

> Prepared for: City of Sacramento

Prepared by: EIP Associates 1200 2nd Street, Suite 200 Sacramento, CA 95814

May2005

The Towers on Capitol Mall Environmental Impact Report

Volume I

Prepared for:

The City of Sacramento

Prepared by:

EIP Associates

Transportation and Circulation Prepared by:

Fehr and Peers Associates in coordination with the City of Sacramento

May 2005

TABLE OF CONTENTS

TABLE OF CONTENTS

Volume I

Chapte	<u>er</u>	<u>Page</u>			
1.	INTRODUCTION				
2.	PROJECT DESCRIPTION	2-1			
3.	SUMMARY OF IMPACTS AND MITIGATION MEASURES				
4.	LAND USE AND PLANNING	4-1			
5.	ENVIRONMENTAL ANALYSIS				
	 5.0 Introduction to the Analysis. 5.1 Aesthetics 5.2 Air Quality 5.3 Cultural Resources 5.4 Noise 5.5 Public Utilities and Services. 5.6 Transportation and Circulation. 	5.0-1 5.1-1 5.2-1 5.3-1 5.4-1 5.5-1 5.6-1			
6.	ALTERNATIVES	6-1			
7.	CEQA CONSIDERATIONS				
8.	REFERENCES				
9.	REPORT PREPARATION				

Volume II

APPENDICES

- Α. Initial Study
- Notice of Preparation (NOP) and NOP Responses В.
- Air Quality Background Data/ Wind Study C.
- Cultural Resources Study D.
- CNDDB Report E.
- Transportation & Circulation Technical Appendix F.

Shading indicates contents of this volume.

LIST OF TABLES

<u>Table</u>	L.	Page
3-1	Summary Table	3-4
5.1-1	Downtown Sacramento Building Heights	5.1-3
5.2-1	State and Federal Ambient Air Quality Standards	5.2-3
5.2-2	Health Effects Summary of Major Criteria Pollutants	5.2-4
5.2-3	Summary of Air Pollutant Data From T Street Monitoring Station, Sacramento	5.2-4
5.2-4	2004 Estimated Annual Emissions Summary for Sacramento County	5.2-7
5.2-5	Construction and Operational Impacts of Proposed Project Peak Pounds Per Day 5	.2-15
5.2-6	Localized Carbon Monoxide Concentrations (Future Conditions, No Project)	.2-22
5.2-7	Localized Carbon Monoxide Concentrations (Future Conditions, Plus Project)	.2-22
5.4-1	Noise Ranges of Common Activities	5.4-2
5.4-2	Human Response to Different Levels of Groundborne Vibration	5.4-4
5.4-3	Existing Daytime Noise Levels at Selected Locations	5.4-6
5.4-4	Noise Ranges of Typical Construction Equipment	.4-13
5.4-5	Vibration Source Levels for Construction Equipment5	.4-14
5.4-6	Existing Traffic Noise Levels With and Without Project5	.4-16
5.4-7	Future (Year 2025) Traffic Noise Levels With and Without Project	.4-16
5.5-1	Solid Waste Generation	5.5-6
5.5-2	Required Recycling Volume	5.5-6
5.5-3	Wastewater Generation5	.5-15
5.5-4	Authorized Surface Water Supply5	.5-18

Shading indicates contents of this volume.

Volume I

TABLE OF CONTENTS

5.5-5	Water Demand5.5-25
5.6-1	Level of Service Definitions of Signalized Intersections
5.6-2	Level of Service Definitions For Unsignalized Intersections
5.6-3	Peak Hour Intersection Operations- Existing Conditions
5.6-4	Freeway Ramp Merge and Diverge Level of Service Criteria
5.6-5	Freeway Ramp Level of Service Definitions
5.6-6	Freeway Ramp Operations- Existing Conditions
5.6-7	Freeway Mainline Level of Service Criteria5.6-10
5.6-8	Freeway Mainline Operations Conditions- Existing Conditions
5.6-9	Trip Generation Rates
5.6-10	Trip Generation for the Proposed Project
5.6-11	Mode Split for the Proposed Project Person Trips
5.6-12	Proposed Project Vehicle Trip Generation
5.6-13	Parking Analysis
5.6-14	Peak Hour Intersection Operations- Near Term Conditions
5.6-15	Peak Hour Intersection Operations- Year 2025 Conditions
5.6-16	Freeway Ramp Operations- Near Term Conditions
5.6-17	Freeway Ramp Operations- (Future Year 2025) Conditions 5.6-35
5.6-18	Freeway Mainline Operating Conditions- Near Term Conditions
5.6-19	Freeway Mainline Operating Conditions- Year 2025 Conditions
5.6-20	Peak Hour Intersection Operations- Near-Term Plus Project Conditions Mitigated 5.6-40
5.6-21	Peak Hour Intersection Operations- Year 2025 Plus Project Conditions Mitigated 5.6-43
5.6-22	Peak Hour Intersection Operations- Project Conditions- Mitigated

Shading indicates contents of this volume.

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
2-1	Regional Location Map	2-2
2-2	Project Area Map	2-3
2-3	Proposed Project Site Plan	2-5
2-4	Proposed Project West Elevation	2-8
2-5	Proposed Project East Elevation	2-9
2-6	Proposed Project South Elevation	2-10
2-7	Proposed Project North Elevation	2-11
5.1-1	Direction and Location of Photographic Views	. 5.1-2
5.1-2	Viewpoints 1 and 2: Views of the Existing Building at 301 Capitol Mall	. 5.1-4
5.1-3	Viewpoint 3: Views of Capitol Mall and the State Capitol Building, Looking East from the Tower Bridge	.5.1-5
5.1-4	Viewpoint 4: View of Capitol Mall Looking East from Tower Bridge	. 5.1-6
5.1-5	Viewpoint 5: Existing View to the East from the River Park in West Sacramento	. 5.1-8
5.1-6	Viewpoint 6: Existing View to the East from the Project Site	. 5.1-9
5.1-7	Viewpoint 7: Existing View to the South from the Project Site	5.1-11
5.1-8	Viewpoint 8: Existing View to the West from the Project Site	5.1-12
5.1-9	Viewpoint 9: View to the West from the State Capitol	5.1-13
5.1-10	Existing and Proposed Views from East End of Tower Bridge	5.1-15
5.1-11	Existing and Proposed Views to the East from the River Walk in West Sacramento	5.1-16
5.1-12	Existing and Proposed Views of Project Site Looking Southeast from the Sacramento River Intake Structure	5.1-17

Shading indicates contents of this volume.

Volume I

5.1-13	Existing and Proposed Views of the Project Site Looking Northeast from Front Street	5.1-18
5.1-14	Existing and Proposed Views to the West from the Capitol	5.1-19
5.4-1	Noise Monitoring Locations	5.4-5
5.4-2a	City of Sacramento Community Noise Exposure Standards	5.4-8
5.4-2b	City of Sacramento Community Noise Exposure Standards	5.4-9
5.5-1	Existing Wastewater and Drainage Facilities	5.5-9
5.6-1	Project Location	5.6-2
5.6-2a	Study Intersections- Existing Conditions	5.6-4
5.6-2b	Peak Hour Traffic Volumes and Lane Configurations- Existing Conditions	5.6-5
5.6-3	Existing Bicycle Facility Map	5.6-12
5.6-4	Existing Transit Map	5.6-13
5.6-5	Project Site Plan	5.6-15
5.6-6a	Study Intersections Near-Term Conditions	5.6-17
5.6-6b	Peak Hour Traffic Volumes and Lane Configurations- Near Term Plus Projects	5.6-18
5.6-7a	Study Intersections- Cumulative Year (2025) No Project Conditions	5.6-19
5.6-7b	Peak Hour Traffic Volumes and Lane Configurations- Cumulative Year (2025) No Project Conditions	5.6-20
5.6-8	Project Trip Distribution- Exiting	5.6-25
5.6-9	Project Trip Distribution- Entering	5.6-26
5.6-10a	a Study Intersections- Near Term Plus Project Conditions	5.6-27
5.6-10b	 Peak Hour Traffic Volumes and Lane Configurations- Cumulative Year (2025) Near Term Plus Project Conditions 	5.6-28
5.6-11a	a Study Intersections- Cumulative Year (2025) Plus Project Conditons	5.6-30
5.6-11t	 Peak Hour Traffic Volumes and Lane Configurations- Cumulative Year (2025) Cumulative Year (2025) Plus Project Conditions 	5.6-31
5.6-12a	a Study Intersections- Near Term Plus Project Conditions (No Two-Way Conversion)	5.6-46

Shading indicates contents of this volume.

5.6-12b	Peak Hour Traffic Volumes and Lane Configurations- Near Term Plus Project Conditions (No Two-Way Conversion)	5.6-47
5.6-13a	Study Intersections- Cumulative Year (2025) Plus Project Conditions (No Two-Way Conversion)	5.6-48
5.6-13b	Peak Hour Traffic Volumes and Lane Configurations- Cumulative Year (2025) Plus Project Conditions (No Two-Way Conversion)	5.6-49

Shading indicates contents of this volume.

1. INTRODUCTION

PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

This Draft Environmental Impact Report (EIR) has been prepared in conformance with the California Environmental Quality Act (CEQA) of 1970 (as amended) to evaluate the environmental impacts associated with the Towers on Capitol Mall project (proposed project).

CEQA requires the preparation of an EIR when there is substantial evidence that a project could have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the potential environmental effects of the proposed project. The term "proposed project," as used in this EIR, refers to the Towers on Capitol Mall project P04-221. The EIR process is specifically designed to describe the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project; to identify alternatives that reduce or eliminate the project's significant effects; and to identify feasible measures that mitigate significant effects of the project. In addition, CEQA requires that an EIR identify those adverse impacts determined to remain significant after mitigation.

The City of Sacramento is the lead agency under CEQA for the preparation of this EIR. In accordance with CEQA regulations, a Notice of Preparation (NOP) was released on December 29, 2004, with a comment period from January 3, 2005 to February 2, 2005. The NOP was distributed to responsible agencies, interested parties and organizations, and landowners within 1,000 feet of the project site, and private organizations and individuals that have stated an interest in the project. An NOP errata was distributed February 2, 2005 with information regarding the conversion of 3rd Street to two-way, which was included in the project application, but was not included in the original NOP. The comment period was extended to February 11, 2005. The purpose of the NOP was to provide notification that an EIR for the project was being prepared and to solicit guidance on the scope and content of the document. A scoping meeting was held on January 28, 2005. Responses to the NOP were received from agencies and individuals. A copy of the NOP, NOP errata, and responses to the NOP are included in Appendix B of this Draft EIR (DEIR) in accordance with CEQA.

Comments on the NOP expressed concerns regarding:

- Traffic impacts on State highways and local streets;
- Permitting of project heliports;
- Project-generated air emissions;
- Aesthetic impact from Old Sacramento; and
- Energy consumption.

The DEIR is being circulated for public review and comment for a period of 45 days. During this period, comments on the DEIR's accuracy and completeness may be submitted to the lead agency from the general public, as well as organizations and agencies. The 45-day public review period will be from May 3 through June 18, 2005.

A public hearing will be held on the DEIR for this project during the 45-day public review period. Upon completion of the public review period, a Final EIR (FEIR) will be prepared that will include written comments on the DEIR received during the public review period and responses to those comments. The FEIR will address any revisions to the DEIR made in response to public comments. The DEIR and FEIR will comprise the EIR for the proposed project.

Before the lead agency can approve the project, the agency must certify that the EIR has been completed in compliance with CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

The proposed project is subject to the approval of the City of Sacramento Design Review and Preservation Board and Planning Commission. Project approval would also entail adoption of Findings of Fact and a Statement of Overriding Considerations by the Planning Commission.

LEAD AGENCY

The City of Sacramento is the lead agency for preparation of the Tower on Capitol Mall environmental analysis. In conformance with sections 15050 and 15367 of the State CEQA Guidelines, the City of Sacramento has been designated the "lead agency" which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project."

Required Discretionary Actions

The City of Sacramento would be required to certify that the EIR adequately identifies the significant environmental effects of the proposed project, pursuant to CEQA, the State CEQA Guidelines, and the City of Sacramento CEQA Guidelines. In order to develop the proposed project, approval of the following discretionary actions is necessary:

- A. Environmental Determination: Environmental Impact Report;
- B. Mitigation Monitoring Plan;
- C. Tentative Map for one condominium parcel;
- D. Special Permit to construct 800 condominium units in the C-3-SPD zone;
- E. Special Permit to construct a 276-unit hotel in the C-3-SPD zone;
- F. Special Permit for a Major Project over 75,000 gross square feet in the C-3-SPD zone;
- G. Special Permit for heliports for The Towers on Capitol Mall project.

Lead Agency Contact

City of Sacramento Planning and Building Department:

Dana Allen, Associate Planner Environmental Planning Services 1231 I Street, Suite 300 Sacramento, California 95814 (916) 808-2762 Stacia Cosgrove, Associate Planner Development Services Department 1231 I Street, Suite 300 Sacramento, CA 95814 (916) 808-7110

No Responsible Agency, which is defined as a public agency other than the lead agency that has discretionary approval over the project, has been identified.

USE OF THIS EIR

This EIR is a "Project EIR," pursuant to section 15161 of the CEQA Guidelines. A Project EIR examines the environmental impacts of a specific project. This type of EIR focuses on the changes in the environment that would result from implementation of the project, including construction and operation.

How to Use this Report

This report includes nine principal parts; Project Description, Summary, Land Use and Planning, Environmental Analysis (Setting, Impacts, and Mitigation Measures), Alternatives Analysis, CEQA Considerations, References, and Report Preparation.

The **Project Description** (Chapter 2) describes the location of the project, project background, existing conditions on the project site, and the nature and location of specific elements of the proposed project that are proposed for construction.

The **Summary** (Chapter 3) presents an overview of the results and conclusions of the environmental evaluation. This section identifies impacts of the proposed project and available mitigation measures.

The Land Use, Planning (Chapter 4) addresses the land use and planning implications of the project and discusses consistency with land use policies.

The **Environmental Analysis** (Chapter 5) includes a topic-by-topic analysis of impacts that would or could result from implementation of the proposed project or alternatives. Topics discussed are those identified in the Initial Study Checklist as requiring further analysis (see Appendix A). The analysis is organized in six topical sections. Each section is organized into two major subsections: Setting (existing conditions), and Impacts and Mitigation Measures, including cumulative impacts and mitigation measures.

Alternatives (Chapter 6) includes a description of the project alternatives. An EIR is required by CEQA to provide adequate information for decision makers to make a reasonable choice between alternatives based on the environmental aspects of the proposed project and alternatives. The impacts of the alternatives are qualitatively compared to those of the proposed project. This chapter also identifies the environmentally superior alternative.

CEQA Considerations (Chapter 7) discusses issues required by CEQA: unavoidable adverse impacts, irreversible environmental changes, growth inducement, and a summary of cumulative impacts.

The **References** (Chapter 8) used throughout the DEIR are included in this chapter.

Report Preparation (Chapter 9) includes a list of preparers of the DEIR.

The **Appendices** contain a number of reference items providing support and documentation of the analyses performed for this report.

Scope of this EIR

The City of Sacramento, as lead agency, identified in the Initial Study for this EIR potentially significant impacts that could result from implementation of the proposed project. Based on the Initial Study (see Appendix A), the City determined that this EIR address the following technical issues:

- Aesthetics
- Air Quality
- Cultural Resources
- Noise
- Public Utilities & Services
- Transportation & Circulation

Land use and planning is not considered a technical issue, but is addressed in Chapter 4.

Issues focused out of this EIR that were identified as being less than significant in the Initial Study include:

- Agricultural Resources
- Biological Resources
- Geology & Soils
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Mineral Resources
- Population & Housing
- Recreation

For a complete discussion of technical issues focused out of this EIR, please see the Initial Study in Appendix A.

2. PROJECT DESCRIPTION

INTRODUCTION

The proposed Towers on Capitol Mall Project (proposed project) would be located on approximately 2.42 acres in downtown Sacramento and would be developed with mixed-use residential, hotel, and retail uses. The proposed project is comprehensively planned as a 53-story twin-tower high-rise facility with associated amenities. The proposed project would serve as the gateway to the Capitol and would provide the only combined residential and hotel accommodations along the western portion of Capitol Mall. The project would also be developed with retail uses, including dining and fitness- related facilities.

PROJECT LOCATION AND CHARACTERISTICS

The proposed project is located at 301 Capitol Mall (APN 006-0141-043) in the Central Business District (CBD) of downtown Sacramento (see Figures 2-1 and 2-2). The CBD is typified by mixeduse commercial, retail, residential, and office uses of medium to high density. There are currently no residential structures located along Capitol Mall, and many of the buildings within the project vicinity are occupied by office uses. The proposed project is located in an area of the CBD with a high volume of pedestrian and vehicle traffic during business hours. The project site is adjacent to 3rd Street, a one-way three-lane major arterial road, and is just east of the Interstate 5 (I-5) off-ramp, which generates traffic congestion and clearly audible traffic noise in the vicinity. The project site is located six blocks west of the State Capitol building along Capitol Mall, a four-lane, two-way major arterial road that maintains a large amount of vehicle traffic during business hours. Despite concentrated vehicular traffic, Capitol Mall maintains a pedestrian-friendly atmosphere with a wide median strip and wide sidewalks for the employees and patrons of the local businesses. The volume of vehicle and pedestrian traffic decreases drastically during the evening (post-peak hour).

Project Site Land Uses

The 2.42-acre proposed project site is located at 301 Capitol Mall, occupying the block between 3rd and 4th Streets and Capitol Mall and L Street. The proposed project site is accessed from Capitol Mall (pedestrian) and L Street (vehicle). A four-story building, previously the office of the California Department of Toxic Substance Control, and surface parking currently occupy the project site. Currently the building is unoccupied. The first floor of the building is partially below-grade, which reduces the perceived height of the building. The surface parking is located along the north portion of the block, along L Street. The existing building is fronted by a grass retention basin along Capitol Mall.

The proposed project's land use designation in the Sacramento General Plan is Regional Commercial and Office. The Central City Community Plan designates the proposed project site as Multi-Use. Zoning for the site is C-3-SPD. Residential and hotel uses are allowed in this district with approval of a special permit.

Surrounding Land Uses

The project site is located at the entrance to the Capitol Mall Corridor, which leads to the State Capitol. The predominant uses along Capitol Mall are office. Like the project site, the adjacent





blocks are designated Regional Commercial/Office, Multi-Use, and C-3-SPD in the General Plan, Central City Community Plan, and zoning, respectively. Structures along the Mall vary in height from five floors (at the corner of 5th Street and Capitol Mall) to 30 floors (on Capitol Mall between 4th and 5th Streets). The 18-floor Westamerica Bank office building is located immediately south of the proposed project site along Capitol Mall. The tallest existing building along Capitol Mall is the Wells Fargo Center, which is 30 floors and 423 feet tall, located on the south side of Capitol Mall at 4th Street. North of the project site, on L Street, is a parking garage with five levels above grade and one level below grade. A three-story office building and a three-story parking-over-retail building are located east of the site, along 4th Street. Due to I-5, there are no developed uses west of 3rd Street between I and N Streets.

Farther east of the proposed project site, there are additional office and commercial uses, including the Downtown Plaza, a mall consisting of department stores, restaurants, and retail shops located along L Street.

