 1860s. Many building owners opted to raise their buildings to the new street grades; others converted their first floors into cellars.

#### Historic Project Site Use and Occupancy

#### Early Years

The business district of Sacramento started along the waterfront but rapidly expanded up J Street (Figure 4.3-1, Project Site), the main road out of town leading to the gold fields. The project area originally gained definition in Sacramento's first city plan of 1848, and was extended and resurveyed in 1849. Each block was divided into eight standard city lots—160 feet by 80 feet, bisected east to west by a 20-foot alleyway. Lot 1 of the block is located at the northwest corner of the block, at the corner of 10th and J Streets (See Table 4.3-1 for Lot numbers and corresponding building addresses). Lots 2 and 3 are located facing J Street; with lot 4 at the corner of 11th and J Streets; with lots 5 to 8 facing K Street. The December 1850 Directory for the City suggests that there was at least one business on the project site: Hutchinson and Green, merchants.

Table 4.3-1   Lot Numbers and Street Addresses				
Street Addresses				
1014	1016-1018	1020-1022	1024-26	1028-30
Eastern portion of	Western portion of	Eastern portion of	Western portion of	Eastern portion of
Lot 2	Lot 3	Lot 3	Lot 4	Lot 4

The early address system for the City allowed 32 numbers per block, so the addresses of the businesses and residences along J Street were originally started at 292 J, with the section between  $10^{\text{th}}$  Street and  $11^{\text{th}}$  Street apparently starting at 314 J Street. By 1853-1854, there were two businesses present in the project area: with G. E. Graves the proprietor of the National Hotel at 314 and 316 J Street, and Charles B. Ingalls, a hay dealer at 320 J.

The 1851 City Tax Assessment Map Book shows a number of improvements on the project site. However, nothing is located on lot 2. The western two sub lots of Lot 3 are owned by Hutchinson, Greene and Company, with improvements listed for each lot. The next sub lot east in lot 3 was owned by H.G. Lake, and contained improvements. The remnant eastern sub lot of lot 3 was vacant. Lot 4 had been subdivided into 8 smaller lots, with 1 to 4 facing J Street, and lots 5 to 8 facing 11th. Three of the lots facing J Street had improvements, with the back half of the lot unoccupied.



The J Street corridor began to be settled during the 1850s and 1860s with stores, saloons, stables, hotels and apartments. As the street evolved over time, the classic configuration of brick buildings with one or more stores on the ground floor, and apartments on the second floor began to cluster along here as well as other major downtown streets. The first City map to show locations of buildings, published in 1854, indicates there were two buildings in the project area: one on lot 3 and one on lot 4. The block is located outside of the portions of the City that were devastated by early fires.

The 1855 City Tax Assessment map book, lists three individuals in the project area: Conrad Weil, H. Julien, and A. Runyon. Runyon owned the eastern section of lot 2, and had acquired all of lot 3, and the associated improvements. H. Julien owned the western 20 feet of lot 4, which contained improvements. C. Weil had one of the smaller lots that faced J Street, which also had improvements.

In 1859, Armstead Runyon was the owner of lot 3 and the eastern 20 feet of lot 2. Lot 4 was subdivided into four small lots facing J Street, and the half of the lot on the alley side was a single

parcel. P. Reiley had the most westerly lot. C. Weil & Company had the next two lots, and C. J. Diefendorf had the fourth small parcel as well as the parcel at 11th and the alley.

Armstead Runyon was a prominent pioneer who first settled in the Courtland area in 1849. His biography appears in an 1889 Sonoma county history. Runyon established a major farm for fruit growing in Courtland area. In 1871, he left the ranch and moved to Santa Rosa. His occupancy within the project site must have been as an investor, as Runyon never lived on the property.

By 1866, Runyon had sold the narrow section of lot 2 to F.S. George. Lot 4 was split in ownership between F. Gotthold and C. Weil. F.S. George was a native of New York, and had a barbershop on his holding at 304 J Street, with his residence also in the building. F. Gotthold was born in Germany, and had a harness maker's shop at 308 J Street. His residence was listed at 51 11th Street between J and K, suggesting he was living on the back alley of his holdings.

By 1870, there had been several changes to the site. F.S. George still had his barbershop on lot 2. Three new owners had taken over Runyon's holdings—S. Denton, George C. Bruce and Jacob Griesel. All had improvements on their lots. Solomon Denton had a boot and shoe shop at 306 J, with his residence on 10th between l and M. Bruce had a saloon named the "Bruce House" at 308 J St where he also resided. The east half of lot 4 was owned by Mohr and Yoerk, with improvements on both parcels. Mohr and Yoerk were the proprietors of the National Market. The National Market sold hams, bacon, lard dried beef and sausages. Mohr did not live on the property.

The eastern half of lot 4 was still owned by Conrad Weil. Conrad Weil and his wife Barbara had come to California in 1852. Mr. Weil opened a grocery within the project area. Conrad Weil died in 1871 on a return trip from Germany to California. His wife remained in Germany until 1876, when she returned to Sacramento.

In 1870, Augustus Koch completed a bird's eye view of the City of Sacramento. The project area contains buildings on every lot facing J Street. Behind the project area, the land of lots 5, 6 and 7 was relatively open.

#### The Stable City

As Sacramento's focus changed from mining to agriculture, railroad, and merchandising activities, downtown J and K Street shops with their second story dwelling spaces, began to shift their merchandise to suit downtown core and surrounding area residents. Downtown Sacramento, over time, became the hub of the City, with theaters, restaurants, hotels, markets, drug stores, office buildings, bank and insurance buildings, fraternal meeting halls, post offices, and federal buildings.

Ownership remained primarily the same through 1880. F.S. George's business had become a hairdressing salon. Mrs. Denton had become a widow by 1875, but retained ownership of the lot on J Street, possibly renting the lot to others. Rachael Bruce, suggesting the loss of her husband, owned Bruce House. Jacob Griesel retained a saddle and harness making business at 312 J Street, with his residence in the building. Mohr & Yoerk had the west half of lot 4; the estate of Conrad Weil had
the west half by 1875. By 1880, Mrs. Denton had sold to M. A. Parker and Mrs. Bruce had sold her holding to R.C. Rose.

Griesel advertised his business in the 1879-1880 City Directory. He sold saddles, harness, collars, whips, curry combs and brushes, noting that he was located opposite of the Central Hay Market. Griesel continued in the business for a number of years. Griesel came to California in 1852, and went to work as a harness maker in Nevada City in 1854. He went to work for his brother in 1863 in a shop on J Street, eventually taking over after the death of his brother. He operated this business until the time of his death in 1907, with the business lasting over 40 years in the same location. Griesel's son continued the business for about ten more years.

By 1880, Mrs. Rose had converted the saloon to a boarding house. Mohr & Yoerk continued the meat market business, and the remainder of the businesses remained in the same ownership with the exception of the east 20 feet of lot 2, transferred to H. Goepal by 1885-1886. Goepal was a boot and shoemaker. By 1885, the addresses had shifted to the modern system, and the shop and residence of Goepal were at 1014 J Street instead of 304 J Street. Griesel's business was now numbered 1022 J Street. Mohr and Yoerk business had expanded from a meat market to a market and packinghouse. They had acquired lot 5 by this time for an expansion of their business. The other businesses remained the same through 1890.

By 1895, a few modest changes had occurred to the project area. Herman Goepal had sold his lot and shop to Jacob Gruhler. He had purchased the western half of lot 3, and was apparently out of business. Jacob Gruhler had changed the shoe and boot shop into the Gilt Edge Saloon, and resided in the building. Jacob Griesel retained the eastern half of the lot, but had moved to a more genteel address at 1718 J Street. Mohr and Yoerk were apparently focusing on their packing business, and the Weil family retained the end lot at 11th and J Streets. Ehmann & Co. apparently rented the premises from the Weils, and had a business offering: "Choice Family Groceries and Provisions" at 1028 and 1030 J Street. The Ehmanns resided at 1236 I Street.

The 1895 Sanborn Fire Insurance map indicates the layout of the lots (Figure 4.3-2). On the eastern section of lot 2, there is a saloon at 1014 J, with a residence at 1014-1/2 J, on the alley. Lot 3 is divided into four parcels. 1016 J Street had a building at the front of the lot, with a small shed or living unit at 1016-1/2 J Street on the alley. 1018 J Street is indicated as a restaurant, with a small shed along the alley. 1020 J Street was also shown as a saloon, with a small building on the alley at 1020-1/2 J. 1022 J Street is the harness shop, with two small sheds along the side lot line near the alley.

1026 J Street is the commercial factory for the Mohr and Yoerk Packing Company. Several smokehouses and a pork packing area were located near the alley. The building was connected to their other operation on K Street by an elevated bridge across the alley to an even larger factory facility, covering all of lot 5 completely. Mohr and Yoerk produced ham, bacon and lard under the "Our Taste" brand. Hall, Luhrs & Company distributed the product.

Figure 4.3-2 1895 Sanborn Fire Insurance Map



 $CHAPTER \ 4.3 - CULTURAL \ AND \ HISTORIC \ Resources$ 

Ownership remained the same through 1900. By 1905, 1028 J Street had become a thriving mercantile business run by Charles C. Perkins, the son of the man for whom the town of Perkins was named. 1016 J Street had also become a grocery business. J. Gruhler had acquired the adjacent west half of lot 3, including the on-site building. He continued to operate the Gilt Edge Saloon at 1014 J Street, with a residence at 1014-1/2 J Street on the alley.

Gruhler was another native of Germany who gravitated to this section of Sacramento. He was born in 1861, and came to California in 1880. He worked for his brother for a few years, and then acquired his own saloon. Mr. Gruhler was an active member of several fraternal lodges. In 1890, his facility was called the "Butcher's Home", suggesting he also had lodgings for the men who worked at the nearby meat-processing facility.

In 1910, there was a hardware store at 1022 J Street, Campbell & Boutwell. Frederick Eckhardt had acquired the east half of lot 4. Eckhardt had a saloon at 906 J Street. At 1016 J Street was Kilgore & Tracy, a grocery business. By 1910, their business had expanded into both 1016 and 1018 J Street. Kilgore was born in Sacramento in 1855. In 1878, he had formed a partnership with T. M. Tracy, and they bought out their employer's grocery business.

In 1915, the ownership remained the same with Jacob Gruhler owning the east 20-foot strip of lot 2 and lot 3. Griesel's heir had apparently taken over the family business on the east half of lot 3. Mohr & Yoerk still maintained the packing plant on the west half of lot 4, with Frederick Eckhardt the owner of the east half of lot 4. The 1915 Sanborn map (Figure 4.3-3) shows that the building remained the same, but with modifications, including the split of the building at 11th and J, with storefronts along 11th Street, the current configuration of the building.

A major change in the setting also occurred through the closure of the facilities related to animaldrawn transportation. Up until this time stable had been quite common in the City. Due to the advent of the automobile, stables were no longer an integral part of City life. The stables ceased to be present, and the site of the stables behind the project site on lots 6 and 7 now was the site of a theater.

The 1915 City Directory indicates that there was still some residential occupancy. Jacob Gruhler lived in the small alley residence at 1014-1/2 J. E. B. Rogers was a resident of 1016-1/2 J. D. E. Newbert was an occupant at 1018-1/2 J. Jacob Meyer was a resident of 1020-1/2 J. 1024 <sup>1</sup>/<sub>2</sub> was vacant. E. P. Howe apparently lived upstairs at 1028 J above the meat packing operation. 1010 11th Street, on the second floor of the building, was the Lucerne Apartments, with nine units.

# Later Years

With the advent of the 1920s and 1930s, the commerce along J Street began to evolve into department stores, clothing, jewelry, and shoe stores. In 1920, the same four owners controlled the property. A major change was that the packing plant was no longer in business: the new replacement was the Mohr & Yoerk Realty Company. Residents were still present in 1014-1/2, 1016-1/12, 1018-1/2, 1020-1/2, and 1022-1/2 J, and the only other residents of the project area were in the Lucerne Apartments. 1030 J Street at the corner was now Western Auto Supply.

Figure 4.3-3 1915 Sanborn Map



In 1924, businesses had again changed, with the Waxon Brothers moving into a shop in 1014 J, which was still owned by Jacob Gruhler. Gruhler continued to own the same holdings in lot 2 and lot 3. The east half of lot 3 had been sold to apparent investors, and the east half of lot 4 had been sold to Henry Kleinsorge, a real estate investor in Sacramento. 1016 J was a music store. 1018 J was a sewing machine shop, owned by J. Kirby. 1022 J was Campbell & Boutwell. 1024 J was the Eastern Outfitting Company, a ladies' apparel business. By 1925, Jacob Gruhler had moved off the project area to a home on 43rd Street. However, individuals continued to live in the small alleyway residences.

In 1930-1931, Gruhler continued to own portions of lot 2 and lot 3. W.H. and Rita James owned the east half of lot 3, with Mohr & Yoerk Realty Company retaining their holding. Mohr & Yoerk had converted their packing plant to a realty office on the first floor with apartments above. Henry Mohr returned home from college to enter his father's business, managing various properties. George Yoerk joined Henry Mohr in the realty business. Mohr & Yoerk were also the largest retail grocers in Sacramento. However, the project site was not used for grocery or meat packing activities by this time.

In 1935, Carrie Gruhler owned the western section of the project area, with Rita James, The Capital National Bank and Esther Bloomberg each owning a half lot section. In 1939, the Waxon Brothers were in business at 1014, 1016 was Radio Sales and Service Company, 1018 was the Singer Sewing Machine company, 1020 was Hobrecht Appliances, 1024 was vacant, 1026 was R.E. Watson Furniture, 1028 was Atlas Blue Prints, and 1030 was vacant. The same buildings along the alley were all vacant. 1010 11th Street was the Lucerne Apartments, with seven tenants.

Lazarus and Abraham Bloomberg had purchased the east half of lot 4. Laz Bloomberg was a Sacramento fixture that owned the cigar shop next to the Saddle Rock Restaurant on Second Street that his family acquired in 1876. He became an investor in Sacramento real estate.

The Country Maid restaurant opened in 1030 J Street, remaining there until 1982. In 1949, many of the second floor apartments were remodeled into office space. The building was remodeled again in 1956 after a fire.

Through the 1940s, the businesses within the project area continued to change, with a variety of businesses including musical instruments, liquor store, electrical repair, dentist, chiropodist, physician, sewing machine store, grocer, blue print shop, electrical appliance shop, restaurant, floral shop, and women's clothing. One individual who started his business here was Manuel Joseph, who first worked for Waxon Brothers at 1014 J, then opened his family electronics business in 1937 at 1020 J Street. Joseph opened a second store in Citrus Heights in 1987, and finally closed his store on J Street in 1990, after opening one in North Natomas. He was known as the "Mayor of J Street."

Figure 4.3-4 is the earlier Sanborn map with paste-ups to bring the map current to 1952. The most noticeable changes were the elimination of the buildings along the alley.



Figure 4.3-4 1952 Sanborn Map

#### Description of Project Site

The project site is bordered by J Street to the north and by 11<sup>th</sup> Street to the east. Commercial property is located to the west of the project site with additional office and professional space situated northerly from the project, across J Street. The Cathedral office building and the Cathedral of the Blessed Sacrament church are located east of the project site across 11<sup>th</sup> Street. The Smith Art Gallery and the Crest Theater are located to the south of the site, across the shared alleyway.

The on-site buildings were constructed between 1886 and 1915. The buildings currently display deferred maintenance. Of the three buildings, only 1024-1030 J Street is currently occupied on the ground floor by Mother India restaurant, Lee's Hair Design, Capitol Clothing Company, and Pacific Promotional Design. The upper floors of 1024-1030 J Street are currently unoccupied. The building at 1018 J Street is currently vacant and has not been occupied since 1994 as a result of extensive fire damage. Due to this damage, the building is uninhabitable and is not in

condition for repair or remodel. The building at 1020 J Street is currently vacant and has not been occupied in recent years.

# **Existing Cultural Resources**

The existing potential onsite resources consist of the Copenhagen Alley District, underground sidewalks, and archaeological resources.

#### Copenhagen Alley District

In 2005, Historic Environmental Consultants recorded the Copenhagen Alley District, which includes the north side of the east end of the alley between J and K and 10th and 11<sup>th</sup> Streets, from 1014 to 1030 J Street. The Copenhagen Alley District is comprised of a group of buildings that convey a strong sense of an earlier time and place in Sacramento's history. The size, scale, and materials of the buildings, and their architectural details reflect primarily 19th century images, and give some sense of what Sacramento looked like after the Gold Rush and up until the early years of the 20th century.

The buildings within the project area are brick structures, all of which were constructed in the 19<sup>th</sup> century. The J Street façades of all of the buildings have been altered substantially and do not contribute visually to a historic district along J Street. However, the alley elevations contribute to the recommended Copenhagen Alley District due to the integrity, character, materials, and spatial configuration of their alley façades. These buildings include the following J Street addresses within the recommended Copenhagen Alley District:

1014Jalley elevation1016-1018Jalley elevation1020-1022Jalley elevation1024-1026Jalley elevation1028-1030Jalley elevation

Character-defining features of these alley buildings include brick construction, segmented arched windows with brick sills and arched door openings, flat arches in windows and doors, stepped brick parapets, brick chimney stacks along the periphery of buildings, and some patterned brick areas (See Figures 4.3-5, 4.3-6, and 4.3-7). Building setbacks are varied according to the depth of the building. The alley area includes: a fairly large tree and a few volunteer bushes, a probable cobble-stone base beneath the current alley surface, and some angled bays projecting from upper floors of buildings over the alley on the north east end. Spaces on lots whose buildings do not extend completely back to the alley are used for parking and former business access.

The Copenhagen Alley District is one of the best remaining examples of 19th century alley features in Sacramento and contributes strongly to the character and image of downtown Sacramento while reflecting a history unique to this city.

Figure 4.3-5 Alley Elevation



1014 J St.

1016-18 J St.

**1020-22 J St.** Photograph by Don Cox

Figure 4.3-6 Alley Elevation



1024/26 J and 1030 J St. buildings, including the original 2<sup>nd</sup> floor opening for the bridge to the old Mohr and Yoerk Meat Packing Plant across the alley.

Figure 4.3-7 Alley Elevation



Alley elevations of 1024-26 and 1030 J (on left) and the old Mohr & Yoerk Meat Packing Plant on 11<sup>th</sup> Street (right).

The alley façades provide an image of the post Gold Rush Sacramento that provides valuable visual information of Sacramento's early years. These groupings contribute significantly to the character and image of Sacramento's historic downtown. Figure 4.3-8 shows contributing alley façades in the Copenhagen Alley District that are located in the project area.



Figure 4.3-8 Contributions to the Copenhagen Alley District

# Underground Sidewalks

"Hollow" sidewalk areas are present within the project area all along J and 11<sup>th</sup> Streets. However, the original brick barrel ceilings of all but one segment have been covered or replaced by either concrete or corrugated metal sheets. Only one fairly small section of the hollow sidewalk areas, located at 1020 J Street within the project area, has retained some integrity with the principal character-defining features of underground sidewalk construction including brick barrel vault ceilings as well as brick buttresses and walls.

As stated previously, because of repeated flooding of the downtown area, major rising of the City streets occurred in the 1860s. The raised portion of the City roughly encompasses the area within H and L streets, and Front Street to approximately 12th Street. Many building owners opted to raise their buildings to the new street grades; others converted their first floors into cellars. The City raised the street grade only, leaving the business owners to construct the new sidewalk in front of their businesses. Eventually all the new sidewalks were constructed covering the open gap between the street and the storefronts, creating a network of tunnels under the new sidewalks or "hollow sidewalks."

While the project raised the facing street levels one story, the alleys retained their original ground level, as did the rear façades of buildings facing the streets. At the east and west ends of the alleys, the alley street descended to original street level and then back up to the new level. This facilitated the delivery and loading of goods and provided basement access to businesses, hotels and other tenants.

The principal character-defining features of "hollow sidewalks," in general, are the brick building and street walls with brick street wall buttresses containing the one-story high earth infill in the middle of the streets, the steel "I" beams that extend from these street walls to the buildings lining the sidewalks, the brick barrel vaults that are supported by the beams and support, in turn, the sidewalks at current street level.

Some sidewalk elevator remnants with metal doors flush with the sidewalk remain in some locations. The elevator remnants illustrate the delivery of goods to the basements of businesses. The elevators were elevated to sidewalk level, pushing the metal doors up and open in the process. When loaded they descended to the basement for unloading and the metal doors closed to be flush again with the sidewalk surface. A few of these former elevators with their metal sidewalk doors still exist, sometimes enclosed at the lower level to avoid intruders. These elevators contribute to an understanding of the former business uses of the underground area and, where they occur, are character defining features.

In addition, a number of circular cast metal opening covers with a variety of vent designs still exist in the current sidewalks. Venting the "underground" spaces, they are also character defining features of the "hollow sidewalks."

Hollow sidewalks exist as part of the project site sidewalk right-of-way. The most consistent alteration was to the ceilings of the areas. Most ceilings were covered with concrete, possibly sealing the brick barrel vaults above the coat of concrete. The ceilings of the area adjoining 1014,

1016 and 1018 J street are of corrugated metal arched between the I beams connecting the building to the shallow curved walls that support the street. However, the buttresses are clearly visible, and some sections of the brick and vaulted ceiling can still be seen (Figures 4.3-9 and 4.3-10).

The section in the project area at 1020 J Street (Figure 4.3-11) has retained the principal character defining features of the brick barrel vault ceilings, the brick street walls and brick buttresses.

#### Archaeological Resources

The *Cultural Resources Overview* prepared by Peak & Associates, Inc. contained in Appendix F of the DEIR indicates that prehistoric archaeological deposits are unlikely to exist within the project area.



Figure 4.3-9 Brick Vaulted Ceilings

Figure 4.3-10 Brick Buttresses



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					J Street				
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ST.	1003	30.81')	3	(19) 85 3,525±N.	161.18	-	τ.	-	
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Figure 4.3-11 Location of Significant Hollow Sidewalks

While "hollow sidewalks" line the project area block along J and 11<sup>th</sup> Streets, Figure 4.3-11 shows the location of significant underground "hollow sidewalk" features in the project area.

# 4.3.2 REGULATORY BACKGROUND

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources that could be affected by actions that they undertake or regulate. The National Environmental Policy Act (NEPA), National History Preservation Act of 1966 (NHPA) and California Environmental Quality Act (CEQA) are the principal federal and state laws governing preservation of historic and archaeological resources of national, regional, State, and local significance.

# Federal Regulations

Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementation regulations, "Protection of Historic Properties," are found in 36 Code of Federal Regulations (CFR) Part 800. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register of Historic Places. The criteria for determining National Register eligibility are found in 36 CFR Part 60. Amendments to the Act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provision for Native American consultation and participation in the Section 106 review process. Although federal agencies must follow federal regulations, most projects of private developers and landowners do not require this level of compliance. Federal regulations only apply in the private sector if a project requires a federal permit or if it uses federal money.

Under NHPA, the quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, handiwork, feeling, and association. Additionally, the National Register of Historic Places requires consideration of significance of any structure over 45 years old.

#### State Regulations

State historic preservation regulations affecting this project include the statutes and guidelines contained in the California Environmental Quality Act (CEQA; Public Resources Code sections 21083.2 and 21084.1 and sections 15064.5 and 15126.4 (b) of the CEQA Guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript that is historically or archaeologically significant (Public Resources Code section 5020.1). Section 15064.5 of the CEQA Guidelines specifies criteria for evaluating the importance of cultural resources, including:

- 1) The resource is associated with events that have made a significant contribution to the broad patterns of California history;
- 2) The resource is associated with the lives of important persons from our past;

- 3) The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual or possesses high artistic values; or
- 4) The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR).<sup>6</sup> The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.<sup>7</sup>

#### California Historic Register

The State Historic Preservation Office (SHPO) also maintains the California Register of Historical Resources (CRHR). Properties that are listed on the National Register of Historic Properties (NRHP) are automatically listed on the CRHR, along with State Landmarks and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

#### Senate Bill (SB) 18

Senate Bill 18, signed into law by Governor Schwarzenegger in September 2004, requires cities and counties to notify and consult with California Native American Tribes about proposed adoption of, or changes to, general plans and specific plans for the purpose of protecting Traditional Tribal Cultural Places ("cultural places"). Interim tribal consultation guidelines were published by OPR on March 1, 2005. The proposed project falls under the SB 18 requirements as defined by OPR, and the City will therefore be required to contact the Native American Heritage Commission and request consultation.

#### City of Sacramento General Plan

Section 6 of the City of Sacramento General Plan (1988) lists the following goals and policies regarding cultural resources:

#### Preservation of Natural Resources

- Goal D: Work with the County of Sacramento to identify, protect, and enhance physical features and settings that are unique to the maximum extent feasible.
  - Policy 2: Work with all interested parties to protect ancient burial grounds threatened by development activity and preserve their artifacts, either on-site or at a suitable relocation, to the extent feasible.

The City of Sacramento adopted a Preservation Element in their General Plan in April 2000. The overarching goal of the Preservation Element is:

"To retain and celebrate Sacramento's heritage and recognize its importance to the City's unique character, identity, economy, and quality of life."

#### Preservation Element

- Goal A: To establish and maintain a comprehensive citywide preservation program.
  - Policy 1: The City shall promote the recognition, preservation, and enhancement of historic and cultural resources throughout the City.
  - Policy 2: The City shall promote the preservation, restoration, enhancement, and recognition of historic and cultural resources. Historic and cultural resources include not only sites and structures, but also features such as infrastructure (e.g. bridges, canals, roads, and trails), signs, landscaping and trees, open space areas, lighting and hardscape (e.g., sidewalks, paving) that are important to the overall context.
  - Goal B: To protect and preserve important historic and cultural resources that serve as significant, visible reminders of the City's social and architectural history.
    - Policy 2: The City shall review new development, alterations, and rehabilitation/remodels in design review areas, preservation areas, and other areas of historic resources for compatibility with the surrounding historic context.
    - Policy 6: The City shall promote the conservation of historic neighborhoods to encourage preservation of structures and other features. In these areas, the City shall encourage the maintenance or reconversion of parkway strips to landscaping, maintenance and replication of historic sidewalk patterns, use of historic street lamps and street signs, and maintenance or restoration of historic park features.
  - Goal E: To identify and protect archaeological resources which enrich our understanding of the early Sacramento area
    - Policy 3: The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the North Central Information Center of the California Historical Resources Information System, requiring a site evaluation as may be indicated and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist.

#### **City of Sacramento Preservation Ordinance**

On October 24, 2006, the City Council adopted a revised city-wide Sacramento Historic Preservation ordinance (#2006-063) that changed a number of the ordinance provisions, including provisions pertaining to preservation development project review levels for listed

properties and creation of a separate Preservation Commission. The ordinance's eligibility criteria were not changed.