PROJECT OBJECTIVES

The objectives of the proposed project are to:

- Create a high-quality development that enhances and defines the Downtown skyline and aids in the revitalization of the Downtown by creating a project that is socially and economically vital, helping to re-establish the Downtown as a destination.
- Provide high-end restaurant and retail that benefits residents and visitors in the CBD and contributes to the vitality of the community.
- Create a mixed-use development that provides a combination of uses residential, hotel, health club, and retail to serve a wide range of users.
- Provide high-end hotel rooms to meet demand in the Central Business District.
- Promote development of high-density urban housing in the Central Business District.
- Create a development that is financially feasible without negatively affecting existing City resources, including the City's Capitol View Corridor.

PROJECT ELEMENTS

The proposed project is an approximately 1,800,000-square-foot mixed-use residential, hotel, and retail development. The proposed project includes the construction of two high-rise towers (Towers A and B) on a 10-story podium, resulting in a total building height of approximately 615 feet. The location of the Towers on the podium and entrances to the project are shown in Figure 2-3. The podium would contain 85,000 square feet of retail space, a 40,000-square-foot gym, a 10,000-square-foot spa, a rooftop swimming pool, and 830 above-grade parking spaces and 270 below-grade parking spaces for a total of 1,100 on-site parking spaces. The Towers would consist of hotel units and multi-family residential units.

Parking would be provided in one subgrade floor and on floors three through eight. The first floor would include the hotel entrance and lobby and retail uses. The second floor would include additional retail, a ballroom, and restaurants. In addition to parking, the third floor would include storage and meeting rooms. The ninth floor would include a fitness club with a basketball court and spa, and an outdoor pool and patio area on the northeast corner of the podium.



Both Tower A and Tower B would consist of 53 stories (including the two-story penthouses), including the 10 podium floors. Tower A would house 276 hotel rooms on floors 11 through 22. Floors 23 through 52 would house up to 345 condominium units. Two-story penthouse condominium units would be located on the 52nd floor of Tower A. Tower B would house up to 455 condominiums on floors 9 through 52 (with two-story penthouse units on the 52nd floor). The 53rd floors of each tower would contain mechanical equipment. Figures 2-4 through 2-7 provide elevation views of the proposed project from the west, east, south, and north, respectively.

Primary vehicular access for the hotel would be provided via a three lane porte-cochere located along 3rd Street. A gateway entry would be provided for the retail at the southeast corner of the development (the corner of 3rd Street and Capitol Mall). Access to the parking garages (above and below grade) and loading dock would be from L Street. Pedestrian and visitor access to Tower B would be on 4th Street.

Fire Protection Features

Heliports

Both towers include rooftop heliports in compliance Sacramento City Code 15.100.040, which requires an emergency heliport for every highrise building in which there are habitable floors above 150 feet in height. The project heliports would be used for emergency or evacuation purposes and would be available for private use. Sacramento City Code 15.100.040 states that heliports for other than emergency use shall be provided with a fuel containment system capable of holding 200 gallons and be designed so that no fuel shall enter the building drain system. These features would be incorporated into the building design. The heliports would be designed as required by the Department of Transportation, Federal Aviation Administration, Helicopter Design Advisory Circular 150/5390-2, and Title 21, Division of Aeronautics and designed to support a minimum of 10,000 pounds.

Other Fire Protection Considerations

The proposed project would be required to comply with the City's ordinance for high-rise buildings (Chapter 15.100) that requires a number of systems within the building to ensure occupant safety in the event of fire. Those systems, which would be subject to review and approval by the City, include, but may not be limited to:

- Standby and emergency electrical power systems;
- Fire alarm and related equipment;
- Firefighters phone and voice communication systems;
- Enclosed stairway pressurization system;
- Smoke evacuation and control systems (mechanical equipment);
- Other fire protection and extinguishing systems;
- Fire department breathing air system;
- Fire hydrant system;
- Automatic fire sprinkler system;
- Fire apparatus access roadways;

- Elevators and controls;
- All equipment and their rooms;
- Compliance with all applicable requirements in Titles 19 and 24, California Code of Regulations and the Uniform Building Code, Uniform Fire Code, and N.F.P.A. codes and standards;
- Complete exit systems.

Building plans would be reviewed by City staff to determine that the appropriate fire protection systems are included in project design.

Utilities and Infrastructure

Wastewater and Storm Drainage

The Central City is served by the City of Sacramento's combined sewer system (CSS) and Basin 52 for wastewater and stormwater disposal, respectively. Historically, this area has been subject to periodic flooding when the inflows reaching the CSS exceed its capacity and the system backs up into low-lying areas, or when the inflows reaching the Basin 52 system exceed its capacity and stormwater cannot enter the system. An existing 24-inch sewer line exists in 3rd Street and conveys sewer flows to the south. The proposed project would connect to the CSS and Basin 52 systems for wastewater and storm drainage, respectively. The applicant is currently coordinating with the City to determine the appropriate solution to potential capacity problems with these systems. The City would require the construction of on-site or off-site storage of wastewater and/or stormwater for use during storm events that could result in overflows or the applicant could be required to pay city mitigation fees towards system-wide capacity improvements.

Proposed on-site drainage facilities would include a series of pipes and drainage outlets. Drainage from the site enters the system at five points, two on 3rd Street and three on 4th Street. The on-site storm-drain system is proposed to connect to two reinforced-concrete drainage pipes, which serve the project site. Both pipes, a 33-inch pipe along 3rd Street and a 24-inch pipe on 4th Street convey drainage south to Sump 52 (located at P Street and 2nd Street). Excess flow would be conveyed through a 30-inch line and flow directly into the Sacramento River.

Water Supply

Water supply would be provided via the existing 10-inch water line in 3rd Street. Existing infrastructure exists that would allow water to be provided for the proposed project.

Circulation

As discussed above, the proposed project is bounded by Capitol Mall to the south, L Street to the north, 3rd Street to the west, and 4th Street to the east. Capitol Mall is a four-lane, two-way arterial that serves as the primary entrance into the CBD and Downtown Sacramento. Extending from West Sacramento, Capitol Mall spans across the Tower Bridge and leads directly to the State Capitol. 4th Street is a two-lane two-way arterial that runs north to south, perpendicular to Capitol Mall. Parallel to 4th Street is 3rd Street, which is a three-lane one-way arterial beginning from L Street. All lanes head southbound parallel to Interstate 5. Like 3rd Street, L Street is a three-lane one-way arterial; however, it runs east to west, stopping at 3rd Street.









The project area includes three signalized intersections within its immediate vicinity: at the corner of 3rd Street and Capitol Mall, at the corner of Capitol Mall and 4th Street, and at L Street and 3rd Street. All of the existing signalized intersections would remain intact after the implementation of the proposed project. However, due to the size and intensity of the proposed project, circulation changes are anticipated within the project vicinity. With primary access to the proposed project located along 3rd Street, the proposed project includes a conversion of 3rd Street from a three lane one-way arterial, to a four lane two-way arterial between L Street and Capitol Mall. In addition, a left turn/u-turn lane would be provided at the intersection of 3rd Street and Capitol Mall, and a left-turn lane at 4th Street and Capitol Mall in order to ease access to the proposed project.

Parking

Parking would be provided in one subgrade floor and on floors three through eight. The parking garage would be accessed via L Street. The project would include 270 parking spaces below grade and 830 additional parking spaces on floors three through eight for a total of 1,100 spaces.

Site Preparation

To accommodate the proposed project, the entire block would be cleared, including demolition of the existing building and the surface parking lot. Although the existing building is constructed below street grade, some additional excavation would be required for the sub-grade component of the proposed project. The foundation would sit atop a deep foundation system, consisting of piles driven into the ground to a depth of between 40 and 75 feet. The actual depth of piles would be determined based upon the performance of test piles.

Noise Attenuation

The proposed project would use standard construction practices, which includes noise attenuation techniques that can achieve exterior-to-interior noise reduction in residential units by 30 dBA or more, as is discussed in Section 5.4, Noise. In addition, the proposed project would be required to comply with the City's noise ordinance.

Energy Features

The proposed project would include up-to-date energy-saving equipment, lighting, windows, and other energy conservation measures. Although specific features have not been determined at this time, lighting conservation would include installation of such features as occupancy sensors to automatically turn off lights when not in use, lighting reflectors, electronic ballasts, and energy-efficient lamps. Glazing for the project would include low-E glass. Conservation efforts are also expected to involve improved HVAC systems with microprocessor-controlled energy management systems.

Project Schedule

It is anticipated that demolition of the existing structure would begin in July 2005. The first phase of construction (the podium and Tower A, including parking, retail, hotel, and 345 condominiums) is anticipated to begin winter 2005/2006 and last approximately 27 months. The second phase (Tower B) would be constructed on the podium and could occur concurrently with construction of Tower A or months following, depending upon sales demand.

Project Approvals

As a public agency principally responsible for approving the proposed project, the City of Sacramento is considered the Lead Agency under the California Environmental Quality Act (CEQA). The City of Sacramento has the authority to either approve or reject the project. In addition to certification of the EIR, additional entitlements have been requested for the proposed project. The proposed project would require the following:

City of Sacramento

- A. Environmental Determination: Environmental Impact Report;
- B. Mitigation Monitoring Plan;
- C. Tentative Map for one condominium parcel;
- D. Special Permit to construct 800 condominium units in the C-3-SPD zone;
- E. Special Permit to construct a 276-unit hotel in the C-3-SPD zone;
- F. Special Permit for a Major Project over 75,000 gross square feet in the C-3-SPD zone;
- G. Special Permit for heliports for The Towers on Capitol Mall project.

Other Agencies

- State Heliport Permit from the Caltrans Division of Aeronautics
- FAA: Permit to ensure the use of the heliport will not interfere with airspace occupied by Sacramento International Airport or Sacramento Executive Airport
- SMAQMD Permits: The SMAQMD requires any business or person to obtain an Authority to Construct/Permit to Operate before installing or operating new equipment or processes that may release air pollutants to ensure that all SMAQMD rules and regulations are considered. The proposed project may need permits for such equipment as industrial boilers used for heating of the building, or diesel generators that could be used for emergency back-up power.

3. SUMMARY OF IMPACTS AND MITIGATION MEASURES

PROJECT UNDER REVIEW

The proposed project is an approximately 1,800,000-square-foot mixed-use residential, hotel, and retail development. The proposed project includes two 615-foot towers on a 10-story podium, including up to 800 condominiums, 275 hotel rooms, 85,000 square feet of retail space, a 40,000-square-foot gym, a 10,000-square-foot spa, and 1,100 on-site parking spaces. The existing building on the site, an unoccupied 4-story building (one floor below grade), would be demolished to accommodate the project.

The proposed project is located in Sacramento's Central Business District (CBD) at 301 Capitol Mall. The site is bounded by 3rd Street to the west, L Street to the north, 4th Street to the east, and Capitol Mall to the south. The project site is adjacent to 3rd Street, a one-way three-lane major arterial road, which would be converted to two-way as part of the project. The CBD is typified by mixed-use commercial, retail, residential, and office uses of medium to high density. There are currently no residential structures located along Capitol Mall, and most of the buildings within the project vicinity are occupied by office uses.

SUMMARY OF IMPACTS

Effects Found to be Less Than Significant

As shown in Table 3-2, a number of project impacts identified in the EIR were found to be less than significant, requiring no mitigation. These impacts are found in Section 5.1 (Aesthetics), Section 5.2 (Air Quality), Section 5.3 (Cultural Resources), Section 5.4 (Noise), Section 5.5 (Public Utilities and Services), and Section 5.6 (Transportation and Circulation). In the course of drafting the EIR for this project, it was determined that numerous other identified impacts could be reduced to a less-than-significant level with implementation of the proposed mitigation measures described herein.

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 (CEQA Guidelines Section 15382). Implementation of the proposed project would result in significant impacts to some of these resources, which are fully analyzed in Sections 5.1 through 5.6 of this document and summarized in Table 3-1 (provided at the end of this Chapter).

This EIR discusses mitigation measures that could be implemented by the City and/or the project applicant to reduce potential adverse impacts to a level that is considered less than significant. Such mitigation measures are noted in this document and are found in the following sections: Section 5.1 (Aesthetics), Section 5.2 (Air Quality), Section 5.3 (Cultural Resources), Section 5.4 (Noise), Section 5.5 (Public Utilities and Services), and Section 5.6 (Transportation and Circulation). However, even with the application of feasible mitigation measures, some impacts could not be reduced to less-than-significant levels. The following are the significant and unavoidable impacts that were identified for both project-level and cumulative impacts:

Project-Specific Significant and Unavoidable Impacts

- 5.2-1 Construction of the proposed project would generate emissions of PM₁₀.
- 5.2-2 Construction of the proposed project would generate emissions of ozone precursors.
- 5.2-3 Operation of the proposed project would contribute to long-term emissions of ozone precursors.
- 5.4-1 Construction of the proposed project would produce temporary noise.
- 5.5-1 The proposed project would generate more than 500 tons of solid waste per year.
- 5.6-2 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp.

Cumulative Significant and Unavoidable Impacts

- 5.3-2 The proposed project, in combination with other development in the City, could adversely affect known and/or previously unidentified historic archaeological resources.
- 5.6-6 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and southbound Q Street off-ramp.
- 5.6-7 The proposed project would exacerbate unacceptable operations on mainline southbound I-5 between J Street and Richards Boulevard.

ALTERNATIVES TO THE PROPOSED PROJECT

The EIR analyzes the following alternatives to the proposed project:

- <u>No Project/ No Development Alternative</u>, which assumes that the proposed project would not occur and there would be no new development of the site. This alternative assumes the existing building on the site would remain.
- <u>No Project/ Site Redevelopment Alternative</u> assumes that the existing structure would be removed and the site would be redeveloped consistent with the existing designations on the site (Office).
- <u>Reduced Intensity Development/ Single Tower Alternative</u>, which would include the construction of only Tower A, and, therefore, would reduce the number of residential units by 455 to 345.
- <u>Off-Site Alternative</u>, in which the proposed land uses are developed at another location in the Central Business District.

The relative effects of the alternatives are identified by impact area in Chapter 6, Alternatives.

Potential Areas of Concern

Minimal comments were received on the Notice of Preparation for the project. Those comments addressed traffic on Interstate 5 on- and off-ramps, operation of heliports, visual impacts, and energy use.

SUMMARY TABLE

Table 3-1 (Summary of Impacts and Mitigation Measures), has been organized to correspond with the environmental issues discussed in Chapter 5. The summary table is arranged in four columns:

- 1. Environmental impacts ("Impact").
- 2. Level of significance without mitigation ("Significance").
- 3. Mitigation measures ("Mitigation Measure").
- 4. The level of significance after implementation of mitigation measures ("Residual Significance").

If an impact is determined to be significant or potentially significant, mitigation measures are identified, where appropriate and feasible. More than one mitigation measure may be required to reduce the impact to a less-than-significant level. This EIR assumes that all applicable plans, policies, and regulations would be implemented, including, but not necessarily limited to, City General Plan Policies, laws, and requirements or recommendations of the City of Sacramento. Applicable plans, policies, and regulations are identified and described in the Regulatory Setting of each issue area and within the relevant impact analysis. A description of the organization of the environmental analysis, as well as key foundational assumptions regarding the approach to the analysis, is provided in Chapter 5.0 (Introduction to the Analysis).

	TABLE 3-1					
	SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation		
	impact	to miligation	5.1 Aesthetics	Mitigation		
5.1-1	The proposed project could substantially degrade the existing visual character or quality of the project site and its surroundings.	LS	None required.	NA		
5.1-2	The proposed project could create substantial shadows on adjacent properties.	LS	None required.	NA		
5.1-3	The proposed project could create light or glare that could affect adjacent properties.	S	 5.1-3 (a) The configuration of exterior light fixtures shall emphasize close spacing and lower intensity light that is directed downward in order to minimize glare on adjacent uses. (b) Highly reflective mirrored glass walls shall be avoided as a primary building material for facades. Instead Low E glass shall be used in order to reduce the reflective qualities of the buildings, while maintaining energy efficiency. 	LS		
5.1-4	Implementation of the proposed project could conflict with applicable City policies or design guidelines.	LS	None required.	NA		
5.1-5	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.	LS	None required.	NA		
5.1-6	The proposed project, in combination with cumulative development in the Central City, could create cumulative light or glare that could affect adjacent properties.	S	5.1-6 Implement Mitigation Measure 5.1-3 (a) and (b).	LS		
5.2 Air Quality						
5.2-1	Construction of the proposed project would generate emissions of PM ₁₀ .	S	 5.2-1 The following measures shall be incorporated into construction practices during demolition activity: (a) The project shall ensure that all demolished material will be completely wetted during demolition and during any subsequent disturbance of the material. 	SU		

S = Significant

TABLE 3-1					
SU	SUMMARY OF IMPACTS AND MITIGATION MEASURES				
Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation		
5.2-1 con't.		 (b) The project shall ensure that piles of demolished material, when not being disturbed, are either completely wetted or completely covered. (c) Two feet of freeboard space shall be maintained on all trucks transporting demolished material. 			
5.2-2 Construction of the proposed project would generate emissions of ozone precursors.	S	 transporting demolished material. 5.2-2 The following measures shall be incorporated into construction practices as recommended by the SMAQMD: (a) The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction; (b) The project representative shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman. 	SU		

S = Significant

	TABLE 3-1					
	SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation		
5.2-2	con't.		(c) 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.			
5.2-3	Operation of the proposed project would contribute to long-term emissions of ozone precursors.	S	 5.2-3 The following measures shall be incorporated into construction practices as recommended by the SMAQMD: (a) The project applicant shall ensure on-going membership in the Sacramento Transportation Management Association. (b) Transit passes shall be sold on-site, and transit schedules shall be provided on-site. 	SU		
5.2-4	The proposed project would increase traffic that would contribute to CO concentrations at busy roadways and intersections.	LS	None required.	NA		
5.2-5	The proposed project would not significantly increase levels of TAC.	LS	None required.	NA		
5.2-6	The proposed project could expose people to uncomfortable wind speeds.	S	5.2-6 The proposed project shall include wind screening, through awnings, landscaping, or other methods, to reduce wind in the public area of the podium to ensure that people are not exposed to wind speeds in excess of 20 mph more than 20 percent of the time as a result of project design. Reductions shall be demonstrated through wind tunnel testing.	LS		
5.2-7	The proposed project would contribute to cumulative CO levels.	LS	None required.	NA		
5.2-8	The proposed project would contribute to cumulative levels of ozone precursors.	LS	None required.	NA		

S = Significant

	TABLE 3-1					
	SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation		
		5.3 C	ultural Resources			
5.3-1	The proposed project could adversely affect known and/or previously unidentified historic archaeological resources.	S	 5.3-1 The project proponent shall hire a qualified professional to formulate and implement a research design and field strategy plan for test and data recovery excavations for the remaining strips of land not excavated in the 1960s for the construction of the Copley Press building. Records for the removal of tanks for the filling station shall also be obtained to further identify areas of previous disturbance prior to testing and data recovery of the site. After the asphalt covering of the parking lot areas is removed, excavations and data recovery shall commence. All artifacts and features shall be excavated and analyzed. If significant findings are made, historic materials and artifacts shall be incorporated into an interpretive display in the proposed buildings. The interpretive display shall include a history of the site uses including information on the various ethnics groups that dominated the site. Display of all historic materials and artifacts shall follow the standard practices and procedures generally accepted in museum curation. If an interpretive display is not feasible on site, all materials shall be donated to a local museum with the ability to display the items. All activities related to the data recovery of the site shall be recorded and compiled into a report and submitted to both the City and the North Central Information Center. 	LS		
5.3-2	The proposed project, in combination with other development in the City, could adversely affect known and/or previously unidentified historic archaeological resources.	S	5.3-2 Implement Mitigation Measure 5.3-1.	SU		
			5.4 Noise			
5.4-1	Construction of the proposed project would produce temporary noise.	S	5.4-1 The prime contractor shall ensure that the following measures are implemented during project construction.	SU		

S = Significant
TABLE 3-1					
SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Level of Significance Prior Impact to Mitigation Mitigation Measure(s)					
5.4-1 con't.		 (a) Erect a solid plywood construction/noise barrier along the exposed project boundaries. The barrier should not contain any significant gaps at its base or face, except for site access and surveying openings. (b) Construction activities shall comply with the City of Sacramento Noise Ordinance. Demolition and pile driving activities shall be coordinated with adjacent land uses in order to minimize those noise impacts. (c) To further mitigate pile driving noise impacts, holes will be pre-drilled to the maximum feasible depth. This will reduce the number of blows required to seat the pile, and will concentrate the pile driving activity closer to the ground where noise can be attenuated more effectively by the construction/noise barrier. (d) Locate fixed construction equipment such as compressors and generators as far as possible from sensitive receptors. Shroud or shield all impact tools and muffle or shield all intake and exhaust ports on power construction equipment. (e) Designate a disturbance coordinator and conspicuously post this person's number around the project site and in adjacent public complaints about construction noise disturbances and will be responsible for determining the cause of the complaint, and implement any feasible measures to be taken to alleviate the problem. 			
5.4-2 Construction activity would temporarily produce high levels of groundborne vibration.	LS	None required.	NA		
5.4-3 The proposed project could expose new sensitive receptors to excessive noise levels.	LS	None required.	NA		
5.4-4 The proposed project could expose existing receptors to significant increases in ambient noise.	LS	None required.	NA		

S = Significant

	TABLE 3-1					
	SUMMARY OF IMPACTS AND MITIGATION MEASURES					
	Impact	Level of Significance Prior to Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation		
5.4-5	Helicopters using the proposed project's heliport would create noise that could annoy residents and disrupt sleep.	S	5.4-5 Helicopter take-offs or landings shall be restricted to occur between the hours of seven a.m. and six p.m. on Monday through Saturday, and between the hours of nine a.m. and six p.m. on Sunday. Any emergency helicopter activity shall be exempt from the provisions of this mitigation.	LS		
5.4-6	The proposed project would add to cumulative noise levels in the project's vicinity.	LS	None required.	NA		
		5.5 Publi	c Utilities and Services			
5.5-1	The proposed project could require or result in the construction of new landfills or the expansion of existing facilities or generate more than 500 tons of solid waste per year.	S	None available.	SU		
5.5-2	The proposed project, in combination with other development in the County, could require or result in the construction of new landfills or the expansion of existing facilities.	LS	None required.	NA		
5.5-3	The proposed project could require the construction of new wastewater treatment facilities or expansion of existing facilities.	LS	None required.	NA		
5.5-4	The proposed project could require the construction of new CSS infrastructure or facilities or expansion of existing CSS infrastructure of facilities to prevent sewer overflow or flooding, resulting in significant environmental effects.	LS	None required.	NA		
5.5-5	The proposed project could create or contribute stormwater runoff over predevelopment conditions that would exceed the existing or planned capacity of Basin 52.	S	5.5-5 The project developer shall contribute its fair share amount toward upsizing of existing drainage pipes; or shall construct on- site storage or detention to accommodate any increased runoff that would ensure that project runoff would not contribute to system flooding during storm events. The final detention method shall be developed in consultation with the City of Sacramento Utilities Department.	LS		

S = Significant

			TABLE 3-1				
	Level of Level of Impact to Mitigation						
5.5-6	The proposed project, in combination with other downtown development, could require the construction of new wastewater treatment facilities or expansion of existing facilities, resulting in significant environmental effects.	LS	None required.	NA			
5.5-7	The proposed project, in combination with other development in the Basin 52 drainage shed could contribute stormwater runoff water over pre-development conditions that would exceed the planned capacity of Basin 52.	LS	None required.	NA			
5.5-8	The proposed project could increase demand for potable water in excess of existing supplies.	LS	None required.	NA			
5.5-9	The proposed project could result in inadequate treatment capacity to serve the project.	LS	None required.	NA			
5.5-10	The proposed project could result in inadequate distribution infrastructure to serve the project.	LS	None required.	NA			
5.5-11	The proposed project could increase water demand in excess of 10 million gallons per day.	LS	None required.	NA			
5.5-12	The proposed project, in combination with other projects within the City, could increase demand for potable water, which could result in the need for acquiring additional water supplies.	LS	None required.	NA			
5.5-13	The proposed project, in combination with other projects within the City, could increase demand for water treatment and/or water infrastructure in excess of current capacity, which could result in the need for the construction of additional treatment or distribution facilities.	LS	None required.	NA			
	5.6 Transportation and Circulation						
5.6-1.	The proposed project would exacerbate unacceptable operations at local intersections (3rd Street/P Street) under Near-Term Plus Project Condition.	S	5.6-1. The project shall provide the funding to the City of Sacramento to add the appropriate traffic signs and to restripe the southbound approach to the 3rd Street/P Street intersection to add a second right turn lane.	LS			

S = Significant

	TABLE 3-1					
	SUMMARY OF IMPACTS AND MITIGATION MEASURES					
Level of Significance Prior Significance Prior						
5.6-2	The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp.	S	None required.	ŠU		
5.6-3	The proposed project would result in the degradation of pedestrian facilities on the project site.	S	5.6-3 The project shall replace all existing sidewalks as part of frontage improvements required with approval of the project. Existing pedestrian crosswalks or pedestrian traffic signal indications shall be replaced by the project with approval of the project.	LS		
5.6-4	The proposed project would increase demand for transit in the study area.	NI	None required.	NA		
5.6-5.	The proposed project would exacerbate unacceptable operations at local intersections under Year 2025 Plus Project Condition.	S	 5.6-5 a) The project shall provide the funding to the City of Sacramento to install the appropriate traffic signs on the west side of 3rd Street to restrict parking between 4:00 to 6:00 pm ant to restripe the southbound approach to the 3rd Street/P Street intersection to add a second right turn lane. (b/c) The City should retain the one-way southbound operation of 3rd Street between Capitol Mall and L Street. The City shall monitor the operation of the traffic signal at 3rd Street and Capitol Mall and retime the signal to conform to traffic demands. (d) The City shall monitor the operation of the traffic signal at 3rd Street and L Street and retime the signal to conform to traffic demands. 	LS		
5.6-6	The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and southbound Q Street off-ramp.	S	None required.	SU		
5.6-7	The proposed project would exacerbate unacceptable operations on mainline southbound I-5 between J Street and Richards Boulevard.	S	None required.	SU		

S = Significant

	TABLE 3-1					
	SUM	IMARY OF IMPAC	TS AND	MITIGATION MEASURES		
Level of Significance Prior Sign Impact to Mitigation Mitigation Measure(s) Sign						
5.6-8	Operation of the loading dock during peak periods will affect traffic operations on L Street.	S	5.6-8	The City shall restrict the use of the loading dock during the peak period of 7:00 to 9:00 AM and 4:00 to 6:00 PM.	LS	
5.6-9	Operation of the parking garage could result in traffic queues extending onto L Street.	S	5.6-9	The City shall condition the project to construct the garage access points to include one service position and a 100-foot throat depth for the condominium access and a one-lane access from L Street that widens to two service positions with a 60-foot throat depth for each service position for the hotel/retail/fitness center access.	LS	
5.6-10	Conversion of 3rd Street between L Street and Capitol Mall from one-way to two-way operation.	S	5.6-10	Retain the existing one-way operation on 3rd Street. Implement Mitigation Measures 5.6-3 (b/c). Figures 5.6-12 and 5.6-13 present the traffic volumes without the conversion of 3rd Street between Capitol Mall and L Street to two-way operation.	LS	
5.6-11	Installation of a left-turn pocket on eastbound Capitol Mall at 4th Street.	S	5.6-11	The City shall condition the project to construct a left-turn pocket on eastbound Capitol Mall to city standards. The left-turn pocket should be a minimum of 180-feet in length to accommodate vehicle queues.	LS	

S = Significant

4. LAND USE AND PLANNING

INTRODUCTION

This chapter of the EIR provides an overview of the land use and planning effects that may result from development of the Towers on Capitol Mall project. CEQA does not recognize land use, socioeconomic, population, employment, or housing issues as direct physical impacts to the environment. A direct physical change in the environment is a physical change in the environment that is caused by and immediately related to the project (CEQA Guidelines section 15064(d) (1)). Therefore, this chapter does not identify environmental impacts and mitigation measures. An EIR may provide information regarding land use, planning, and socio-economic effects, but CEQA does not recognize these issues as typical environmental impacts on the physical environment. Physical impacts on the environment that could result from implementation of the project or project alternatives are not addressed in this chapter, but in the appropriate technical sections of this EIR.

This chapter describes existing and planned land uses in and adjacent to the project site, including current land uses, land use designations, and zoning. Section 15125 of the CEQA Guidelines states that the EIR shall discuss "any inconsistencies between the proposed project and applicable general plans and regional plans." Potential inconsistencies between the proposed project and the City of Sacramento General Plan, the Central City Community Plan, the City's Comprehensive Zoning Ordinance, and the Urban Design Guidelines are evaluated in this chapter.

No comments relating to land use or planning issues were raised in comment letters received in response to the Notice of Preparation (NOP).

ENVIRONMENTAL SETTING

The 2.42-acre proposed project site is located at 301 Capitol Mall, occupying the block between 3rd and 4th Streets and Capitol Mall and L Street. The project site is currently occupied by a four-story office building, previously the office of the California Department of Toxic Substance Control, and surface parking. The building is unoccupied. The project is located in a developed area of the City of Sacramento within the Central Business District, which is dominated by mixed-use office and commercial structures.

Land Use and Zoning Designations

The City of Sacramento General Plan land use designation for the proposed project site is Regional Commercial and Offices. The Central City Community Plan designates proposed project site as Multi Use. The proposed project site is currently zoned Central Business District Zone – Special Planning District (C-3-SPD), which is intended for the City's most intense retail, commercial, and office development. Residential uses are permitted by special permit in the C-3-SPD zone.

Regulatory Context

Federal

There are no applicable federal agencies, plans, or policies that oversee local planning issues.

State

There are no applicable state agencies, plans, or policies that oversee local planning issues.

Local

City of Sacramento General Plan

The Sacramento General Plan Update (SGPU) was adopted on January 19, 1988. The SGPU replaced the heavily amended 1974 General Plan for Sacramento and brought local issues into a contemporary framework for action. The General Plan is a 20-year policy guide for physical, economic, and environmental growth and renewal of the City. A total of nine sections are contained within the SGPU. Each section contains goals and policies intended to guide buildout of the City. Applicable goals and policies from the SGPU are listed below. The City is presently in the process of updating its General Plan, with an anticipated completion in 2007.

Goals and Policies for Residential Land Use

<u>Goal C</u>

Meet the fair share regional housing needs for all economic segments within the City.

- 1 Identify areas where increased densities land use changes or mixed uses would help support existing services, transportation facilities, transit, and light rail. Then proceed with necessary General Plan land use changes for property with service capacities adequate to support more intensive residential development.
- 2 Identify areas of potential change where higher density development would be appropriate along major thoroughfares, commercial strips, and near light rail stations, and modify plans to accommodate this change.
- 4 Promote Infill development as a means to meet future housing needs by expanding the benefits for this type of development and actively promote infill development in identified infill areas through outreach programs designed to inform the development community and property owners of this program.

<u>Goal E</u>

Provide appropriate residential opportunities to meet the City's required fair share of the region's housing needs.

- 2 Use mixed-use housing and employment centers to help meet housing needs and reduce traffic in new development within the City.
- 3 Establish guidelines for mixed-use projects and allow these uses in urbanized areas of the City where intensive development is planned.

Goals and Policies for Commerce and Industry Land Uses

<u>Goal A</u>

Maintain and enhance downtown's role as a regional office, retail, and employment center, with special emphasis given to promoting visitor services and cultural/entertainment uses.

- 1 Provide incentives for regional commercial and office development projects locating within the downtown area.
- 2 Actively support the development of cultural and entertainment facilities and events in the downtown area.
- 3 Actively support efforts to develop visitor and convention facilities in the downtown area.
- 4 Implement the provisions of the Central Business District Urban Design Plan.

<u>Goal B</u>

Promote the successful development of mixed-use projects in the Central City.

1 Actively support and encourage mixed-use commercial, office, and residential development in identified areas of opportunity.

Goal C

- Maintain and strengthen Downtown's role as a center for governmental office activity.
- 1 Encourage leasing of public office space in downtown Sacramento

The land use designations of the SGPU define the appropriate types, densities, and function of uses for each land use designation. The SGPU land use designation for the proposed project site Regional Commercial and Offices (RCO), which is defined below:

RCO – Includes larger (regional) shopping centers, the Central Business District, and suburban office parks. A grouping of smaller retail centers or office buildings or a single facility with a regional trade area would also fall into this category. The Central Business District is included in this category because of its regional function as an employment, retail trade, service, and office center.

The Central Business District is typified by mixed-use commercial, retail, residential, and office uses of medium to high density. There are currently no residential structures located along Capitol Mall, and many of the buildings within the project vicinity are occupied by office uses.

Central City Community Plan

The Central City Community Plan (CCCP) serves as a development guide for the public and private sector when planning physical improvements in the Central City area. The CCCP includes the area bounded by the Sacramento River to the west, the American River to the north, Sutter's Landing and Alhambra Boulevard to the east, and Broadway to the south. The CCCP includes text and land use diagrams that were adopted by the City of Sacramento City Council in May 1980. Since that time, the Community Plan has been amended numerous times. The CCCP is part of the City's General Plan, and provides a refinement of the goals and objectives of the General Plan to serve as a guideline for development specifically within the CCCP area. The primary goal of the CCCP is to continue revitalization of the Central City to provide a viable living, working, shopping, and cultural environment with a full range of day and night activities for residents, employees, and visitors. The CCCP land use designation for the proposed project site is Multi-Use. Because the Multi-Use designation is not defined in the CCCP, the City relies upon policies and goals of the residential and commercial sections of the CCCP for Multi-Use designations. The following CCCP goals and policies are applicable to the proposed project.

Primary Goal

The primary goal of the Plan is to continue revitalization of the Sacramento Central City area as a viable living, working, shopping, and cultural environment with a full range of day and night activities.

Housing and Residential Goal

Provide the opportunity for mixture of housing with other uses in the same building or site at selected locations to capitalize on the advantages of close-in living.

Provide rental and homeownership opportunities to meet the needs of elderly persons, low and moderate income families, and other groups with specialized housing needs.

Transportation Goal

Restrain the projected increase in parking spaces needed for long-term employee parking by promoting public transit improvements, carpool programs, employer sponsored bus passes and other alternatives to the single occupant car usage.

Reduce the adverse impact of commuter parking on residential streets.

Environmental Goals

Reduce the impact of traffic upon residential neighborhoods and discourage where possible through traffic in residential areas.

Support programs for the preservation of historically and architecturally significant structures which are important to the unique character of the Central City.

Protect and enhance the unique visual features such as entrances into the Central City, attractive arterials, notable landmarks, and access to view of the rivers.

Energy Goal

Encourage implementation of energy saving measures including passive and solar energy devices which will reduce consumption in existing and new buildings.

City of Sacramento Zoning Ordinance

The City of Sacramento Zoning Ordinance (Sacramento City Code Title 17) is intended to encourage the most appropriate use of land, conserve, stabilize and improve the value of property, provide adequate open space for recreational, aesthetic and environmental amenities, and control the distribution of population to promote health, safety, and the general welfare of the population of the City (§17.04.020). To achieve this goal, the Zoning Ordinance regulates the use of land, buildings, or other structures for residences, commerce, industry, and other uses required by the community. The Zoning Ordinance also regulates the location, height, and size of buildings or structures, yards, courts, and other open spaces, the amount of building coverage permitted in each zone, and population density and divides the City into zones of such shape, size, and number best suited to carry out these regulations, and to provide for their enforcement.

The proposed project site is zoned C-3-SPD, which is defined below.

Central Business District Zone-Special Planning District: The Central Business District (CBD or C-3 zone) applies to a 67-block portion of the Central City. The CBD or C-3 zone is the only classification which has no height limit and is intended for the most intense retail, commercial, and office developments in the City. Residential uses are permitted by special permit. The goals of the CBD-SPD are as follows:

- A. Accelerate the economic revitalization process by creating a marketplace attractive to private investment;
- B. Achieve a plan for long-term economic growth through private sector incentive measures;
- C. Enhance the character of Sacramento's downtown and ensure the development of welldesigned new projects by adopting the architectural design guidelines;
- D. Provide for a pleasant, rich, and diverse pedestrian experience by implementing the streetscape design guidelines;
- E. Provide for the humanization of the downtown through promotion of the arts, program of special events and activities, and overall excellence of design. (Ord. 2004-005 § 2; Ord. 99-015 § 5-1.1-A).

LAND USE EVALUATION

This section evaluates the proposed project for compatibility with existing and planned adjacent land uses and for consistency with adopted plans, policies, and zoning designations. Environmental impacts resulting from the proposed project are discussed in the applicable environmental sections in this EIR. This section differs from impact discussions in that only compatibility and consistency issues are discussed, as opposed to environmental impacts and mitigation measures. This discussion complies with Section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss inconsistencies with general plans and regional plans as part of the environmental setting.

Compatibility with Existing and Planned Adjacent Land Uses

It is not anticipated that the proposed project would generate excessive noise, light, dust, odors, or hazardous emissions that could be considered incompatible with existing or planned adjacent land uses. The existing and planned adjacent land uses are either similar uses to the proposed project or would be considered compatible uses in an urban environment; therefore, it is not anticipated that any land use incompatibility with existing and planned adjacent land uses would occur.

Consistency with Adopted Plans, Policies, and Zoning

City of Sacramento General Plan

The proposed project would not require any General Plan Amendments in order to be approved by the City. However, the proposed project would require special permits and additional design review prior to approval. In order to allow the development of a hotel and condominium on the proposed project site, a special permit allowing the development of residential uses in an area designated and zoned as commercial (C-3-SPD) would be required.

The General Plan includes specific goals and policies designed to support a balanced system of residential and commercial facilities. The mixed-use nature of the proposed project meets the intent of the General Plan's goals of mixed-use development and increases housing choices in the downtown. The project includes high-density housing close to commercial areas and transit opportunities. The project would be infill development, which is encouraged by the General Plan. The hotel portion of the proposed project encourages visitors to the downtown area and would provide convention facilities, which is specifically stated in the General Plan goals. Therefore, the proposed project would be considered consistent with the intent of the City's goals and policies pertaining to the provision of residential and commercial facilities.