Also, Article VIII of Chapter 17.134 of the City Code provides for review of the Sacramento Register eligibility and potential listing of the structures on the project site proposed for demolition that are 50 yeas old, or older.

#### 4.3.3 IMPACTS AND MITIGATION

#### **Standards of Significance**

#### Archaeological Resources

A project could have a significant effect on the environment if it would cause a substantial adverse change in the significance of an archaeological resource or disturb any human remains. Pursuant to Section 15064.5 of the CEQA *Guidelines*, archaeological resources not otherwise determined to be historical resources may be significant if they are unique. Pursuant to Public Resources Code (PRC) Section 21083.2, a unique archaeological resource is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, a high probability exists that it meets one of the following criteria:

- Contains information needed to answer important scientific questions and a demonstrable public interest exists in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type;
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

According to Section 15064.5 of the CEQA Guidelines, all human remains are significant.

A non-unique archaeological resource means an archaeological artifact, object, or site that does not meet the above criteria. Non-unique archaeological resources do not receive further consideration under CEQA.

#### Historic Resources

Section 15065 of the *CEQA Guidelines* mandates a finding of significance if a project would eliminate important examples of major periods of California history or pre-history.

In addition, pursuant to Section 15064.5 of the *CEQA Guidelines*, an historical resource (including both built environment and prehistoric archaeological resources) shall be considered by the lead agency to be historically significant if it is listed on the California Register of Historical Resources (CRHR) or has been determined to be eligible for listing by the State Historical Resources Commission. A historical resource may also be considered significant if the lead agency determines, based on substantial evidence, that the resource meets the criteria for

inclusion in the CRHR. Any resource that is listed on or considered eligible for inclusion on the National Register of Historic Places is automatically considered eligible for the CRHR.

Section 15064.5(a)(2) also defines historical resources as those included in a properly conducted local register or survey, or (3) which a lead agency determines to be historically significant and which determination is supported by substantial evidence that California Register eligibility criteria are met.

The Sacramento Register of Cultural and Historic Resources was established by City ordinance to codify the list of buildings, structures, districts, and other geographic areas of local importance that possess integrity of location, design, setting, materials, handiwork, feeling, and association and that meet the following criteria as outlined in Section 17.134.170:

#### 17.134.170 <u>Criteria and requirements for listing on and deletion from the Sacramento</u> <u>Register.</u>

The criteria and requirements for listing on, or deletion from, the Sacramento Register as a landmark, historic district or contributing resource are as follows:

A. Listing on the Sacramento Register - Landmarks

A nominated resource shall be listed on the Sacramento Register as a landmark if the city council finds, after holding the hearing(s) required by this chapter, that all of the requirements set forth below are satisfied:

- 1. Requirements.
  - a. The nominated resource meets one or more of the following criteria:
    - i. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation;
    - ii. It is associated with the lives of persons significant in the city's past;
    - iii. It embodies the distinctive characteristics of a type, period, or method of construction;
    - iv. It represents the work of an important creative individual or master;
    - v. It possesses high artistic values; or

- vi. It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the state or the nation.
- b. The nominated resource has integrity of location, design, setting, materials, workmanship, and association. Integrity shall be judged with reference to the particular criterion or criteria specified in "a" above;
- c. The nominated resource has significant historic or architectural worth, and its designation as a landmark is reasonable, appropriate and necessary to promote, protect and further the goals and purposes of this chapter.
- 2. Factors to be Considered.

In determining whether to list a nominated resource on the Sacramento Register as a landmark, the following factors shall be considered:

- a. A structure removed from its original location is eligible if it is significant primarily for its architectural value or it is the most important surviving structure associated with a historic person or event.
- b. A birthplace or grave is eligible if it is that of a historical figure of outstanding importance and there is no other appropriate site or structure directly associated with his or her productive life.
- c. A reconstructed building is eligible if the reconstruction is historically accurate, if the structure is presented in a dignified manner as part of a restoration master plan; and if no other, original structure survives that has the same association.
- d. Properties that are primarily commemorative in intent are eligible if design, age, tradition or symbolic value invest such properties with their own historical significance.
- e. Properties achieving significance within the past fifty (50) years are eligible if such properties are of exceptional importance.
- B. Listing on the Sacramento Register Historic districts

A geographic area nominated as a historic district shall be listed on the Sacramento Register as a historic district if the city council finds, after holding the hearing(s) required by this chapter, that all of the requirements set forth below are satisfied:

- 1. Requirements.
  - a. The area is a geographically definable area.

- b. The area possesses either:
  - i. A significant concentration or continuity of buildings unified by:
    - a) past events; or
    - b) aesthetically by plan or physical development.
  - ii. The area is associated with an event, person, or period significant or important to city history.
- c. The designation of the geographic area as a historic district is reasonable, appropriate and necessary to protect, promote and further the goals and purposes of this chapter and is not inconsistent with other goals and policies of the city.
- 2. Factors to be Considered.

In determining whether to list a geographic area on the Sacramento Register as a historic district, the following factors shall be considered:

- a. A historic district should have integrity of design, setting, materials workmanship and association.
- b. The collective historic value of the buildings and structures in a historic district taken together may be greater than the historic value of each individual building or structure.

#### Method of Analysis

The Peak & Associates, Inc. and the Historic Environment Consultants reports included the results of research conducted at the Sacramento Archives and Museums Collections Center, Sacramento Room of the Sacramento City Library and the California Room of the California State Library. Sources utilized include City tax assessment map books and rolls, City directories, federal census, photographic collection, Sanborn Fire Insurance maps, City maps, and newspapers.

The section below evaluates the impacts from the proposed project on the cultural resources that could occur within the project site, by consulting available information in the Sacramento General Plan, the Sacramento General Plan EIR, the *Cultural Resources Overview* prepared by Peak & Associates, Inc. (contained in Appendix F of the DEIR), and the *Cathedral Square, Cultural Resources Supplementary Report* by Historic Environment Consultants (contained in Appendix G of the DEIR). Based on information in those reports, the standards of significance for cultural resources are identified, and then these standards are applied to the existing conditions to determine the impacts; lastly, mitigation measures are to be proposed, if necessary. To the extent that any of the conclusions reached in the reports are in conflict, the DEIR has

adopted the finding which noted a significant impact to ensure that a conservative approach was taken.

# **Project-Specific Impacts and Mitigation Measures**

#### 4.3-1 **Project grading could unearth previously unknown archaeological resources.**

The project area was historically inhabited by Native American peoples, however, the cultural resources report found that the presence of prehistoric cultural deposits within the project site is unlikely. The site is located a distance from the natural water sources available at that time. Furthermore, the relatively close proximity of the City Hall/Plaza Park site further reduces the likelihood of the project site being occupied, as villages would not have been placed in such close proximity. Excavations at a nearby project site, the 800 J Street Lofts, yielded only a few scattered prehistoric period artifacts, and intact cultural deposits were not found. Similarly, this site, so close to a major site, is not likely to contain an intact prehistoric period cultural deposit.

Additionally, because the project site soils have been highly disturbed during the construction and habitation of the current structures, any existing cultural resources in the soils would have been previously discovered.

The buildings fronting on J Street do not all extend the full 160 foot depth to the alley. Buildings are set at varying depths, leaving space between the back of the street-facing buildings and the edge of the alley at the rear. Possible reasons for the empty space on these lots may have been that there were small buildings on the alley built to serve the needs of the owners as garages, storage, stables, or perhaps small dwellings, preventing construction of the larger buildings all the way to the alley.

All of the small alley structures are now gone, but the spaces they occupied may have affected potential decisions to extend the larger buildings fronting J Street farther back to the alley edge. However, the vacant ground between them and the back of the street-facing buildings were prime areas for the collection of refuse over the last 120 to 130 years, and may contain a variety of archeological artifacts.

In addition, other portions of the project area could yield subsurface materials related to the early settlement of the City. The buildings on lots 2 and 3 were apparently jacked up in the 1860s and there may be materials present below the floors of these buildings. The large buildings on lot 4 have been modified and re-built. The buildings on this lot do not appear to have been jacked up, but rather, the original street level became the basement level. The 1911-1912 re-build apparently involved demolition to the street level, with the additional stories added above the existing basement level building. Earlier deposits are unlikely to exist below the original street level of the building.

Another category of historic archeological resource would be the cobblestones used as a base for the alley street when first constructed, and some granite edging along the sides. Part of this is visible in the alley in back of 1022 J Street. The cobblestones and the granite edging are concealed by later road surface material but are likely still in place in parts of the alley beneath that surface. In addition, a probable original cornerstone is still in place beneath the sidewalks on the corner of 11th and J Streets, under the former 'Country Maid' restaurant.

Therefore, because the potential exists that previously unknown resources could be discovered, a *potentially significant* impact could result.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the impact to a *less-than-significant* level.

- Prior to the issuance of grading permits, an archeological monitor shall 4.3-1(a)be hired by the applicant and approved by the City to train the construction grading crew prior to commencement of demolition and excavation activity in regard to the types of artifacts, rock, or bone that they are likely to find, and when work shall be stopped for further evaluation. One trained crew member shall be on-site during all demolition and excavation activities, with the assigned responsibility of "monitor". If any earth-moving activities uncover artifacts, exotic rock, or unusual amounts of bone or shell, work shall be halted in the immediate area of the find and shall not be resumed until after the archeological monitor has inspected and evaluated the deposit and determined the appropriate means of curation. The appropriate mitigation measures may include as little as recording the resource with the California Archaeological Inventory database or as much as excavation, recordation, and preservation of the sites that have outstanding cultural or historic significance.
- 4.3-1(b) Prior to construction in right-of-way, the applicant shall coordinate removal and storage of granite curbs and corners with the City's Department of Transportation.
- 4.3-1(c) During construction, if bone is uncovered that may be human, the California Native American Heritage Commission, located in Sacramento, and the Sacramento County Coroner shall be notified. Should human remains be found, the Coroner's office shall be immediately contacted and all work halted until final disposition by the Coroner. Should the remains be determined to be of Native American descent, the Native American Heritage Commission shall be consulted to determine the appropriate disposition of such remains.

Implementation of these mitigation measures would ensure that any subsurface cultural resources uncovered during project construction would be preserved, recorded, and disposed of in an appropriate fashion.

#### **4.3-2** Impacts to historic buildings.

The project site is composed of several attached, but distinct buildings with their own histories and architectural character. The significance of each building is evaluated in the following discussion.

#### 1014 J Street

The extent of which any building occupied by F. George's barbershop remains after the Greuhler remodeling between 1895 and 1915 is not known. The existing façade is a remodel that obscures any of the original façade that may have remained after the building was combined with 1016-1018 J Street next door. The interior has been remodeled to accommodate the incorporation into offices, and then the furniture store. The street façade and the interior have lost their design integrity.

The building has been occupied since the mid 19th century, and the occupants have been varied. The businesses that have occupied the structure were common uses in the downtown area during the times they were active. However, none of the activities have been associated with prominent businesses that have survived and grown over a long period of time, or with individuals whose work contributed in significant ways to the evolution and growth of the City. The building has lost integrity along the street elevation and interior, and is not associated with significant Sacramento citizens.

#### 1016-1018 J Street

The existing brick building dates between 1895 and 1915. The building contained two adjacent and changing businesses that were providers of goods and services typical for the downtown area from 1915 until the early 1970s when the 1014 J Street building was combined with 1016-1018 J Street, becoming the Copenhagen Furniture store in 1974.

None of the business activities have been associated with prominent businesses that have survived and served Sacramento over a long period of time, nor have the buildings been occupied by individuals whose work contributed in significant ways to the evolution and growth of the City. The building street façade and interior have been substantially modified and lack original design integrity.

#### 1020-1022 J Street

The current upper floor appearance of the building at 1020-1022 J Street reflects the remodeling of 1925. Street level storefronts probably date from the 1950 remodeling.

The second floor still reflects some integrity of the 1925 design and contributes to some degree to the overall character of the 'downtown' of that era.

Occupants of the two stores housed in the building evolved from the sale of traditionally 19<sup>th</sup> century products like harnesses and hardware to radios, appliances and electrical sales, now pertinent to the 1920s and 1930s. Both of the stores became associated with individual names that became prominent in the commercial community of the city: Hobrecht and Manual Joseph.

The Hobrecht name appears to have first been associated with radio and electrical appliance sales at 1022 J Street, and evolved into the prominent Hobrecht Lighting stores of today. This represents a family business involvement of approximately 83 years.

The business that began as Cedarholm and Joseph in 1939 appears to have matured as Manuel Joseph Electrical Center by 1950 at 1020 J Street, and expanded successfully with Sacramento's appliance boom after World War II. The Manuel Joseph Company prominently remained downtown into the 1970s before moving to the suburbs.

The Sacramento Sewing Machine Center next door at 1022 remained in business at that location from about 1950 to circa 2005, over 50 years.

The associations of the prominent local Hobrecht and Manuel Joseph businesses with the building lends the building strong local historic importance that reflects the philosophy of stability and long term service of a former era, also reflected by the Sacramento Sewing Machine Center. The building possesses some local historic importance due to the structures associations with prominent local businesses.

While the street façade of the building has received some modifications, the façade still displays the image of the 1925 design.

#### 1024-1026 J Street

The Mohr & Yoerk Meat Packing company, originating in 1863, grew by 1880 to be the premier pork curing operation in Sacramento County, according to Thompson & West's 1880 *History of Sacramento County*. Mohr & Yorek's operation processed more than three times as many hogs as their nearest competitors combined. The J Street store packing and sales, and the large meat packing plant across the alley to the south were prominent and successful, the largest grocery establishment in the City at that time. However, the sons of the next generation transitioned into real estate and built apartments above their grocery and meat store. The founders and their families established one of the most successful businesses in Sacramento during the mid 19<sup>th</sup> century up to the early 20<sup>th</sup> century, and as such contributed significantly to the community, and the community's economic strength during that era.

#### 1028-1030 J Street

The building has been substantially remodeled from the original appearance, except that the bay windows on the alley that formerly served residential units have been retained.

Probably the building's most common use from the time of construction to about 1911 was as several different grocery stores with residential units above. The building became most well known as the Country Maid ice cream parlor and restaurant, remaining in that location from the 1930s to 1982. The ice cream parlor was a downtown 'landmark' for generations of shoppers, workers and children.

#### Conclusion

The buildings within the project area are brick structures, all of which were constructed in the 19<sup>th</sup> century. Some of the building have significant local historic associations, the J Street façades of all of these buildings have been altered substantially and do not contribute visually to a historic district along J Street. However, the project will remove existing visible references to the past downtown history of Sacramento resulting in less exposure, appreciation, and understanding of the City's unique heritage as a gold rush city, railroad city, agricultural city and state capitol. Downtown remnants in Old Sacramento, J and K Streets in particular reflect the events that catapulted Sacramento into its 19<sup>th</sup> and 20<sup>th</sup> century prominence.

As discussed above, the1020-1022 J Street building possesses some local historic importance due to the structures associations with prominent local Hobrecht and Manuel Joseph businesses. Therefore, the property appears eligible to the Sacramento Register based upon historic significance. As a result, the proposed project would result in a *significant* impact to historical resources.

#### Mitigation Measure(s)

The following mitigation measures would not reduce the impacts to all historical structures to below the standards of significance. Therefore, the project would have a *significant and unavoidable* impact on historical structures.

4.3-2 The applicant shall create an interpretive display in the new building that reflects the age, history and character of the project area buildings. Historically important individuals and businesses were associated with this early downtown block. Their lives and contributions to the Sacramento community could be included in an informative and interesting display. The display shall be submitted to the Preservation Director for review and approval prior to building occupancy.

#### **4.3-3** Impacts to the Copenhagen Alley District.

#### 1014 J Street

The alley façade has retained much of the original character and a good degree of integrity with as exhibited by the brick construction, rectangular windows, proportions and scale. Therefore, the alley elevation of the building have retained sufficient character to contribute importantly to the Copenhagen Alley District and the historic character of downtown historic Sacramento. The building appears to be eligible for listing in the Sacramento Register as a contributor to the Copenhagen Alley District.

#### 1016-1018 J Street

The rear or alley elevations of the building have retained substantial character. Contributing features include the brick construction, the stepped parapet, the arched windows, the tall arched basement doors, the proportions and scale of minimal details.

The alley elevation of the building has retained sufficient character to contribute importantly to the Copenhagen Alley District and the historic character of downtown historic Sacramento. The building appears to be eligible for listing in the Sacramento Register as a contributor to the Copenhagen Alley District.

#### 1020-1022 J Street

While the street façade of the building has received some modifications, the façade still displays the image of the 1925 design. In addition, the alley elevation contributes to the character of the Copenhagen Alley District. The rear elevation of 1022 J has been enclosed and any original features are obscured from view but may still be intact beneath the cover. In addition, the building has retained a sense of scale in relation to the other structures. The rear of 1020 has essentially retained the historical early image.

The property appears eligible for inclusion in the Sacramento Register based upon historic significance, and the potential contribution to the Copenhagen Alley District.

#### 1024-1026 J Street

While the J Street façade has been substantially altered, the alley elevation with which include: handsome brick walls on both west and south elevations, arched windows and 19<sup>th</sup> century scale, contributes to the Copenhagen Alley District. While the J Street façade has lost historical integrity integrity, the building is important historically and the property appears to be eligible for inclusion in the Sacramento Register as a contributor to the recommended Copenhagen Alley District.

#### 1028-1030 J Street

The most significant remaining original architectural features of the building are the two second-story bay windows at the rear in the alley. These windows are some of the few remaining bay windows in the downtown area which once held many projecting bay windows on both the street and alley elevations, providing inviting upstairs residency. The windows are a character-defining feature of downtown and would make the building an important contributor to the recommended Copenhagen Alley District.

#### Conclusion

The alley elevations contribute to the Copenhagen Alley District due to the integrity, character, materials and spatial configuration of their alley façades. The Project would result in the demolition of all of the buildings within the project area. The demolition would remove resources significant both for their history and for their contribution to the recommended Copenhagen Alley District. Existing bay windows and other downtown character-defining features would be removed.

The Project would result in the removal of more than half of the alley elevations included in the Copenhagen Alley District, which includes properties beyond the project area, eliminating the establishment of the District due to substantial loss of integrity. Therefore, the project would result in a *significant* impact to historical resources.

#### Mitigation Measure(s)

The following mitigation measures would not reduce the impacts to the Copenhagen Alley District to below the standards of significance. Therefore, the project would have a *significant and unavoidable* impact on the Copenhagen Alley District.

4.3-3(a)Prior issuance of Demolition Permits, the architectural design shall be revised to integrate some design aspects of the alley façade, with respect to the scale of details and appropriate compatible materials, into the new construction. The revised design treatment shall include alley-compatible materials that would recall the detail concepts of the former buildings in terms of scale, detail, simplicity and spatial features. The addition of contemporary bay windows in appropriate proportions and scale would at least reflect the historic concept of living above the stores that was so much a part of downtown life for many decades. This would not reduce the impact of the Project but would make the new construction more compatible with the remainder of the alley and provide a pertinent historic reference. In addition, the buildings should be recorded photographically and the images used in an interpretive display at some location on the site of the new building(s). The revised design and interpretive display shall be submitted for the review and approval of the Preservation Director.

4.3-3(b) The applicant shall prepare an interpretative display featuring the spatial aspects and relationships of the buildings and the alley. The display shall include a three dimensional model for display on the Project site that illustrates the spatial relationships of the Copenhagen Alley District, and demonstrating the importance of these relationships to the original alley configuration and experience. The display shall be submitted for the review and approval of the Preservation Director prior to building occupancy.

#### 4.3-4 Impacts to underground sidewalks.

The project site is composed of several attached, but distinct buildings with their own histories and architectural character. The significance of the underground features associated with each building is evaluated in the following discussion.

#### 1014 J Street

The area beneath the sidewalk in front of the building has either lost the original brick barrel vaulted ceiling or had the ceiling covered with arched pieces of corrugated metal. The buttresses and shallow curved brick walls between them remain. The loss of the brick barrel vaults and replacement with another material constitute an important loss of original character, even though other features remain.

#### 1016-1018 J Street

The remaining areas beneath the sidewalk still exist but the ceilings have been covered or replaced with arched corrugated metal sections and brick barrel-vaulted portions are not visible. The brick buttresses and shallow curved brick walls containing the street infill remain. The integrity of the original design and materials has been partially compromised by modifications to the original brick barrel vault construction.

#### 1020-1022 J Street

The areas beneath the sidewalk are different for the 1020 and 1022 units. The area beneath the sidewalk in front of 1022 J has been modified with a ceiling replaced or encased with concrete. The buttresses and curved walls holding the street infill still remain. The area beneath the sidewalk at 1020 J appears to have retained the brick barrel vault ceiling and its buttresses, making the area a significant remnant of the original unique 'hollow sidewalk' construction.

#### 1028-1030 J Street

A freight elevator with metal doors in the sidewalk remains in the sidewalk on 11<sup>th</sup> Street between the alley and J Street. The elevator appears to have retained the

original structural form under the sidewalk and is one of a remaining few in the downtown area.

The character of the areas beneath the sidewalks adjacent to the building on both J and 11<sup>th</sup> Streets has been modified. The ceilings have been covered with concrete affecting the integrity of the original sidewalk construction, but the buttresses remain.

#### Conclusion

"Hollow" sidewalk areas are present within the project area all along J and 11<sup>th</sup> Streets. However, the original brick barrel ceilings of all but one segment have been covered or replaced by either concrete or corrugated metal sheets. Only the underground sidewalks under 1020 J Street have retained some integrity with the principal character-defining features of underground sidewalk construction including brick barrel vault ceilings as well as brick buttresses and walls.

The Project would result in the removal of unique underground sidewalk resources significant to the history of Sacramento. While extensive precautions would be required to make the underground features safe and available to the public, elimination of the features for the proposed project would constitute a *significant* impact to a historical resource.

# Mitigation Measure(s)

The following mitigation measures would not reduce the impacts to underground sidewalks to below the standards of significance. Therefore, the project would have a *significant and unavoidable* impact on underground sidewalks.

4.3-4 The applicant shall retain in place the segment of the underground sidewalk area at 1020 J Street, stabilize the segment, and use the segment as an interpretive display that helps explain how and why the downtown city streets were raised circa 1869. Viewing the actual final configuration contributes substantially to understanding the "hollow sidewalk" features and history, a unique Sacramento heritage. The segments to be retained shall be shown on plans submitted, including a temporary shoring plan, for the review and approval of the Preservation Director prior to the issuance of Demolition Permits for the remaining elements of the proposed project.

#### **Cumulative Impacts and Mitigation Measures**

# 4.3-5 Disturbance or destruction of previously unknown archaeological resources in combination with other development in the Sacramento area.

Buildout of approved and planned uses within the City have the potential to uncover previously unknown resource sites. Each site is a unique contributor to the overall scientific understanding of a region's pre-history. Evaluation of cultural finds and resources within their original context is a critical component of their value. Disturbance, movement, and destruction of such resources would remove or preclude the analysis of the resource within the original context and therefore adversely affect the understanding of the development of human cultural history. Increased population and intensified land use patterns associated with cumulative growth could also increase the potential for vandalism and/or inadvertent destruction of such resources. Consequently, the *City of Sacramento General Plan EIR* found that cumulative development would create a potentially significant impact to cultural resources that could be mitigated to a less-than-significant level with implementation of certain mitigation measures.

#### Mitigation Measure(s)

The proposed project would remove/significantly alter historic resources; therefore, the project would contribute toward cumulative impacts related to historic or prehistoric resources. Implementation of the following mitigation would reduce impacts, but not to below the standards of significance. As feasible mitigation does not exist to reduce impacts to a less-than-significant level, the project's contribution to the cumulative loss of historic resources would be *significant and unavoidable*.

4.3-5 Implement Mitigation Measures 4.3-1 to 4.3-4.

#### Endnotes

<sup>&</sup>lt;sup>1</sup> City of Sacramento General Plan, January 1988.

<sup>&</sup>lt;sup>2</sup> City of Sacramento General Plan Update EIR, March 1987.

<sup>&</sup>lt;sup>3</sup> Preservation Element of the City of Sacramento General Plan, April 2000.

<sup>&</sup>lt;sup>4</sup> Peak & Associates, Inc., *Cultural Resources Overview for the Cathedral Square Project, Sacramento, California,*. January 2007.

<sup>&</sup>lt;sup>5</sup> Historic Environment Consultants, *Cathedral Square, Cultural Resources Supplementary Report, ADEIR*, March 2007.

<sup>&</sup>lt;sup>6</sup> State of California, Governor's Office of Planning and Research, CEQA and Archaeological Resources, 1994.

<sup>&</sup>lt;sup>7</sup> California Health and Safety Code Section 7050.5, California Public Resources Code Sections 5097.94 et seq.

4.4 Noise and Vibration

4.4

# NOISE AND VIBRATION

# 4.4.0 INTRODUCTION

This chapter describes the existing noise environment in the project vicinity, and identifies potential impacts and mitigation measures related to the conversion and operation of the proposed Cathedral Square project. The following section describes the potential noise and vibration impacts due to construction. In addition, the Initial Study found that impact related to aircraft noise would be less-than-significant. The method by which the potential impacts are analyzed is discussed, followed by the identification of potential impacts and the recommended mitigation measures designed to reduce significant impacts to levels that are *less-than-significant*. Sources used in the analysis of noise include the *City of Sacramento General Plan*<sup>1</sup>, *City of Sacramento General Plan Draft EIR*<sup>2</sup>, *Environmental Noise Assessment; Cathedral Square*<sup>3</sup>, prepared by Bollard Acoustical Consultants, and *City of Sacramento Noise Control Ordinance*<sup>4</sup>.

# 4.4.1 EXISTING ENVIRONMENTAL SETTING

# **Acoustical Terminology**

Sound can be 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 intensity of the pressure vibrations that make up sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a special scale has been devised that specifically relates noise to human sensitivity. The A-weighted decibel scale (dBA) does this by placing more importance on frequencies that are more noticeable to the human ear.

Noise is often described as unwanted sound, and sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), pressure variations are heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

The decibel scale uses the hearing threshold (20 micropascals) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers is a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by the A-weighing network. A strong correlation exists between A-weighted sound levels (expressed as dBA) and the way the human ear perceives noise. Furthermore, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. The Day-night Average Level ( $L_{dn}$ ) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

# Groundborne Vibration

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion cause by vibration is measured as vibration decibels (VdB).

Groundborne vibration is normally perceptive to humans at approximately 65 VdB. A vibration velocity level of 75 VdB is the dividing line between barely perceptible and distinctly perceptible levels for most people.

Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoors sources of perceptible groundborne vibration are construction equipment, steel wheeled trains, and traffic on rough roads. However, if a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from 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. Construction activities can generate groundborne vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

Construction vibrations can either be transient, random, or continuous. Transient construction vibrations occur from blasting, impact pile driving, and wrecking balls. In addition, continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

# Existing Receptors and Project Related Receptors in the Project Vicinity

Existing land uses in the project vicinity consist of professional office buildings, commercial/retail uses, church uses, Cesar Chavez Park, and parking facilities. Due to the nearby location, and the noise sensitive uses, the Cathedral of the Blessed Sacrament would be considered a sensitive receptor. Increases in project related noise, both during construction and following occupancy, could affect sensitive receptors located in the adjacent areas. Following construction, project residents

would be considered additional noise-sensitive receptors. As the project would introduce new sensitive receptors to the area, sensitive receptors are the primary focus of this analysis.

# **Existing Ambient Environment in the Project Vicinity**

The Noise Assessment conducted by Bollard Acoustical Consultants found that the existing ambient noise environment in the immediate project vicinity is defined almost exclusively by local and distant surface traffic.

To generally quantify existing ambient noise levels in the project vicinity, a short-term ambient noise survey was conducted at four locations surrounding the project site on the afternoon of June 8, 2006. The ambient noise measurement sites were located at the corners of 10<sup>th</sup> and J Street, 11<sup>th</sup> and J Street, 11<sup>th</sup> and K Street, and 10<sup>th</sup> and K Street (See Appendix H).

A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute (ANSI) for Type 1 sound level meters (ANSI S1.4).

The noise level meters were programmed to record the maximum and average noise level at each site during the survey. The maximum value, denoted  $L_{max}$ , represents the highest noise level measured. The average value, denoted  $L_{eq}$ , represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The ambient noise level measurement results are provided in Table 4.4-1.

Table 4.4-1 Ambient Noise Monitoring Results Cathedral Square Project Site - June 8, 2006					
Site	Location	Time	Average (L <sub>eq</sub> )	Maximum (L <sub>max</sub> )	
1	Corner of J Street and 10 <sup>th</sup> Street	3:05 pm	70.4 dB	84.6 dB	
2	Corner of J Street and 11 <sup>th</sup> Street	3:26 pm	70.9 dB	87.6 dB	
3	Corner of K Street and 11 <sup>th</sup> Street	3:44 pm	66.8 dB	79.9 dB	
4	Corner of K Street and 10 <sup>th</sup> Street	4:10 pm	70.8 dB	81.7 dB	
Source: Bollard Acoustical Consultants, Inc.					

The ambient noise survey results indicate that the measured daytime ambient noise levels at the project site are fairly high, typical of urban areas affected primarily by nearby traffic noise sources. Because of the noise levels generated by nearby traffic, distant traffic surface traffic is not a large component of the ambient noise.

#### Existing Traffic Noise Environment in the Project Vicinity

To correctly describe existing and projected noise levels due to traffic, the Federal Highway Administration (FHWA) traffic noise prediction model (RD-77-108) was used in the *Noise Analysis* conducted by Bollard Acoustical Consultants (2006). The FHWA model was developed to predict hourly  $L_{eq}$  values for free-flowing traffic conditions, and reports noise levels in  $L_{eq}$ . To predict levels in terms of  $L_{dn}$ , daily traffic volumes are used with the appropriate distribution of daytime and nighttime traffic.

Traffic volumes for existing conditions were obtained from the traffic study prepared by Dowling Associates, Inc. in the form of intersection turning movements. Truck usage on the local area roadways was estimated from the field observations.

Table 4.4-2 shows the predicted existing traffic noise levels in terms of the Day/Night Average Level descriptor ( $L_{dn}$ ) at a standard distance of 50 feet from the centerlines of the existing immediate project-area roadways for existing conditions, as well as distances to existing traffic noise contours. The extent by which future occupants of the proposed project and existing sensitive receptors in the project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways.

Table 4.4-2						
Existing Traffic Data, Noise Levels and Distances to Contours Cathodral Square Project – City of Sacromonto, California						
	Catheur	ai square r to	Jeci – City u			
				Distan	ce to Contour	s (feet)
Intersection	Direction	Existing ADT	Ldn @ 50 Feet	70 dB Ldn	65 dB Ldn	60 dB Ldn
10 <sup>th</sup> & J St.	North	7,420	63	18	39	84
	South	6,640	63	17	36	78
	East	14,540	66	28	61	131
	West	15,320	66	29	63	135
10 <sup>th</sup> & L St.	North	9,560	64	21	46	99
	South	9,290	64	21	45	97
	East	12,910	66	26	56	121
	West	12,640	66	26	55	119
12 <sup>th</sup> & J St.	North	8,260	64	19	42	90
	South	7,660	63	18	40	85
	East	17,290	67	32	68	147
	West	14,410	66	28	60	130
12 <sup>th</sup> & L St.	North	7,030	63	17	37	81
	South	100	45	1	2	5
	East	8,980	64	20	44	95
	West	12,970	66	26	56	121
Notes: Source: FHWA-RD-77-108 with inputs from Dowling and Bollard Acoustical Consultants, Inc.						
Distances to traffic noise contours are measured in feet from the centerlines of the roadways.						

# 4.4.2 REGULATORY BACKGROUND

#### City of Sacramento General Plan; Health and Safety Element

The City of Sacramento's noise policies and guidelines are contained in the General Plan's Health and Safety Element. This Element establishes noise exposure standards for different land uses. The normally acceptable exterior noise environment, for outdoor activity areas of residential uses affected by traffic noise sources, has been established as 60 dB Ldn, with conditionally acceptable levels up to 70 dB (General Plan, p. 8-27). The Element also establishes an increase of 4 dB as the threshold of significance for project-related traffic noise levels (p. 8-52). In addition, the City's General Plan establishes 45 dB Ldn as an acceptable interior noise environment for residential uses affected by traffic noise sources.

The Element identifies three major sources of noise in the City of Sacramento as follows:

- Surface traffic noise consisting of noise emanating from the major freeways in the City and primary arterial and major city streets;
- The Union Pacific and Southern Railroads; and
- Aircraft noise generated by activity at Sacramento Metro Airport, Sacramento Executive Airport, McClellan Air Force Base, and Mather Air Force Base.

The Element also contains goals and policies governing noise sources and receptors to provide for noise and land use compatibility. The goals and policies pertinent to the proposed project are summarized below.

#### Goals and Policies for Cumulative Noise

Goal A	Future development should be compatible with the projected year 2016 noise environment.				
	Policy 1	Require an acoustical report for any project that would be exposed to noise levels in excess of those shown as normally acceptable.			
	Policy 2	Require Mitigation measures to reduce noise exposure to normally acceptable levels, except where such measures are not feasible.			

Goals and Policies for Future Development

- **Goal B** Eliminate or minimize the noise impacts of future developments on existing land uses in Sacramento.
  - Policy 1 Review projects that may have noise generation potential to determine what impact they may have on existing uses. Additional acoustical analysis may be necessary to mitigate identified impacts.
Policy 2 Enforce the City of Sacramento Noise Ordinance as the method to control noise from sources other than transportation sources.

Goals and Policies for Noise Exceeding Standards

- **Goal C** Reduce noise levels in areas where noise exposure presently exceeds the standards established.
  - Policy 2 Encourage the incorporation of the latest noise control technology in all projects.

A listing of all policies, along with detailed descriptions of each policy, can be found in the City of Sacramento General Plan; Health and Safety Element.

#### City of Sacramento Noise Control Ordinance

The City of Sacramento Noise Ordinance, Section 8.68.060, sets limits for exterior noise levels generated from sources other than vehicle traffic. Project related sources that induce noise applicable to the proposed project include construction activities; however, construction activities are conditionally exempt from the Noise Ordinance if they occur from 7 a.m. to 6 p.m., Monday through Saturday, and from 9 a.m. to 6 p.m. on Sunday.

### 4.4.3 IMPACTS AND MITIGATION

#### **Standards of Significance**

The City of Sacramento has determined that implementation of the project would result in significant noise and vibration impacts if the project would result in any of the following:

- Exposure of persons to or generation of noise levels in excess of standards established in the City's General Plan or Noise Ordinance. Consistent with the General Plan, exterior community noise levels at residential areas shall not exceed the normally acceptable level of 60 dB, or the conditionally acceptable level of 70 dB;
- Residential interior noise levels of L<sub>dn</sub> 45 dB or greater caused by noise level increases due to the project;
- Construction noise levels exceed the standards in the City of Sacramento Noise Ordinance;
- Existing and/or planned residential and commercial areas exposed to vibration-peakparticle velocities greater than 0.5 inches per second due to project construction; or

• Historic buildings and archaeological sites are exposed to vibration-peak-particle velocities greater than 0.25 inches per second due to project construction, highway traffic, and rail operations.

# Method of Analysis

The only identified potentially significant noise-producing components of the Cathedral Square project are project-related construction, increased traffic noise on the local roadway network associated with the more intensive use of the Cathedral Square site, and activities at the proposed loading dock at the eastern portion of the site. Construction activities are associated with groundborne vibrations. The only identified significant noise sensitive components of Cathedral Square project are the proposed residential units on the upper floors of the building.

#### Construction Noise

During the construction phases of the project, noise from construction activities would increase the noise environment in the immediate area. Activities involved in construction and the use of heavy trucks, heavy equipment, and pneumatic tools, would generate noise levels ranging from 85 to 90 dB at a distance of 50 feet (See Table 4.4-3). Pile-driving activities would result in much higher noise levels ranging from 96-101 dB. Construction activities would be temporary in nature, typically occurring during normal working hours. Construction occurring outside of working hours could occur under exemptions granted pursuant to City Code 8.68.080(E). However, these exemptions must be found to be in the interest of public health and welfare, and are limited to three-day periods.

Table 4.4-3Construction Equipment Noise			
Type of EquipmentMaximum Level, dB at 50 feet			
Bulldozers	87		
Heavy Trucks	88		
Backhoe	85		
Pneumatic Tools	85		
Source: Environmental Noise Pollution, Patrick R. Cunniff, 1977.			

### Traffic Noise Sources

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at a representative distance for both existing and future, project and no-project conditions. Noise impacts are identified at existing noise-sensitive areas if the noise level increases which result from the project exceed the 4 dB significance threshold.

To describe existing and projected noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with CHAPTER 4.4 - NOISE AND VIBRATION consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly  $L_{eq}$  values for free-flowing traffic conditions. To predict traffic noise levels in terms of  $L_{dn}$ , the input volume must be adjusted to account for the day/night distribution of traffic.

Traffic volumes for existing and future conditions and scenarios are contained in the Transportation Section of this document. Table 4.4-4 shows the predicted increases in traffic noise levels on the local roadway network for existing and future conditions which would result from the project. The Daily Traffic, Project Related Noise Level Table is provided in terms of  $L_{dn}$  at a standard distance of 50 feet from the centerlines of the project-area roadways.

# Table 4.4-4 Daily Traffic Volumes, Project-Related Traffic Noise Level Increases, and Predicted Ldn Values at 50' from Roadway Centerlines Cathedral Square Project - Sacramento, California

Intersection	Direction	Exist ADT	E+P ADT	Change, dB <sup>1</sup>	Existing Ldn@50'	Future +P ADT	Change, dB <sup>2</sup>	Future Ldn@50'
10 <sup>th</sup> & IC+	North	7 120	7 100	Λ	62	11 020	า	65
	South	6,640	6,640	0	63	10,950	2	65
	East	14.540	14.690	0	66	16.950	1	67
	West	15.320	15.470	0	66	17.830	1	67
10 <sup>th</sup> & L St.	North	9,560	9.690	0	64	14.230	2	66
	South	9.290	9.380	0	64	14.210	2	66
	East	12.910	12.980	0	66	15.390	1	67
	West	12.640	12.670	0	66	15.370	1	67
12 <sup>th</sup> & J St.	North	8.260	8.260	0	64	9.240	0	64
	South	7.660	7.690	0	63	8.150	1	64
	East	17.290	17.270	0	67	19,110	0	67
	West	14,410	14,420	0	66	15,740	1	67
12 <sup>th</sup> & L St.	North	7.030	7.060	0	63	7.620	0	63
	South	100	100	0	45	100	0	45
	East	8.980	9.020	0	64	10.820	1	65
	West	12.970	13.040	0	66	15.200	0	66

Notes:

1. This column represents predicted changes in traffic noise levels associated with existing plus project versus existing no project conditions. Relatively small changes in ADT volumes result in very small (i.e. ±0.01 dB) decibel increases, not perceivable to the human ear; therefore, they are not included.

2. This column represents the predicted changes in traffic noise levels associated with future plus project (i.e. cumulative) conditions versus existing no project conditions.

Source: Bollard Acoustical, Inc., 2006.

### Commercial / Loading Dock Noise Sources

Due to the elevated noise emissions of heavy trucks, adverse public reaction to loading dock usage in the vicinity of residential areas is not uncommon. This is especially true if heavy trucks idle during unloading in close proximity to residential boundaries.

Average noise levels for single idling trucks generally range from 60 to 65 dB  $L_{eq}$  at a distance of 100 feet, and maximum noise levels associated with heavy truck passages range from 70 to 75 dB  $L_{max}$  at a distance of 100 feet. Maximum noise levels generated by passages of medium duty delivery trucks generally range from 55 to 65 dB at a distance of 100 feet, depending on whether or not the driver is accelerating.

### Construction Vibration

Construction activities can generate ground-borne vibrations that could affect certain structural characteristics. The vibrations can pose a risk to nearby structures that are constructed with masonry blocks, specifically lime mortar buildings. In addition, constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

Construction induced vibrations could either be transient, random, or continuous. Transient construction vibrations occur from blasting, impact pile driving, and wrecking balls. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibrations can result from jackhammers, pavement breakers, and heavy construction equipment. All construction induced groundborne vibration would be temporary, and would not have long-term impacts to nearby offices, residents, and businesses.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. The City of Sacramento vibration-peak particle velocity threshold for damage to structures would be 0.5 in/sec.

### **Project Specific Impacts and Mitigation Measures**

The Initial Study for the proposed project determined that the project site was not located near an airport, nor was the site within an area covered by an existing airport land use plan. Therefore, potential noise impacts related to airports were found to be less-than-significant in the Initial Study.

### 4.4-1 Demolition and Construction Noise Impacts.

During the demolition and construction phases of the project, noise from the on-site activities would increase the noise environment in the immediate area. The Cathedral of the Blessed Sacrament, located approximately 200 feet from the project site, would be the most noise sensitive use located in the project vicinity. In addition, office and commercial activities would likely experience some amount of disruption as a result of project noise. The activities involved in the demolition of the current structure and

construction of the proposed project would typically generate noise levels ranging from 85 to 90 dB at a distance of 50 feet. The noise impacts could be significant if nighttime operations or use of unusually noisy equipment were to occur in the immediate vicinity of noise sensitive uses. In addition, if demolition or construction activities occur outside of the hours on Monday through Saturday from 7 a.m. to 6 p.m., or on Sunday, from 9 a.m. to 6 p.m., the impact would be considered significant. Due to the temporary nature of the demolition and construction involved with the proposed project, and the activity being proposed during normal daytime hours, demolition and construction noise would not be adverse.

Even though the City's Code exempts construction activities from the noise standards specified elsewhere in the Code, this does nothing to reduce the levels of construction noise experienced by occupants and residents of nearby buildings. Construction activities, such as the use of jackhammers and bulldozers produce high levels of noise, at least during the initial phases of demolition and grading, would create a short-term *significant* impact to surrounding uses.

#### Mitigation Measure(s)

Compliance with the City's Code would reduce noise from construction activities, but would not reduce construction-related noise impacts to a less-than-significant level. Consequently, construction-related noise impacts would remain a short-term *significant and unavoidable* impact.

#### 4.4-2 **Project-Related Increase in Existing Traffic Noise Levels.**

Based on the Noise Analysis performed for the proposed project, the project would generate a minimal increase in traffic on the existing roadway network. As seen in Table 4.4-4, traffic generated by the project is expected to result in noise level increases ranging from 0 to 2 dB over existing baseline levels.

Pursuant to the City of Sacramento General Plan, a substantial increase in traffic noise levels is defined as 4 dB. Due to the relatively small number of trips that are identified in the traffic study for the proposed project, to be generated by the proposed project, as compared to existing volumes, traffic noise level increases are predicted to be insignificant on all segments of the local roadway network. Because the project-generated traffic would not cause significant traffic noise level increases along the existing roadway network, the impact would be considered *less-than-significant*.

<u>Mitigation Measure(s)</u> None required.

# 4.4-3 Traffic Noise Levels at Proposed Outdoor Residential Activity Areas on the Project Site.

Exterior noise levels associated with future traffic along J Street could exceed the City's 60 dB Ldn exterior noise level standard (See Table 4.4-4).

The City of Sacramento does not generally consider decks, patios, and balconies of multi-family residential developments as primary outdoor activity areas. Therefore, for the purpose of this study the City's exterior noise level standards were not applied to the proposed deck areas included in the project design. Rather, the City's exterior standards are applied at the common pool/recreation area located on the southwest corner of the fifth floor of the building.

At elevated positions, traffic noise levels are commonly 2-3 dB higher than at first floor locations due to reduced ground absorption. However, due to shielding of traffic noise from J Street at that location by the Cathedral Square building, existing and future exterior noise levels at that location are predicted by Bollard Acoustical, Inc to be well below 60 dB Ldn. As a result, this impact would be considered *less-than-significant*.

Mitigation Measure(s) None required.

#### 4.4-4 Traffic Noise Levels at Proposed Interior Residential Areas on the Project Site.

Noise levels associated with future traffic along J Street could exceed the City's 45 dB Ldn interior noise level standard.

According to the data contained in Table 4.4-4, future traffic noise levels on J Street are predicted to be approximately 67 dB Ldn at the nearest proposed building facades. At elevated positions, traffic noise levels are commonly 2-3 dB higher than at first floor locations due to reduced ground absorption. In addition, reflections from other local buildings in the area could further increase exterior noise levels at the residential facades of the proposed building which faces J Street. As a result, exterior noise levels at the facades adjacent to this roadway are predicted to be approximately 70 dB Ldn.

Standard building construction typically provides a 25 dB exterior to interior noise level reduction. Therefore standard building construction may not be adequate to reduce future traffic noise levels to 45 dB Ldn or less within the residences facing J Street. As a result, this impact would be considered *potentially significant*.

#### Mitigation Measure(s)

Implementation of the following noise mitigation measures would reduce the above impact to a *less-than-significant* level by reducing the noise transmitted into living spaces to a level below the City's standards of significance.

4.4-4 All residential windows, which face J Street, shall have a minimum Sound Transmission Class (STC) rating of 32. This requirement shall be indicated on the building drawings and in the contract specifications.

#### 4.4-5 Commercial/Loading Dock Noise at Existing and Proposed Residential Uses.

The proposed first floor commercial areas and interior loading dock, which would be accessed from J Street, would be well removed and shielded from the proposed outdoor recreation area of the residential component of this project (5<sup>th</sup> floor pool area) (See Figure 3-4, Site Plan). The loading dock would be internally located, and would be separated from the residential uses by the Mezzanine level, and the second floor parking area. As a result, predicted maximum noise levels at the nearest residential areas, which would result from commercial/loading dock activities, are predicted to be below the City's 70 dB standard.

Pursuant to the City of Sacramento Noise Ordinance, noise from the loading docks would be considered significant if the noise levels exceeded 75 dB at residential uses during daytime hours, or 70 dB at those areas during nighttime hours. The Noise Analysis found that because loading dock activities would be substantially removed and shielded from the nearest existing residential uses located above the shops in between K Street and the J-K Alley, as well as the project residences, loading dock noise is not predicted to exceed 70 dB at those areas. Furthermore, the internal location of the loading dock would ensure that adjoining commercial and retail establishments, as well as the nearby church, are not adversely affected. Therefore, the resulting impact would be considered *less-than-significant*.

Mitigation Measure(s) None required.

#### 4.4-6 Construction-induced vibration impact.

Construction-related vibration could potentially result in damage to nearby building architecture, particularly for historic structures. The project site is surrounded by existing structures; including potentially historic buildings such as: the Elks Building located on the northwest corner of 11<sup>th</sup> Street and J Street, and the Cathedral of the Blessed Sacrament located on the northwest corner of 11<sup>th</sup> Street and K Street. Architectural damage is defined here as cracks in plaster, etc., resulting from repeated building motion. Bollard Acoustical Consultants reviewed the vibration study for the Meridian Plaza project (which was based on the vibration analysis conducted for the nearby Esquire Plaza Office/IMAX Theater construction located at the corner of 12th Street and K Street) to estimate the potential for vibration impacts on nearby structures. The proposed project would likely cause similar effects to the Esquire Plaza/IMAX Theater project as both projects have similar locations, architectural settings, and geologic conditions. The Esquire Theater facade was measured five feet from the pile hole, and no damage was observed during pile driving. The vibration report concluded that indicator pile driving at the Esquire Plaza site generated vibrations well below the FHWA Architectural Threshold Limits for architectural damage to historic buildings. All pile holes were predrilled. Damage was not observed and none would be expected at the buildings adjacent to the Cathedral Square building based on this information.

Other pile driving monitoring for the nearby Convention Center and the Attorney General's office building projects similarly identified vibrations well below the FHWA Architectural Threshold Limits. However, while structural damage did not occur, these studies noted that fire sprinklers can break at joints at vibration levels below current criteria. Pre-drilling of pile holes would result in conditions at the nearby buildings similar to those at the Esquire site. Because of the expected low vibration levels that would result from pre-drilling of pile holes, vibration monitoring should not be necessary at the project site. Because fire sprinkler failure has reportedly been observed in the past at other sites, monitoring should begin only if such failures are observed at adjacent buildings. Construction activities for the proposed project would generate construction-induced vibration that could adversely affect nearby structures. Therefore, a *potentially significant* impact would occur.

#### Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact by reducing the strength of the vibrations produced by pile driving, and by providing for the repair of any damage caused by the pile driving. However, as construction-related impacts could still cause damage requiring repair, a short-term *significant and unavoidable* impact would result.

- 4.4-6(a) Compliance with the following mitigation measures shall be indicated on the building drawings for the review and approval of the City Building Official prior to the issuance of the building permit.
  - All pile driving holes shall be pre-drilled.
  - Provide protective coverings or temporary shoring of historic features on or underneath adjacent buildings as directed by the City Building Official.
  - The pre-existing condition of all buildings within a 50-foot radius shall be recorded in order to evaluate damage from construction activities. Fixtures and finishes within a 50-foot radius of construction activities susceptible to damage shall be documented (photographically and in writing) prior to construction.
  - If fire sprinkler failures are reported in adjacent buildings, the contractor shall provide increased monitoring of adjacent buildings during construction and repairs to sprinkler systems shall be provided as soon as practicable after being informed of the damage.

4.4-6(b) Should damage occur to adjacent structures despite the above measures, construction operations shall be halted and the problem activity shall be identified. A qualified engineer shall establish vibration limits based on soil conditions and the types of buildings in the immediate area. The contractor shall monitor the buildings throughout the remaining construction period and follow all recommendations of a qualified structural engineer to repair any damage that has occurred to the pre-existing state, and to avoid any further structural damage. The project applicant shall be responsible for repairing any damaged areas to pre-existing conditions.

#### **Cumulative Impacts and Mitigation Measures**

Construction impacts would be short-term and would not contribute to a future cumulative scenario. Furthermore, as the loading dock is internally located, the facility would not measurably contribute to the exterior noise environment. Therefore, vehicular traffic noise is the only potential cause of substantial increases in the cumulative noise environment.

#### 4.4-7 Future (Cumulative) increase in traffic noise levels.

The proposed project would contribute to future/cumulative traffic on the roadway network. The cumulative plus project traffic noise level increases over existing levels without the project are predicted to range from 0 to 2 dB on the project area roadways, as indicated by Table 4.4-4.

Pursuant to the City of Sacramento General Plan, a substantial increase in traffic noise levels is defined as 4 dB. Due to the relatively small number of trips which are predicted to be generated by the proposed project, traffic noise level increases are predicted to be insignificant on all segments of the local roadway network. Because the cumulative traffic would not cause significant traffic noise level increases along the existing roadway network, the impact would be considered *less-than-significant*. It should also be noted that future traffic noise impacts on proposed outdoor and interior spaces of the project are addressed above in Impacts 4.4-3 and 4.4-4.

Mitigation Measure(s) None required.

#### Endnotes

<sup>&</sup>lt;sup>1</sup> City of Sacramento General Plan, Health and Safety Element, January 19, 1988.

<sup>&</sup>lt;sup>2</sup> City of Sacramento Draft Environmental Impact Report, General Plan Update, March 1987.

<sup>&</sup>lt;sup>3</sup> Traffic Noise Analysis, Environmental Noise Assessment for Cathedral Square Project, Bollard Acoustical Consultants, Inc., July 2006.

<sup>&</sup>lt;sup>4</sup> Noise Control Ordinance, City of Sacramento, December 2003.

4.5 PUBLIC SERVICES AND UTILITIES

# PUBLIC SERVICES AND UTILITIES

## 4.5.0 INTRODUCTION

The Public Services and Utilities chapter describes the public service systems and facilities within the project area and the potential impacts resulting from the proposed project. Utilities and services considered in the analysis include: water supply, stormwater drainage and wastewater treatment and collection, solid waste collection and disposal, electric power, natural gas, and communications systems. The Public Services and Utilities chapter discusses thresholds of significance for such impacts, and will develop mitigation measures and monitoring strategies. Consideration will be given to on-site as well as off-site infrastructure facilities. The Initial Study (Appendix C) found that impacts to fire protection, police protection, schools, and parks would be less-than-significant. Information for this chapter is based upon the *City of Sacramento General Plan*<sup>1</sup>, and the *City of Sacramento General Plan EIR*<sup>2</sup>.

## 4.5.1 EXISTING ENVIRONMENTAL SETTING

The setting section describes the existing water system for the City of Sacramento, wastewater collection and treatment, solid waste collection and disposal, and other public utilities related to the proposed project site.

### Water Supply

The City supplies domestic water from a combination of surface water and groundwater sources. Two water treatment plants supply domestic water by diverting water from the American River and Sacramento River, and groundwater supply wells are operated as well. In addition to supplying water to domestic retail customers, the City also provides water on a wholesale and wheeling basis to other districts and purveyors, including Sacramento Suburban Water District, California-American Water Company, and the Sacramento County Water Agency.

#### City of Sacramento Urban Water Management Plan

In compliance with the State's Urban Water Planning Management Act, the City of Sacramento developed an Urban Water Management Plan to pursue the conservation and efficient use of available water supplies and to ensure an appropriate level of reliability in its water service sufficient to meet the needs of its customers. The City's water facilities also include water storage reservoirs, pumping facilities, and a system of transmission and distribution mains.