Central City Community Plan

The primary goal of the CCCP is to continue the revitalization of the Central City. New residents generated by the proposed project would contribute to the vitality of the Central City and retail and hotel uses would attract visitors. The project's approximately 800 residential units would be able to make use of amenities included in the retail and hotel components of the project, which would be consistent with the Housing and Residential Goal. The project's location in the Central Business District, close to existing retail and transit will allow residents to walk to nearby services or use mass transit, reducing energy consumption from single occupancy vehicle trips. The proposed project would also use energy saving devises included in project construction, which would ensure that the project would not result in the wasteful use of non-renewable energy resources. Therefore, the proposed project would be generally consistent with the intent of the CCCP goals and policies.

City of Sacramento Zoning Ordinance

The proposed project is located in the Central Business District Zone-Special Planning District (C-3-SPD). The C-3-SPD has no height limit and is intended for the most intense retail, commercial, and office developments in the City. Residential uses are permitted by special permit within the Central Business District. With the issuance of the required permits for residential use, the proposed project would be considered consistent with the City's Zoning Ordinance. Therefore, the proposed project would not conflict with the City's Zoning Ordinance.

5. ENVIRONMENTAL ANALYSIS

5.0 Introduction to the Analysis

FORMAT OF THE ENVIRONMENTAL ANALYSIS

ENVIRONMENTAL SETTING

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of the project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for the proposed project EIR was published in December 2004. CEQA Guidelines recognize that the date for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time periods, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate when doing so results in a more accurate or conservative environmental analysis.

For analytical purposes, impacts associated with implementation of the proposed project are derived from two fundamental components of the existing baseline environmental setting—existing conditions at the time the NOP was published and conditions that exist at buildout of the Sacramento General Plan. It is appropriate to evaluate project-level impacts against the conditions that exist when the NOP was published for most issue areas. For issue areas either directly or indirectly related to infrastructure, project-level impacts are more conservatively analyzed against future baseline conditions that consider General Plan and approved growth, because improvements (e.g., roadway widenings, intersection improvements, wastewater distribution and conveyance, solid waste disposal, water supply, electricity and natural gas supplies) must consider and accommodate ultimate demand. The assumptions inherent in the Air Quality and Noise analysis are derived from the Transportation and Circulation analysis (prepared by Fehr and Peers Associates in coordination with the City of Sacramento); therefore, the baseline year is the same as the other issue areas related to infrastructure.

Regulatory Setting

The Regulatory Setting provides a summary of regulations, plans, policies, and laws that are relevant to each issue area.

Project Impacts

This section is further divided into the following subsections, as described below.

Method of Analysis

This subsection identifies the methodology used to analyze potential environmental impacts.

Standards of Significance

The CEQA Guidelines define a significant effect on the environment 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 and aesthetic significance" (CEQA Guidelines Section 15382). Definitions of significance vary with the physical

conditions affected and the setting in which the change occurs. The CEQA Guidelines set forth physical impacts that trigger the requirement to make "mandatory findings of significance" (CEQA Guidelines, Section 15091). For all environmental issues, this EIR identifies specific standards of significance.

Where explicit quantification of significance is identified, such as a violation of an ambient air quality standard, this quantity is used to assess the level of significance of a particular impact in this EIR. For less easily quantifiable impacts, events or occurrences that would be regarded as significant or potentially significant were identified. For example, growth-inducing impacts would be identified as significant if the project results in a level, rate, or character of growth that (among other criteria) exceeds the capacity of existing infrastructure and services. Where the "substantial" effect of an impact is not identified in the CEQA Guidelines, the criteria for evaluating the significance of potential impacts were determined and identified in this document.

This subsection describes the potential environmental impacts of the proposed project and, based upon the thresholds of significance, concludes whether the environmental impacts would be considered significant, potentially significant, or less than significant. Each impact is summarized in an "impact statement," followed by a more detailed discussion of the potential impacts and the significance of each impact before mitigation.

Each impact is provided as a "summary block" prior to the impact discussion to allow for easy reference. The impact number consists of the section of the EIR in which that impact is identified followed by a "-" to indicate the number of the impact in that section. For example, Impact 5.1-1 is the first impact identified in Section 5.1.

Following the description of applicable policies and regulations, as well as mitigation measures, the subsection concludes with a statement regarding whether the impact, following implementation of the mitigation measure(s) or the continuation of existing policies and regulations, would remain significant, and thus would be reduced to a less-than-significant level or be significant and unavoidable.

The analysis of environmental impacts considers both the construction and operational phases associated with implementation of the proposed project. As required by Section 15126.2(a) of the CEQA Guidelines, direct, indirect, short-term, long-term, on-site, and/or off-site impacts are addressed, as appropriate, for the environmental issue area being analyzed.

A "significant effect" is defined by Section 15382 of the CEQA Guidelines 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. An economic or social change by itself shall not be considered a significant effect on the environment...[but] may be considered in determining whether the physical change is significant." The Draft EIR uses the following terms to describe the level of significance of impacts identified during the course of the environmental analysis:

- Significant and Unavoidable Impact (SU)—Impact that exceeds the defined threshold(s) of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of feasible mitigation measures
- **Significant Impact (S)**—Impact that exceeds the defined threshold(s) of significance. For purposes of this document, pre-mitigation impacts that exceed the defined threshold(s) of significance are referred to as significant; however, when the impacts cannot be eliminated

or reduced to a less-than-significant level through the implementation of feasible mitigation measures, these impacts are referred to as significant and unavoidable.

- Less-Than-Significant Impact (LS)—Impact that does not exceed the defined threshold(s) of significance. This term is used for impacts for which mitigation measure(s) identified can reduce a pre-mitigation impact to a less-than-significant level.
- No Impact (NI) The project would result in no impact.

Mitigation Measures

This subsection includes feasible mitigation measures that could reduce the severity of the impact. In addition to feasible mitigation measures, it is assumed that the project applicant would also continue to comply with all applicable local, State, and federal laws and regulations, and these laws and regulations are considered to be part of the project description. In many instances, the actions that are necessary to reduce a project impact are already required by local, State, or federal law. Similarly, established design guidelines or other requirements that the City regularly recognizes and follows for development projects are also considered part of the project description. In this EIR, such requirements are identified and considered in the impact assessment *prior to* the identification of additional project-specific mitigation measures that would reduce the level of significance of impacts.

5.1 Aesthetics

INTRODUCTION

This section provides a description of existing visual conditions in the proposed project area and describes changes to those conditions that would result from implementation of the proposed project. Cumulative effects of the proposed project are evaluated in conjunction with other potential development in the Central City area.

As discussed in the Initial Study (see Appendix A), the proposed project site is not located in a scenic vista area or within a State scenic highway; therefore, the proposed project would not have a substantial adverse effect on a scenic resource or result in substantial damage to scenic resources visible from a State highway, and these items are not discussed in this section. In response to the Notice of Preparation, concerns were raised regarding the aesthetic impact from the viewpoint of Old Sacramento. This issue is addressed in this section of the EIR.

Information to prepare this section was obtained from a site visit in February 2005, review of the City of Sacramento General Plan, the Central City Community Plan, the Sacramento City Code, and the Sacramento Urban Design Plan, as well as a review of project-specific material provided by the project applicant. Figure 5.1-1 identifies the locations from which photographs for this section were taken.

ENVIRONMENTAL SETTING

Regional Setting

The proposed project site 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 on 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 10th 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. The height of these and other notable Sacramento high-rise buildings are listed in Table 5.1-1.



TABLE 5.1-1				
DOWNT	OWN SACRAMENTO BL	JILDING HEIGHT	6	
Name	Address/Cross Streets	Number of Floors	Height (ft.)	Year Built
Wells Fargo Center	400 Capitol Mall	30	423	1992
US Bank Plaza	9 th Street and J Street	26	373	1992
Renaissance Tower	801 K Street	28	372	1989
California EPA Building	10 th Street and I Street	25	371	2000
Capitol Square	450 Capitol Mall	25	351	1991
U.S. Courthouse and Federal				
Building	6 th Street and I Street	18	350	1999
Esquire Plaza	1211 K Street	22	322	1999
Sheraton Grande Hotel	13 th Street and J Street	32	318	2001
12 th and K Tower	1201 K Street	18	240	1992
Department of Justice Building	1300 I Street	18	226	1995
Westamerica Bank Building	300 Capitol Mall	18	N/A	1984
California State Capitol	9 th Street and Capitol Mall	6	210	1874
Ziggurat (City of West Sacramento)	707 Third Street	11	157	1998
Meridian Plaza 1	14 Street and L Street	12	150	2003
One Capitol Mall	Capitol Mall and Front Street	8	N/A	1992
Embassy Suites Hotel	Capitol Mall and Front Street	8	90	2002
Source: SkyscraperPage.com, http://skysc Development, Office Development, http://w 2005.	raperpage.com/cities/?cityID=116, acc www.cityofsacramento.org/econdev/dov	essed January 10, 2005. vn/ 1211_office_developme	City of Sacrame ent.html#7, access	ento, Downtown sed January 10,

Site Characteristics

As previously noted, the proposed project site is located in a developed area of the City of Sacramento within the CBD. The proposed project site currently contains an unoccupied, four-story building, a surface parking lot, and associated landscaping (see Viewpoints 1 and 2, Figure 5.1-2).

The proposed project site is located along the City's Capitol Mall. The City's CBD includes the California State Capitol building located in Downtown Sacramento. The State Capitol building sits at the east end of the Capitol Mall, which is the portion of Capitol Avenue that runs from the Tower Bridge to the State Capitol. The visual character of the area and views in the project vicinity are described below.

Capitol Mall

Capitol Mall offers a unique view of the State Capitol building by providing an uninterrupted view of the Mall and the State Capitol building from the Tower Bridge (see Viewpoints 3 and 4, Figures 5.1-3 and 5.1-4). Capitol Mall is listed as one of the "Protected Views and Vistas" listed in the Sacramento Urban Design Plan. The view is characterized by the roadway, which includes two lanes each of west- and east-bound traffic, divided in the middle with a broad median strip. The Capitol building is visible starting from approximately the middle of Tower Bridge, driving east. Also visible are the existing skyscrapers on Capitol Mall: the 18-story Westamerica Bank building, the 25-story Capitol Square building, and the 30-story Wells Fargo Center building, all located on the south side of Capitol Mall between 3rd and 7th Streets. The north side of Capitol Mall is characterized by shorter office buildings, with the tallest at 14 floors at 5th and Capitol. The State Capitol building is adjacent to Capitol Park, which stretches east to 15th Street. Because Capitol Park is located on the east side of the State Capitol building, the park is not visible from the proposed project site or adjacent areas.



Viewpoint 1: View of the Project Site Looking Northeast from Capitol Mall



Viewpoint 2: View of the Project Site Looking Southwest from L Street

	FIGURE 5.1-2		
	Viewpoints 1 and 2: Views of the Existing Building at 301 Capitol Mall		
10960-00	Source: EIP Associates, February 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 3: View of Capitol Mall and the State Capitol Building, looking East from the Tower Bridge

		FIGURE 5.1-3 Viewpoint 3: Views of Capitol Mall and the State Capitol Building, looking East from the Tower Bridge	EIP
10	960-00	Source: EIP Associates, February 2005 The Towers on Capitol Mall	ASSOCIATES



Viewpoint 4: View of Capitol Mall Looking East from Tower Bridge

	FIGURE 5.1-4	
	Viewpoint 4: View of Capitol Mall looking East from Tower Bridge	
		EIP
10960-00	Source: EIP Associates, February 2005 The Towers on Cap	Ditol Mall ASSOCIATES

Freeways

As stated above, the Sacramento downtown area is visible from several locations on interstate freeways that transect the City of Sacramento. The existing downtown skyline is visible from northbound and southbound I-5, eastbound and westbound I-80, and westbound I-50. The portions of these interstates that run through the City are not designated as scenic highways.

Public and Residential Uses

Public uses within the vicinity of the proposed project site include Crocker Park and Crocker Art Museum, located at 216 O Street. The State Capitol building is located at 10th Street (with Capitol Park to the east of the Capitol. Saint Rose of Lima Park (705 K Street) and Chavez Plaza Park (910 I Street) are located generally east of the project site. Old Sacramento is located to the west of the proposed project site, across 3rd 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.

There are no residential uses immediately adjacent to the project site. Residential uses are located to the southeast along 3rd Street, between N and P Street, across from Crocker Park, and 5th and N Streets. There are also a few residential units to the west, across I-5, in the second stories of buildings in Old Sacramento. The existing building on the proposed project site is visible from a residential location in Old Sacramento. The proposed project site is also visible from the River Walk Park in West Sacramento (see Viewpoint 5, Figure 5.1-5). The Park is a paved trail that goes along the west bank of the Sacramento River and includes walkways and picnic areas. The park includes boat access at Raley's landing and a fishing access dock nearby.

The existing building is not visible from areas west of the Sacramento River. Views from the River Walk Park in West Sacramento include the Holiday Inn hotel, the Wells Fargo Center, Westamerica Bank building (300 Capitol Mall), One Capitol Mall, and the waterfront buildings in Old Sacramento.

Views from the Project Site

The area surrounding the proposed project site is fully developed. Views from the proposed project site are distinguished by a built-up urban environment.

Views to the north across L Street consist primarily of the Downtown Plaza Mall. The view directly across L Street includes a five-story parking structure and the two-story mall. The Downtown Plaza mall continues east to 7th Street.

Immediately to the east of the proposed project site, on 4th Street, is an office building fronting onto Capitol Mall, and a multi-story parking garage and the 4th Street Grill is located on 4th and L Streets. Farther to the east, views include existing office and municipal buildings on Capitol Mall, including the State Capitol building located on 10th Street. Walking on the sidewalk directly in front of the proposed project site, a pedestrian is unable to see the State Capitol building during all seasons because of the trees that have been planted to line Capitol Mall (see Viewpoint 6 on Figure 5.1-6). The Capitol is not visible unless someone is standing close to the curb on Capitol Mall or driving on the roadway.



Viewpoint 5: View to the East from the River Walk Park in West Sacramento

	FIGURE 5.1-5 Viewpoint 5: View to the East from the River Walk Park in West Sacra	amento	EID
10960-00	Source: EIP Associates, February 2005 The T	owers on Capitol Mall	ASSOCIATES



Viewpoint 6: View to the East down Capitol Mall from the Project Site

	FIGURE 5.1-6		
	Viewpoint 6: Existing View to the East from the Project Site		FID
			LII
10960-00	Source: EIP Associates, February 2005	The Towers on Capitol Mall	ASSOCIATES

Views to the south include the multi-lane Capitol Mall with median strip and large office buildings. The 18-story Westamerica Bank building is located directly across Capitol Mall to the south. The 30-story Wells Fargo Bank building is located to the southeast at 400 Capitol Mall. These buildings make up the majority of the views to the south (see Viewpoint 7 on Figure 5.1-7).

Views to the west include the multi-lane I-5 facility, the Capitol Mall roadway across I-5, the buildings located in Old Sacramento, and the Tower Bridge across the Sacramento River (see Viewpoint 8 on Figure 5.1-8). The Tower Bridge is listed in the National Register of Historic Places and provides vehicular, bicycle, and pedestrian access between the Cities of Sacramento and West Sacramento over the Sacramento River.

Views onto the Project Site

The existing building on the proposed project site is four stories, with the lower floor constructed below street grade. Street trees and on-site landscaping obscure much of the building from view from Capitol Mall. The east side of the building, which contains a loading dock and surface parking is visible from 4th Street. The rear of the building, along L Street, also contains surface parking.

Multi-story buildings around the proposed project site are visible from the north- and south-bound lanes of I-5. The existing building is visible from the immediate south on Capitol Mall. The proposed project site is not visible from areas further south, including Crocker Park and the residential uses because of the existing skyscrapers on the south side of Capitol Mall. The existing building is not visible from the south on Front Street adjacent to the Sacramento River.

As mentioned above, the area to the north of the proposed project site contains the Downtown Plaza Mall and other commercial and office buildings. The Mall's main plaza and pedestrian walkways are located along K Street between two rows of two-story structures. The proposed project site is not visible from the interior walkways of the mall. The site is visible from the parking garage and from taller buildings to the north. For example, the proposed project site is visible from the upper stories of the Federal Courthouse located on I Street, which overlooks the entire downtown Sacramento area.

The view onto the project site from the northwest in West Sacramento consists mainly of the I Street Bridge, the Wells Fargo Center, and the Westamerica Bank building.

The existing building is not visible from the west side of Tower Bridge in West Sacramento. Views from the west side of Tower Bridge include taller buildings such as the Wells Fargo Center building, the Bank America building, and several other large-scale buildings on the south side of Capitol Mall (see Figure 5.1-4). Similarly, the existing building is not visible from the east looking down Capitol Mall towards the Tower Bridge because of the taller office buildings that are located on Capitol Mall (see Viewpoint 9 on Figure 5.1-9).

Shadows

The angle of the sun varies, depending on the time of the year and time of day. Because the sun is always in the southern portion of the sky, there will be no shadows 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 at its shortest. The pattern of shadows would be similar in



Viewpoint 7: View to the South from L Street

	FIGURE 5.1-7		
	Viewpoint 7: Existing View to the South from the Project Site		FIP
10960-00	Source: EIP Associates, March 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 8: View to the West from the Project Site

			1
	FIGURE 5.1-8		
	Viewpoint 8: Existing View to the West from the Project Site		TID
			FIP
10960-00	Source: EIP Associates, February 2005	The Towers on Capitol Mall	ASSOCIATES
10960-00	Source: EIP Associates, February 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 9: View to the West from the State Capitol on 10th Street

	FIGURE 5.1-9		
	View to the West from the State Capitol		
			EIP
10960-00	Source: EIP Associates, March 2005	The Towers on Capitol Mall	ASSOCIATES

the summer, but, because the sun is higher in the sky in the summer, 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 new shadow in urban areas are a function of the quantity and duration of the new shadow and of 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. Pedestrians' 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 benefit. Conversely, shade in winter would not be considered positive. However, there is generally not an expectation of sunny/warm conditions during winter months and people will dress accordingly.

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.

As noted above, existing buildings to the south include the 18-story Westamerica Bank building and the 30-story Wells Fargo Bank building, which contribute to the existing shadows in the area. There are no potentially sensitive receptors to shadows in the immediate vicinity of the proposed project site. Because the shadow created by the proposed project would not extend to the south, Crocker Park users and residential uses along 3rd Street south of N Street would not be affected.

Project Components

Photo simulations prepared for the project (see Figure 5.1-10 through 5.1-14) show the proposed project would appear in the context of the other development in the area. The proposed project would result in the construction and operation of a 53-story retail, hotel, and residential building with ground-floor retail in a built-up portion of Downtown Sacramento. The proposed project would be bounded by L Street to the north, 4th Street on the east, Capitol Mall on the south, and 3rd Street on the west. Tower A would front 3rd Street and Tower B would front Capitol Mall, with the entrance to the retail portion on the corner of 3rd Street and Capitol Mall, facing southwest.

The proposed project would consist of two towers on top of an approximately 127-foot, 10-story podium. The proposed project would have a retail and hotel entry on the corner of 3rd Street and Capitol Mall. The entry corner would be approximately 10 stories high and include pre-cast concrete panels and architectural features. The entry corner would include a glass facade and an exterior staircase to the second story.