#### Water Transmission

#### City Water Infrastructure

The City operates pumping facilities throughout the City, including 18 high lift service pumps at Sacramento Regional River Water Treatment Plant and Fairbairn Water Treatment Plant, and pumping facilities at nine of the City's storage reservoirs of varying sizes and capacities. Water mains are separated by the City into two distinct categories: distribution mains are typically four inches to 12 inches in diameter and utilized for water services, fire services and fire hydrants; transmission mains are 18 inches and larger and are used to convey large volumes of water from the treatment plants to selected points throughout the distribution system and to transfer water to and from the storage reservoirs to meet fluctuating daily and seasonal demands. Portions of the Central City system are deficient due to the poor condition of the aging water mains. The City is systematically replacing these old sections of pipe to alleviate the problem. The City has stated that new transmission mains will need to be constructed to upgrade the system.

#### Project Area Water Infrastructure

The project area is served by a system of water mains that provide key connection points that would serve the Cathedral Square site. As described above, the older sections of pipe throughout the Central City are being replaced. Thus, a 12-inch main would be constructed within J Street, between 10<sup>th</sup> and 11<sup>th</sup> Street. Existing 8-inch and 6-inch water lines exist under 11<sup>th</sup> Street and the alley between J Street and K Street, respectively. Potable water service would be provided to the project site by tapping new pipes into the newly constructed 12-inch main under J Street. The proposed project would connect a 2-inch line for commercial water service, 4-inch line for residential water service, and an 8-inch line for fire flow service. A typical grid pattern would be used to ensure adequate flow to all portions of the project for both domestic use and fire protection.

#### Water Service Providers

The City of Sacramento and other water purveyors provide domestic water services within the City of Sacramento.

#### Water Quality

The City owns and operates two water diversion and treatment facilities; the E.A. Fairbairn Water Treatment Plant (FWTP) and the Sacramento River Water Treatment Plant (SRWTP) divert water from the American River and Sacramento River, respectively. In 2003, the City finished an expansion of the SRWTP increasing its maximum capacity from 110 million gallons per day (mgd) to 160 mgd. An expansion of the FWTP was finished in May of 2005. The expansion increased the maximum capacity of the FWTP from 100 mgd to 200 mgd. The ultimate maximum combined design capacity of the two plants is approximately 545 mgd.

### Storage

The City currently operates 23 active municipal groundwater supply wells within the City limits. The City wells supply the City with a maximum total capacity of about 33 mgd. In 2002 to 2003, the groundwater supply wells pumped approximately 21.4 mgd. The City also operates 18 wells for the irrigation of parks. Although the City is focused on developing surface water as its primary source of water supply, the groundwater well system provides flexibility in providing domestic water to the City, especially in years when river flows are low.

The City operates ten storage reservoirs, each with a capacity of three million gallons (MG), except for the Florin Reservoir, which has a capacity of 15 MG. In addition to the reservoirs, the treatment plants together maintain an on-site storage of over 32 MG. This water is used to meet the water demand for fire flows, emergencies, and peak hours. The amount of storage capacity currently existing in the City is adequate to serve emergency situations, even at full projected build out of the City.

#### Availability

The City of Sacramento has long-term surface water entitlements that exceed current demand. The City claims pre-1914 water rights on the Sacramento River, five water rights permits (one for diversion of Sacramento River water and four for diversion of American River water), and a 1957 permanent water rights settlement agreement with the U.S. Bureau of Reclamation. In this agreement, among other provisions, the City agreed to limit total diversions under its Sacramento and American River water right permits to 326,800 acre-feet annually (AFA). Based on the 2005 City of Sacramento Urban Water Management Plan, the City has an authorized surface water supply of 205,500 AFA<sup>3</sup>, which will increase to 227,500 AFA in 2010. During the 2004/2005 fiscal year the City demand was 135,575.8 AFA, including groundwater. Therefore, even if the City relied entirely on surface water supplies there is currently an excess supply of 69,924 AFA<sup>4</sup>.

### **Combined Sewer System**

The central Sacramento area is primarily served by a system in which sanitary sewage and storm drainage are collected and conveyed in the same system of pipelines, referred to as the Combined Sewer System (CSS). The area served by this system extends from the Sacramento River on the west, to the vicinity of Sutterville Road and 14th Avenue on the south, to about 65th Street on the east, and to North B Street and the American River on the north. Currently, two existing CSS lines are in the alley between J Street and K Street. The proposed project includes the replacement of the existing pipelines with a single 21-inch pipe.

One characteristic of a CSS is that in the event of a large storm event which produces runoff exceeding the capacity of the pipe system, surface outflows may occur from inlets and manholes. In the early 1990's, the City was issued a Cease and Desist Order from the Regional Water Quality Control Board requiring the City to develop and implement a plan to minimize Combined Sewer discharge to the river and outflows to the street. The City analyzed several options but after consideration from the State and the City Council, determined that the

separation was cost prohibitive. A CSS Improvement Plan that was approved by the State and City included upsizing and improvements to pumping, storage and conveyance of the system. Current policy is to rehabilitate the combined system and add larger pipelines and peak-shaving underground storage at various locations to reduce outflows and overflows to the Sacramento River.

Project area flows in CSS flow to a pumping station at 11th Avenue and Riverside Boulevard. From there, flows are pumped to the Sacramento Regional Wastewater Treatment Plant in Elk Grove. When CSS flows during storm periods exceed 60 mgd, the excess flow receives primary treatment, until the passage of the peak flow, at the Combined System Treatment Plant (located near South Land Park Drive and 35<sup>th</sup> Avenue) and the Pioneer Reservoir Treatment Plant (located near Front Street and U Street).

#### Wastewater Treatment Plant

The Sacramento Regional Wastewater Treatment Plant (SRWTP), which is located in Elk Grove, is owned and operated by SRCSD and provides sewage treatment for the entire City of Sacramento. SRWTP is a high purity oxygen-activated sludge facility, and is permitted to treat an average dry weather flow (ADWF) of 181 mgd and a daily peak wet weather flow of 392 mgd. Currently, the facility's ADWF is approximately 150 mgd. SRCSD's long-term planning effort, the SRWTP 2020 Master Plan, projects a population-based flow of 218 mgd ADWF. The majority of the treated wastewater is dechlorinated and discharged into the Sacramento River. The SRCSD maintains the regional interceptors that convey sewage to the treatment plant.

#### Flooding

The proposed project is not located within the 100-year floodplain according to the Federal Emergency Management Agency (FEMA) Map (Panel Number 060266 0025 F; updated July 6, 1998) and General Plan (page 6-7).

#### Solid Waste Collection and Disposal

Currently, the City collects all residential solid waste and about a third of the commercial solid waste for customers within the City and transports it to the Sacramento Recycling and Transfer Station on Fruitridge Road, and then to the Lockwood Landfill in Sparks, Nevada. As a residential building, the proposed project would be served by the City of Sacramento.

The Lockwood Landfill is the regional landfill for five western states including Nevada, California, Oregon, Utah, and Idaho. The Lockwood Landfill accepts 7,700 tons of solid waste per day, 800 tons of which come from Sacramento.

#### Waste Generation

The waste stream generated in the City of Sacramento is approximately 600,000 tons per year and includes everything from recycling to construction demolition material to garden refuse. The

City collects approximately half of this waste and the remainder is collected by private parties, including franchised haulers and individual residents.

#### Landfill Capacity

The Lockwood landfill is permitted to use 1,535 acres of canyons, enough for more than 200 million tons of garbage or a 200-year life capacity. Washoe County Health Department officials say the deep clay canyons of Storey County and the area's arid climate make ideal conditions for a regional landfill.

#### **Other Public Utilities**

Electric power, cable television, gas, and telephone are provided to the project site and would continue to be provided for the proposed project.

#### Electricity

The Sacramento Municipal Utility District (SMUD) provides electrical service to customers generally within the City of Sacramento and Sacramento County. SMUD-owned power generation resources supply approximately 50 percent of its customer's energy needs. SMUD also has arrangements with the California Independent System Operator (ISO), Western Systems Power Pool and Northern California Power Pool to purchase and sell short-term power. SMUD buys and sells energy and capacity on a short-term basis to meet load requirements and reduce costs. In addition, SMUD produces power through hydroelectric, thermal (natural gas), wind, and solar resources.

#### Natural Gas

PG&E supplies natural gas to the Sacramento area. During the winter, approximately 70 percent is imported from Canada and the balance is supplied from California production wells. During the summer, this ratio is reversed. Gas prices are lower during the summer, so gas is stored in underground holders for use during winter peak use periods.

#### 4.5.2 REGULATORY BACKGROUND

#### State

#### <u>Water Planning</u> - Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610 - 10656). The Act requires that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually shall prepare and adopt an urban water management plan. The Act states that urban water suppliers should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and

multiple dry years. The Act also states that the management of urban water demands and the efficient use of water shall be actively pursued to protect both the people of the State and their water resources.

#### <u>Water Quality</u> – State Water Resource s Control Board

The State Water Resources Control Board (SWRCB) manages all water rights and water quality issues in California under the terms of the Porter-Cologne Water Quality Control Act (1969). The California Department of Health Services (DHS) has been granted primary enforcement responsibility for the SDWA (see above). Title 22 of the California Administrative Code establishes DHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the federal standards.

#### Energy - State Building Energy Efficiency Standards, Title 24

The energy consumption of new buildings in California is regulated by State Building Energy Efficiency Standards, Title 24. These are contained in the California Code of Regulations. Title 24 applies to all new construction of both residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. Title 24 is the minimum requirement for energy efficiency.

#### Energy - California Public Utility Commission

The California Public Utility Commission (PUC) regulates privately owned electric, telecommunications, natural gas, water and passenger transportation companies, in addition to household goods movers, and the safety of rail transit.

#### Local

#### City of Sacramento General Plan

Public Facilities and Services Element

Goals and Policies for Drainage

- Goal A Provide adequate drainage facilities and services to accommodate desired growth levels.
  - Policy 1 Ensure that all drainage facilities are adequately sized and constructed to accommodate the projected increase in stormwater runoff from urbanization.
  - Policy 5 Design visible drainage facilities to be visually attractive.

#### Goals and Policies for Sanitary Sewers

Goal A Provide adequate sewer service for all urbanized or developing neighborhoods.

#### Goals and Policies for Water

Goal A Provide and improve water supply facilities to meet future growth of the City and assure a continued supply of safe potable water.

#### Goals and Policies for Solid Waste

- Goal A Provide adequate solid waste disposal facilities and services for collection, storage and reuse of refuse.
  - Policy 4 Explore programs and new techniques of solid waste disposal to reduce the need for landfill sites.

#### Goals and Policies for Telephone, Cable, Gas and Electric Service

- Goal A Continue to improve and provide communication and utility services to all areas of the City.
  - Policy 2 Support and encourage the utility companies to place utilities underground in new development areas.

#### City of Sacramento Zoning Ordinance

#### Wastewater

Development within the City of Sacramento is required to pay a Combined Sewer Development fee prior to the issuance of building permits pursuant to Section 13.08.490 of the Municipal Code. The fee is intended to recover an appropriate share of the capital costs of the existing and planned combined sewer system facilities.

#### Solid Waste

Section 34 of the City's Zoning Ordinance requires multi-family and other non-residential development projects to incorporate mitigation measures which address the recycling and reduction of solid waste for new land development.

#### Energy

The City of Sacramento has a Residential Energy Conservation Ordinance (RECO) per City Code 15.76. In mixed residential/commercial use buildings, the residential portion would be subject to RECO and the commercial portion would be subject to Commercial Energy

Conservation Ordinance (CECO). Houses sold in the City are supposed to undergo an energy efficiency survey and upgrade within cost effectiveness limits.

#### 4.5.3 IMPACTS AND MITIGATION

#### Method of Analysis

This section evaluates the project impacts on the existing utilities. In order to assist the impact discussion, the agencies and organizations responsible for the utilities were contacted, and the following generation rates from the Integrated Waste Management Board were used:

#### Water Demand

- Residential unit = 225 gallons per day (gpd) / unit
- Hotel = 90 gpd / room
- Office = 90 gpd / 1,000 gross square feet (gsf)

#### Wastewater

- Residential = 0.75 equivalent single family dwellings (ESD) / unit
- Office = 0.2 ESD / 1,000 gsf (gross square feet)
- Meeting/Lobby = 0.3 ESD / 1,000 gsf

#### Solid Waste

- Residential apartment = 8 lbs /unit / day
- Office = 6 lbs / 1,000 gsf
- Retail = 1 lbs / 100 gsf

#### **Standards of Significance**

The proposed project would be considered to have a significant impact on the environment if the project would:

- create an increase in water demand of more than 10 million gallons per day;
- generate stormwater that would exceed the capacity of the stormwater system;
- result in the determination of the wastewater treatment provider that adequate capacity is not available to serve the project's demand in addition to existing commitments;
- generate more than 500 tons of solid waste per year;
- require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental effects; or
- result in a detriment to microwave, radar, or radio transmissions.

#### **Project Impacts and Mitigation Measures**

#### 4.5-1 Impacts related to increased demand for water supply.

The proposed project, which includes 233 units and 10,100 square feet of retail uses, would generate an increased demand for potable water. The water would be supplied by a 4-inch domestic water line to the project's residential units, and a 2-inch domestic water line to retail uses.

The combined production capacity of the FWTP and the SRWTP is 360 mgd. The average production rate of the two plants over the 2004/2005 fiscal year was 107.3 mgd, with a combined maximum demand of 209 mgd. The proposed project would require approximately 0.0545 mgd. Therefore, the project would not result in an adverse effect on water treatment facilities.

Currently, the project site is used for commercial purposes. The Urban Water Management Plan includes the demand projections for the project site based on the current land use. As the proposed project requires a Special Permit and would include a large component of multi-family housing, the project would increase water use beyond that which was anticipated in the Urban Water Management Plan. However, as stated above, the City currently has an excess supply of approximately 69,000 acre-feet per year. The proposed project would require approximately 61.02 acre-feet per year. Therefore, the City has adequate supply to serve the proposed project.

The City determines placement of new water distribution facilities as development plans are formulated. Through the approval process, the applicant would be required to submit proof that adequate fire flow and potable water exists for the proposed project. Therefore, impacts related to the adequate fire flow and potable water supply would be considered *less-than-significant*.

<u>Mitigation Measure(s)</u> None required.

#### 4.5-2 Increased demand for stormwater and wastewater collection and treatment.

As mentioned in the Project Description, the proposed project includes the replacement of the two existing CSS pipelines located in the alley with a single 21-inch pipeline. The CSS pipeline combines both stormwater and wastewater flows. The proposed project involves the construction of 233 housing units. Using the persons per household factor of 2.57, the proposed project would result in a population increase of 599 persons on the project site, as well as 10,100 square feet of retail/commercial uses. The increase in population and use proposed for the site would increase the generation of wastewater beyond what is currently generated onsite.

Currently, with the exception of an approximately 5,700-square foot gravel lot, impervious surfaces cover the site; therefore, the proposed project would not result in a significant increase in runoff of stormwater. The proposed drainage system would convey stormwater from the project roof through gutters to the existing stormwater drains under the sidewalks. As the project site is located within a developed urban area, stormwater flows would be conveyed into an existing network of gutters and drainage systems located in the Central City Community Plan area. Storm drainage would be conveyed to the pumping station located at 11<sup>th</sup> Avenue and Riverside Boulevard by an internal pipeline system with pipes ranging in size from 12 inches to 30 inches in diameter. Because the project would not introduce a substantial amount of additional stormwater runoff to the City's infrastructure, the proposed project would not have an adverse effect on stormwater runoff.

The total projected dry weather wastewater treatment demand from the proposed project is 70,708 gallons per day (See Table 4.5-1). Currently, the SRWTP is permitted an average dry weather flow of 181 mgd, and current average dry weather flows are approximately 150 mgd. The project's contribution of 0.07 mgd would not result in a substantial reduction of the current excess capacity of 31 mgd. Because the proposed project is consistent with the General Plan land use designation for the site, the type of development proposed is included in the SRWTP permitted capacity. Therefore, the existing WWTP has enough capacity to accommodate the proposed project. In addition, the current project site generates wastewater demand; thus the actual increase would be less than the anticipated 0.07 mgd. Furthermore, the applicant would be required to pay sewer connection fees. Therefore, the project's contribution to dry weather wastewater treatment demand would not be considered adverse.

Table 4.5-1Wastewater Generation				
Use	Square Footage/Units	Generation Rate	ESD (1 ESD=400gnd)	Wastewater (gpd)
Residential	233	0.75 ESD/Unit	174.75	69,900
Retail	10,100	0.2 ESD/1,000 sf	2.02	808
Total				70,708

The proposed project would generate approximately 0.071 mgd of wastewater. These flows could be adequately treated by existing infrastructure and the planned infrastructure improvements during dry weather conditions. Localized flooding and Combined Sewer Overflows (CSO) occur during severe storm events, which could be compounded by additional flows from the proposed project. However, the applicant will pay a fair share towards the Combined Sewer System Development as part of the required development fees. Therefore, a *less-than-significant* impact would occur to the CSS and CSO.

<u>Mitigation Measure(s)</u> None required.

#### 4.5-3 Increased demand for solid waste disposal/recycling services.

The proposed project would introduce uses to a site that would be more intensive than the previous uses and would generate more solid waste. As noted in the existing setting information, the Lockwood Landfill has an estimated capacity of 200 million tons and a life expectancy of 200 years.

The project would contain 233 residential units, and 10,100 square feet of retail space. Using the California Waste Management Board's generation rates (See Table 4.5-2) the project would generate approximately 1,965 pounds of waste per day. The generation of 358.6 tons of garbage per year (1,965lbs / 2000 lbs per ton \* 365 days) would not result in a significant impact to the Lockwood Landfill's capacity of 200 million tons, nor would the total exceed the City of Sacramento standard of significance of 500 tons per year.

Table 4.5-2Waste Generation				
Use	Square Footage/Units	Generation Rate	Waste (lb/day)	
Residential	233	8 lb/unit/day	1,864	
Retail	10,100	1 lb/100 sf/day	101	
Total			1,965	
Source: ciwmb.ca.gov				

However, the proposed project requires the demolition of existing buildings, which would generate rubble and demolition waste. The City is required by AB 939 to ensure that the project achieves and maintains the diversion and recycling mandates of the State. The project includes significant demolition of existing buildings and infrastructure; additionally new construction will have left over materials from woodcutting, concrete pours, pipe work etc. If these materials are placed in the sanitary landfill, the waste generated could cause the City to violate State regulations and be subject to fines up to \$10,000 per day. Recycling and reuse of these materials would divert the materials from going to the landfill, and thus help the City stay in compliance with AB 939 mandates. Therefore, implementation of the proposed project would result in a *potentially significant* impact.

#### Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level by ensuring compliance with AB 939.

4.5-3 Prior to the commencement of demolition, the project developer shall submit a recycling plan for construction materials to the City Building Official for review and approval. The plan shall include which

materials would be acceptable for disposal in the sanitary landfill or be recycled/reused. Documentation of the material type, amount, where taken and receipts for verification and certification statements shall be included in the plan. The project developer shall submit a performance deposit, as established in the project's conditions of approval with the City to ensure recycling of demolition materials. In addition the project developer shall cover all staff costs related to the review, monitoring and enforcement of this condition through the deposit account.

#### 4.5-4 Impacts to gas and electric facilities.

The project site is currently provided gas and electric service by PG&E and SMUD. The proposed project would result in the demolition of the existing structures, and construction of 233 residential units, and 10,100 square feet of retail space. The project would require construction of new natural gas and electric connections on the project site. Natural gas lines to serve the project site would be located underground and would be constructed in accordance with California Public Utilities Commission approved PG&E policies. The proposed project would include the replacement of a SMUD electrical vault underneath 11<sup>th</sup> Street. Removal of the current vault, and installation of the replacement, would be conducted in compliance with the guidance of SMUD.

As required by law, all utility connections would be constructed in accordance with all applicable Uniform Codes, City Ordinances, and Public Works standards to ensure an adequately sized and properly constructed electrical transmission and conveyance system. Connections to the existing utility infrastructure would be constructed prior to occupancy and in a manner that would minimize the potential for utility disruption. Because infrastructure would be constructed as part of the proposed project prior to occupancy, impacts would be considered *less than significant*.

<u>Mitigation Measure(s)</u> *None required*.

#### **Cumulative Impacts and Mitigation Measures**

# 4.5-5 Long-term impacts to public services and facilities from the proposed project in combination with existing and future developments in the Sacramento area.

Implementation of the proposed project would contribute toward an increased demand for public services and utilities within the City of Sacramento. Public service and utility needs for the City of Sacramento have been evaluated in the Sacramento General Plan, and the goals and policies included in the General Plan ensure that adequate water supply, wastewater and stormwater facilities, disposal and recycling services, and electricity and gas will be available for build-out of the General Plan. The proposed project is consistent with the type of development designated for the site in the General Plan.

Surface water diverted from the Sacramento and American Rivers is the primary source of potable water for the City of Sacramento's water supply. The recently completed Urban Water Management Plan (UWMP) indicates that the City's water rights and agreements with the Bureau of Reclamation would ensure that the cumulative impacts to water supply would remain *less-than-significant* during the General Plan buildout. The proposed project is consistent with the type of development designated for the site in the General Plan; however, the density proposed for the project is greater than what was anticipated for the site in the General Plan. According to the UWMP, with the current water conservation rate of 7.5 percent, the City will have approximately 16,200 acre-feet per year (AFY) of available water in the 2025 multiple-dry year project period. Because, the proposed project would result in approximately 61 AFY of demand (54,500 gpd / 325,900 gal/AF \* 365 days), a net surplus approximately 16,139 AFY would still be available in 2025. Therefore, although the proposed project includes increased density, the water demand would be well within the projected available water supply.

The downtown area of the City is mostly developed but is likely to intensify as development pressure increases. An increase in mixed-use buildings in the Downtown Business District would increase the demand on the City's wastewater and stormwater facilities. However, project applicants would be required to pay the Combined System Development fee. In addition, future development would also be required to pay fees to offset impacts to wastewater and stormwater facilities. The combination of the impact fees would ensure that cumulative wastewater and stormwater impacts are *less-than-significant*.

The landfills that serve the City of Sacramento have the capacity to serve Sacramento's solid waste needs. The Lockwood Landfill does not have an expected closure date and has an estimated 32.5 million cubic yards of capacity. In addition, the Kiefer Landfill is not expected to reach capacity for another 60 years. As the Sacramento region continues to grow, the demand for solid waste facilities would increase, however, the Lockwood Landfill and Kiefer Landfill are expected to have sufficient capacity to serve the City's cumulative needs; therefore a *less-than-significant* cumulative impact would occur.

The proposed project in combination with other future development projects would result in an increased demand on energy resources. Gas and electric service providers would be subject to increased pressure to supply additional energy resources, which could result in the need to expand existing facilities or to build new power plants. Trying to predict where in PG&E's and SMUD's service area any new power plants or expanded generation capacity might be located would be speculative. Furthermore, any proposed new facilities or new capacity will be subject to strict environmental permitting requirements intended to address any air and water pollution, or other environmental effects that might result from new plants or new capacity. In addition,

each project would be subject to the minimum energy conservation requirements of Title 24 of the California Code of Regulations, which would serve to reduce the amount of energy resources needed to operate each project, and therefore a *less-than-significant* cumulative impact would occur.

As demonstrated in this Draft EIR, with the incorporation of mitigation measures, impacts to public services and facilities as a result of the Cathedral Square project would be less-than-significant. Furthermore, other future development projects would be required by the City to pay their fair share fees toward the expansion and construction of new public services and facilities. Therefore, the project's incremental contribution to the cumulative scenario's impact on public service and facility needs would be *less-than-significant*.

Mitigation Measure(s) None required.

#### Endnotes

<sup>&</sup>lt;sup>1</sup> City of Sacramento General Plan, January 1988

<sup>&</sup>lt;sup>2</sup> City of Sacramento General Plan Update EIR, March 1987

<sup>&</sup>lt;sup>3</sup> City of Sacramento Urban Water Management Plan, 2005

<sup>&</sup>lt;sup>4</sup> City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2004/2005

4.6 TRANSPORTATION AND CIRCULATION

# TRANSPORTATION AND CIRCULATION

# 4.6.0 INTRODUCTION

This section summarizes the effects on the transportation and circulation system resulting from vehicle trips associated with the proposed development under baseline conditions. The Initial Study found that the project would have a less-than-significant impact on air traffic patterns. This section is based on the *Downtown Sacramento Traffic Study* (Dowling, June 7, 2006); and the project-specific *Transportation Impact Analysis* (Dowling, July 2006), whose LOS tables and worksheets are provided in Appendix I of this EIR. The Traffic Study evaluated the cumulative impacts of the Proposed Project along with other growth expected to occur in the downtown area under near-term and long-term conditions. A summary of the cumulative impacts and mitigation measures is presented in this section.

### 4.6.1 PROJECT DESCRIPTION

Located at the southwest corner of J and 11<sup>th</sup> Street, the Cathedral Square project includes 233 condominium units, 10,100 square feet of ground level retail space, and 326 parking stalls. Vehicular access to 10<sup>th</sup> and 11<sup>th</sup> Streets would be provided via an existing one-way alley on the south side of the site. The alley is proposed by the project to be converted to two-way operations between the project driveway and 11<sup>th</sup> Street. Existing land uses on the site include 12,810 square feet of functional retail space and 11,530 square feet of storage space that would be replaced by the Proposed Project. The location of the project is shown in Figure 4.6-1.

### 4.6.2 EXISTING ENVIRONMENTAL SETTING

The existing roadway, transit, bicycle and pedestrian components of the transportation system within the study area are described below.

#### **Existing Roadway Network**

Regional vehicular access to Downtown Sacramento is provided primarily by the freeway system that serves the central areas of Sacramento. Interstate 5 (I-5) is a north-south facility located just west of Downtown. Access from Downtown to I-5 is provided via I, L and P Streets, and access from I-5 to Downtown is provided via J and Q Streets. To the south, I-5 provides access to southern portions of the City and County, as well as other Central Valley communities. To the north, I-5 provides access to I-80, northern portions of the City and County, Sacramento International Airport, and other Central Valley communities.

Figure 4.6-1 Site Location and Study Intersections



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The east-west U.S. Route 50 (U.S. 50) lies approximately 1.5 miles south of Downtown. Access to U.S. 50 from Downtown is provided via 9<sup>th</sup> and 15<sup>th</sup> Streets to the 11<sup>th</sup> and 16<sup>th</sup> Street on-ramps. Access from U.S. 50 to Downtown is provided from the 16<sup>th</sup> and 10<sup>th</sup> Street off-ramps. To the east, U.S. 50 serves eastern portions of the City and County and extends into El Dorado County. To the west, U.S. 50 extends via the Pioneer Bridge to West Sacramento and Yolo County.