On the south side (Capitol Mall), the proposed building would be set back approximately 35 feet from the edge of the street. The proposed 3rd Street façade setbacks vary: the entrance to the retail portion (at 3rd Street and Capitol Mall) would be set back approximately 52 feet from the edge of the street, and the tower portion (near the corner of L Street) would be set back approximately 16 feet. From the north side, the building would be set back approximately 20 feet from the edge of L Street. From the east side, the building would be set back approximately 21 feet from the edge of 4th Street.



Viewpoint 3: View of Capitol Mall and the State Capitol Building, looking East from the Tower Bridge



Viewpoint 3: Simulation with the Towers Project

Р
ATES
P



Viewpoint 5: View to the East from the River Walk Park in West Sacramento



Viewpoint 5: Simulation with the Towers Project

	FIGURE 5.1-11		
	Existing and Proposed Views to the East from the River West Sacramento	Valk Park in	EIP
10960-00	Source: EIP Associates, February 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 10: View to the Southeast from West Sacramento



Viewpoint 10: Simulation with the Towers Project

	FIGURE 5.1-12 Existing and Proposed Views of the Project Site looking S Sacramento River Intake Structure	Southeast from the	EIP
10960-00	Source: EIP Associates, March 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 11: View looking Northeast onto the Project Site from Front Street



Viewpoint 11: Simulation with the Towers Project

	FIGURE 5.1-13		
	Existing and Proposed Views of the Project Site looking Northeast from Front Street		EIP
10960-00	Source: EIP Associates, March 2005	The Towers on Capitol Mall	ASSOCIATES



Viewpoint 9: View to the West from the State Capitol on 10th Street



Viewpoint 9: Simulation with the Towers Project

	FIGURE 5.1-14		
	Existing and Proposed Views to the West from the State Cap	itol	EIP
10960-00	Source: EIP Associates, March 2005	The Towers on Capitol Mall	ASSOCIATES
The majority of the facade would be pre-cast concrete panels with clear storefront and windscreen glazing, and green tower and podium glazing. The parking garage would be pre-cast concrete panels with architectural features.

Tower A would be located on the northwest corner of the podium, fronting 3rd and L Streets. The west elevation would include parking, retail and hotel uses on the first 10 floors and hotel rooms on floors 11 through 20. The 5th floor to the 40th floor would include pre-cast concrete panels, either with windows that are set into the panels, or with a large bank of windows that make up a portion of the exterior façade. The majority of the Tower A facade from the 41st floor to the top of the building would consist of metal and window glazing.

The ground floor of the west side of Tower A would also include a porte cochere from 3rd Street to the building entrance.

Tower B would consist of condominium units atop a podium of retail, parking and hotel gym and spa uses. The south elevation of Tower B would be the view from Capitol Mall, facing north. Similar to Tower A, the first four floors would appear as a mixed-use building with a view of the retail entrance on the corner of 3rd Street and Capitol Mall. The ground floor would include retail uses and the hotel lobby and would include signage on the exterior. The 5th through 8th floors contain the parking garage, which would be visible to the south from Capitol Mall. The west elevation (view from 3rd Street) of Tower B would consist of a first floor of pre-cast concrete panels, tower and podium glazing windows (green) with metal frames, and signage between the first and second stories.

The base of Tower B would be stepped back approximately 30 feet from the south edge of the podium, approximately 120 feet from the centerline of Capitol Mall. The Tower portion would appear as a mix of pre-cast concrete and glass facade. The view from the east would be mixed-use on floors one through four with retail on the ground floor, and parking up to the 8th floor.

The view from L Street north of the proposed project would be mostly of the parking garage from the first to the 8th floors, plus some ground floor retail. The north elevation would include the ramps into and out of the parking garage, as well as a loading area. A retail entryway would be located at the northeast corner, on the corner of L Street and 4th Street and at the northwest corner at 3rd and L Streets.

The parking garage and ground-floor retail would fill the remainder of the block behind (northeast of) the two towers. This portion of the building would be eight stories tall and would not be visible from the southwest retail entryway on the corner of 3rd and Capitol Mall, because the entryway would be approximately eleven stories high.

Regulatory Context

Federal and State

There are no federal or State regulations regarding aesthetics that are applicable to the proposed project.

Local

City of Sacramento General Plan

Section 2: Residential Land Use Element; Overall Goal

Goal A

Maintain and improve the quality and character of residential neighborhoods in the City. Section 2: Residential Land Use Element; Specific Goals, Policies, Actions Goal A

Improve the quality of residential neighborhoods, Citywide by protecting, preserving and enhancing their character.

Section 5: Transit Element

Policy 8

Where appropriate, maximize project densities and intensities should be encouraged within 1/4 mile of light rail stations, consistent with adopted policies of Regional Transit, the recommendations of the Transit for Livable Communities project, and the adopted land use plans and policies of the City.Central City Community Plan

Environmental Goal

Create an attractive urban setting through the preservation of existing amenities in the Central City and development of an urban design addendum to the Central City Plan.

- <u>Sub-goal</u>
 - Encourage new residential office and commercial development which is human in scale, sensitive to open space and aesthetic needs and which will minimize air and noise pollution.
 - Improve visual qualities, especially signing, building and yard maintenance, commercial developments and overhead utilities.
 - Develop urban design standards which provide open space, attractive landscaping, and encourage creative design features which are sensitive to the urban forms, scales, and patterns found in the Central City.
 - Protect and enhance the unique visual features such as entrances into the Central City, attractive arterials, notable landmarks, and access to views of the rivers.

Sacramento Zoning Ordinance

Chapter 17.96 Central Business District Special Planning District

17.96.100 Capitol view protection requirements

A. Purpose. The State Capitol building and the surrounding grounds of Capitol Park provide the city with a unique cultural and open space resource. This section establishes height restrictions, setback requirements and parking regulations for certain areas of the central business district located near the State Capitol building and Capitol Park. These regulations are designed to provide visual protection to and from the Capitol building and Capitol Park.

Sacramento Urban Design Plan

The City of Sacramento Planning 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 guidance to the Design Review/Preservation Board, Sacramento Housing and Redevelopment Commission, Planning Commission, and the City Council. The Guidelines were intended to be used to give direction rather than prescriptive requirements, and the Design Review/Preservation Board can interpret individual guidelines.

Guidelines is to insure that all development in the CBD contributes to making the CBD a unique and special place.¹

The Capitol Mall massing district Massing Guidelines would also apply to the proposed project. The Massing Guidelines require a 90-foot setback from the centerline of Capitol Mall.

The following policies apply to the proposed project:

5.0 Massing Guidelines

5.1 Policies

- 1. Where important historic buildings are the predominate form giving element in an area, the massing guidelines compliment and "mend" that area.
- 2. The massing guidelines create a setting that frames and compliments important landmarks.
- 4. Edges and entries to the downtown are defined and enhanced.

6.0 Building Design Elements – General Requirements

- 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, pre-cast 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 non-durable backing and other non-durable materials should be avoided on buildings over three stories.
- More than two colors and materials should be incorporated in a design. Intense colors, if used, should be accents, mono-chromatic schemes are discouraged.
- o 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 "eggcrate" fenestration.
- 6.3 Building Rhythm
- New developments should respect building rhythms of adjacent buildings on the same blockface.
- 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, offsets 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 Pedestrian Edge
- 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 to 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.

¹ Sacramento Housing and Redevelopment Agency, Sacramento Department of City Planning, Sacramento Urban Design Plan, 3.0 Architectural Design Policies, February 18, 1987.

7.2 Storefront Entries, Windows and Materials

Storefront Design Policies. 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

- o Light fixtures should be located and designed in a manner to prevent vandalism.
- Light fixtures adjacent to public streets or alleys 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.
- Free standing 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.
- o Decorative metal tree grates and vertical protective devices for trees are encouraged.
- 11.1.2 Upper Building Levels:
- Recessed, stepped back portions of the building facade may include planters if appropriate to the design concept.

12.0 Parking Structure

- 12.1 Ground-Level
- o Incorporate retail space on facades fronting public streets.
- o Incorporate ground level landscaping when not in conflict with retail entry and windows.
- 12.2 Upper-Level
- Apply decorative treatment to upper level facades and panels and/or railings. The overall architectural design and quality of parking facilities should be treated in the same manner as other major projects.
- Provide adequate screening of vehicles from street view. Open metal railings or panels which do not adequately screen the vehicles from view should be avoided.
- o Incorporate stepped-back design of upper floors if above the street wall level.
- Provide landscape planters to soften visual impact.

16.0 Protected View Corridors

Goals

Sacramento, with its beautiful landscaping and landmark buildings, offers a variety of views and vistas. Protecting views of landmarks and the spatial continuity of streets is essential. Second level walkways, construction over streets, and lowering of roadways damage streets in a variety of ways. Besides Disturbing retail continuity by not supporting street level activities, they block views that make Sacramento unique among California cities.

Policies

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

<u>Designated Protected View Corridors:</u> Particular streets have been identified as important view corridors. They include:

Capitol Mall

- L Street
- o 4th Street

The plan protects these streets from development that would in anyway [sic] block views and vistas.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

A description of the proposed project site was prepared from visits to the site in February 2005. The site plan for the proposed project was used to evaluate the potential effects of project development on the visual character of the project site and the nearby area. The analysis focuses on the manner in which development could change the visual elements or features that exist on the proposed project site.

The visual impacts of the proposed project are analyzed in relation to existing conditions, which are built-up urban, parks, and municipal uses. The positive or negative value attached to changes in visual character is largely subjective.

The visual effects of construction activities are not evaluated in this section because they would be intermittent and temporary.

Standards of Significance

For the purposes of this EIR, impacts to aesthetics are considered significant if the proposed project would:

- Substantially degrade the existing visual character or quality of the project site and its surroundings;
- Create a new source of substantial light or glare that would adversely affect day or nighttime views;
- Create substantial new shadows of long duration affecting public open space areas; or
- Conflict with applicable City design guidelines.

5.1-1 The proposed project could substantially degrade the existing visual character or quality of the project site and its surroundings.

The perception of a visual impact is personal and subjective: what one person may perceive as a negative impact another may find visually pleasing. Even those experienced in urban design principles and architecture can have differing opinions on the visual "quality" of a particular project. Therefore, because of the subjective nature of interpreting visual impacts, this analysis does not rely upon opinion to make a determination as to the significance of impacts. Rather, the analysis relies upon the judgment of the reviewing bodies of the City of Sacramento to apply the City's Design Guidelines. It is assumed that compliance with the Guidelines, as deemed appropriate by the reviewing bodies, would ensure that a project would be substantially consistent with existing development and the direction of future development within the City, and, as a result, would not result in significant negative aesthetic effects.

As part of the Capitol View Protection Requirements (Sacramento City Zoning Ordinance, Section 17.96.100), height restrictions are imposed on the blocks surrounding the State Capitol building. Height restrictions along Capitol Mall (between K Street and N Street) become more stringent on portions of blocks closer to the Capitol building, ranging from 400 feet on the blocks east of 7th Street to 300 feet on the west half of the blocks east of 8th Street, to 150 feet on the east half of the block west of 9th Street. However, height restrictions along Capitol Mall extend no further west than the block east of 7th Street; there are no height restrictions on the project site. The lack of height

limitations in areas of the CBD not immediately adjacent to the Capitol reflects a City policy to encourage high-density, high-rise buildings in the CBD, to create a prominent skyline of taller buildings in Downtown Sacramento. In addition, General Plan Transit Policy 8, amended July 2004, encourages maximizing project densities and intensities within ¼ mile of light rail stations. There are two light rail stations within ¼ mile of the project site (at 7th and Capitol Mall and 8th and Capitol Mall), so a project of this scale and intensity is encouraged in the CBD.

The City has no 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 could include review by the Design Review/Preservation Board, Planning Commission, and/or the City Council. The reviewing bodies would use the criteria listed in the adopted Urban Design Plan in analyzing the proposed project design. The review of the project design is intended to ensure that the design is of the highest quality, commensurate with a project of this magnitude and visibility. Among considerations of these entities would be that the pedestrian levels would be appropriate in scale and detailing to the surrounding area: that the highest guality materials and detailing would be used on all elevations of the building; 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 building would create visual interest, and that the overall project provides a distinctive skyline with appropriate detailing and finish at the building top. Therefore, while the proposed project would become the tallest building in Sacramento, the construction of a high-rise in downtown Sacramento is not inconsistent with the existing City policy. Further, the design review process would ensure that the proposed project would be of high quality design and that it would not substantially alter or degrade the existing character or quality of the area or the project site. Therefore, this would be a less-than-significant impact.

Mitigation Measure

None required.

5.1-2 The proposed project could create substantial shadows on adjacent properties.

Although the City has no adopted standard regarding shadow, other jurisdictions consider shadow a significant impact when shadows could negatively affect public open spaces. 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. Although the existing Wells Fargo building and the Westamerica Bank building currently cast shadows across Capitol Mall and over properties to the west, north, and east, because the proposed project would be taller than the existing buildings, the shadows cast by the proposed project would extend farther than under current conditions. However, the shadows would not be cast over any open space, but over an existing parking structure and a portion of Downtown Plaza, which is partially covered.

Public open spaces in the vicinity of the proposed project include Capitol Park, Crocker Park, Saint Rose of Lima Park, Chavez Plaza Park, and Old Sacramento. Because the sun is in the southern sky in the northern hemisphere, shadows are cast generally to the north. Therefore, Crocker Park, which is south of the project site, would not be affected by project shadows. Because of the distance to Capitol Park and the fact that it is east and slightly south of the proposed project site (the City's street grid is not oriented precisely north/south and east/west), shadow from the proposed project would only reach Capitol Park at sunset, or perhaps not at all. Further, at such time that shadow would be cast by the proposed project, shadow would also be created by existing intervening buildings, including the State Capitol. Similarly, because Saint Rose of Lima Park and Chavez Plaza Park are located to the east of the project site, shadows from the proposed project would only reach these areas near sunset, when they would be affected by shadows from intervening structures. Therefore, there would be little, if any, effect on Capitol Park, Saint Rose of Lima Park, and Chavez Plaza Park.

The proposed project could also cast a shadow across I-5 and extend into Old Sacramento. As previously stated, Old Sacramento contains office and limited residential uses, as well as retail and other uses that attract tourists. Because occupants of office uses would spend the majority of the time indoors, tourists, who would spend time walking to visit the shops, would be considered the only ones sensitive to the effects of shadow for this area.

The shadows in Old Sacramento would occur as the sun rises and gradually extend to the north and would be out of shadow by mid morning. While this could affect pedestrian comfort somewhat, the shadow would occur at a time of day when temperatures are already low and, presumably, people would be dressed for the weather. In addition, tourist activity is limited in the early morning hours, because shops in the area do not open until mid morning. Further, many of the sidewalks within Old Sacramento are covered, so the change from existing conditions would not be noticeable. Therefore, the effect of shadow on Old Sacramento would not substantially affect pedestrians.

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 will cast a shadow on the sidewalk on the south side of the street (because the sun is 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.

Therefore, while the proposed project would contribute to shadow in the surrounding areas, based on the information presented above, the effects of shadow caused by the proposed project would be considered a *less-than-significant impact*.

Mitigation Measure

None required.

5.1-3 The proposed project could create light or glare that could affect adjacent properties.

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. At night, artificial lighting can cause glare or disturb residents.

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.

As described above, the proposed project would result in the construction of two 53-story hotel and condominium towers that include substantial amounts of glass surface on the facade. The towers would be set back from the podium, which may reduce the amount of glare generated by the proposed project. However, because the details of the type of glass material to be used is unknown,

the proposed project could result in a substantial increase in the amount of glare if the surfaces of the towers are highly reflective. This would be a *significant impact*.

Mitigation Measure

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

- 5.1-3 (a) The configuration of exterior light fixtures shall emphasize close spacing and lower intensity light that is directed downward in order to minimize glare on adjacent uses.
 - (b) Highly reflective mirrored glass walls shall not be used as a primary building material for facades. Instead, Low E glass shall be used in order to reduce the reflective qualities of the building, while maintaining energy efficiency.

Implementation of these mitigation measures would ensure that exterior glass surfaces would minimize the amount of glare by requiring that surfaces avoid highly reflective materials.

5.1-4 Implementation of the proposed project could conflict with applicable City policies or design guidelines.

Capitol Mall site is 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 Mall corridor provides views of the State Capitol, and this view is available from Capitol Mall, adjacent to the south side of the proposed project. As stated above, the Capitol is not visible from the sidewalk on the north side of Capitol Mall because of the street trees along the sidewalk. Construction of the proposed project would change the existing view from the west looking down Capitol Mall, but it would not eliminate the existing views of the Capitol from Capitol Mall.

The towers would be visible from the west in Old Sacramento, from northbound and southbound I-5 and from the adjacent streets and buildings. However, none of these other locations currently have an unrestricted view of the State Capitol, and the proposed project would not interfere with existing view corridors.

It should also be noted that, while Old Sacramento is a State Historic Park, it is currently not isolated from urban development of Downtown Sacramento: existing high-rise structures are visible from points in Old Sacramento. Therefore, although the proposed project would also be visible from Old Sacramento, it would not substantially alter the character of the area.

The proposed project site would not be subject to the height restrictions of Chapter 17.96.100 for the Capitol View view protection requirements. The height restrictions listed under 17.96.100(B) apply only to the blocks immediately surrounding the State Capitol and Capitol Park.

The proposed project approvals include a request to allow a reduction of the setbacks and stepbacks provided in the Sacramento Urban Design Plan. As previously stated, the Urban Design Guidelines were intended to be used to give direction rather than prescriptive requirements and the Design Review/Preservation Board can interpret individual guidelines. The intent of the Design Guidelines is to ensure that all development in the CBD contributes to making the CBD a unique and special place. While the proposed project would not strictly comply with the Guidelines, varying from the Guidelines would not necessarily result in a significant physical impact on the environment. As

described in Impact 5.1-1, the proposed project would not impede views to and from the Capitol, so even if the building setbacks complied with the Guidelines, there would not be a substantial difference in effect on views to and from the Capitol. Therefore, this would be considered a *less-than-significant impact*.

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative context for the evaluation of cumulative impacts on aesthetics is the surrounding area within the viewshed of the proposed project site. The cumulative context for light and glare would be other development that could affect the same sites that would be affected by the light or glare generated by the proposed project.

5.1-5 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 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 proposals are under consideration in the City, the development of the State of California's West End project. The West End project would be located between 7th and 8th Streets and N and P Street and could include up to 1.4 million square feet of office space.² It is anticipated that the West End project will include at least one high-rise building that would be as tall as 23 stories. There has also been a 400-foot building approved for the block at 6th Street and Capitol Mall; however, construction has not yet begun for this project.

Future development to the north of the proposed project site includes the redevelopment of the Railyards Specific Plan area and continued redevelopment in the Richards Boulevard Area. Because no specific development plans have been submitted, it is not known at this time what level of development would occur in these locations. 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/Preservation Board, the Sacramento Housing and Redevelopment 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 development 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

None required.

² Sacramento Bee, "State Woos Public Early on West End Planning" by Ralph Montano, page G-1, Thursday, February 3, 2005.

5.1-6 The proposed project, in combination with cumulative development in the Central City, could create cumulative light or glare that could affect adjacent properties.

Existing buildings in the Central City area have been designed to minimize light and glare impacts on adjacent properties. Future development in the City of Sacramento Central City Community Plan area and the CBD would also be designed to comply with City of Sacramento lighting policies in the Urban Design Plan. As stated above, planned development in the Central City area includes additional high-rise buildings that would introduce new sources of light and glare in the area surrounding the proposed project. This would be a substantial cumulative impact. Because of the large amount of glass proposed on the facade of the proposed project, the proposed project could result in a substantial new source of glare. This would be considerable contribution to increased glare in the downtown area, and this would be a *significant cumulative impact*.

Mitigation Measure

5.1-6 Implement Mitigation Measure 5.1-3 (a) and (b).

Implementation of Mitigation Measure 5.1-3 would ensure that exterior glass surfaces would minimize the amount of glare by requiring that surfaces materials avoid highly reflective materials. Implementation of Mitigation Measure 5.1-3 would reduce this cumulative impact to a *less-than-significant level*.

5.2 Air Quality

INTRODUCTION

This section assesses the potential air quality effects of the proposed Towers on Capitol Mall project (proposed project) and recommends mitigation measures to reduce or eliminate significant impacts. This section describes the climate in the project area; existing air quality conditions in the project area for both "criteria air pollutants" and "toxic air contaminants"; and applicable federal, State, and regional air quality standards. The section also analyzes the air quality effects caused by stationary and mobile sources related to construction and operation of the proposed project.

As discussed in the Initial Study (see Appendix A), there are no substantial odor sources in the project vicinity and the proposed project would not generate substantial odors. This issue is not further discussed in this section.

Public comments received in response to the Notice of Preparation (see Appendix C) covered a range of air quality issues. The local air pollution control district requested that potential impacts to regional air quality be analyzed and mitigated, and also provided guidance on preparing the air quality section of the EIR. All of these issues and concerns have been addressed in this section.

Sources reviewed for this section include the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Guide to Air Quality Assessment in Sacramento County, the City of Sacramento General Plan, the California Air Resources Board (CARB) Diesel Risk Reduction Plan, and the CARB web site.

ENVIRONMENTAL SETTING

A region's air quality is influenced by the region's climate, topography, and pollutant sources. The characteristics of the region encompassing the City of Sacramento are such that the area has a potential for high concentrations of regional and localized air pollutants.

Climate and Topography

The project site is located in the downtown area of the City of Sacramento, which is the major metropolitan area of Sacramento County. Sacramento County is located at the southern end of the Sacramento Valley, which is bounded by the Coast and Diablo ranges on the west and the Sierra Nevada on the east. The county is fifty-five miles northeast of the Carquinez Strait, a sea-level gap between the Coast Range and the Diablo Range; the intervening terrain is flat.

The prevailing wind is from the south, primarily because of marine breezes through the Carquinez Strait, although during winter, the sea breezes and winds from the north occur more frequently.

Between late spring and early fall, a layer of warm air often overlays a layer of cool air from the Delta and San Francisco Bay, resulting in stagnation of air called an inversion. Typical winter inversions are formed when the sun heats the upper layers of air, trapping below them air that has been cooled by contact with the colder surface of the earth during the night. Although each inversion type predominates at certain times of the year, both types can occur at any time of the year. Because inversions inhibit the mixing of air in the atmosphere, they can prevent air pollution from dispersing, contributing to higher pollutant concentrations.

Criteria Air Quality Pollutants

Criteria air pollutants are a group of pollutants for which federal or state regulatory agencies have adopted ambient air quality standards. Criteria air pollutants include ozone (O_3) , carbon monoxide (CO), nitrogen dioxide $(NO_{2)}$, sulfur dioxide (SO_2) , particulate matter (PM_{10}) , and lead. Most of the criteria pollutants are directly emitted. Ozone, however, is a secondary pollutant that is formed in the atmosphere by chemical reactions between oxides of nitrogen (NO_x) and reactive organic gases (ROG). According to the most recent emissions inventory data for Sacramento County, mobile sources are the largest contributors of both ROG and NO_x .¹

Criteria air pollutants are classified in each air basin, county, or in some cases, within a specific urbanized area. The classification is determined by comparing actual monitoring data with State and federal standards. If a pollutant concentration is lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "non-attainment" for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated "unclassified". The ambient air quality standards and the Sacramento Air Basin's attainment status for the criteria pollutants are summarized in Table 5.2-1. Table 5.2-2 lists the health effects associated with these pollutants.

Monitors that collect air quality data are located throughout the Sacramento Air Basin. The closest monitoring station to the project site is the Sacramento, T-Street station, located in downtown Sacramento at 1309 T Street. This monitoring station is operated by the CARB. Recent air quality data collected at this monitoring site is summarized in Table 5.2-3.

Existing Attainment Status

The criteria air pollutants most relevant to air quality planning and regulation in the Basin include ozone, CO, and PM_{10} . Each of the relevant criteria pollutants is briefly described below in the context of the SVAB's attainment status.

Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. The federal government uses a number of different classifications to describe the extent to which an area is in nonattainment for the federal ozone standard. The SVAB is currently classified as being in "severe" nonattainment for the one-hour ozone standard. However, the one-hour standard will be revoked by EPA in June of 2005, at which time the new eight-hour standard will be the only applicable ozone standard. The EPA has designated the Sacramento area as a "serious" nonattainment area.

TABLE 5.2-1						
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS						
		California Standards ^a	National Standards ^b		Sacramento County	Sacramento County
Pollutant	Averaging Time	Concentrations ^c	Primary ^{c,d}	Secondary ^{c,e}	State Status/ Classification	National Status/ Classification
Ozone	8-hour 1-hour ^f	 0.09 ppm	0.08 ppm 0.12 ppm	Same as Primary	Nonattainment/ Severe	Nonattainment/ Severe
Carbon Monoxide	8-hour 1-hour	9.0 ppm 20.0 ppm	9 ppm 35 ppm	Same as Primary	Attainment/ None	Attainment/ None
Nitrogen Dioxide	Annual Mean 1-hour	 0.25 ppm	0.053 pm	Same as Primary	Attainment/ None	Attainment/ None
Sulfur Dioxide	Annual Mean 24-hour 3-hour 1-hour	 0.04 ppm 0.25 ppm	0.03 ppm 0.14 ppm 	 0.5 ppm 	Attainment/ None	Attainment/ None
Fine Particulate	Annual Mean Annual Geometric Mean	 30 μg/m ³	50 μg/m ³ 	Same as Primary Same as		
Matter (PM ₁₀)	24-hour	50 μg/m³	150 μg/m³	Primary	Nonattainment	Unclassified
Fine Particulate Matter (PM _{2.5})	Annual Mean 24-hour		15 μg/m³ 65 μg/m³	Same as Primary	Not Designated/ None	Not Designated/ None

ppm = parts per million, µg/m³ = micrograms per cubic meter

California standards, other than carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter, are values that are not to be equaled or violated. The carbon monoxide, sulfur dioxide (1-hour), and fine particulate matter standards are not to be violated.

National standards, other than ozone, the 24-hour PM_{2.5}, the PM₁₀, and those standards based on annual averages, are not to be exceeded more than once a year. The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or les than one. The 8-hour ozone standard is attained when the 3-year average of the annual fourth highest daily maximum concentration is less than 0.08 ppm. The 24-hour PM₁₀ standard is attained when the 99th percentile of 24hour PM₁₀ concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 150 µg/m³. The 24-hour PM_{2.5} standard is attained when the 98th percentile of 24-hour PM_{2.5} concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 65 µg/m³. The annual average PM_{2.5} standard is attained when the 3-year average of the annual arithmetic mean PM_{2.5} concentrations, from single or multiple community oriented monitors is les than or equal to 15 µg/m³.

All measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 mm of mercury (Hg) (1013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

National Primary Standards: The levels of air quality deemed necessary by the federal government, with an adequate margin of safety, to

protect the public health.

National Primary Standards: The levels of air quality deemed necessary by the federal government, to protect the public welfare from any known or anticipated adverse effects to a pollutant.

The 1-hour ozone standard will be replaced by the 8-hour standard on an area-by-area basis when the area has achieved 3 consecutive years of air quality data meeting the 1-hour standard.

Source: CARB http:///www.arb.ca.gov, June 2005.

Carbon Monoxide is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings with little to no wind, when surfacebased inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source of CO in the Basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. Additional traffic generated by a project may increase congestion at nearby intersections, and consequently increase the likelihood of creating high levels of CO.

Through control measures adopted by State, local and federal agencies, all areas of the SVAB have attained the California and federal CO standards. However, the potential still exists for incidents of high localized concentrations of CO.

TABLE 5.2-2					
HEALTH EFFECTS SUMMARY OF THE MAJOR CRITERIA AIR POLLUTANTS					
Air Pollutant Adverse Effects					
	Eye irritation				
Ozone	Respiratory function impairment				
	Impairment of oxygen transport in the blood stream				
	Aggravation of cardiovascular disease				
	Impairment of central nervous system function				
	Fatigue, headache, confusion, dizziness				
Carbon Monoxide	Can be fatal in the case of very high concentrations in enclosed places				
	May be inhaled and lodge in and irritate the lungs				
Increased risk of chronic respiratory disease with long exposure					
	Altered lung function in children				
Particulate Matter	May produce acute illness with sulfur dioxide				
Nitrogen Dioxide	Increased risk of acute and chronic respiratory disease				
	Irritation of lung tissue				
Sulfur Dioxide	Increased risk of acute and chronic respiratory disease				
Source: Monterey Bay Unified Air Pollution Control District – CEQA Air Quality Guidelines, 1995, revised 2004. Pages 3-1 to 3-5.					

TABLE 5.2-3						
SUMMARY OF AIR POLLUTANT DATA FROM I STREET MONITORING STATION, SACRAMENTO (COMPARED TO FEDERAL AND STATE STANDARDS)						
Pollutant	2002	2003	2004			
OZONE (1-hour)						
Highest 1-hour (ppm)	0.109	0.111	0.105			
Days>0.125 ppm (Fed)	0	0	0			
Days>0.09 ppm (Cal)	6	4	1			
OZONE (8-hour)						
Highest 8-hour (ppm)	0.091	0.091	0.075			
Days>0.08 (Fed) ¹	3	1	0			
CARBON MONOXIDE						
Highest 8-hour (ppm)	4.31	3.40	2.96			
Days>=9.5 ppm (Fed)	0	0	0			
Days>=9.1 ppm (Cal)	0	0	0			
PARTICULATE MATTER (PM10)	PARTICULATE MATTER (PM ₁₀)					
Highest federal Concentration	77	65	37			
Highest State Concentration	81	66	40			
Days>50 ug/m ³ (Cal)	3	0	0			
Days>150 ug/m ³ (Fed)	0	0	0			
PARTICULATE MATTER (PM _{2.5}) ²						
Highest 24-hour (ug/m ³)	73.0	49.0	41.0			
Days>65 ug/m ³ (Fed)	4	0	0			
NITROGEN DIOXIDE						
Highest 1-hour (ppm)	0.084	0.084	0.072			
Days>.25 ppm (Cal)	0	0	0			
Annual (Fed) > 0.053 ppm	Annual (Fed) > 0.053 ppm 0 0 0					
 There is no State 8-hour ozone standard. There is no State 24-hour PM2.5 standard Source: California Air Resources Board. <u>www.arb.ca.gov</u> s 	site accessed 2/13/05.					

Particulate Matter (PM₁₀) consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM_{10} , like pollen and windstorms, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities. Particulates are of concern because they can be inhaled deep into the lungs and cause respiratory problems.

Monitoring data for the southern SVAB shows that the Basin currently is in attainment of the federal PM_{10} standard. However, the Environmental Protection Agency (EPA) has not officially changed the Basin's designation to attainment. The Sacramento Region is officially in nonattainment status for the more stringent State PM_{10} standards.

Other Criteria Pollutants: The SVAB is in attainment of State and federal standards for all other criteria pollutants. The Region has not yet been classified for $PM_{2.5}$, for which there is a federal standard, but no state standard. $PM_{2.5}$ consists of particles 2.5 microns or less in diameter. Although the Sacramento Region is unclassified for $PM_{2.5}$, monitoring data is being collected for this pollutant. EPA will make $PM_{2.5}$ designations for areas in the near future.

Toxic Air Contaminants

In addition to the criteria air pollutants, another group of airborne substances, called Toxic Air Contaminants (TACs) are known to be highly hazardous to health, even in small quantities. TACs are airborne substances capable of causing short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects (i.e., injury or illness).

TACs can be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Natural source emissions include windblown dust and wildfires. Farms, construction sites, and residential areas can also contribute to toxic air emissions. Importantly, the CARB has also recently identified diesel particulate matter as a toxic air contaminant. Regulation of TACs is achieved through federal and State controls on individual sources. The 1990 federal Clean Air Act (CAA) Amendments offer a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated Hazardous Air Pollutants (HAP). All major stationary sources of designated HAP's are required to obtain and pay the required fees for an operating permit under Title V of the federal CAA Amendments.

TAC impacts are assessed using a standard Maximally Exposed Individual (MEI) health risk of 10 in 1 million. The CARB and the local air district have determined that any source that poses a risk to the general population that is equal to or greater than 10 people out of 1 million contracting cancer as excessive. When estimating this risk, it is assumed that an individual is exposed to the maximum concentration of any given TAC, continuously for 70 years. If the risk of such exposure levels meets or exceeds the threshold of 10 excess cancer cases per 1 million people, then the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold.

The CARB has conducted studies to determine the total cancer inhalation risk to individuals due to outdoor toxic pollutant levels. According to the map prepared by the CARB showing the estimated inhalation cancer risk for TACs in the State of California, the project site has an existing estimated risk that is greater than 750 cancer cases per one million people. This represents the lifetime risk that between 750 and 1000 people in one million may contract cancer from inhalation of toxic compounds at current ambient concentrations. While toxic air contaminants are produced by many different sources, the largest contributor to inhalation cancer risk in California is diesel particulates.

Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. According to CARB's Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, the existing average statewide potential cancer risk from diesel particulate matter is over 500 potential cancer cases per one million people. Based on the CARB data, the existing ambient TAC risk at the project site already exceeds the 10 cancer cases per 1 million people risk threshold. Levels of TACs are likely exacerbated by the fact that the project site is located approximately 400 feet from Interstate 5 (I-5).

Sensitive Receptors

Some individuals are considered to be more sensitive than others to air pollution. The reasons for this greater sensitivity can include health problems, proximity to the emission source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive because people in residential areas are often at home for extended periods of time, so they can be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

Few sensitive receptors exist in the vicinity of the proposed project. The Bridgeway Towers at 5th Street and N Street, Governor's Square apartments at 4th Street and O Street, and Crocker Park at 3rd Street and O Street exist within two blocks south of the project site. Crocker Park could be considered sensitive because people may participate in vigorous aerobic activity at the park.

Existing Emission Sources and Concentrations

There are many types of air pollutant sources in Sacramento County. These sources can be divided into two categories: mobile and stationary sources. The CARB maintains an emission inventory of air pollutants within the state's air basins and counties inside those air basins. Table 5.2-4 presents the latest emission inventory of reactive organic gases, nitrogen oxides, carbon monoxide, and particulate matter for Sacramento County. The "On-road Mobile Sources" category of the inventory is the primary source of ROG, NO_x, and CO in Sacramento County. The "Miscellaneous Processes" category, which includes activities such as construction and farming operation, contributes almost all of the particulate matter generated in Sacramento County.

While there are few large stationary sources of emissions near the project site, many smaller sources do exist. These include industrial boilers used for the heating of nearby commercial buildings, and emergency generators that are used for emergency backup power. The largest source of emissions in the proposed project vicinity is the traffic on surface streets and nearby freeways.

REGULATORY CONTEXT

Air quality in the area surrounding the proposed project is regulated by the U.S. EPA, the CARB, and the Sacramento Metropolitan Air Quality Management District (SMAQMD). These agencies develop rules or regulations to meet the goals or directives imposed on them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, air quality evaluations are based on air quality standards developed by the federal and state government.

TABLE 5.2-4					
2004 ESTIMATED ANNUAL EMISSIONS SUMMARY FOR SACRAMENTO COUNTY (tons/day)					
Source Category	ROG	CO	NO _x	PM ₁₀	
Stationary Sources					
Fuel Combustion	0.58	3.02	3.20	0.93	
Waste Disposal	0.24	0.14	0.04	0.01	
Cleaning and Surface Coatings	5.34	-	-	-	
Petroleum Production and Marketing	4.11	-	-	-	
Industrial Processes	0.88	0.50	0.28	1.21	
Total Stationary Sources	11.16	3.66	3.52	2.15	
Area-Wide Sources					
Solvent Evaporation	13.46	-	-	0.01	
Miscellaneous Processes	4.16	40.70	3.17	38.29	
Total Area-Wide Sources	17.62	40.70	3.17	38.30	
Mobile Sources					
On-Road Vehicles	29.32	276.06	54.88	1.75	
Other Mobile	12.06	91.21	25.62	1.77	
Total Mobile Sources	41.38	367.28	80.50	3.52	
GRAND TOTAL	70.16	411.64	87.18	43.96	
Source: California Air Resources Board, www. arb.ca.gov/app/emsinv/emssumcat_guery_Accessed 1/24/05					

Since many air pollution problems are regional in nature, the federal government sometimes designates multi-county areas as "Nonattainment Areas". Because it covers a large area, a nonattainment area can be composed of several different air districts. The "nonattainment area" designation means that these individual local agencies must work together to solve regional air pollution problems. The Sacramento Ozone Nonattainment Area includes all of Sacramento County and parts of Yolo, Solano, Sutter, and Placer Counties.

Federal

The U.S. 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, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

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

Clean Air Act

The Federal Clean Air Act (FCAA), as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The FCAA requires that regional plans be prepared for non-attainment areas illustrating how the

federal air quality standards could be met. The CARB approved the most recent revision of the State Implementation Plan in 1994, and submitted it to the U.S. EPA. The SIP, approved by the U.S. EPA in 1996, consists of a list of reactive organic gas and nitrogen oxide control measures for demonstrating future attainment of ozone standards. The steps to achieve attainment will continue to require significant emissions reductions in both stationary and mobile sources.

Ozone Standards

The federal eight-hour ozone standard was established in response to human health studies indicating that longer ozone exposures at lower levels also resulted in adverse health effects, including coughing, increased asthma attacks, chronic lung inflammation, decreased lung function, and decreased lung defenses against bacterial infections. The eight-hour standard was established in order to eventually replace the existing one-hour standard. Both federal ozone standards now apply, along with California's own one-hour ozone standard. The federal one-hour standard is scheduled for revocation in June of 2005. The Sacramento area has already been designated as "serious" for the eight-hour standard.

Federal Ozone Attainment Plan

The SVAB is subject to a Federal Ozone Attainment Plan (the Sacramento Area Regional Ozone Attainment Plan). This plan was adopted by five air districts in the Sacramento area in order to build upon existing state and local air quality programs. The Plan contains adopted measures, implementation and adoption schedules for new measures, emission inventories, modeling results, contingency measures, and emissions reduction demonstrations that guide reduction of emissions in the Sacramento Region. The region has an attainment date of June, 2013 for the eight-hour standard. Currently, the eight-hour attainment plan is scheduled to be adopted by April of 2007.