Business Loop Interstate 80 (Business 80), also known as State Route 51 between U.S. 50 and Auburn Avenue, lies approximately 2 miles east of Downtown. Although access between Downtown and Business 80 is available at several locations along the east edge of Central City, more direct access to Business 80 is provided via State Route 160 (SR 160) and the 12<sup>th</sup> and 16<sup>th</sup> Street crossings of the American River. SR 160 provides access to North Sacramento, northeastern portions of the City and County, South Natomas via Northgate Boulevard, and I-80 extending into Placer County.

Downtown Sacramento is served by a grid street system. North-south streets have numbered street names and east-west streets have lettered street names. Near Downtown, many streets operate as one-way facilities. In general, the one-way streets carry three travel lanes, with parking permitted along both curbs. Two-way streets generally have one lane in each direction with parking on both sides of the street. To accommodate critical traffic volumes and turning movements in selected locations, parking has been prohibited to provide additional lanes. Most major intersections in Downtown are signal-controlled.

Important east-west streets for Downtown access include H, J, N, Q, and X Streets, which are one-way eastbound, and I, L, P, and W Streets, which are one-way westbound. Capitol Mall is a two-way east-west facility that extends from the Tower Bridge to the State Capitol at 10<sup>th</sup> Street. Capitol Mall has two to three lanes in each direction between the Tower Bridge and 9<sup>th</sup> Street, separated by a grass median. Between 9<sup>th</sup> and 10<sup>th</sup> Streets, the roadway includes a mid-block traffic circle.

Important north-south streets for Downtown access include 3<sup>rd</sup>, 7<sup>th</sup>, 9<sup>th</sup>, 12<sup>th</sup>, and 15<sup>th</sup> Streets, which are one-way southbound (except for a portion of 3<sup>rd</sup> street between L and J Street) and 5<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 16<sup>th</sup> Streets, which are one-way northbound (except for a portion of 5<sup>th</sup> Street between J and L Streets.

### **Existing Transit System**

The Sacramento Regional Transit District (RT) provides extensive bus and light rail services in the Downtown area, as shown in Figure 4.6-2, and throughout the City. A number of other transit services connect Downtown Sacramento with neighboring communities. Such services are provided by El Dorado Transit, Folsom Stage Lines, Roseville Transit, San Joaquin Regional Transit District, Vallejo Transit, Yolobus, Yuba-Sutter Transit. Amtrak provides train service from its Downtown depot at 4<sup>th</sup> and I Street and Greyhound Lines, and limousine and taxi services provide additional transit services to the downtown.





#### Regional Transit (RT)

Regional Transit is the major transit provider within Sacramento County, providing light rail service and fixed-route bus service on more than 70 routes. Light rail service and many of the bus routes are oriented to the downtown area. Downtown access is provided to and from all areas served by RT. Current light rail service extends from the downtown area to the Watt / I-80 station to the northeast and to the Mather Field / Mills Station to the east. Thirty stations are located along the line. Transit schedules are synchronized to provide "timed transfers" between bus routes and light rail at several stations. Many suburban stations include park-and-ride facilities. Light rail operates at 15-minute intervals daily and on weekends, and at a 30-minute intervals during the evening.

In addition to light rail service, many bus routes serve the downtown area within walking distance of the project site. Regular bus service is provided at a convenient walking distance to the Proposed Project site.

#### Other Transit Services

Other transit operators provide service to Downtown, consisting primarily of peak-period services designed to accommodate the commuter. El Dorado Transit operates commuter service from Placerville, Shingle Springs, Cameron Park, El Dorado Hills to Downtown Sacramento. Folsom Stage Lines operates commuter transit service from Folsom to Downtown Sacramento. Roseville Transit provides commuter service from Roseville to Downtown Sacramento. Yolobus operates bus routes connecting to Downtown Sacramento from Davis, Woodland, Winters, and West Sacramento. Yuba-Sutter Transit provides commuter transit service from Yuba and Sutter counties to Downtown Sacramento with connections to Regional Transit bus and light rail service.

#### **Existing and Planned Pedestrian and Bicycle Facilities**

Within the Downtown grid street system, including the project area, sidewalks on both sides of virtually all streets accommodate pedestrians. Pedestrian crossings of major streets are accommodated by pedestrian signals and marked crosswalks at downtown signalized intersections.

A Sacramento City / County Bicycle Task Force developed a 2010 Bikeway Master Plan for the region. The Master Plan is a policy document that was prepared to coordinate and develop a bikeway system that will benefit and serve the recreational and transportation needs of the public. Officially designated bicycle facilities are classified as follows:

- Class I Off-street bike trails or paths which are physically separated from streets or roads used by motorized vehicles.
- Class II On-street bike lanes with signs, striped lane markings, and pavement legends.
- Class III On-street bike routes marked by signs and shared with motor vehicles and pedestrians. Optional four-inch edge lines painted on the pavement.

According to the Bikeway Master Plan map contained in the City of Sacramento Parks and Recreation Master Plan 2005-2010, on-street bike facilities (Class III designated bike routes) are provided along 11<sup>th</sup> Street north of J Street and at other locations shown in Figure 4.6-3. No bicycle facilities are provided adjacent to the project site and angle parking is provided along the west side of 11<sup>th</sup> Street along the east edge of the project site, creating potential conflicts for bicyclists. The Bikeway Master Plan calls for the development of a bike trail along 11<sup>th</sup> Street between J Street and L Street to connect to the partially completed trail around the State Capitol.

#### **Study Area**

A set of intersections, freeway ramps, and freeway merge/diverge were selected for study based upon the anticipated volume and distributional patterns of project traffic and known locations of operational difficulty. This selection was made in collaboration with the City of Sacramento Department of Development Services, Development Engineering and Finance Division staff. The following locations, shown in Figure 4.6-1, were studied:

Intersections:

1. 3rd Street / J Street 2. 3rd Street / L Street 3. 3rd Street / Capitol Mall 4. 3rd Street / N Street 5. 3rd Street / P Street 6. 3rd Street / Q Street 7. 5th Street / I Street 8. 5th Street / J Street 9. 5th Street / L Street 10. 5th Street / Capitol Mall 11. 5th Street / N Street 12. 5th Street / P Street 13. 5th Street / Q Street 14. 7th Street / I Street 15. 7th Street / J Street 16. 7th Street / L Street 17. 8th Street / I Street 18. 8th Street / J Street 19. 8th Street / L Street 20. 9th Street / I Street 21. 9th Street / J Street





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22. 9th Street / L Street 23. 9th Street / P Street 24. 9th Street / Q Street 25. 10th Street / I Street 26. 10th Street / J Street 27. 10th Street / L Street 28. 10th Street / P Street 29. 10th Street / Q Street 30. 12th Street / H Street 31. 12th Street / I Street 32. 12th Street / J Street 33. 12th Street / L Street 34. 15th Street / H Street 35. 15th Street / J Street 36. 15th Street / L Street 37. 15th Street / P Street 38. 15th Street / Q Street 39. 15th Street / W Street 40. 15th Street / X Street 41. 16th Street / H Street 42. 16th Street / I Street 43. 16th Street / J Street 44. 16th Street / L Street 45. 16th Street / P Street 46. 16th Street / Q Street 47. 16th Street / W Street 48. 16th Street / X Street 49. 29th Street / J Street 50. 30th Street / J Street

Freeway Mainline:

- I-5 Northbound
  - o South of US 50 on-ramp
  - North of US 50 on-ramp
  - South of L Street on-ramp
  - South of I Street on-ramp
  - o South of Richards Boulevard off-ramp
- I-5 Southbound
  - o North of Richards Boulevard on-ramp
  - o North of J Street off-ramp
  - North of I Street on-ramp
  - North of US 50 off-ramp

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- US 50 Eastbound
  - West of I-5 on-ramp
  - West of 15<sup>th</sup> Street off-ramp

  - West of 10<sup>th</sup> Street on-ramp
    West of 16<sup>th</sup> Street on-ramp
- US 50 Westbound
  - o East of SR 99 on-ramp
  - East of 10<sup>th</sup> Street off-ramp
    East of 15<sup>th</sup> Street on-ramp

  - East of I-5 off-ramp

Freeway Merge / Diverge / Weave:

- I-5 Northbound •
  - US 50 on-ramp 0
  - P Street to J Street weave 0
  - L Street on-ramp 0
  - I Street on-ramp 0
  - **Richards Boulevard off-ramp** 0
- I-5 Southbound
  - **Richards Boulevard on-ramp** 0
  - J Street off-ramp 0
  - I Street to Q Street weave 0
  - US 50 off-ramp 0
- US 50 Eastbound
  - I-5 on-ramp 0
  - 0
  - 15<sup>th</sup> Street off-ramp 10<sup>th</sup> Street on-ramp 0
  - 16<sup>th</sup> Street to Business 80/SR99 weave 0
- US 50 Westbound
  - Business 80 to 16<sup>th</sup> Street weave 0
  - 10<sup>th</sup> Street off-ramp 0
  - 15<sup>th</sup> Street on-ramp 0
  - I-5 off-ramp 0

Freeway Ramp Queues:

- I-5 Northbound •
  - **O** Street off-ramp 0
  - J Street off-ramp 0
- I-5 Southbound J Street off-ramp

- US 50 Eastbound 15<sup>th</sup> Street off-ramp
- US 50 Westbound
  - $\circ$  16<sup>th</sup> Street off-ramp
  - 10<sup>th</sup> Street off-ramp

#### 4.6.3 REGULATORY BACKGROUND

Roadway operations are regulated by agencies with jurisdiction of a particular roadway. In the study area, the interstate freeways are under the jurisdiction of the California Department of Transportation (Caltrans). The non-freeway roadways are under the jurisdiction of the City of Sacramento.

#### Levels of Service

"Levels of service" describe the operating conditions experienced by motorists. Level of service is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. Level of Service (LOS) "A" through "E" generally represent traffic volumes at less than roadway capacity, while LOS "F" represents over capacity and/or forced flow conditions.

The *City of Sacramento General Plan* (1988) outlines the goals and policies that coordinate the transportation and circulation system with planned land uses. The General Plan (Goal D, Street and Road section) identifies LOS C as the goal for City's local and major street system except at freeway ramp intersections, where the goal is LOS D. In addition, the General Plan smart growth principles identify the need for a balanced transportation system, including walkability and improved bicycle infrastructure.

#### Signalized Intersections Analysis

Signalized intersection analyses were conducted using the operational methodology outlined in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 10 and 16). This procedure calculates an average stopped delay per vehicle at a signalized intersection, and assigns a level of service designation based upon the delay. The method also provides a calculation of the volume-to-capacity (v/c) ratio of the critical movements at the intersection. Table 4.6-1 shows level of service criteria for signalized intersections.

Table 4.6-1        Level of Service Criteria – Signalized Intersections			
Level of Service (LOS)	Average Delay (seconds/vehicle)	Description	
А	<u>≤</u> 10	Very Low Delay: This level of service occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all.	
В	> 10 and < 20	Minimal Delays: This level of service generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.	
С	> 20 and < 35	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (to service all waiting vehicles) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.	
D	> 35 and < 55	Approaching Unstable Operation/Significant Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume / capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	
Е	> 55 and < 80	Unstable Operation/Substantial Delays: These high delay values generally indicate poor progression, long cycle lengths, and high volume / capacity ratios. Individual cycle failures are frequent occurrences.	
F	> 80	Excessive Delays: This level, considered unacceptable to most drivers, often occurs with oversaturation (that is, when arrival traffic volumes exceed the capacity of the intersection). It may also occur at nearly saturated conditions with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.	

#### Freeway Segment Analysis

The freeway mainline was analyzed utilizing a methodology outlined in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 23). Maximum service flow rates of 2,200 vehicles per lane per hour for typical freeway lanes and 1,600 vehicles per lane per hour for auxiliary lanes were used, based upon data collected by Caltrans in the Sacramento urban area. Table 4.6-2 shows the relationship of freeway volume-to-capacity ratios (V/C) and density to level of service.
Table 4.6-2 Level of Service Criteria – Freeway Mainline								
Level of Service	Maximum Volume-to- Capacity Ratio	Maximum Density (passenger vehicles per mile per lane)						
А	0.32	11						
В	0.53	18						
С	0.74	26						
D	0.90	35						
Е	1.00	45						
F	Varies	Varies						
Source: Transportation Research Board, H	lighway Capacity Manual, Washington, D.	C., 2000, pages 23-3 and 23-4.						

#### Freeway Ramp and Merge / Diverge Analysis

Freeway ramps and merge/diverge areas were analyzed using a methodology outlined in the Highway Capacity Manual (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 25). Freeway ramp operating conditions are dependent upon traffic volumes and the ramp characteristics. These characteristics include the length and type of acceleration/deceleration lanes; free-flow speed of the ramps; number of lanes; grade; and types of facilities that the ramps interconnect. Table 4.6-3 shows the relationship of level of service to freeway density.

Table 4.6-3									
Level of Se	Level of Service Criteria – Freeway Ramp Merge / Diverge Areas								
Level of Service Maximum Density									
	(passenger vehicles per mile per lane)								
А	10								
В	20								
С	28								
D	35								
Е	> 35								
F	F Demand exceeds capacity								
Source: Transportation Resear	rch Board, Highway Capacity Manual, Washington, D.C., 2000, page 25-5.								

As shown in Table 4.6-3, the basic criterion used to determine Freeway Ramp LOS is vehicle density in the merge or diverge area. Note that the 2000 Highway Capacity Manual<sup>1</sup> requires that several additional criteria be considered so that LOS F is automatically attained for a ramp if:

At an on-ramp, volume exceeds capacity in:

- 1. The segment of a freeway downstream, or
- 2. The merge-area defined by the on-ramp and the two adjacent freeway lanes,

At an off-ramp, volume exceeds capacity in:

- 1. The segment of a freeway upstream OR downstream,
- 2. The off-ramp itself, or
- 3. The diverge-area defined by the two adjacent freeway lanes approaching the ramp

Table 4.6-4 shows maximum service flow rates for freeway ramps, based upon information presented in the *Highway Capacity Manual* (Transportation Research Board, Washington, D.C., 2000, Chapters 13 and 25; 1985, Chapter 5). This methodology is used in cases where the freeway ramp configuration governs the operating condition.

	Table 4.6-4									
		Lev	vel of Se	rvice De	finition	s – Freeway Ramps				
Level of Service	Servic	e Flow 1 Two	Rates for Lane Ra	r Single amps	Lane /	Definition				
(LOS)	K	amp De	sign Spe	ed (Mp	n) = 1	-				
. ,	< 20	21-30	31-40	41-50	> 51					
А	(1)	(1)	(1)	(1)	800/	Conditions of free flow; speed is controlled by				
					1,550	driver's desires, speed limits, or physical conditions.				
В	(1)	(1)	(1)	1,150/	1,150/	Conditions of stable flow; operating speeds				
				2,250	2,350	beginning to be restricted; little or no restrictions				
						on maneuverability from other vehicles.				
С	(1)	(1)	1,400/	1,600/	1,700/	Conditions of stable flow; speeds and				
			2,600	3,100	3,350	maneuverability more closely restricted				
D	(1)	1,550/	1,700/	1,950/	2,050/	Conditions approach unstable flow; tolerable				
		2,900	3,200	3,850	4,150	speeds can be maintained, but temporary				
						restrictions may cause extensive delays; little				
						freedom to maneuver; comfort and convenience				
						low.				
E	1,800/	1,900/	2,000/	2,100/	2,200/	Conditions approach capacity; unstable flow with				
	3,200	3,500	3,800	4,100	4,400	stoppages of momentary duration; maneuverability severely limited.				
F		Wi	dely Varia	ıble		Forced flow conditions; stoppages for long periods;				
			•			low operating speeds.				
(1) Level of se	rvice not a	ttainable du	e to restric	ted design s	speed.	· · · · · · ·				
Sources: Tra	nsportation	n Research	Board, Hig	hway Capa	city Manud	ıl, Washington, D.C., 2000, page 25-5.				
Tra	nsportation	n Research	Board, Hig	hway Capa	city Manuc	ıl, Washington, D.C., 1985, page 5-15.				

<sup>&</sup>lt;sup>1</sup>*Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2000, pages 13-22 and 13-23.

The freeway ramps were also analyzed in terms of the expected queues versus the storage capacity. The length of a vehicle is assumed to be 25 feet long.



## Figure 4.6-4 Existing Traffic Volumes AM (PM)

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#### Figure 4.6-4 (Continued)



# **Existing Levels of Service**

The existing a.m. and p.m. peak hour operating conditions at the study area intersections are shown in Table 4.6-5. All study intersections currently operate at or above the City's level of service "C" goal except for the  $3^{rd}$  Street / J Street intersection, which operates at LOS D during the a.m. peak hour.

Table 4.6-5       Intersection Levels of Service										
Interse	ction Levels of	Service – Exist	ing Conditions	1 11						
Intersection	AM Pe	ak Hour	PM Pea	ik Hour						
Intersection	LOS <sup>1</sup>	<b>Delay</b> <sup>2</sup>	LOS <sup>1</sup>	<b>Delay</b> <sup>2</sup>						
1) 3rd St/J St	D	44.4	В	15.7						
2) 3rd St/L St	В	13.2	В	15.4						
3) 3rd St/Capitol Mall	В	19.0	В	18.1						
4) 3rd St/N St	С	21.1	В	19.0						
5) 3rd St/P St	А	8.9	В	14.1						
6) 3rd St/Q St	А	9.7	В	10.3						
7) 5th St/I St	В	11.0	В	14.6						
8) 5th St/J St	С	20.5	В	11.4						
9) 5th St/L St	В	13.8	С	21.7						
10) 5th St/Capitol Mall	С	20.2	В	18.0						
11) 5th St/N St	В	13.2	В	13.2						
12) 5th St/P St	В	10.3	В	12.0						
13) 5th St/Q St	А	9.5	А	9.9						
14) 7th St/I St	А	9.8	В	18.2						
15) 7th St/J St	В	16.5	В	12.4						
16) 7th St/L St	В	11.2	В	14.5						
17) 8th St/I St	В	10.3	В	17.5						
18) 8th St./J St.	В	16.1	В	12.1						
19) 8th St/L St	В	11.5	В	15.2						
20) 9th St/I St	В	12.7	С	20.7						
21) 9th St/J St	В	18.1	В	12.4						
22) 9th St/L St	А	9.6	В	11.5						
23) 9th St/P St	А	9.0	В	10.8						
24) 9th St/Q St	В	10.6	В	10.9						
25) 10th St/I St	В	14.4	С	21.2						
26) 10th St/J St	С	21.3	В	16.6						
27) 10th St/L St	В	12.0	В	13.5						
28) 10th St/P St	В	11.4	А	8.6						
29) 10th St/O St	В	10.9	А	8.5						
30) 12th St/H St	В	16.5	В	13.3						
31) 12th St/I St	А	6.3	А	7.3						
32) 12th St/J St	В	16.1	В	14.3						
33) 12th St/L St	В	12.6	В	14.0						
34) 15th St/H St	А	9.7	В	11.9						
35) 15th St/J St	В	11.1	В	19.9						

(*Continued on next page*)

Table 4.6-5     Continued       Intersection Levels of Service – Existing Conditions									
	AM Pea	ak Hour	PM Pea	Peak Hour					
Intersection	LOS <sup>1</sup>	Delay <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>					
36) 15th St/L St	В	10.9	В	11.2					
37) 15th St/P St	В	11.2	В	11.0					
38) 15th St/Q St	В	10.0	В	11.1					
39) 15th St/W St	В	12.3	В	14.4					
40) 15th St/X St	С	22.5	С	29.5					
41) 16th St/H St	В	11.3	В	17.3					
42) 16th St/I St	В	10.3	В	11.5					
43) 16th St/J St	В	11.6	В	13.2					
44) 16th St/L St	В	10.8	В	11.8					
45) 16th St/P St	В	11.3	В	10.8					
46) 16th St/Q St	В	11.6	А	9.9					
47) 16th St/W St	С	23.5	С	23.7					
48) 16th St/X St	В	13.7	В	15.8					
49) 29th St/J St	С	28.6	С	22.0					
50) 30th St/J St	В	12.2	В	14.0					
Source: Dowling Associates, In	nc., 2006.								
$^{1}$ LOS = Level of Service									
<sup>2</sup> Weighted average control del	ay in seconds								

Table 4.6-6 shows levels of service for freeway mainline study segments. The calculations are provided in Appendix I. Analysis showed that the freeway mainline study segments operate acceptably although it is apparent from experience that most of the freeway study segments operate at LOS F during peak periods. The analysis is based on the number of vehicles that travel through each freeway segment. During congested conditions, fewer vehicles are able to pass, resulting in low estimates of congestion. The analysis shows many segments are near capacity (Volumes/Capacity are close to 1.00), so the analysis of future conditions would identify segments that are likely to be impacted.

Table 4.6-6											
Freeway Mainlin	ne Operati	ions – E	xisting	Condition	S						
T a setter	AM	Peak Ho	our	PM	Peak Ho	our					
Location	Volume	V/C <sup>1</sup>	LOS <sup>2</sup>	Volume	V/C <sup>1</sup>	LOS <sup>2</sup>					
Northbound I-5											
South of US 50 on-ramp	3,417	0.54	С	2,872	0.46	$\mathbf{F}^3$					
North of US 50 on-ramp	7,119	0.85	D	5,235	0.62	$\mathbf{F}^3$					
South of L Street on-ramp	5,279	0.84	D	3,841	0.61	$\mathbf{F}^3$					
South of I Street on-ramp	5,471	0.65	С	4,598	0.55	$\mathbf{F}^3$					
South of Richards Blvd off-ramp	5,806	0.58	С	6,011	0.60	$\mathbf{F}^3$					
	Southbound I-5										
North of Richards Blvd on-ramp	7,628	0.91	Е	5,797	0.69	С					
North of J Street on-ramp	8,104	0.96	Е	6,568	0.78	D					
North of I Street on-ramp	6,437	0.77	D	6,295	0.75	$\mathbf{F}^{3}$					
North of US 50 off-ramp	5,978	0.63	С	6,149	0.65	$\mathbf{F}^{3}$					
	Eastbour	nd US 50	)								
West of I-5 on-ramp	3,176	0.38	В	1,434	0.17	А					
West of 15th Street off-ramp	8,183	0.68	С	6,334	0.52	В					
West of 10th Street on-ramp	7,534	0.72	С	5,658	0.54	С					
West of 16th Street on-ramp	8,319	0.69	С	6,403	0.53	В					
	Westbou	nd US 50	)								
East of Hwy 51/US 99 on-ramp	3,637	0.36	В	3,250	0.33	В					
East of 10th Street off-ramp	6,483	0.62	С	6,058	0.58	С					
East of 15th Street on-ramp	5,555	0.53	В	5,709	0.54	С					
East of I-5 off ramp	6,029	0.48	В	6,375	0.51	В					
Source: Dowling Associates, Inc., 2006.											
$^{1}$ V/C = Volume / Capacity											
$^{2}$ LOS = Level of Service											
<sup>3</sup> Queuing extends from downstream bottle	necks.										

Table 4.6-7 provides a summary of traffic operations at study area interchanges and backup calculations are provided in Appendix I. The analysis showed several interchanges operated at LOS F during both the a.m. and p.m. peak hours.

<b>Table 4.6-7</b>									
Freeway Interchange Operations – Existing Conditions									
	I	AM Peak Ho	ır	I	PM Peak Hou	ır			
Ramp	$LOS^1$	<b>Density</b> <sup>2</sup>	Volume	$\mathbf{LOS}^{1}$	<b>Density</b> <sup>2</sup>	Volume			
		(Flow)			(Flow)				
	No	orthbound I-5	;						
US 50 on-ramp	F	41.52	3,269	D	28.76	1,997			
P Street to J Street weave	С	23.09	7,306	С	18.62	5,920			
L Street on-ramp	С	(209)	192	С	(826)	757			
I Street on-ramp	В	11.61	335	В	18.69	1,413			
Richards Boulevard off-ramp	В	19.05	659	С	21.82	349			
	So	uthbound I-5	5						
Richards Boulevard on-ramp	С	(519)	476	С	(841)	771			
J Street off-ramp	В	19.37	1,667	В	15.70	273			
I Street to Q Street weave	В	18.56	6,725	С	23.27	7,342			
US 50 off-ramp	F	14.29	3,809	F	14.70	4,301			
	Eas	tbound U.S. 5	50						
I-5 on-ramp	F	44.94	5,007	F	40.99	4,900			
15th Street off-ramp	D	32.34	649	С	24.88	676			
10th Street on-ramp	В	18.89	785	В	15.23	745			
16th Street to Business 80/SR99 weave	D	31.68	8975	С	25.64	6743			
	Wes	tbound U.S.	50						
Business 80 to 16th Street weave	В	15.88	4,880	В	16.33	4883			
10th Street off-ramp	С	26.83	928	С	22.01	349			
15th Street on-ramp	С	27.81	474	D	30.04	666			
I-5 off-ramp	F	(4224)	3,853	В	(3592)	3,276			
	Source: Dow	vling Associates,	Inc., 2006.						
	$^{1}$ LO	S = Level of Serv	ice						
<sup>2</sup> Numbers with decimals indicate the density of <i>p</i> the ramp flow rate in passent	vassenger veh ger car equiva	icles per mile per lents where a lan	lane in the mer e is added to the	ge or diverge o freeway at ar	area. Whole nun 1 on-ramp.	ibers indicate			

Table 4.6-8 compares the a.m. and p.m. peak hour vehicle queues and the storage capacity at freeway off-ramps. The northbound I-5 off ramp to J Street has inadequate storage capacity during the a.m. peak hour, during which time the queues extend onto the freeway.

Table 4.6-8       Freeway Ramp Queues - Existing Conditions											
Storage AM Peak Hour PM Peak Hou											
Location	Capacity (feet)	Queue (feet)	Adequate Capacity	Queue (feet)	Adequate Capacity						
I-5 NB Q Street off-ramp	3500	700	Yes	150	Yes						
I-5 NB J Street off-ramp	1750	3450	No	825	Yes						
I-5 SB J Street off-ramp	3600	3000	Yes	600	Yes						
US 50 EB 15th Street off-ramp	1600	600	Yes	650	Yes						
US 50 WB 16th Street off-ramp	US 50 WB 16th Street off-ramp 1625 975 Yes 900 Yes										
Source: Dowling Associates, Inc., 200 Note: <b>Bold</b> values show substandard tr	6 affic operations.										

# 4.6.4 INTRODUCTION TO ANALYSIS

# **Project Land Use and Circulation**

#### Land Use

The proposed Cathedral Square project consists of 233 condominium units and 10,100 square feet of ground level retail space. Vehicular access to  $10^{\text{th}}$  and  $11^{\text{th}}$  Streets would be provided via an existing one-way alley on the south side of the site. The alley would be converted to two-way operations between the project driveway and  $11^{\text{th}}$  Street.