<u>State</u>

The CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the CARB conducts research, sets State ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

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, PM₁₀. The CCAA also requires that by the end of 1994 and once every three years thereafter, the districts are to assess their progress toward attaining the air quality standards. The triennial assessment is to report the extent of air

quality improvement and the amounts of emission reductions achieved from control measures for the preceding three year period.¹

Toxic Air Contaminants

Regulation of TACs is achieved through federal and state controls on individual sources. The 1990 federal CAA Amendments offer a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated Hazardous Air Pollutants (HAP). All major stationary sources of designated HAP's are required to obtain and pay the required fees for an operating permit under Title V of the federal CAA Amendments.

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588), California Health and Safety Code Section 44300 et seq, provides for the regulation of over 200 air toxics and is the primary air contaminant legislation in the State. Under the Act, local air districts may request that a facility account for its TAC emissions. Local air districts then prioritize facilities on the basis of emissions, and high priority designated facilities are required to submit a health risk assessment and communicate the results to the affected public. The TAC control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources of TACs, and developing new rules and regulations to reduce TAC emissions. The purpose of AB 2588 is to identify and inventory toxic air emissions and to communicate the potential for adverse health effects to the public.

Assembly Bill 1807 (AB 1807), enacted in September 1983, sets forth a procedure for the identification and control of TACs in California. The CARB is responsible for the identification and control of TACs, except pesticide use. AB 1807 defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The CARB prepares identification reports on candidate substances under consideration for listing as TACs. The reports and summaries describe the use of and the extent of emissions in California resulting in public exposure, together with their potential health effects.

The CARB has recently identified diesel particulate matter as a toxic air contaminant under the 1807 program. Diesel particulate matter is emitted into the air via heavy-duty diesel trucks, construction equipment, and passenger cars. In October 2000, the CARB released the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. This plan identifies diesel particulate matter as the predominant TAC in California and proposes methods for reducing diesel emissions.

TAC impacts are assessed using a standard Maximally Exposed Individual (MEI) health risk of 10 in 1 million. The CARB and the local air district have determined that any source that poses a risk to the general population that is equal to or greater than 10 people out of 1 million contracting cancer as excessive. When estimating this risk, it is assumed that an individual is exposed to the maximum concentration of any given TAC, continuously for 70 years. If the risk of such exposure levels meets or exceeds the threshold of 10 excess cancer cases per 1 million people, then the CARB and local air district require the installation of best available control technology (BACT) or maximum available control technology (MACT) to reduce the risk threshold. This ensures that the toxics source is being controlled to the fullest extent possible using current technology.

¹ SMAQMD website: <u>www.airquality.org/stateplan</u>. Accessed 3/17/05.

<u>Local</u>

SMAQMD

The SMAQMD is the primary agency responsible for planning to meet federal and State ambient air quality standards in SVAB. In order to demonstrate the area's ability to eventually meet the federal ozone standards, the SMAQMD, along with the other air districts in the nonattainment area, maintain the region's portion of the State Implementation Plan for ozone. The SVAB's part of the SIP is a compilation of regulations that govern how the region and State will comply with the FCAA requirements to attain and maintain the federal ozone standard. The compilation of rules that comprises the Sacramento Nonattainment Area's portion of the SIP is contained in a document called the Sacramento Area Regional Ozone Attainment Plan. The most recent update of the Plan was adopted on November 15, 1994. Currently, the SMAQMD is working to update the '94 Plan in recognition of the new federal eight-hour standard for ozone. This process is currently ongoing.

For PM_{10} , the other criteria pollutant of concern for the Sacramento Region, Sacramento currently meets the federal standard, but has not yet been officially re-designated to attainment by the USEPA. Since monitoring data shows that the PM_{10} standard is being met in practice, no PM_{10} plan exists in the SMAQMD.

Local Air District Rules

The SMAQMD has several rules that relate to the proposed project, which are summarized below:

Rule 402 – Nuisance: Prohibits a person from discharging, from any source whatsoever, such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Rule 403 – Fugitive Dust: Requires a person to take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation.

Rule 442 – Architectural Coatings: Sets VOC limits for coatings that are applied to stationary structures or their appurtenances. The rule also specifies storage and cleanup requirements for these coatings.

Rule 460 – Adhesives and Sealants: Limits VOC from the application of products used for bonding two surfaces. Also regulates the storage and disposal of solvents associated with such applications.

Rule 401 – Ringelmann Chart: Prohibits individuals from discharging into the atmosphere from any single source of emissions whatsoever any air contaminant whose opacity exceeds certain specified limits.

Rule 411 – Boiler NO_x: Sets NO_x and CO emissions from industrial, institutional, and commercial boilers, steam generators, and process heaters.

Rule 902 – Asbestos: Requires developer or contractor to notify SMAQMD of any regulated renovation or demolition activity. Also contains specific requirements for surveying, notification, removal, and disposal of asbestos-containing material.

City of Sacramento General Plan

The City of Sacramento General Plan does not contain an Air Quality Element and there are no specific goals or policies that pertain to air quality.

Sacramento Central City Community Plan

In addition to the General Plan, the City of Sacramento has also developed plans that are more specific to the various communities in the City. The City's "Central City Community Plan" contains the following sub goal under its environmental goal:

• Provide an environment which is free of annoying noise and continue to reduce air pollution.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

The analysis in this section focuses on the nature and magnitude of the change in the air quality environment due to construction and operation of the proposed project. Air pollutant emissions would result from construction activities, project operations, and increased traffic volumes.

The SMAQMD has published air quality thresholds of significance for use by lead agencies when making a determination of significance for a project. The SMAQMD thresholds establish standards for three types of impacts – short-term impacts from construction, long-term impacts from project operation, and cumulative impacts. The net increase in emissions generated by these activities and other secondary sources have been estimated and compared to thresholds of significance recommended by the SMAQMD. The methodology for estimating emissions, as described in the SMAQMD's Guide to Air Quality Assessment in Sacramento County, was used in this analysis.

Construction

Construction emissions were calculated by estimating the equipment that would be used during the most intensive periods of clearing and grading of the project site, excavation of the site, and construction of the proposed structures and their associated support facilities. The "worst-case" daily construction emissions associated with these activities were estimated using emission factors from the URBEMIS 2002 emissions model developed for CARB.

Operational Emissions

Operational emissions refer to the emissions that are generated by the normal day-to-day activity of the project. These activities include the heating and cooling of buildings, landscape maintenance, emissions from increased traffic, and the use of consumer products by residents and employees.

The average daily emission factors for operational emissions of criteria pollutants are estimated by using emission factors in the URBEMIS 2002 emissions model. Emissions from increased vehicle traffic, also known as mobile source emissions, are also calculated using URBEMIS 2002 emissions model and the daily trip generation rates used in the traffic study conducted for the proposed project.

Localized CO Concentrations

The CALINE 4 dispersion model for predicting CO concentrations is the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and

intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District. The simplified model is intended as a screening analysis in order to identify a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations.

The closest monitoring station to the project site is the T Street station located in midtown Sacramento. This station collects CO data for the 8-hour standard, but not the 1-hour standard. Consequently, monitoring data can be used to determine an 8-hour CO background value. For the 1-hour background, the CO background rollback values in the SMAQMD's *Guide to Air Quality Assessment in Sacramento County* were used. To ensure an adequate margin of safety, the highest 8-hour CO reading for 2003 from the T Street station was used as the eight-hour background concentration.

Wind

A pedestrian wind analysis was performed by Rowan Williams Davies & Irwin Inc. (RWDI) to evaluate wind flow around the proposed project (see Appendix C). The assessment is based on the local wind climate, surrounding information, design of existing development in the vicinity, as well as RWDI's engineering judgment and experience with similar projects. The study considered general building forms and was conducted in combination with local wind data to estimate the potential pedestrian wind conditions. The computer analysis used was developed from RWDI's experience of wind tunnel modeling of similar developments, including projects in Sacramento.

Long-term wind statistics were analyzed by RWDI to determine the local wind climate, using data collected from several meteorological stations in the area, including the Sacramento Executive Airport, Mather Air Force Base, McClellan Air Force Base, and Sacramento International Airport. Similar wind directionality was observed between these meteorological stations. Due to the relatively close proximity to the study site, the Sacramento Executive Airport data was chosen for this assessment.

Pedestrian wind comfort criteria developed at RWDI are categorized by three typical pedestrian activities:

- **Sitting:** Low wind speeds at which one could read a newspaper without having it blown away. Suitable for outdoor cafes and other sitting areas typically gust speeds up to 11 mph at pedestrian level.
- **Standing:** Slightly higher wind speeds that would be strong enough to rustle leaves. These winds speeds are typically comfortable at building entrances, bus stops or other areas where people may want to linger but not necessarily sit for extended periods of time typically gust speeds up to 16 mph.
- **Walking:** Winds that would lift leaves, cause movement to litter, hair and loose clothing. Appropriate for sidewalks, plazas, parks or playing fields where people are more likely to be active and receptive to some wind activity typically gust speeds up to 20 mph.

Wind conditions are considered suitable for sitting, standing or walking if the wind speeds are within the ranges for at least 4 out of 5 days (80 percent of the time). According to the wind analysis, an **uncomfortable** designation means that the criterion for walking is not satisfied.

The data from the RWDI wind analysis was used to evaluate the potential for wind impacts as a result of the proposed project. Because the city of Sacramento has no established standards for wind impacts, the standards used in the RWDI analysis are used in the EIR.

Standards of Significance

For the purposes of this EIR, impacts to air quality are considered significant if the proposed project would:

- Cause a predicted violation of the CO ambient air quality standards (8-hour or 1-hour State standards) due to project traffic on the local street network on either a project and a cumulative level.
- Create emissions of an ozone precursor or PM₁₀ exceeding the Sacramento Metropolitan Air Quality Management District (SMAQMD) recommended thresholds of significance. The SMAQMD considers the following generation of emissions to represent a significant adverse impact:

SMAQMD EMISSION THRESHOLDS				
Pollutant	Construction	Operation		
ROG	None	65 lbs/day		
NO _x	85 lbs/day	65 lbs/day		
PM ₁₀	30 μg/m ³ *	30 μg/m ³ *		
Notes: * µg/m ³ micrograms per cubic meter, is the measurement of the concentration of particulate matter in a cube that is one meter on all sides. Source: SMAQMD, 2002.				

- Result in a net increase of any criteria pollutants, on a project-specific or cumulative level, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations. For CO, this would be concentrations in excess of the CAAQS.
- Expose people to wind speeds in excess of 20 mph more than 20 percent of the time as a result of project design. Wind speeds in excess of this are generally considered to be uncomfortable for walking, and wind control measures are typically required. When these conditions occur more than 20 percent of the time in an area, the area is generally not considered suitable for walking.

Project-Specific Impacts and Mitigation Measures

5.2-1 Construction of the proposed project would generate emissions of PM₁₀.

 PM_{10} emissions would be generated during the construction of the proposed project. Most of this PM_{10} would come from demolition, excavation, grading, or other earth-moving activities.

Demolition

The SMAQMD CEQA Guidelines do not provide guidance on evaluating emissions from demolition activities. Dust can be generated as buildings are razed and as construction

equipment moves over the project site during demolition. PM_{10} emissions during the demolition phase, however, could be substantial during removal of the existing building. This would be a *significant impact*.

Grading

The SMAQMD CEQA Guidelines provides an appendix (Appendix B – Particulate Matter Concentration Modeling for Construction) to assist in determining whether a project will exceed the SMAQMD construction PM_{10} standard of 30 µg/m³. Appendix B contains a screening Table B.1 – <u>Particulate Matter Screening Levels for Construction Projects</u> that lists mitigations that should be implemented by projects of various sizes to reduce their construction PM_{10} emissions to less than significant levels. The proposed project site is about 2.4 acres. According to Table B.1, no mitigation would be required for a project of this size to ensure that its PM_{10} emissions do not exceed the 30 µg/m³ threshold of significance. Based upon SMAQMD's screening table for PM_{10} emissions, the proposed project's construction PM_{10} impact would not contribute emissions of PM_{10} that would lead to a violation of the PM_{10} CAAQS.

Because the proposed project site would be less than the five acre minimum cut-off for required mitigation in the particulate matter screening table in the SMAQMD guide, PM_{10} emissions would be less than significant during the grading phase.

Mitigation Measure

Keeping soil or other material moist is the most effective mitigation measure for the control of fugitive dust during all earth moving activities. Fugitive dust emissions can be almost completely eliminated by this mitigation. The following mitigation measure would ensure that dust concentrations during demolition would be minimized, but would not guarantee that PM_{10} concentrations would not exceed the PM_{10} CAAQS. Consequently, the proposed project's impact from demolition would remain *significant and unavoidable*.

- 5.2-1 The following measures shall be incorporated into construction practices during demolition activity:
 - (a) The project shall ensure that all demolished material will be completely wetted during demolition and during any subsequent disturbance of the material.
 - (b) The project shall ensure that piles of demolished material, when not being disturbed, are either completely wetted or completely covered.
 - (c) Two feet of freeboard space shall be maintained on all trucks transporting demolished material.

5.2-2 Construction of the proposed project would generate emissions of ozone precursors.

In addition to PM_{10} generated by demolition and construction, the other pollutants of concern are the ozone precursors ROG and NO_x. The SMAQMD has not developed a threshold of significance for ROG from construction because ROG from architectural coatings can be regulated by SMAQMD Rule 442. However, because heavy-duty diesel construction equipment emits more NO_x than ROG, the SMAQMD has developed a threshold for construction NO_x of 85 pounds-per-day.

Modeling results for construction of the proposed project are shown in Table 5.2-5. This indicates that emissions of NO_x during the demolition phase could reach a maximum of 453.59 pounds-perday, NO_x emissions during the grading phase of construction could reach maximum levels of 62.74 pounds per day, and levels of NO_x during the building phase could reach maximum levels of 917.53 pounds per day. This would be above the 85 pounds-per-day threshold of significance for construction NO_x , and would be a *significant impact*.

TABLE 5 2-5						
	TADLE 5.2-5					
CONSTRUCTION AND OPER						
	ROG	NO ₂				
Construction Phase - Demolition						
Fugitive Dust	N/A	0				
Off-Road Diesel	N/A	43.34				
On-Road Diesel	N/A	410.17				
Worker Trips	N/A	0				
Total Demolition	N/A	453.59				
Total Demolition (Mitigated)	N/A	362.87				
Exceeds SMAQMD Threshold	N/A	yes				
Construction Phase - Site Grading	•					
Fugitive Dust	N/A	0				
Off-Road Diesel	N/A	62.74				
On-Road Diesel	N/A	0				
Worker Trips	N/A	0.01				
Total Site Grading	N/A	62.75				
Total Site Grading (Mitigated)	N/A	50.2				
Exceeds SMAQMD Threshold?	N/A	no				
Construction Phase - Building Construction						
Building Construction Off-Road Diesel N/A 916.20						
Building Construction Worker Trips	N/A	1.33				
Architectural Coatings Off-Gas	N/A	0				
Architectural Coatings Worker Trips	N/A	0				
Total Building Construction	N/A	917.53				
Total Building Construction (Mitigated)	N/A	734.02				
Exceeds SMAQMD Threshold	N/A	yes				
Operational Phase						
Mobile Emissions	78.96	87.64				
Area Source Emissions	35.17	7.94				
Total Operational Emissions	114.13	95.58				
Total Operational Emissions (Mitigated)	97.01	81.2				
Exceeds SMAQMD Threshold	yes	yes				
Source: EIP Associates, 2005.						

Mitigation Measure

Mitigation measures exist that can reduce emissions of construction NO_x . These mitigations are recommended by the SMAQMD, and will result in a 20 percent NO_x reduction. As shown in Table 5.2-5, these measures would reduce emissions of NO_x during construction by almost 91 pounds per day during the demolition phase, by approximately 12 pounds per day during the grading phase, and by approximately 183 pounds per day during the building construction phase. While NO_x would be substantially reduced by the mitigation measures, the proposed project's impact during demolition and building construction phases would remain a temporary *significant and unavoidable impact*.

- 5.2-2 The following measures shall be incorporated into construction practices as recommended by the SMAQMD:
 - (a) The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleetaverage 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction;
 - (b) The project representative shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline, including start date and name and phone number of the project manager and on-site foreman.
 - (c) 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 inoperation 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.

5.2-3 Operation of the proposed project would contribute to long-term emissions of ozone precursors.

Once the proposed project is built and occupied, activities associated with the various uses in the proposed project would generate ozone precursors. The largest source of these emissions would be the vehicle trips that are created by people living and working at the proposed project. Smaller sources of precursors would be created by fuel-burning equipment, such as that used for the heating and cooling of the building, and by various consumer products used by building occupants. Helicopter flights to and from the proposed project would also generate ozone precursors, but the actual precursor amounts would depend on the number of daily take-offs and landings associated with the heliport. It is not known at this time the types of helicopters that would be used or the

number of trips that would be generated by the heliports; therefore, the extent to which these trips would contribute to the emission of ozone precursors cannot be quantified.

The operational emissions of the proposed project were modeled using URBEMIS 2002. The results of this modeling are shown in Table 5.2-5. As identified in the table, emissions of ROG and NO_X would be above the SMAQMD threshold of significance for operational emissions. Because of the location of the proposed project, there are a number of elements present that would help to reduce operational emissions. Numerous commercial and retail uses in the vicinity of the project site, coupled with the extensive sidewalk network and availability of transit options would reduce vehicle trips. Also, the abundance of employment centers in the downtown area would likely result in many residents using alternative transportation modes to commute to and from work. In these respects, the proposed project is partly self-mitigating.

The SMAQMD recommends that the City require an operational air quality mitigation plan which is designed to reduce NO_x and ROG emissions by at least 15 percent. The SMAQMD has developed a list of mitigation measures that can be used to achieve this reduction. Point values are given to each listed measure. The total point value of all the measures on the list that are chosen for implementation must total at least 15. More measures could be added so that the project is able to reduce operational emissions by an even greater percentage value.

As discussed above, many of the mitigation measures recommended by the SMAQMD are already built into the proposed project due to its characteristics and location. The following SMAQMD recommended measures are already included in the project design, and can be used to fulfill the SMAQMD 15 percent requirement:

- #9 High density residential, mixed, or retail/commercial uses within ¼ mile of existing transit, linking with activity centers and other planned infrastructure. (2.0 points for light rail)
- #26 Average residential density 7 d.u. per acre or greater. (4.5 points for 30+ du/acre)
- #27 Multiple and direct street routing (grid style). (2.5 points)
- #29 Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site. A "single site" may include contiguous properties. **(3.0 points)**
- Separate, safe, and convenient bicycle and pedestrian paths connecting residential, commercial, and office uses. (2.0 points)
- The project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation. **(1.0 point)**

Even with the mitigating effects of the above measures, which would reduce operational emissions of ROG and NO_x by 15 percent, emissions of the proposed project would still exceed SMAQMD thresholds of significance for project operation. Although additional measures could be implemented to reduce project emissions, due to the scale of the project, it is unlikely that emissions could be reduced to below thresholds. In addition, because helicopter emissions cannot be quantified due to uncertainty in the extent of use of the helistops, an unknown amount of helicopter emissions would further contribute to this impact.