#### **Project Trip Generation**

Trip generation of the Proposed Project is based upon information compiled by the Institute of Transportation Engineers (*Trip Generation, 7th Edition,* 2003) and (*Trip Generation Handbook,* 2004). In summary, the project has the potential to generate about 2,632 trips on an average day of which 1,965 are new external vehicular trips. Of the external trips, 108 trips would occur during the weekday morning peak hour and 174 trips during the weekday evening peak hour.

The external trips were derived by adjusting the Institute of Transportation Engineers (ITE) trip generation estimates. ITE estimates are based on empirical data collected at *suburban* locations throughout the United States. Adjustments to the ITE trip generation estimates were made to account for higher transit ridership, higher levels of walking and bicycle use, and the interaction of land uses in the Downtown area. Adjustments for the higher use of transit and walk, bike, and other non-auto travel were based on information contained in the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey* (DKS, 2001).

After the adjustments were made for transit, walk, bike, and other non-auto travel, an adjustment was made to account for internal trips between different types of land uses within the project site. The internal trip adjustments were performed using procedures recommended by ITE for multiuse developments (*Trip Generation Handbook*). Internal trips are trips that would occur between different land uses on the same site without accessing the external street system.

Finally, adjustments were made to account for trips likely to be made by non-motorized travel modes among new projects proposed for Downtown. These nine new projects, including the proposed Cathedral Square, are the subject of the *Sacramento Downtown Traffic Study* (Dowling, June 7, 2006), which is provided in Appendix I. The ITE method for determining internal trips was used and considered all these proposed downtown projects as one project (because of the ease of walking between the new projects). Only the trips generated over and above the internal trips for each individual project were considered appropriate for this adjustment.

No pass-by trips were assumed for retail uses because it is not convenient to drive by, park and stop to shop as would be the case in suburban locations. Most of these types of trips would be served by non-motorized travel modes – walking or biking.

Table 4.6-9   Trip Generation											
			Trips Generated								
Land Use	Amount	Weekday	AM	I Peak He	our	PM	Peak Ho	our			
		тескиау	In	Out	Total	In	Out	Total			
Cathedral Square (11th & J)											
Proposed Project											
Retail (Shopping Center)	10.1 KSF	1,530	24	16	40	66	72	138			
High Rise Residential											
Condominium	233 Units	1,102	18	78	96	59	36	95			
Total Project Trips		2,632	42	94	136	125	108	233			
Transit Adjustments		-63	-2	-2	-4	-3	-3	-6			
Walk, Bike & Other Non-Auto Tra	vel Adjustments	-283	-5	-8	-13	-13	-11	-24			
Internal Trips Within This Project		-264	-3	-3	-7	-13	-13	-25			
Trips To-From Other Proposed Pro	jects	-57	-2	-2	-4	-2	-2	-3			
New External Trips		1,965	30	79	108	95	80	174			
Existing Site											
Retail (Shopping Center)	13 KSF	1,786	28	18	46	77	84	161			
Storage (Warehousing)	12 KSF	57	4	1	5	1	4	5			
Total Project Trips		1,843	32	19	51	78	88	166			
Transit Adjustments		-41	-1	0	-1	-2	-2	-4			
Walk, Bike & Other Non-Auto Tra	vel Adjustments	-214	-4	-2	-6	-9	-10	-19			
Existing External Trips		1,588	27	17	44	67	76	143			
Net New External Trips		377	3	62	64	28	4	31			
Source: Dowling Associates, Inc., 2006.		· · ·									

The project trip generation is summarized in Table 4.6-9. Details of the adjustments made to the ITE trip generation estimates are provided in Appendix I.

# **Project Trip Distribution**

The distribution of trips associated with the project site was derived from the SACMET 2027 travel demand model, observations of travel patterns near the site, and knowledge of the proposed access locations associated with the Project. Two sets of trip distribution percentages were developed to better represent the different land uses included in the Project. One set of estimated percentages represent Retail use, and another for Residential use. From a selected zone assignment of traffic for each land use type, the distribution of inbound and outbound trips was estimated. Figure 4.6-5 and Figure 4.6-6 show the estimated trip distribution percentages for each proposed land use type. Assigned traffic volumes for the Project are shown in Figure 4.6-7.

# Transit Ridership

The number of new transit riders expected to be generated by the Proposed Project are shown in Table 4.6-10. Transit ridership estimates were based on the information contained in the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey* (DKS, 2001). The Proposed Project is expected to generate approximately 27 new transit trips during the average weekday, approximately 4 during the a.m. peak hour, and approximately 4 during the p.m. peak hour.

<b>Table 4.6-10</b>											
Transit Trips for Proposed Projects											
Transit Trips											
Land Use	Weekdow	AM	Peak H	our	PM	Peak Ho	our				
	weekuay	In	Out	Total	In	Out	Total				
Cathedral Square (11th & J)											
Proposed Project	75	2	3	5	4	4	8				
Existing Use	48	1	0	1	2	2	4				
Net New Transit Trips	27	1	3	4	2	2	4				
Sources:											
Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey (DKS, 2001											
Dowling Associates, Inc. 2006											



Figure 4.6-5 Retail Trip Distribution







# Figure 4.6-7 Assigned Project Traffic Volumes

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# Figure 4.6-7 (Continued)



# 4.6.5 IMPACTS AND MITIGATION MEASURES

The standards of significance, methods of analysis, and traffic impacts and mitigation measures are summarized below.

#### **Standards of Significance**

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. For the purposes of this EIR, an impact is considered significant if the Proposed Project would have the effects described below.

The standards of significance in this analysis are based upon the current practice of the appropriate regulatory agencies. For most areas related to transportation and circulation, the standards of the City of Sacramento have been used. For traffic flow on the I-5 freeway system and associated interchanges, the standards of Caltrans have been used.

#### Intersections

In the City of Sacramento, a significant traffic impact occurs at a signalized or unsignalized intersection (except for freeway ramp/arterial intersections within North Natomas) when:

- The traffic generated by the project degrades peak period level of service (LOS) from A, B, or C (without the project) to D, E, or F (with the project); or,
- The level of service (without project) is D, E, or F and project generated traffic increases the average vehicle delay by 5 seconds or more.

These standards have been developed consistent with a goal set forth in the City of Sacramento, General Plan Update (1988). Specifically, Section 5-11 - Goal D, states to "Work towards achieving a Level of Service C on the City's local and major street system."

#### Freeway Ramps and Mainline

Caltrans considers the following to be significant impacts:

- Off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway.
- Project traffic increases that cause any ramp's merge / diverge level of service to be worse than the freeway's level of service.
- Project traffic increases that cause the freeway level of service to deteriorate beyond level of service "E."

In addition, a significant ramp impact would occur if the expected queue is greater than the storage capacity.

#### Transit System

For the purposes of this EIR, impacts to the transit system are considered significant if the Proposed Project would:

• Increase ridership, when added to the existing or future ridership, would exceed available or planned system capacity. Capacity is defined as the total number of passengers the system of buses and light rail vehicles can carry during the peak hours of operations.

#### **Bikeways**

For the purposes of this EIR, impacts to bikeways are considered significant if the Proposed Project would:

- Hinder or eliminate an existing designated bikeway, or interfere with implementation of a proposed bikeway; or
- Result in unsafe conditions for bicyclists, including unsafe bicycle/pedestrian or bicycle/motor vehicle conflicts.

#### Pedestrian Circulation

For the purposes of this EIR, impacts to pedestrian circulation are considered significant if the Proposed Project would:

• Result in unsafe conditions or create a hindrance for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle access.

#### Parking

For the purposes of this EIR, impacts to parking are considered significant if the Proposed Project would:

• Result in parking demand that exceeds the available or planned parking supply for typical day conditions. However, the impact would not be significant if the Project is consistent with the parking requirements stipulated in the City Code.

#### Traffic Circulation and Safety

For the purposes of this EIR, impacts to traffic circulation and safety are considered significant if the Proposed Project would:

• Not comply with City design standards or normal traffic engineering practices.

#### **Baseline Conditions**

An analysis of baseline plus project conditions was performed to determine the potential traffic impacts of the Proposed Project in combination with other projects that have already been approved. The following projects have been approved that would potentially affect traffic conditions:

- 1. Crocker Art Museum Expansion
- 2. 301 Capitol Mall
- 3. 601 Capitol Mall
- 4. Metro Place Office / Residential
- 5. 15<sup>th</sup> & L Street Hotel
- 6. CalPERS Headquarters Expansion
- 7. Sutter Medical Center and the Trinity Cathedral
- 8. CADA East End Gateway Residential
- 9. Capitol West Side Projects<sup>2</sup>
- 10. Conversion of 3<sup>rd</sup> Street to two-way operations between I and J Streets
- 11. Amtrak/Folsom Corridor Light Rail Extension Amtrak Extension (Regional Transit)

The locations of the baseline projects (including the Capitol West Side Projects) are shown in Figure 4.6-8. The Light Rail - Amtrak Extension was not completed at the time of the traffic study; therefore, it was assumed that the Extension would affect the following intersections:

- 5th Street / I Street, where two new southbound right turn lanes will be provided (with no change to the existing signal timing);
- 8th Street / I Street, where a new northbound left-turn lane will be added to 8<sup>th</sup> Street; and
- 8th Street / L Street, where a northbound combination left-through lane on 8<sup>th</sup> Street will be converted to a left-turn only lane.

The Light Rail – Amtrak Extension has been completed and is operational. Changes associated with the Extension will not affect signal timing at any of the intersections.

Full development of the Proposed Project is assumed to occur "instantaneously." In this manner, the traffic and impacts associated with the project and other approved projects can be directly compared to known and measured conditions.

The analysis of baseline conditions was performed using the TRAFFIX traffic impact analysis software package. Traffic volumes from the Proposed Project were added to the baseline traffic volumes based on the trip generation and distribution procedures described above. Project traffic

 $<sup>^2</sup>$  The Capitol West Side Project includes two components: the Central Plant Renovation and the West End Office Complex. Only the Central Plant Renovation was assumed to be part of baseline conditions and is expected to generate only a nominal number of trips. The West End Office Complex is not expected to occur until 2013, were considered in the evaluation of cumulative conditions.

was assigned to the transportation network based on the shortest path. The resulting traffic volumes were used to analyze intersection and freeway levels of service. Traffic volumes for baseline conditions are shown in Appendix I.





Table 4.6-11   Intersection Levels of Service – Reseline Conditions									
	ersectio	n Leveis Without	OI Servi	<u>e – Base</u>	iine Cor	<u>latuons</u> With	Project		
	AM Pe	ak Hour	PM Pe	ak Hour	AM Pe	ak Hour	PM Peak Hour		
Intersection	LOS <sup>1</sup>	Delav <sup>2</sup>	LOS <sup>1</sup>	Delav <sup>2</sup>	LOS <sup>1</sup>	Delav <sup>2</sup>	LOS <sup>1</sup>	Delav <sup>2</sup>	
1) 3rd St/J St	E	59.9	B	18.2	E	59.9	В	18.3	
2) 3rd St/L St	В	18.6	D	43.8	В	18.7	D	44.0	
3) 3rd St/Capitol Mall	С	21.2	С	23.2	С	21.2	С	23.3	
4) 3rd St/N St	С	20.9	В	19.6	С	20.9	В	19.6	
5) 3rd St/P St	Α	9.2	С	27.6	А	9.3	С	27.6	
6) 3rd St/Q St	В	11.6	А	9.7	В	11.6	А	9.7	
7) 5th St/I St	В	11.1	С	20.6	В	11.1	С	20.6	
8) 5th St/J St	С	21.7	В	11.6	С	21.7	В	11.6	
9) 5th St/L St	В	14.0	С	24.3	В	14.1	С	24.4	
10) 5th St/Capitol Mall	В	19.2	В	19.0	В	19.2	В	19.0	
11) 5th St/N St	В	13.4	В	13.8	В	13.4	В	13.8	
12) 5th St/P St	В	10.7	В	16.1	В	10.7	В	16.1	
13) 5th St/Q St	В	11.1	А	9.8	В	11.1	А	9.8	
14) 7th St/I St	Α	10.0	В	18.6	В	10.0	В	18.6	
15) 7th St/J St	В	17.8	В	13.6	В	17.8	В	13.7	
16) 7th St/L St	В	11.5	В	15.4	В	11.6	В	15.4	
17) 8th St/I St	В	10.3	В	18.4	В	10.3	В	18.4	
18) 8th St/J St	В	18.0	В	14.6	В	18.0	В	14.6	
19) 8th St/L St	В	12.5	В	16.3	В	12.6	В	16.4	
20) 9th St/I St	В	13.0	С	20.8	В	13.1	С	20.8	
21) 9th St/J St	С	21.0	В	17.0	С	21.0	В	17.4	
22) 9th St/L St	В	10.4	В	12.0	В	10.5	В	12.0	
23) 9th St/P St	Α	9.5	В	11.4	А	9.5	В	11.4	
24) 9th St/Q St	В	11.5	В	11.6	В	11.5	В	11.6	
25) 10th St/I St	В	14.9	С	21.9	В	15.0	С	21.9	
26) 10th St/J St	С	22.0	С	21.0	С	22.0	С	21.5	
27) 10th St/L St	В	12.7	В	14.8	В	12.8	В	14.9	
28) 10th St/P St	В	11.8	А	8.9	В	11.8	А	8.9	
29) 10th St/Q St	В	11.0	А	8.8	В	11.0	А	8.8	
30) 12th St/H St	В	18.1	В	13.7	В	18.1	В	13.7	
31) 12th St/I St	А	6.6	А	7.6	А	6.6	А	7.6	
32) 12th St/J St	В	18.8	С	21.2	С	20.5	С	21.2	
33) 12th St/L St	В	13.2	В	14.6	В	13.3	В	14.6	
34) 15th St/H St	А	9.7	В	11.9	А	9.7	В	11.9	
35) 15th St/J St	В	11.6	D	49.2	В	11.6	D	49.0	
36) 15th St/L St	В	11.5	В	11.7	В	11.5	В	11.7	
37) 15th St/P St	В	11.4	В	11.3	В	11.4	В	11.3	

A summary of intersection operations for baseline conditions is provided in Table 4.6-11.

(Continued on next page)

Table 4.6-11								
Intersection Levels of Service – Baseline Conditions (Continued)								
		Without	t Project	t		With	Project	
T	AM Pe	ak Hour	PM Pe	ak Hour	AM Pe	ak Hour	PM Peak Hour	
Intersection	LOS <sup>1</sup>	<b>Delay</b> <sup>2</sup>	LOS <sup>1</sup>	<b>Delay</b> <sup>2</sup>	LOS <sup>1</sup>	<b>Delay</b> <sup>2</sup>	LOS <sup>1</sup>	Delay <sup>2</sup>
38) 15th St/Q St	В	10.1	В	11.4	В	10.1	В	11.4
39) 15th St/W St	В	12.4	В	14.5	В	12.4	В	14.5
40) 15th St/X St	С	22.5	С	32.1	С	22.5	С	32.0
41) 16th St/H St	В	11.5	С	21.6	В	11.5	С	21.5
42) 16th St/I St	В	10.4	В	11.7	В	10.4	В	11.7
43) 16th St/J St	В	11.7	В	13.5	В	11.7	В	13.5
44) 16th St/L St	В	11.0	В	11.9	В	11.0	В	11.9
45) 16th St/P St	В	11.8	В	10.9	В	11.8	В	10.9
46) 16th St/Q St	В	11.9	В	10.2	В	11.9	В	10.2
47) 16th St/W St	С	24.0	С	24.1	С	24.0	С	24.1
48) 16th St/X St	В	13.8	В	16.3	В	13.8	В	16.3
49) 29th St/J St	С	34.1	С	22.8	С	34.1	С	22.8
50) 30th St/J St	В	12.6	В	14.8	В	12.6	В	14.8
Source: Dowling Associates, Inc., 2006. $^{1}LOS = Level of Service$								
<sup>2</sup> Weighted average control del	ay in secon	ds						

#### **Project Impacts and Mitigation Measures**

The Initial Study determined that the proposed project would not have an effect on air travel activity. Therefore, the Initial Study found that the proposed project would have a less-than-significant impact on air travel patterns.

#### **4.6-1** Impacts to study intersections under baseline plus project conditions.

The proposed project would increase traffic volumes at some of the study area intersections but decrease at other intersections as a result of the change in traffic pattern related to existing land uses on the project site. Because study intersection LOS would not be degraded, *no significant impact* under baseline plus project conditions was identified.

<u>Mitigation Measure(s)</u> None required.

Summaries of freeway operations for baseline conditions are provided in Table 4.6-12 for freeway mainline segments, Table 4.6-13 for freeway interchange operations, and Table 4.6-14 for vehicle queues at freeway ramps.

Table 4.6-12														
Freeway Mainline Operations – Baseline Conditions														
	Without Project							With Project						
Location	AM Peak Hour		PM I	PM Peak Hour			AM Peak Hour			PM Peak Hour				
	Volume	V/C <sup>1</sup>	LOS <sup>2</sup>	Volume	V/C <sup>1</sup>	LOS <sup>2</sup>	Volume	V/C <sup>1</sup>	LOS <sup>2</sup>	Volume	$V/C^1$	LOS <sup>2</sup>		
South of US 50 on-ramp	3,539	0.56	С	2,959	0.47	$\mathbf{F}^{3}$	3,540	0.56	С	2,961	0.47	$\mathbf{F}^3$		
North of US 50 on-ramp	7,249	0.86	D	5,346	0.64	$\mathbf{F}^3$	7,250	0.86	D	5,348	0.64	$\mathbf{F}^3$		
South of L Street on-ramp	5,330	0.85	D	4,960	0.79	$\mathbf{F}^3$	5,330	0.85	D	4,960	0.79	$\mathbf{F}^3$		
South of I Street on-ramp	5,522	0.66	С	5,717	0.68	$\mathbf{F}^3$	5,522	0.66	С	5,717	0.68	$\mathbf{F}^3$		
South of Richards Blvd off- ramp	5,881	0.59	С	7,196	0.72	$\mathbf{F}^3$	5,893	0.59	С	7,197	0.72	$\mathbf{F}^3$		
North of Richards Blvd on- ramp	8,124	0.97	Е	6,086	0.72	С	8,125	0.97	Е	6,092	0.73	С		
North of J Street on-ramp	8,600	1.02	$\mathbf{F}$	6,857	0.82	D	8,601	1.02	$\mathbf{F}$	6,863	0.82	D		
North of I Street on-ramp	6,607	0.79	D	6,281	0.75	$\mathbf{F}^3$	6,607	0.79	D	6,281	0.75	$\mathbf{F}^3$		
North of US 50 off-ramp	5,846	0.62	С	6,036	0.64	$\mathbf{F}^{3}$	5,850	0.62	С	6,037	0.64	$\mathbf{F}^3$		
West of I-5 on-ramp	3,197	0.38	В	1,446	0.17	А	3,197	0.38	В	1,446	0.17	А		
West of 15th Street off-ramp	8,278	0.68	С	6,441	0.53	С	8,278	0.68	С	6,441	0.53	С		
West of 10th Street on-ramp	7,629	0.73	С	5,765	0.55	С	7,629	0.73	С	5,765	0.55	С		
West of 16th Street on-ramp	8,465	0.70	С	6,795	0.56	С	8,465	0.70	С	6,795	0.56	С		
	Westbou	und US	50											
East of Hwy 51/US 99 on-ramp	4,065	0.41	В	3,447	0.34	В	4,064	0.41	В	3,448	0.34	В		
East of 10th Street off-ramp	6,854	0.65	С	6,281	0.60	С	6,854	0.65	С	6,281	0.60	С		
East of 15th Street on-ramp	5,645	0.54	С	5,857	0.56	С	5,645	0.54	С	5,857	0.56	С		
East of I-5 off ramp	6,124	0.49	В	6,530	0.52	В	6,124	0.49	В	6,530	0.52	В		
Source: Dowling Associates, Inc., 2006.														
$^{1}$ V/C = Volume / Capacity														
$^{2}$ LOS = Level of Service														
<sup>3</sup> Queuing extends from downstream bottlenecks.														
Note: <b>Bold</b> values show substandard traffic operations.														

Table 4.6-13														
Freeway Interchange Operations – Baseline Conditions														
	Without Project							With Project						
Down	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour				
Kamp	$LOS^1$	<b>Density</b> <sup>2</sup>	Volume	$LOS^1$	<b>Density</b> <sup>2</sup>	Volume	$LOS^1$	<b>Density</b> <sup>2</sup>	Volume	$LOS^1$	<b>Density</b> <sup>2</sup>	Volume		
		(Flow)			(Flow)			(Flow)			(Flow)			
US 50 on-ramp	F	42.16	3,277	D	29.37	2,021	F	42.16	3,277	D	29.38	2,021		
P Street to J Street weave	С	24.15	7,487	С	21.11	6,345	С	24.16	7,488	С	21.13	6,347		
L Street on-ramp	С	(209)	192	С	(826)	757	С	(209)	192	С	(826)	757		
I Street on-ramp	В	11.90	359	С	21.22	1,479	В	12.00	371	С	21.22	1,480		
Richards Boulevard off-ramp	В	19.31	659	С	26.69	349	В	19.35	659	С	26.69	349		
Southbound I-5														
Richards Boulevard on-ramp	С	(519)	476	С	(841)	771	С	(519)	476	С	(841)	771		
J Street off-ramp	С	20.56	1,993	В	16.39	576	С	20.56	1,994	В	16.40	582		
I Street to Q Street weave	В	19.74	6,904	С	23.76	7,356	В	19.76	6,908	С	23.77	7,357		
US 50 off-ramp	F	13.97	3,809	F	14.43	4,301	F	13.98	3,813	F	14.43	4,302		
Eastbound U.S. 50														
I-5 on-ramp	F	45.58	5,081	F	41.77	4,995	F	45.58	5,081	F	41.77	4,995		
15th Street off-ramp	D	32.74	649	С	25.32	676	D	32.74	649	С	25.32	676		
10th Street on-ramp	В	19.47	836	В	17.70	1,030	В	19.47	836	В	17.70	1,030		
16th Street to Business 80/SR99 weave	D	32.77	9153	D	28.24	7206	D	32.82	9159	D	28.22	7204		
Westbound U.S. 50														
Business 80 to 16th Street weave	В	17.52	5,343	В	17.37	5147	В	17.51	5,342	В	17.37	5148		
10th Street off-ramp	D	29.86	1,209	C	23.33	424	D	29.86	1,209	С	23.33	424		
15th Street on-ramp	D	28.25	479	D	30.75	673	D	28.25	479	D	30.75	673		
I-5 off-ramp	F	(4313)	3,934	В	(3732)	3,404	F	(4313)	3,934	В	(3732)	3,404		

Source: Dowling Associates, Inc., 2006.

<sup>1</sup> LOS = Level of Service

<sup>2</sup> Numbers with decimals indicate the density of passenger vehicles per mile per lane in the merge or diverge area. Whole numbers indicate the ramp flow rate in passenger car equivalents where a lane is added to the freeway at an on-ramp.

Note: **Bold** values show substandard traffic operations.

Table 4.6-14 Freeway Ramp Queues - Baseline Conditions												
Location	Storage Capacity (feet)		Without	Project		With Project						
		AM P	eak Hour	PM P	eak Hour	AM P	eak Hour	PM Peak Hour				
		Queue (feet)	Adequate Capacity	Queue (feet)	Adequate Capacity	Queue (feet)	Adequate Capacity	Queue (feet)	Adequate Capacity			
I-5 NB Q Street off-ramp	3500	1000	Yes	250	Yes	1000	Yes	250	Yes			
I-5 NB J Street off-ramp	1750	3975	No	1050	Yes	3975	No	1050	Yes			
I-5 SB J Street off-ramp	3600	3800	No	800	Yes	3800	No	800	Yes			
US 50 EB 15th Street off- ramp	1600	600	Yes	650	Yes	600	Yes	650	Yes			
US 50 WB 16th Street off- ramp	1625	1125	Yes	975	Yes	1125	Yes	975	Yes			
Source: Dowling Associates, Inc., 2006												
Note: <b>Bold</b> values show substandard traffic operations.												

## **4.6-2** Impacts to freeway mainline under baseline plus project conditions.

The Proposed Project would add traffic to freeway mainline segments but would not cause freeway levels of service to deteriorate beyond LOS E with one exception. The project would add one vehicle to the southbound I-5 freeway segment north of J Street on-ramp, which would already operate at LOS F without the Proposed Project during the AM peak hour. There is no change in vehicle/capacity ratio and level of service. Hence, the impact is considered *less than significant*.

<u>Mitigation Measure(s)</u> None required.

# 4.6-3 Impacts to freeway merge/diverge/weave area under baseline plus project conditions.

The Proposed Project would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond that of without project conditions. The projects would add five vehicles and one vehicle to southbound I-5 off-ramp to US 50 in the a.m. and p.m. peak hours, respectively. The ramp would operate at LOS F without the project; whilst the mainline would operate at LOS C. This is considered a *significant impact*.

## Mitigation Measure(s)

No feasible mitigation measures were identified that would reduce the impact of the project on I-5 ramps. Widening the freeway would reduce the impact but was not considered feasible. The impacts of Proposed Project on freeway ramps would remain *significant and unavoidable*.

#### 4.6-4 Impacts to freeway ramp queue under baseline plus project conditions.

The Proposed Project would not extend the queue at any of the freeway ramps. Hence, the impact is considered *less-than-significant*.

<u>Mitigation Measure(s)</u> None required.

#### 4.6-5 Impacts to transit system under baseline plus project conditions.

As discussed under Transit Ridership, the Proposed Project would add approximately 20 daily transit trips with 4 occurring during the a.m. peak hour and 4 during the p.m. peak hour. Although particular light rail trains and buses operate at or near capacity during the peak commuter periods, there is ample capacity on the Regional Transit system to support this increase in trips. The Folsom Corridor light rail service recently opened, and additional light rail service to Downtown is anticipated with the South Sacramento Corridor and extension to the Amtrak Station. These light rail projects are scheduled for completion by the opening date of the Proposed Project. Because the

existing and future transit system capacity would be sufficient to accommodate the increased transit ridership, the impact would be *less than significant*.

Mitigation Measure(s) None required.

## 4.6-6 Impacts to bicycle circulation under baseline plus project conditions.

The Proposed Project would result in an increase in bicycle trips in the downtown area by residents and visitors. The site plans do not show development of a bike trail or onstreet bike facilities along 11<sup>th</sup> Street near the project site, where a loading zone would be provided. The design of 11<sup>th</sup> Street may interfere with the implementation of the planned bikeways in the study area. This design would be inconsistent with the City's bicycle friendly goal of providing convenient access to all travel modes and is considered a *potentially significant* impact.

#### Mitigation Measure(s)

The following mitigation measure would be required to reduce the significant impact for baseline conditions to a *less-than-significant* level by ensuring that the project provides bicycle access.

4.6-6 Bicycle access consistent with the City of Sacramento Bikeway Master Plan shall be provided between J Street and the alley at the south edge of the project site.

#### 4.6-7 Impacts to pedestrian circulation under baseline plus project conditions.

The Proposed Project would result in an increase in pedestrian trips in the downtown area by residents and visitors. However, the project is not anticipated to result in unsafe condition for pedestrians, including unsafe pedestrian/bicycle or pedestrian/motor vehicle conflict. All streets adjacent to the project site would be designed in accordance to the City's "Pedestrian Friendly Street Standards" that would provide for pedestrian needs and enhance connectivity with existing City streets. Therefore, the resulting impact would be considered *less-than-significant*.

<u>Mitigation Measure(s)</u> *None required.* 

#### 4.6-8 Impacts to on-site circulation under baseline plus project conditions.

Vehicular access to 10<sup>th</sup> and 11<sup>th</sup> Streets would be provided via an existing one-way alley on the south side of the site. The alley would be converted to two-way operations between the project driveway and 11<sup>th</sup> Street as proposed with the project. Loading zones are proposed along J Street and 11<sup>th</sup> Street adjacent to the project site to provide access to the commercial areas and driveway would be provided at J Street to provide access to an on-site loading dock and trash pickup.

Per City code, the minimum dimension of a loading dock is ten (10) feet wide, fourteen (14) feet high, and forty (40) feet long. The proposed loading dock is consistent with the City Code. However, the location of the loading dock driveway may affect circulation. Vehicles maneuvering into and out of the loading dock may create temporary blockage to one or more travel lanes on J Street, a heavily traveled arterial. The impact is anticipated to be particularly acute during peak hours and may be *potentially significant*.

# Mitigation Measure(s)

The following mitigation measure would be required to reduce the potentially significant impacts for baseline conditions to a *less-than-significant* level.

#### **4.6-9** Impacts to parking under baseline plus project conditions.

The proposed parking supply, estimated demand and City code requirement are summarized in Table 4.6-15. The Proposed Project would provide 326 parking spaces. Under the City's Zoning Code Section 17.64.060, off-street vehicle parking in the Central Business District (CBD) and in the arts and entertainment district is required to be provided for residential uses, hotels, motels, and offices only. There is no parking requirement for retail uses. Parking is required in the Central City to be provided at a ratio of one space per multi-family dwelling unit plus one visitor space per 15 units, which equates to 249 spaces for the Proposed Project. Therefore, the proposed supply exceeds the City requirement by 77 spaces.

Parking demand was analyzed using guidelines from ITE's *Parking Generation*,  $3^{rd}$  *Edition*, which was then adjusted to account for the downtown location of the project site in similar manner as that described in the Trip Generation section of the report. The results suggested that the demand from the Proposed Project would not be met by the proposed supply. However, as the project would comply with the City's code requirements, the project would not have an adverse impact regarding automobile parking.

The City's Zoning Code Section 17.64.050 also requires new and expanded developments to provide one bicycle parking space for every 10 required vehicle parking spaces. This results in a requirement of 25 bicycle parking spaces, of which 50 percent shall be Class I facility. Bicycle parking facilities are not indicated on the site plans. Failure to provide bicycle parking would be a *potentially significant* impact.

<sup>4.6-8</sup> Restrict loading dock operation to off-peak hours. This would minimize conflict between vehicles maneuvering into or out of the loading dock and traffic on J Street.

Table 4.6-15										
Parking Generation										
					ITE Demand					
			City Code							
	Size	Unit	Requirement	ITE	Retail	Residential				
Retail	10.1	ksf	0	2.65	27					
Residential	233	dwu	249	1.46		340				
			249							
Adjustments										
Transit Adj (-2.2% retail, -11.1% office)					-1					
Walk/Bike/Non-Auto Adj (-11.6% retail,										
2.8% office)					-3					
Internal Trip Adj					-3					
Between downtown projects					-1					
Total Adj					-8					
Adjusted Demand					19	340				
Total Adj Project Demand				359						
Supply vs. Demand										
Proposed Parking	326									
Adjusted Project Demand	359									
	-33									
Supply vs. Code Requirement										
Proposed Parking	326									
City Requirement	249									
	77									

#### Mitigation Measure(s)

Implementation of the mitigation measure would reduce the impact to a *less-than-significant* level.

4.6-9 Prior to the issuance of grading permits, the project proponent shall revise the project site plans to demonstrate compliance with the City of Sacramento bicycle parking requirements for the review and approval of the City Development Services Department and Development Engineering Department.

# **Cumulative Conditions**

Four cumulative scenarios involving Near-Term (Year 2013) and Long-Term (Year 2030) conditions have been analyzed in the *Sacramento Downtown Traffic Study* (Dowling, June 7, 2006), which is included as Appendix I of this document. The Downtown study included the cumulative impacts of the proposed Cathedral Square project as well as several other approved and pending projects as listed below:

- 800 K Street
- 831 L Street
- Westfield Shoppingtown Downtown Plaza Expansion
- 500 Capitol Mall
- The Metropolitan (10<sup>th</sup> Street and J Street)
- Epic Tower (12<sup>th</sup> Street and I Street)
- 701 L Street
- The Library Lofts (8<sup>th</sup> Street and I Street)

This section summarizes the cumulative impacts and mitigation measures identified in the Downtown Study. The cost of implementing these mitigation measures will be shared among all the projects.

#### Near-Term (2013) Impacts and Mitigation Measures

#### **4.6-10** Impacts to study intersections under near term plus project condition.

The proposed Downtown projects would add traffic to study intersections and cause significant impacts for near-term cumulative conditions at the following intersections:

- a) 3<sup>rd</sup> Street / J Street, where the level of service without the Downtown Projects would be LOS F during the a.m. peak hour and project generated traffic would increase the average vehicle delay by 34.7 seconds. This is considered a *potentially significant* impact.
- b) 3<sup>rd</sup> Street / L Street, where the level of service without the Downtown Projects would be LOS E during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 43.9 seconds. This is considered a *potentially significant* impact.
- c) 3<sup>rd</sup> Street / N Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the a.m. peak hour. This is considered a *potentially significant* impact.

- d) 3<sup>rd</sup> Street / P Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- e) 5<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- f) 7<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- g) 8<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- h) 9<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- i) 10<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- j) 12<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- k) 15<sup>th</sup> Street / J Street, where the level of service without the Downtown Projects would be LOS D during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 54.4 seconds. This is considered a *potentially significant* impact.
- 15<sup>th</sup> Street / X Street, where the level of service without the Downtown Projects would be LOS E during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 21.5 seconds. This is considered a *potentially significant* impact.
- m) 16<sup>th</sup> Street / H Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.

## Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

- 4.6-10(a) At the 3<sup>rd</sup> Street / J Street intersection, modify the traffic signal phase splits during the a.m. peak period by increasing the phase time for the southbound I-5 off-ramp approach (eastbound) to 40 seconds, maintaining the 50 second phase time for the northbound I-5 off-ramp, and decreasing the north and southbound 3<sup>rd</sup> Street phase time to 10 seconds. This mitigation measure would reduce average vehicle delay by 33 seconds during the a.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(b) At the 3<sup>rd</sup> Street / L Street intersection, modify the westbound approach to provide one left-turn lane, two through lanes (to the northbound I-5 onramp), and one right-turn lane. This mitigation measure would reduce average vehicle delay by 40 seconds during the p.m. peak hour and maintain LOS C operations during the a.m. peak hour. The mitigation measure would reduce the near-term cumulative impact to a less-thansignificant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and restriping of this intersection.
- 4.6-10(c) At the 3<sup>rd</sup> Street / N Street intersection, modify the traffic signal phase splits during the a.m. peak period by increasing the southbound 3<sup>rd</sup> Street signal phase time to 34 seconds, decreasing the eastbound N Street approach to 15 seconds, and maintaining the phase time for the eastbound Tower Bridge approach at 21 seconds. This mitigation measure would improve traffic operations to LOS C during the a.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(d) At the 3<sup>rd</sup> Street / P Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 32 seconds for the westbound P Street approach and decreasing the southbound 3<sup>rd</sup> Street approach to 18 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

- 4.6-10(e) At the 5<sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the westbound L Street approach and decreasing the northbound and southbound 5<sup>th</sup> Street approaches to 42 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(f) At the 7<sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 22 seconds for the westbound L Street approach and decreasing the northbound and southbound 5<sup>th</sup> Street approaches to 28 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(g) At the 8<sup>th</sup> Street / L Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 25 seconds for the westbound L Street approach and decreasing the northbound 8<sup>th</sup> Street signal phase time to 25 seconds. This mitigation measure would improve traffic operations to LOS B during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-thansignificant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(h) At the 9<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the eastbound J Street approach and decreasing the southbound 9<sup>th</sup> Street signal phase time to 22 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-thansignificant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

- 4.6-10(i) At the 10<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 28 seconds for the eastbound J Street approach and decreasing the northbound 10<sup>th</sup> Street signal phase time to 22 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(j) At the 12<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 22 seconds for the eastbound J Street approach and decreasing the 12<sup>th</sup> Street signal phase time to 28 seconds This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(k) At the 15<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the phase time for the eastbound J Street approach to 30 seconds, and decreasing the southbound 15<sup>th</sup> Street signal phase time to 20 seconds. This mitigation measure would reduce average vehicle delay by 61.4 seconds during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-10(1) At the 15<sup>th</sup> Street / X Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the phase time for the southbound 15<sup>th</sup> Street approach to 28 seconds, decreasing the eastbound U.S. 50 off-ramp phase time to 28 seconds, and maintaining 17 seconds for the X Street approach. This mitigation measure would reduce average vehicle delay by 34.4 seconds during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
4.6-10(m) At the 16<sup>th</sup> Street / H Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the phase time for the northbound 15<sup>th</sup> Street approach to 26 seconds, decreasing the phase times for the eastbound H Street left and through movements to 18 and 24 seconds, respectively, and maintaining 6 seconds for the westbound H Street right-turning movement. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the near-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

#### 4.6-11 Impacts to freeway mainline under near term plus project condition.

The proposed Downtown projects would add traffic to freeway mainline segments but would not cause freeway levels of service to deteriorate beyond LOS E. The projects would add traffic to I-5 freeway segments that would operate at LOS F without the projects. This is considered a *significant impact*.

#### Mitigation Measure(s)

No feasible mitigation measures were identified that would reduce the impact of the project on I-5 freeway mainline segments under the near term plus project scenario. Widening the freeway would reduce the impact but was not considered feasible. The impacts of Downtown Projects on I-5 freeway segments would remain *significant and unavoidable*.

# 4.6-12 Impacts to freeway merge / diverge / weave areas under near term plus project condition.

The proposed Downtown projects would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond LOS E on these facilities. The projects would add traffic to I-5 and U.S. 50 freeway ramps that would operate at LOS F without the projects. This is considered a *significant impact*.

## Mitigation Measure(s)

No feasible mitigation measures were identified that would reduce the impact of the project on I-5 and U.S. 50 freeway ramps under the near term plus project scenario. Widening the freeway would reduce the impact but was not considered feasible. The impacts of Downtown Projects on freeway ramps would remain *significant and unavoidable*.

## 4.6-13 Impacts to freeway ramp queues under near term plus project condition.

The proposed Downtown projects would add traffic to the northbound I-5 off ramp to J Street, which currently experiences queues during the a.m. peak hour that extend onto the freeway mainline. In addition, the proposed Downtown projects would cause queues for the southbound I-5 off ramp to J Street to extend onto the freeway mainline during the a.m. peak hour. This is considered a *significant impact*.

#### Mitigation Measure(s)

Mitigation measure 4.6-10 (a) would reduce the queue for the southbound I-5 off ramp at J Street to 6,125 feet during the a.m. peak hour, but this would not be enough to eliminate the near-term cumulative impact. This mitigation measure would not affect the northbound I-5 off ramp queue at J Street, and no other feasible mitigation measures were identified that would reduce the impact of the projects at that location. Widening the freeway would reduce the impact but was not considered feasible. The impacts of the Downtown Projects on freeway ramp queues would remain *significant and unavoidable*.

#### 4.6-14 Impacts to transit system under near term plus project condition.

The proposed Downtown projects would increase demand for transit services. Peak period transit trips generated by the proposed project are estimated to be approximately 259 during the a.m. peak hour, and approximately 288 during the p.m. peak hour. Although particular light rail trains and buses operate at or near capacity during the peak commuter periods, there is ample capacity on the Regional Transit system to support this increase in trips. Additional light rail service to Downtown is anticipated with the South Sacramento Corridor, Folsom Corridor extension, and extension to the Amtrak Station. These light rail projects are scheduled for completion by the opening date of the proposed Downtown projects. Because the existing and future transit system capacity would be sufficient to accommodate the increased transit ridership, the impact would be *less than significant*.

<u>Mitigation Measure(s)</u> *None required.* 

## 4.6-15 Impacts to bikeways under near term plus project condition.

The proposed Downtown projects would result in the addition of employees, visitors, and other patrons to each site, some who would travel by bicycle. The proposed Downtown projects are not anticipated to hinder or eliminate an existing designated bikeway or interfere with implementation of a proposed bikeway. None of the Downtown Projects are anticipated to result in unsafe conditions for bicyclists, including unsafe bicycle / pedestrian or bicycle / motor vehicle conflicts. Therefore, bicycle impacts would be *less than significant*.

Mitigation Measure(s) None required.

# 4.6-16 Impacts to pedestrian circulation under near term plus project condition.

The proposed Downtown projects would result in the addition of employees, visitors, and other patrons to each site. Considerable direct access will be by pedestrian mode. The proposed Downtown projects are not anticipated to result in unsafe conditions for pedestrians, including unsafe bicycle / pedestrian or pedestrian / motor vehicle conflicts. Therefore, pedestrian impacts are considered *less than significant*.

<u>Mitigation Measure(s)</u> *None required*.

## Long-Term (2030) Impacts and Mitigation Measures

## 4.6-17 Impacts to study intersections under long term plus project condition

The proposed Downtown projects would add traffic to study intersections and cause significant impacts for long-term cumulative conditions at the following intersections:

- a) 3<sup>rd</sup> Street / J Street, where the level of service without the Downtown Projects would be LOS F during the a.m. peak hour and project generated traffic would increase the average vehicle delay by 34.2 seconds; and where the level of service without the Downtown Projects would be LOS D during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 6.8 seconds. This is considered a *potentially significant* impact.
- b) 3<sup>rd</sup> Street / L Street, where the level of service without the Downtown Projects would be LOS E during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 44.1 seconds. This is considered a *potentially significant* impact.
- c) 3<sup>rd</sup> Street / N Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the a.m. peak hour. This is considered a *potentially significant* impact.
- d) 3rd Street / P Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- e) 5th Street / I Street, where the level of service without the Downtown Projects would be LOS E during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 6.1 seconds. This is considered a *potentially significant* impact.

- f) 5<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- g) 7<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- h) 8<sup>th</sup> Street / L Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.
- i) 9<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS B to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- j) 10<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- k) 12<sup>th</sup> Street / J Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS E during the p.m. peak hour. This is considered a *potentially significant* impact.
- 1) 15<sup>th</sup> Street / J Street, where the level of service without the Downtown Projects would be LOS D during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 52.9 seconds. This is considered a *potentially significant* impact.
- m) 15<sup>th</sup> Street / X Street, where the level of service without the Downtown Projects would be LOS E during the p.m. peak hour and project generated traffic would increase the average vehicle delay by 20.8 seconds. This is considered a *potentially significant* impact.
- n) 16<sup>th</sup> Street / H Street, where the traffic generated by the project would degrade the level of service from LOS C to LOS D during the p.m. peak hour. This is considered a *potentially significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

- 4.6-17(a) At the 3<sup>rd</sup> Street / J Street intersection, implement the near-term Mitigation Measure (a) (modification of signal phase splits) and also modify the lanes on the southbound I-5 off-ramp approach (eastbound) to provide one combination left-through lane, one through lane, one combination through-right lane, and one exclusive right turn lane. This mitigation measure would reduce average vehicle delay during the a.m. peak hour by 32.5 seconds and would improve traffic operations during the p.m. peak hour to LOS C. This mitigation measure would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and restriping of this intersection.
- 4.6-17(b) At the 3<sup>rd</sup> Street / L Street intersection, implement the near-term Mitigation Measure (b) (modification of the westbound approach lanes) and also modify the traffic signal phase splits during the p.m. peak period by increasing the southbound 3<sup>rd</sup> Street approach to 23 seconds, decreasing the westbound L Street signal phase time to 38 seconds, and decreasing the northbound 3<sup>rd</sup> Street left-turning movement to 9 seconds. This mitigation measure would reduce average vehicle delay by 43.5 seconds during the p.m. peak hour and provide LOS C traffic operations during the a.m. peak hour. This mitigation measure would reduce the near-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(c) At the 3<sup>rd</sup> Street / N Street intersection, implement the near-term Mitigation Measure (c) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the a.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(d) At the 3<sup>rd</sup> Street / P Street intersection, implement the near-term Mitigation Measure (d) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

- 4.6-17(e) At the 5<sup>th</sup> Street / I Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the signal phase time to 30 seconds for the northbound and southbound 5<sup>th</sup> Street approaches and decreasing the westbound I Street approach to 70 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-thansignificant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(f) At the 5<sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (e) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level.
- 4.6-17(g) At the 7<sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (f) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(h) At the 8<sup>th</sup> Street / L Street intersection, implement the near-term Mitigation Measure (g) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS B during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(i) At the 9<sup>th</sup> Street / J Street intersection, implement the near-term Mitigation Measure (h) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

- 4.6-17(j) At the 10<sup>th</sup> Street / J Street intersection, implement the near-term Mitigation Measure (i) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a less-than-significant level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(k) At the 12<sup>th</sup> Street / J Street intersection, modify the traffic signal phase splits during the p.m. peak period by increasing the eastbound J Street approach to 23 seconds and decreasing the southbound 12th Street and northbound right-turn movement signal phase time to 27 seconds. This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(1) At the 15<sup>th</sup> Street / J Street intersection, implement the near-term Mitigation Measure (k) (modification of signal phase splits). This mitigation measure would reduce average delay by 59.2 seconds during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(m) At the 15<sup>th</sup> Street / X Street intersection, implement the near-term Mitigation Measure (l) (modification of signal phase splits). This mitigation measure would reduce average vehicle delay by 32.8 seconds during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.
- 4.6-17(n) At the 16<sup>th</sup> Street / H Street intersection, implement the near-term Mitigation Measure (m) (modification of signal phase splits). This mitigation measure would improve traffic operations to LOS C during the p.m. peak hour and would reduce the long-term cumulative impact to a **less-than-significant** level. The applicant of the Proposed Project shall pay a fair share to recover the costs of the City's Traffic Operation Center monitoring and retiming of this intersection.

## 4.6-18 Impacts to freeway mainline under long term plus project condition.

The proposed Downtown projects would add traffic to freeway mainline segments but would not cause freeway levels of service to deteriorate beyond LOS E. The projects would add traffic to I-5 freeway segments that would operate at LOS F without the projects. This is considered a *significant impact*.

#### Mitigation Measure(s)

No feasible mitigation measures were identified that would reduce the impact of the project on I-5 freeway mainline segments. Widening the freeway would reduce the impact but was not considered feasible. The impacts of Downtown Projects on I-5 freeway segments would remain *significant and unavoidable*.

# 4.6-19 Impacts to freeway merge / diverge / weave areas under long term plus project condition.

The proposed Downtown projects would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond LOS E on these facilities. The projects would add traffic to I-5 and U.S. 50 freeway ramps that would operate at LOS F without the projects. This is considered a *significant impact*.

## Mitigation Measure(s)

No feasible mitigation measures were identified that would reduce the impact of the project on I-5 and U.S. 50 freeway ramps. Widening the freeway would reduce the impact but was not considered feasible. The impacts of Downtown Projects on freeway ramps would remain *significant and unavoidable*.

#### 4.6-20 Impacts to freeway ramp queues under long term plus project condition.

The proposed Downtown projects would add traffic to the northbound I-5 off ramp to J Street during both the a.m. and p.m. peak hours, when the queue would exceed the ramp's storage capacity without the Downtown Projects. Similarly, the proposed Downtown projects would add traffic to the southbound I-5 off ramp to J Street during the a.m. peak hour, when the queue would exceed the ramp's storage capacity without the Downtown Projects. This is considered a *significant impact*.

#### Mitigation Measure(s)

Mitigation measure 4.6-10 (a) would reduce the queue for the northbound I-5 off ramp queue at J Street during the p.m. peak hour to 1,725 lane feet and would reduce the long-term cumulative impact during this time period to a *less-than-significant level*. This mitigation measure would not significantly affect this northbound I-5 off ramp queue at J Street during the a.m. peak hour. The mitigation measure would reduce the queue for the southbound I-5 off ramp at J Street to 6,100 feet during the a.m. peak hour, but this would not be enough reduction to eliminate the long-range cumulative impact. Widening the freeway would reduce the impact but was not considered feasible. The impacts of the Downtown Projects on freeway ramp queues would remain *significant and unavoidable*.

**5. CEQA CONSIDERATIONS** 

# **CEQA** CONSIDERATIONS

# 5.0 INTRODUCTION

The CEQA Considerations chapter includes brief discussions regarding the topics that are required to be included in an EIR, pursuant to CEQA Guidelines Section 15126.2. The chapter first includes a discussion of the proposed project's potential to induce economic or population growth. In addition, the chapter includes a list of cumulative impacts, significant cumulative impacts, significant irreversible environmental impacts, and significant and unavoidable environmental impacts which cannot be avoided if project is implemented.

## **5.1 GROWTH INDUCING IMPACTS**

Section 15126.2(d) of CEQA Guidelines requires that the EIR discuss the growth-inducing impacts of the Proposed Project. Specifically, CEQA 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, 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.

Growth-inducing impacts can result from development that directly or indirectly induces additional growth pressures that are more intense than what is currently planned for in general and community plans. An example of this would be the redesignation of property planned for agriculture uses to urban uses. The growth inducement that could result, in this example, would be the development of services and facilities that could encourage the transition of additional land in the vicinity to more intense urban uses.

## **Potential Growth Inducing Effects**

The proposed project includes existing roadways and does not include widening, or any other expansion of roadway capacity. In most cases, the site would be able to tie into existing utility infrastructure, and would not require the expansion of utilities infrastructure. Currently, the City's Combined Sewer System is undergoing modernization and expansion as outlined in the CSS Improvement Plan. The adjacent pipeline could be expanded beyond what was anticipated previously to serve the proposed project; however, the expansion would be to serve the project

site and would not induce growth elsewhere. Furthermore, the proposed project is located in an existing urban area and would be considered infill in the Central Business District of the City. Moreover, the property is designated in the General Plan Community Neighborhood Commercial & Offices, in the Central City Community Plan as Multi-Use, and is zoned Central Business District – Special Planning District (C-3 SPD). In accordance with the multi-use designation for the Central Business District, the project applicant would be required to obtain a special permit for condominium development within the project area. The proposed project is consistent with the General Plan, the Central City Community Plan designations, and the Zoning Ordinance. Therefore, neither the proposed project, nor the alternatives considered, would result in growth inducing effects.

# 5.2 CUMULATIVE IMPACTS

According to CEQA Guidelines, Section 15355, "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(a) requires that cumulative impacts be discussed when the project's incremental effect is cumulatively considerable, as defined in Section 15065(c). "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. This section of the EIR identifies those significant cumulative impacts associated with development and operation of the proposed project. Section 15130 of the CEQA Guidelines states that "the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone."

## **Cumulative Environment**

The CEQA Guidelines provide that a lead agency may describe the cumulative environment by either a listing of pending, proposed, or reasonably anticipated projects, or a summary of projections contained in an adopted general plan or a related planning document that describes area-wide or regional cumulative conditions.

For the purposes of this EIR, a projection of cumulative build-out based on the adopted General Plan is used. The cumulative environment projection is based on the Sacramento Area Council of Governments (SACOG) information. Sacramento Area Council of Governments information is developed from an estimate of full build-out of the Sacramento region under adopted plans. Future land use is based upon the latest SACOG Year 2022 projections, developed in conjunction with area municipalities and adopted by SACOG in September 1995. The data are based on a long-range, cumulative build-out date of 2022 and assumes that all parcels are developed to the maximum allowed intensity by that date, which may or may not occur.

Sacramento Area Council of Governments uses the projected increases in population and employment derived from regional population projections to create the SACMET Transportation Model. The SACMET model allows cities and counties in the region to consider the total regional network of traffic in planning for, and evaluating, transportation system impacts. The SACMET model was used for regional, long-range, cumulative conditions in the Transportation Section of this EIR. The future (year 2022) transportation network was developed as part of Regional Transit's South Corridor Light Rail Project, and includes both roadway and transit improvements anticipated to be in place by the year 2022. Other effects such as noise and air quality, which are based in large part on vehicle trips, also reflect these cumulative assumptions.

Some cumulative impacts have an impact area that is smaller than the region as a whole. For example, local circulation impacts would be limited to the portion of the City of Sacramento that is served by the existing street system. Other cumulative impacts have been previously analyzed and anticipated by the EIR prepared for the City of Sacramento General Plan Update (available at the City of Sacramento Planning and Building Department, 1231 I Street, Sacramento).

The cumulative analysis for this EIR is based on the City of Sacramento General Plan Update and the list of past, present and probable future projects found in Table 5-1. The proposed Cathedral Square project, in conjunction with development in the vicinity of the project site and within the region, would contribute to cumulative environmental impacts.

Table 5-1 City of Sacramento List of Projects			
Project	Land Use		
Crocker Art Museum Expansion	N/A		
301Capital Mall	Mixed-Used		
601 Capital Mall	N/A		
Metro Place	Mixed-Use		
15 <sup>th</sup> & L St. Hotel	Commercial		
CalPers Headquarters Expansion	N/A		
Sutter Medical Center and the Trinity Cathedral	N/A		
CADA East End Gateway	Residential		
Capital West Side Project	N/A		
3 <sup>rd</sup> St. Conversion	N/A		
Amtrak Extension	N/A		
Source: Dowling, 2006.			

# **5.3 SIGNIFICANT CUMULATIVE IMPACTS**

The following are the significant cumulative impacts that would result from the proposed project and alternatives plus long-range cumulative development without applying mitigation.

# Aesthetics

Cumulative impacts regarding aesthetics are discussed in Impacts 4.1-5 and 4.1-6. The EIR concludes that the proposed project would contribute to the cumulative change in visual character of the Central City. However, Future development in the City of Sacramento, Central City Community Plan area, and the Central Business District would be designed to comply with

City of Sacramento lighting policies. In addition, other planned high-rise buildings would introduce new sources of light and glare in the area surrounding the proposed project. Because of the materials proposed, including a substantial amount of glass and metal, for the façade of the proposed project, the proposed project could result in a substantial new source of glare. Considerable contributions to glare in the downtown area would increase as a result of the proposed project and surrounding future projects, which would result in a potentially significant cumulative impact. However, with implementation of mitigation measures, the impact would be revised to a less-than-significant level.

# **Cultural Resources**

Cumulative impacts regarding cultural resources are discussed in Impact 4.3-5. The EIR concludes that the proposed project would contribute to the cumulative loss of cultural resources. Buildout of approved and planned uses within the City have the potential to uncover previously unknown resource sites. Each site is a unique contributor to the overall scientific understanding of a region's pre-history. Evaluation of cultural finds and resources within their original context is a critical component of their value. Disturbance, movement, and destruction of such resources would remove or preclude the analysis of the resource within the original context and therefore adversely affect the understanding of the development of human cultural history. Increased population and intensified land use patterns associated with cumulative growth could also increase the potential for vandalism and/or inadvertent destruction of such resources. The proposed project would remove/significantly alter historic resources; therefore, the project would contribute toward cumulative impacts related to historic or prehistoric resources.

## **Public Services and Facilities**

Cumulative impacts regarding public services are discussed in Impact 4.5-10. The EIR concludes that the proposed project would contribute toward an increased demand for public services and facilities within the City of Sacramento. Public services and facility needs for the City of Sacramento have been evaluated in the Sacramento General Plan, and the goals and policies included in the General Plan ensure that adequate services would be available for build-out of the General Plan according to the current Land Use Diagram. The current Land Use Diagram shows the project site as Urban. As demonstrated in this EIR, without the incorporation of mitigation measures, impacts to public services and facilities as a result of the proposed project would be potentially significant. Therefore, the project's cumulative contribution to the City's public service and facility needs would also be potentially significant. However, the proposed project and future projects would be required by the City to pay their fair share fees toward the expansion and creation of public services and facilities. Therefore, cumulative impacts associated with public services and facilities would be considered less-than-significant with mitigation incorporated.

## **Transportation & Circulation**

Cumulative impacts regarding transportation & circulation are discussed in Impact 4.6-18. The EIR concludes that the proposed project would add more trips to the roadway segments, but the projected vehicle trips would degrade the current acceptable service levels around Downtown

Sacramento. However, cumulative intersection impacts would result from implementation of the proposed project in combination with other development. Impacts would occur to the following intersections:

- 3<sup>rd</sup> Street / J Street;
- 3<sup>rd</sup> Street / L Street;
- 3<sup>rd</sup> Street / N Street;
- 3<sup>rd</sup> Street / P Street;
- 5<sup>th</sup> Street / I Street;
- 5<sup>th</sup> Street / L Street;
- 7<sup>th</sup> Street / L Street;
- 8<sup>th</sup> Street / L Street;
- 9<sup>th</sup> Street / J Street;
- 10<sup>th</sup> Street / J Street;
- 12<sup>th</sup> Street / J Street;
- 15<sup>th</sup> Street / J Street;
- 15<sup>th</sup> Street / X Street; and
- 16<sup>th</sup> Street / H Street.

However, the Draft EIR includes mitigation measures reducing the cumulative intersection impacts to a less-than-significant level.

# 5.4 SIGNIFICANT IRREVERSIBLE (UNAVOIDABLE) ENVIRONMENTAL IMPACTS

The State CEQA Guidelines mandate that an EIR address any significant irreversible environmental changes which would be involved in the proposed action, should it be implemented (State CEQA Guidelines, Section 15126.2 (c)). An impact would fall into this category if:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves a wasteful use of energy).

Determining whether the proposed project would have significant irreversible environmental changes requires a determination of whether any of the above impacts would occur as a result of the proposed project development. Because the proposed project is an infill project, the proposed construction would not result in the commitment of future generations to uses differing from the

existing land use, irreversible damage from potential environmental accidents, or unjustified phasing of the consumption of resources. However, the proposed project would result in the permanent loss of significant cultural and historical resources.

Therefore, the proposed project would result in significant irreversible environmental changes, due to the loss of cultural and historical resources.

# 5.5 SIGNIFICANT ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

According to the State CEQA Guidelines (Section 15126.2[b]), an EIR must include a description of those impacts identified as significant and unavoidable should the proposed action be implemented. Such impacts are unavoidable because it has been determined that either no mitigation, or only partial mitigation, is feasible without imposing an alternative design on the project. For the proposed project all the Significant and Unavoidable (SU) impacts are associated with Cultural and Historic Resources, Noise and Vibrations, and Transportation and Circulation. Below are the SU impacts followed by a brief discussion.

# 4.3-2 Impacts to Historic Buildings.

The proposed project would remove existing visible references to the past downtown history of Sacramento resulting in less exposure, appreciation, and understanding of the City's unique heritage as a gold rush city, railroad city, agricultural city, and State Capitol. Downtown remnants in Old Sacramento, J and K Streets in particular reflect the events that catapulted Sacramento into the City's 19<sup>th</sup> and 20<sup>th</sup> century prominence. The proposed project would require the demolition of historical buildings and mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# **4.3-3** Impacts to the Copenhagen Alley District.

The project would result in the removal of more than half of the alley elevations included in the Copenhagen Alley District, which includes properties beyond the project area, eliminating the establishment of the District due to substantial loss of integrity. The demolition would remove resources significant both for their history and for their contribution to the recommended Copenhagen Alley District. Existing bay windows and other downtown character-defining features would be removed. The proposed project would require the demolition of portions of the Copenhagen Alley District and mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

## **4.3-4** Impacts to underground sidewalks.

The project would result in the removal of unique underground sidewalk resources significant to the history of Sacramento. The underground sidewalks under 1020 J Street have retained some integrity with the principal character-defining features of underground sidewalk construction

including brick barrel vault ceilings as well as brick buttresses and walls. The proposed project would require the elimination of the underground sidewalk features and mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# **4.3-5** Disturbance or destruction of previously unknown archaeological resources in combination with other development in the Sacramento area.

The proposed project would remove/significantly alter historic resources; therefore, the project would contribute toward cumulative impacts related to historic or prehistoric resources. Implementation of the required mitigation measures would reduce impacts, but not to below the standards of significance; therefore, the project's contribution to the cumulative loss of historic resources would be significant and unavoidable.

# 4.4-1 Demolition and Construction Noise Impacts.

The activities involved in the demolition of the current structure and construction of the proposed project would typically generate noise levels ranging from 85 to 90 dB at a distance of 50 feet. The noise impacts could be significant if nighttime operations or use of unusually noisy equipment were to occur in the immediate vicinity of noise sensitive uses. In addition, if demolition or construction activities occur outside of the hours on Monday through Saturday from 7 a.m. to 6 p.m., or on Sunday, from 9 a.m. to 6 p.m., the impact would be considered significant. Construction activities, such as the use of jackhammers and bulldozers produce high levels of noise, at least during the initial phases of demolition and grading, would create impacts to surrounding uses. Compliance with the City's Code would reduce noise from construction activities, but would not reduce construction-related noise impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a short-term significant and unavoidable impact.

## 4.4-6 Construction-induced vibration impact.

Construction-related vibration could potentially result in damage to nearby building architecture, particularly for historic structures. The implementation of the mitigation measures would reduce the above impact by reducing the strength of the vibrations produced by pile driving, and by providing for the repair of any damage caused by the pile driving. However, construction-related vibration impacts could still cause damage requiring repair, and a short-term significant and unavoidable impact would result.

# 4.6-3 Impacts to freeway merge/diverge/weave area impacts under baseline plus project conditions.

The freeway merge/diverge/weave area impacts under baseline plus project conditions would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond that of no project conditions. The projects would add five vehicles and one vehicle to southbound I-5 off-ramp to US 50 in the a.m. and p.m. peak hours, respectively. The ramp would operate at LOS F without the project while the mainline would operate at LOS C. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# 4.6-11 Impacts to freeway mainline under near term plus project condition.

The impacts to freeway mainline under near term plus project condition would add traffic to freeway mainline segments but would not cause freeway levels of service to deteriorate beyond LOS E. Additionally, the projects would add traffic to I-5 freeway segments that currently operate at LOS F and would continue to operate at LOS F with the proposed project. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# 4.6-12 Impacts to freeway merge / diverge / weave areas under near term plus project condition.

The impacts to freeway merge / diverge / weave areas under near term plus project condition would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond LOS E at these facilities. The projects would add traffic to I-5 and U.S. 50 freeway ramps that that currently operate at LOS F and would continue to operate at LOS F with the proposed project. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# 4.6-13 Impacts to freeway ramp queues under near term plus project condition.

The impacts to freeway ramp queues under near term plus project condition would add traffic to the northbound I-5 off ramp to J Street, which currently experiences queues during the a.m. peak hour that extend onto the freeway mainline. In addition, the proposed Downtown projects would cause queues for the southbound I-5 off ramp to J Street to extend onto the freeway mainline during the a.m. peak hour. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# **4.6-18** Impacts to freeway mainline under long term plus project condition.

The impacts to freeway mainline under long term plus project condition would add traffic to freeway mainline segments but would not cause freeway levels of service to deteriorate beyond LOS E. The projects would add traffic to I-5 freeway segments that currently operate at LOS F

and would continue to operate at LOS F without the projects. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# 4.6-19 Impacts to freeway merge / diverge / weave areas under long term plus project condition.

The impacts to freeway merge / diverge / weave areas under long term plus project condition would add traffic to freeway ramps and weaving areas but would not cause levels of service to deteriorate beyond LOS E on these facilities. The projects would add traffic to I-5 and U.S. 50 freeway ramps that would operate at LOS F without the projects. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

# 4.6-20 Impacts to freeway ramp queues under long term plus project condition.

The proposed Downtown projects would add traffic to the northbound I-5 off ramp to J Street during both the a.m. and p.m. peak hours, when the queue would exceed the ramp's storage capacity without the proposed projects. Similarly, the proposed Downtown projects would add traffic to the southbound I-5 off ramp to J Street during the a.m. peak hour, when the queue would exceed the ramp's storage capacity with or without the proposed projects. Mitigation would not reduce impacts to a less-than-significant level; therefore, implementation of the proposed project would result in a significant and unavoidable impact.

6. PROJECT ALTERNATIVES

# **PROJECT ALTERNATIVES**

# 6.0 INTRODUCTION

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[...] 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 comparative merits of the alternatives [...]." Furthermore, Section 15126.6 (f) states that "[...] The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice [...]."

CEQA provides the following guidelines for discussing alternatives to a proposed project:

- 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 comparative merits of the alternatives (CEQA Guidelines §15126.6[a]).
- 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 (CEQA Guidelines §15126.6[b]).
- The "no project" alternative shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines §15126.6[e]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project (CEQA Guidelines §15126.6[d]).

In addition, Section 15126.6 (d) of the CEQA Guidelines states that "[...] 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."

# 6.1 **PURPOSE OF ALTERNATIVES**

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad requirement. The primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained while reducing the magnitude of, or avoiding, the environmental impacts of the proposed project. Alternatives that are included and evaluated in this EIR must be feasible alternatives. The CEQA Guidelines provide definition for "a range of reasonable alternatives" and, thus, limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f), "[...] the alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project [...]." In addition, alternatives must be feasible. Section 15126.6(f)(1) defines feasible as "... capable" of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

Additionally, factors such as site suitability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control should also be considered and evaluated in the assessment of the feasibility of alternatives. Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Project objectives identified by the applicant are:

- Create a high-quality development that enhances and revitalizes Downtown Sacramento, specifically the J, K, and L Street Corridors;
- Provide high-density urban development within Downtown to make other Downtown projects more economically viable;
- Provide a high-end restaurant and retail on the ground floor that benefits the residents of the project as well as visitors Downtown; and
- Develop a for-sale high-density residential project, which is financially feasible, while maintaining consistency with the City's vision for Downtown.

The project alternatives need to feasibly attain most of the basic objectives of the project but avoid or substantially lessen any of the significant effects of the project. Potential significant environmental impacts of the proposed project include:

- *Aesthetics.* The proposed project could potentially be a source of additional glare that could affect adjacent properties.
- *Air Quality.* Construction activities associated with the proposed project would increase temporary emissions.
- *Cultural Resources.* The proposed project would result in the demolition of cultural resources on the project site.

- *Noise and Vibration.* The proposed project would result in potential noise and vibration from construction, operation, project-generated traffic, and stationary sources.
- *Public Utilities.* The proposed project would result in the potentially increased demand for wastewater collection and treatment, police and fire protection, and waste and recycling collection.
- *Traffic and Circulation.* The proposed project would result in potential increased traffic congestion that could have significant adverse effects on intersections and freeway ramps and segments.

# 6.2 ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

The following section evaluates the alternatives to the proposed project considered but dismissed from further consideration. The alternatives dismissed include the following:

- Off Site Alternative;
- All Office Alternative; and
- Historic Preservation Alternative (Façade Method).

The major characteristics of each of the alternative are summarized below.

# **Off Site Alternative**

Section 15126.6 (f)(2)(B) of the CEQA Guidelines states that, "[...] if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reason in the EIR [...]." A feasible location for the proposed project that would result in substantially reduced impacts does not exist.

The CEQA Guidelines (Section 15126.6[b]) requires that only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR. The Off Site Alternative would include the construction of the Cathedral Square project at an alternative location. The Off Site Alternative would potentially reduce impacts to cultural resources depending on the location of the site, and the resources located thereon. Because the Off Site Alternative would be composed of the same type and intensity of uses as the proposed project, the remaining environmental impacts would be the same as the proposed project. However, the Applicant does not own an alternative location in which to construct the proposed project. Therefore, an environmentally feasible off site location that would meet the requirements of the proposed project, as well as meet the applicant's objectives, does not exist.

# All Office Alternative

The All Office Alternative would involve the construction of a high-rise office building on the project site, consistent with the existing zoning. The alternative would have retail but would not

include residential uses. The All Office Alternative is dismissed from consideration because office uses would generate more vehicle trips than residential uses and would result in increased environmental impacts. In addition, the All Office Alternative would not meet the basic objectives of the project to provide high-density urban housing in the Central Business District.

# Historic Preservation Alternative (Façade Method)

This alternative would involve the removal of the Copenhagen Alley District façades that exist on the project site and the reattachment of the façades to the alley portion of the proposed building. This alternative would remove the alley façades intact, in order to preserve the existing architecture. The façades would be "sliced" from the existing buildings and reattached to the alley side of the proposed building.

While this alternative may provide some sense of the building heights and materials of the original alley, interpreting other details in this manner does not appear to be effective. The window and door openings would have to be re-created as 'blind' openings or omitted, which would change the scale of the building walls. Utilizing the exterior of only one flattened alley building elevation would diminish the rich image provided by the full three dimensional complement of north alley buildings.

Under this alternative, the strongest negation of the original experience of entering the alley district – the spatial character of the alley elevations in relation to the alley and its opposite face - would be removed, with the southward extension of all of the new building(s) to the alley edge. Additionally, the notation of the original building height, the deconstruction, brick cleaning and reconstruction of a version of the former building would be very expensive and would not convey the original character.

Furthermore, the application of the old building brick to a non-historic surface in an attempt to falsely suggest the original image, and the change of an original three dimensional configuration to a flat one would not comply with the federal *Secretary of the Interior's Standards for the Treatment of Historic Buildings*, utilized by the City of Sacramento Preservation Office and the California Environmental Quality Act to analyze impacts on cultural resources.

Therefore, the Historic Preservation Alternative (Slice Method) is dismissed from consideration because the removal of the alley façades in this manner would not reduce impacts to historic resources to a less-than-significant level; and the alternative would not be structurally feasible without an expense to the applicant that would prohibit the development of the site. Therefore, this alternative would be infeasible.

# 6.3 ALTERNATIVES CONSIDERED IN THIS EIR

The following section evaluates the alternatives considered for the proposed project. The impacts for the alternatives considered include the following:

• No Project Alternative;

- Reduced Intensity Alternative; and
- Historic Preservation Alternative (Brick-by-Brick Method).

The major characteristics of each of the alternatives are summarized below.

# **No Project Alternative**

Section 1526.6 (e)(1) of the State CEQA Guidelines requires that a "no project alternative" be evaluated in comparison to the proposed project. The No Project Alterative is defined in this section as the continuation of the existing condition of the project site. The No Project Alternative would allow the project site to continue in its existing state and would not meet any of the project objectives or the City's objectives to redevelop downtown.

## <u>Aesthetics</u>

The proposed project site is occupied by three buildings and a paved parking area. Of the three buildings, only one is currently occupied. The remaining buildings are not in use and one is uninhabitable due to fire damage. The proposed project would have a less-than-significant impact to aesthetics through the implementation of the Urban Design Guidelines; and may enhance the aesthetic quality of the site through the construction of habitable buildings. However, the No Project Alternative impact to aesthetics would be less than the proposed project because the Alternative would not change the existing character of the site.

## Air Quality

Under the No Project Alternative existing air quality conditions would remain, as the site would not experience increased levels of emissions from construction and motor vehicles. Therefore, the No Project Alternative would result in less impacts to air quality than the proposed project.

#### Cultural Resources

The No Project Alternative would not result in impacts to historical and cultural resources located on or within the projects' vicinity. Therefore, the No Project Alternative would result in less impacts to historical and cultural resources than the proposed Cathedral Square project.

#### Noise and Vibration

The No Project Alternative would eliminate potential noise impacts to nearby sensitive receptors because construction would not occur; therefore, noise and vibration impacts would not result. In addition, increased traffic and the associated noise would not occur. Therefore, the No Project Alternative would result in less impacts related to noise than the proposed Cathedral Square project.

# Public Services and Utilities

The project site currently requires the provision of public services and utilities. However, the No Project Alternative would not result in the introduction of new residents to the site. Therefore, unlike the proposed project, the No Project Alternative would not create an increased (above the current site demand) need for public services and utilities, such as wastewater treatment and disposal, and water supply and delivery. As a result, the No Project Alternative would have fewer impacts to public services compared to the proposed project because an increase in the demand for public services would not occur above existing levels.

## Transportation and Circulation

The current uses of the project site currently generate traffic; however, the No Project Alternative would not increase population or change the existing uses. Therefore, the No Project Alternative would not result in increased traffic and would not alter circulation patterns. As a result, the No Project Alternative would have fewer impacts to transportation and circulation than the proposed Cathedral Square project.

# **Reduced Intensity Alternative**

Section 15126.6 (a) of the State CEQA Guidelines requires that an "alternative" be evaluated in comparison to the proposed project. The Reduced Intensity Alternative is defined in this section as the reduction of dwelling units and total living space. The alternative would reduce the building to 17 stories, the number of residential units to 154, and the square footage of living space to approximately 169,000 square feet. The alternative would not reduce the amount of commercial and office space. The Reduced Intensity Alternative would still meet the basic objectives of the project.

## Aesthetics

The Reduced Intensity Alternative would construct a 17-story high-rise building in place of the proposed 25-story building at the proposed project site. The Reduced Intensity Alternative would be subject to the same Urban Design Guidelines as the proposed project; however, the reduced height would reduce the length of the shadow cast by the building. As a result, the structure would not shade Caesar Chavez Park for as much of the year. Therefore, while the proposed project was found to have a less-than-significant impact on aesthetics, the Reduced Intensity Alternative would further reduce impacts.

## Air Quality

Under the Reduced Intensity Alternative, the site would experience reduced levels of emissions due to construction timeline reduction (because the building height would be reduced by eight stories) and reduced motor vehicle trips generated by the reduction of new residents to the site. Therefore, the impacts to air quality would be reduced when compared to the proposed project.

# Cultural Resources

The Reduced Intensity Alternative would result in the same number impacts to historical and cultural resources located on or within the projects' vicinity, as the alternative would have the same building footprint. Therefore, the Reduced Intensity Alternative would result in the same impacts to historical and cultural resources as the proposed Cathedral Square project.

# Noise and Vibration

A reduction in building height would likely lead to a reduction in construction time. The extent of the reduction would be dependent on a number of factors, such as weather. However, one may reasonably assume that reducing the building height by eight stories would also reduce the time of excessive short-term noise impacts to the nearby church (sensitive receptor) because the construction timeline would be shortened. However, the Reduced Intensity Alternative would not reduce the impacts to vibration because the alternative would still require the driving of piles for the building foundation. Although the Reduced Intensity Alternative would not reduce impacts to vibration, the alternative would reduce short-term construction impacts. Therefore, the Reduced Intensity Alternative would result in fewer impacts related to noise than the proposed Cathedral Square project.

# Public Services and Utilities

The Reduced Intensity Alternative would create a reduced need for public services and utilities, such as wastewater treatment and disposal, and water supply and delivery. As a result, the Reduced Intensity Alternative would have fewer impacts to public services compared to the proposed project.

# Transportation and Circulation

The reduction of the number of residential units from 233 to 154 would result in a reduced amount of vehicle trips on the surrounding roadway network. The fewer vehicle trips would reduce congestion at surrounding roadway segments and intersections. Therefore, the Reduced Intensity Alternative would result in fewer impacts to transportation and circulation than the proposed Cathedral Square project.

# Historic Preservation Alternative (Brick-by-Brick Method)

Section 15126.6 (b) of the State CEQA Guidelines requires that an "alternative" be evaluated in comparison to the proposed project. The Historic Preservation Alternative (Brick-by-Brick Method) is defined in this section as identifying ways to mitigate or avoid the significant effects that a project may have on the environment. Similar to the Historic Preservation Alternative (Slice Method), the Historic Preservation Alternative (Brick-by-Brick Method) would remove the façades in the alley district and reattach them to the proposed project building façade. The bricks that make up the existing façades would be removed brick-by-brick and reattached brick-by-brick to the new building. The Historic Preservation Alternative (Brick-by-Brick Method)

would not change the building's number of stories, number of units, and total square footage of livable space. This alternative would allow the development of the project site and attain the basic project objectives.

#### Aesthetics

The Historic Preservation Alternative would carefully dismantle and remove the alley façades, including bay windows, and adhere the façades to the exterior wall of the proposed project's structure. The Historic Preservation Alternative would be subject to the Urban Design Guidelines, and would result in a reduced effect relative to the change in the existing character of the site. Therefore, while the proposed project would have a less-than-significant impact to aesthetics, the Historic Preservation Alternative would further reduce impacts.

## Air Quality

Under the Historic Preservation Alternative air quality conditions would remain the same. The site would experience identical levels of emissions due to the same construction requirements and motor vehicle trips generated by the proposed project. Therefore, the Historic Preservation Alternative would result in the same impacts to air quality than the proposed project.

#### Cultural Resources

Under this alternative, the impacts to the potential archeological resources and underground sidewalks would remain the same as the proposed project, as the on-site structures would be demolished and the site would be excavated during construction. However, this alternative would require the development of the proposed project to incorporate the historical resources into the project design. The Historic Preservation Alternative (Brick-by-Brick Method) would require that the project remove the façades in the alley district and reattach them to the proposed project building façade. The bricks that make up the existing façades would be removed brick-by-brick and reattached brick-by-brick to the new building. According to Historic Environmental Consultants, the Brick-by-Brick Method would preserve the bricks of the original building, but the application of the old building. In addition, the alternative would change the original three-dimensional configuration to a flat two-dimensional configuration. Therefore, consistent with Historic Environmental Consultants, this alternative would not reduce the potential impact of the proposed project. Because the Historic Preservation Alternative would not result in reduced impacts, the impact level would remain the same as the proposed project.

#### Noise and Vibration

The Historic Preservation Alternative would not reduce excessive noise and vibration impacts because the construction timeline would remain unchanged; therefore, noise and vibration impacts would be identical to the proposed project. In addition, the Historic Preservation Alternative would generate the same vehicle noise levels as compared to the levels generated by the Cathedral Square project. Therefore, the Historic Preservation Alternative would result in equal impacts related to noise and vibration as compared to the proposed Cathedral Square project.

## Public Services and Utilities

The Historic Preservation Alternative (Brick-by-Brick Method) would not reduce the need for infrastructure and facilities, such as wastewater treatment and disposal, and water supply and delivery. The Historic Preservation Alternative (Brick-by-Brick Method) would generate identical wastewater and water supply impacts, and as a result, the Historic Preservation Alternative would have equal impacts to public services compared to the proposed project.

#### Transportation and Circulation

The Historic Preservation Alternative (Brick-by-Brick Method) would create the same number of residential dwelling units, office space, and retail space, resulting in an increase in vehicle trips and subsequent congestion on local roadways equal to that of the proposed project. Therefore, the Historic Preservation Alternative (Brick-by-Brick Method) would result in the same impacts to transportation and circulation as the proposed Cathedral Square project.

Table 6-1 summarizes the level of significance of the impacts for the proposed project and each of the project alternatives.

Table 6-1   Environmental Impacts of Proposed Project and Project Alternatives					
Impact	Proposed Project	No Project Alternative	Reduced Intensity Alternative	Historic Preservation Alternative (Brick-by- Brick Method)	
Aesthetics	Significant	Less	Less	Less	
Air Quality	Significant	Less	Less	Equal	
Cultural Resources	Significant & Unavoidable	Less	Equal	Equal	
Noise and Vibration	Significant & Unavoidable	Less	Less*	Equal	
Public Services and Utilities	Significant	Less	Less	Equal	
Transportation and Circulation	Significant & Unavoidable	Less	Less*	Equal	

\*Note: Although alternative would reduce potential impacts, the overall result would remain "Significant and Unavoidable."

Less= fewer impacts than proposed project Equal = impacts equal to proposed project More = more impacts than proposed project

# 6.4 Environmentally Superior Alternative

In addition to the discussion and comparison of impacts of the alternatives to the proposed project, CEQA requires that an "environmentally superior" alternative be selected and the reasons for such selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least adverse impacts. CEQA requires that if the No Project Alternative is the environmentally superior alternative, the EIR must identify an additional alternative that is environmentally superior [CEQA §15126.6 (e)(2)].

Finally, it should be noted that environmental considerations are one portion of the factors that must be considered by the public and the decision makers in deliberations on the proposed project and the alternatives. Other factors of importance include urban design, economics, social factors, and fiscal considerations. The environmentally superior alternative must reduce the overall impact of the proposed project on the project roadways.

The No Project Alternative would be the environmentally superior alternative to the proposed project because the alternative would not result in the further development of the project site. As a result, traffic would not be increased and subsequently air quality in the vicinity of the site would not be further impacted, etc. However, because the No Project Alternative would not achieve any of the project objectives (listed on page 6-2), the environmentally superior alternative would be the Reduced Intensity Alternative. The Reduced Intensity Alternative would achieve the objectives outlined for the project, including but no limited to, providing a nearby multi-use retail area that provides downtown residences. The Reduced Intensity Alternative would achieve these objectives by reducing the proposed 25-story, 233 unit high-rise building, in building height and number of units. The resulting square footage would be approximately 169,000 square feet of living space. However, the alternative would not reduce the commercial and office space. Under the Reduced Intensity Alternative, fewer trips would be generated. Air quality and noise impacts would be less under the Reduced Intensity Alternative due to the reduction of the trips generated. However, the impacts to cultural resources would remain the same.

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