Mitigation Measure

In addition to the above-mentioned mitigation that is already included in the project design and would give a 15% NO_x and ROG reduction, the following mitigation measure can be implemented to further reduce operational emissions of criteria pollutants:

- 5.2-3 The following measures shall be incorporated into construction practices as recommended by the SMAQMD:
 - (a) The project applicant shall ensure on-going membership in the Sacramento Transportation Management Association.
 - (b) Transit passes shall be sold on-site, and transit schedules shall be provided on-site.

Despite the implementation of the aforementioned mitigation measure, the impacts would remain a *significant unavoidable impact.*

5.2-4 The proposed project would increase traffic that would contribute to CO concentrations at busy roadways and intersections.

While passenger vehicles emit ozone precursors such as ROG and NO_x , these precursors do not have direct localized impacts. However, motor vehicles also generate CO, which is a directly emitted pollutant. CO levels are highest at intersections where there is congestion and traffic is slow. The proposed project would add traffic to existing roadways. To the extent that increases in traffic volumes reduce existing levels of service (LOS) rates, busy intersections could experience higher concentrations of CO. Normally, CO concentrations would only be an issue if intersections operate at LOS "D" or worse, which is usually considered to be "unacceptable" for traffic circulation. Consequently, intersections would be modeled for possible CO exceedances if the traffic study showed that the intersection would be reduced from an acceptable LOS to an unacceptable LOS as a result of the proposed project. According to the traffic study (see Section 5.6, Transportation and Circulation), no intersections in the project vicinity would be lowered from acceptable to unacceptable LOS due to project traffic, which indicates that the project would not significantly add to congestion on surrounding roadways, and no modeling is necessary. The proposed project would not increase the potential for high CO concentrations. Consequently, this would be considered a **less-than-significant impact**.

Mitigation Measure

None required.

5.2-5 The proposed project would not significantly increase levels of TAC.

TACs associated with the project would be generated either by TAC sources on site, or by mobile sources, such as diesel trucks making trips to and from the facility. TACs can produce both acute (short-term) non-cancer impacts and chronic (long-term) impacts. Usually, chronic TAC impacts are measured over a lifetime of 70 years.

Construction

Construction of the proposed project could generate toxic impacts through the burning of diesel fuel. Diesel particulate has recently been identified as a TAC by the CARB. The CARB determined that the chronic impact of diesel particulate was of more concern than the acute impact in its *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* (CARB, 2000).

In this document, the CARB noted that "Our analysis shows that the potential cancer risk from inhalation is the critical path when comparing cancer and noncancer risk. In other words, a cancer risk of 10 per million from the inhalation of diesel particulate matter (PM) will result from diesel PM concentrations that are much less than the diesel PM or TAC concentrations that would result in chronic or acute noncancer hazard index values of 1 or greater."² Consequently, any analysis of diesel TAC should focus on the long-term, chronic cancer risk posed by the diesel. As mentioned above, chronic cancer risk is normally measured by assessing what the risk to an exposed individual from a source of TACs would be if the exposure occurred over 70 years.

CARB's Risk Management Guidance also examined cancer risk for various sizes of diesel engines at various distances. For all but the largest engines, risk was less than one excess cancer case per million at 200 meters (650 feet) when the engine operated 50 hours a year for a 70 year period.³ The closest receptor (Governor's Square) is approximately 500 feet from the edge of the proposed project's construction site.

While much of the construction equipment that would operate during the construction phase of the proposed project would be diesel fueled, these diesel TAC emissions would be temporary. Construction activities are only expected to last for a period of three years. This time period is much shorter than the 70 year exposure that is normally used to examine TAC health impacts. Also, as discussed previously, the closest sensitive receptor is the Governor's Square apartment building, at 3rd and N Streets. Apartments at Governor's Square would most likely be less occupied during the day when construction would be occurring and TAC impacts from diesel engines at this distance, even over 70 years, have been calculated to be only slightly more than one excess case per million.

Operational

TACs could also be generated from the proposed project once it is built and occupied. It is possible that the proposed project could include backup diesel generators that have the potential to emit diesel TAC, or that dry cleaners that could use perchloroethylene may occupy retail space. Stationary sources of TAC such as these are regulated by AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act. This requires that the SMAQMD compile a list of facilities that emit TACs, and that these facilities are prioritized based on the risk that the facilities represent. Facilities with potentially high risk must submit a health risk assessment, and significant-risk facilities must reduce their risks below the level of significance. Usually, facilities such as factories, research and development facilities, or hospitals that utilize special processes or equipment are identified as higher priority sources. Office and residential use buildings would rarely, if ever, prioritized as high-risk facilities, or are required to conduct health risk assessments by the local air district. Even if the proposed project were found to pose a significant risk, which is unlikely, a risk reduction and audit plan would have to be prepared by the facility. This would ensure that risk from TACs at the nearest receptor would be less than significant.

Mobile sources associated with the proposed project could also generate TAC. This would apply to diesel-fueled vehicles. A limited number of diesel delivery trucks may be associated with activities at the proposed hotel. Truck volumes would be typical of an urban environment, and the proposed project would not develop uses that would be expected to attract large numbers or concentrations of trucks. Helicopter flights associated with the heliports could also generate TAC. However, the heliports would be located on the top floors of the towers. Consequently, any emissions from

² Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, p. 22-23. CARB, October 2000.

³ Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, Appendix II. CARB, October 2000.

helicopters would be emitted far above street level, at elevations where the emissions would be quickly dispersed, and potential receptors would not be exposed to concentrations of TAC in any significant amounts.

On-road mobile sources of diesel TAC would not frequent the proposed project in large amounts, and helicopter emissions would not have the potential to expose receptors to high TAC concentrations because of the elevation at which they would occur. TAC would be generated by construction activity, but these emissions would be temporary and would not pose a risk from acute exposure. Consequently, the proposed project would not generate TACs in amounts that would be identified by the air district as posing a significant risk, and the TAC impact would be *less than significant*.

Mitigation Measure

None required.

5.2-6 The proposed project could expose people to uncomfortable wind speeds.

Wind speeds are at issue at locations where higher volumes of foot traffic occur, or where people may spend prolonged periods of time. In regards to the proposed project, these locations would include the hotel entrance, porte cochere, and retail entrance to Tower A. It would also include the sidewalks adjacent to the proposed project, the Tower B condominium entrance, and the podium terraces.

Long-term wind statistics indicate that in the summer, winds in the Sacramento area are predominantly from the south and southwest. In the winter, winds are predominantly from the southeast, south, northwest and north-northwest directions. Winds greater than 20 mph can occur for 2 percent of the time during the summer, and 4 percent of the time during the winter.

The proposed towers are sheltered by tall surrounding buildings from winds from the southeast through south directions. However, they are exposed to the predominant north-northwest and southwest winds that may be deflected off the building façade down to the podium and ground. This could result in elevated wind activity in localized areas. Higher wind activity may also exist in localized areas on Capitol Mall sidewalks, due to the effect of a channeling flow between the existing tall buildings on the south side of the street.

According to analysis of the existing wind patterns and the design of the proposed project (see Appendix C), wind speeds under 16 mph are expected to occur almost exclusively at the entries to the hotel and retail uses, as well as the porte cochere, during both summer and winter seasons. These wind speeds would be comfortable for standing. The more exposed portion of the porte cochere could experience wind speeds of up to 20 mph. This would make standing uncomfortable, but would be appropriate for walking.⁴ The entrance to the Phase II Tower B condominiums would still be protected from north-northwest and southwest winds by the podium that would be built as part of the project. Consequently, winds would generally be suitable at this entrance during both summer and winter seasons.

While adjacent sidewalks would be sheltered by the proposed project from most predominant wind directions, downwash of wind could also occur, as the buildings intercept wind and deflect it down to ground level. Wind speeds at most of the sidewalks around the proposed project are expected to

⁴ RWDI Pedestrian Wind Assessment, Towers on Capitol Mall, p. 6. February 17, 2005.

allow people to stand or walk comfortably throughout the year. Exceptions are the sidewalks located at the southwest and northwest corners of the development. On windy days, these corners could experience wind conditions that would be uncomfortable to pedestrians. This is due to a combination of building downwash, and winds accelerating around these corners.⁵ Podium terraces may be affected by southwesterly winds that would channel through the gap between the two towers. This is especially important because southwesterly winds are predominant in the summer months occurring approximately 75 percent of the time on windy days. The summer months are when the podium would most likely be frequented. At times, it is likely that these winds could result in conditions that would be uncomfortable for people using the podium terrace. Uncomfortable winds could also occur at the northeast portion of the podium and around the northeast corners of the proposed towers.⁶

While windy days could occasionally produce uncomfortable conditions on sidewalks at the southwest and northwest corners of the development, it is not anticipated that these conditions would be present more than 20 percent of the time. Similarly, it is not expected that southwesterly winds channeling between the two towers would create uncomfortable conditions at the podium terraces more than 20 percent of the year. However, these conditions could be present during the summer months, when the podium would most likely be frequented. Consequently, this would be considered a *significant impact*.

Mitigation Measure

However, with implementation of the following mitigation measure, which requires the use of wind screening that is demonstrated to be effective by wind tunnel modeling, this impact would be reduced to a *less-than-significant level*.

5.2-6 The proposed project shall include wind screening, through awnings, landscaping, or other methods, to reduce wind in the public area of the podium to ensure that people are not exposed to wind speeds in excess of 20 mph more than 20 percent of the time as a result of project design. Reductions shall be demonstrated through wind tunnel testing.

Cumulative Impacts and Mitigation Measures

The cumulative context depends on the pollutant being analyzed. For localized pollutants such as CO and PM_{10} , the cumulative context would include existing and proposed future development in the immediate vicinity of the proposed project. For this project PM_{10} and TAC are only issued during construction, and are of temporary duration. For ozone, which is a regional pollutant, the cumulative context would be the existing and future development over the entire Sacramento Ozone Nonattainment Area. It is anticipated that the wind impacts of the project would be limited to the project itself and the area immediately surrounding the project. Since the design of buildings in the project vicinity that may be built in the future is speculative, it is not possible to determine a cumulative context for localized wind and the additive effects of future buildings. However, since the wind impacts of the project would be localized, it would not be a significant contributor to any cumulative impact.

5.2-7 The proposed project would contribute to cumulative CO levels.

⁵ RWDI Pedestrian Wind Assessment, Towers on Capitol Mall, p. 7. February 17, 2005.

⁶ RWDI Pedestrian Wind Assessment, Towers on Capitol Mall, p. 8. February 17, 2005.

As discussed in Impact 5.2-4, the proposed project would create CO emissions from associated vehicle traffic. These emissions would combine with other CO emissions from existing and future development. These non-project CO emissions would be mostly vehicle-related as well. Concentrations of CO that could violate the CAAQS would most likely occur at the busiest intersections in the vicinity of the proposed project. As discussed in Impact 5.2-4, to the extent that the proposed project causes conditions at intersections to degrade from an acceptable to an unacceptable LOS, CO concentrations have the potential to exceed the CAAQS. According to the traffic study, in 2025 only two intersections (3rd Street/Capitol Mall and 3rd Street/L Street) would have unacceptable LOS. Tables 5.2-6 and 5.2-7 show modeled cumulative 2025 CO levels at these intersections both with and without the proposed project. As shown, cumulative CO levels at the most congested intersections would not exceed the CO CAAQS, even under worst-case conditions. Therefore, this would be a **less-than-significant cumulative impact**.

TABLE 5.2-6

LOCALIZED CARBON MONOXIDE CONCENTRATIONS (FUTURE CONDITIONS, NO PROJECT)

	•	,		
	Maximum CO Concentrations in Parts per Million (ppm)			
		25 Feet	50 Feet	
Intersection	LOS (AM/PM)	8-Hour/1-Hour	8-Hour/1-Hour	
3 rd Street/Capitol Mall	C/C	5.2/5.8	5.0/5.6	
3 rd Street/L Street	B/C	5.3/6.0	5.1/5.7	
Source: EIP Associates 2005. Calculation sheets are provided in Appendix F.				

TABLE 5.2-7				
LOCALIZED CARBON MONOXIDE CONCENTRATIONS (FUTURE CONDITIONS, PLUS PROJECT)				
Maximum CO Concentrations in Parts per Million (ppm)				
25 Feet 50 Feet				
LOS (AM/PM)	8-Hour/1-Hour	8-Hour/1-Hour		
B/F	5.9/6.8	5.6/6.4		
3 rd Street/L Street B/D 5.4/6.2 5.2/5.9				
	TABLE 5.2-7 BON MONOXIDE CONDITIONS, PLU Maximum CO LOS (AM/PM) B/F B/D	TABLE 5.2-7 BON MONOXIDE CONCENTRATIONS CONDITIONS, PLUS PROJECT) Maximum CO Concentrations in Parts 25 Feet LOS (AM/PM) 8-Hour/1-Hour B/F 5.9/6.8 B/D 5.4/6.2		

Mitigation Measure

None required.

5.2-8 The proposed project would contribute to cumulative levels of ozone precursors.

As discussed in Impact 5.2-3, operation of the proposed project would create emissions of ozone precursors over its life. These emissions could, when combined with precursor emissions from other sources, contribute to cumulative ozone levels in the Sacramento Area. The SMAQMD CEQA Guide to Air Quality Assessment identifies a methodology for estimating cumulative impacts. Specifically, the guide states, "Development projects are considered cumulatively significant if the project requires a change in the existing land use designation (i.e., general plan amendment,

rezone), and projected emissions (ROG, NOx) of the proposed project are greater than the emissions anticipated for the site if developed under the existing land use designation."⁷

Because the proposed project is being constructed in an area zoned for mixed use, there would be no need for a change in zoning. This signifies that the operational emissions from the project are accounted for in SMAQMD planning documents. According to the SMAQMD guide, this would result in a *less than significant cumulative impact.*

Mitigation Measure

None required.

⁷ SMAQMD Guide to Air Quality Assessment, 2004, p. 7-2.

5.3 Cultural Resources

INTRODUCTION

This section of the EIR describes the history of the City block on which the Towers on Capitol Mall project (proposed project) is proposed, as well as any known historic archaeological resources that are located on site. The extent to which development of the proposed project could remove, damage, or destroy existing historic archaeological resources is evaluated.

As described in the Initial Study (see Appendix A) impacts to unique paleontological resources, unique geologic features, and human remains were found to be less than significant and are not addressed in the EIR. Information in this section was obtained from the *Cultural Resources Report* prepared by Peak and Associates, Inc. in April 2005 (see Appendix D) and a field survey of the project site.

There were no comments received during the NOP comment period concerning cultural resources.

ENVIRONMENTAL SETTING

The project site consists of one City block bounded by Capitol Mall and L Street and 3rd and 4th Streets. The site is developed with a four-story building, which is currently vacant. The first floor of the building is partially below grade. There is also a surface parking lot on the L Street side of the block.

Summary of Site History

The project site is located in part of the original downtown and waterfront area of Sacramento. When Sacramento was first established M Street (now known as Capitol Mall between Tower Bridge and the State Capitol) was one of the first streets to become developed. R Street was a railroad arterial with the construction of the rail line to Folsom, and J Street was the principal access road to the northern gold fields. Most early structures along M Street were residential, except for the area nearest the waterfront. The following is a chronology of the development and historic events that occurred at or near the proposed project site from 1848 to the present.

- By 1848 the streets of Sacramento are laid out and by 1851 the project site is developed.
- In 1854, the major fire that destroys much of the City burns the northern half of the block.
- The block is quickly rebuilt, and is shown fully occupied in the 1857 birds-eye view of the City. The buildings include boarding houses, businesses, and some residences.
- In 1860, at least one of the landowners is a known prostitute, who may have operated a business on the block. The block is within close proximity to the docks as well as the main business streets, J and K.
- In 1866, Mark Twain reportedly lodged at one of the boarding houses on the block during his time in Sacramento while working for the Sacramento Union Newspaper.
- In 1870, there are more buildings on the lot, with many added on the east-west alley that once divided the block. At this point, there were at least two "bawdy" houses on the block, one of which was owned by an African-American madam.
- In the 1870s, the street level is raised along a portion of Third and L Streets.
- Japanese immigrants began coming to the United States as contract laborers after 1884. In 1890, there were about 1,100 Japanese in California. By 1895, the block had begun to attract a large number of Japanese-American individuals, with one of the boarding houses on the alley shown as "Jap. Lodgings."
- By 1910 there were over 41,000 Japanese-Americans in California. The block soon becomes the heart of Sacramento's "Japantown" and was the largest Japanese community in northern California for almost fifty years. By 1915, the block had 10 Japanese restaurants, 7 other restaurants, a "moving pictures" theater, two poolrooms, two Japanese laundries, a saloon, numerous tenements and boardinghouses, a soda works, and a bank.
- Initially, Japanese-Americans were primarily tenants for the most part, but slowly began to purchase the lots. By 1925, only two of the buildings on the block had Japanese surnamed owners. By 1940, 12 of the 37 lots on the block were owned by Japanese surnamed individuals or companies.
- Decline of the block began in the 1930s. The population of Japanese-Americans in the area had also declined, in part due to the Depression with some of the Japanese returning home to Japan.
- In 1942, the internment of the Japanese began, with approximately 3,500 citizens of Sacramento forced to leave their homes. Residents of the block were taken to the Walerga Center in northern Sacramento County, used as an assembly point, with the internees sent on to Tulelake, California.
- One significant landowner on the block was Henry Taketa, a prominent attorney who assisted the returning internees and helped to safeguard the legal rights of Japanese–Americans.
- After the Japanese were removed from the block, other changes occurred. The boardinghouses were apparently rented to other lower income ethnic groups, including African-Americans, Chinese and Chinese-Americans, Hispanics and Phillipinos. The Nippon Theater, the movie theater on L Street, was renamed the "Alameda."
- The demolition of buildings on the block began in the early 1940s. The boarding house that Mark Twain stayed in was torn down in 1943. Other businesses on Capitol Mall and Third Street were also removed and a filling station was built at that corner.
- Although some of the Japanese returned to their homes and businesses, many did not. The west end of Sacramento had declined, and families began to relocate to other parts of the City.
- When redevelopment began in 1958, some of the Japanese moved to Tenth Street between W and T Streets. Others moved further out, to Freeport and Fruitridge Road areas, and some to Oak Park off Twelfth Avenue. In the later years, affluent Japanese moved to South Land Park and Greenhaven neighborhoods.
- The vicinity of the proposed project became a predominantly Hispanic neighborhood by 1960, with a number of restaurants, some lodging and rooming houses, and several other businesses.
- Redevelopment brought a number of changes for the block. More demolition of buildings on the block began in the early 1960s, and no businesses are listed for the block past 1964.

- The block is then acquired by Copley Press for their main office site, and as a plant site for printing books and the *Sacramento Union* newspaper. The current building was constructed in 1967-68. The major portion of the center of the block is excavated to at least nine feet below street grade at this time.
- Capitol Mall is raised slightly for the construction of the overcrossing of Interstate 5 through the City of Sacramento.
- In 1994, the *Sacramento Union* halts publication after 143 years and the building is vacated.

Regulatory Context

Federal

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

Federal regulations for cultural resources are primarily governed by Section 106 of the NHPA of 1966, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites, which are determined eligible for listing on the NRHP. The criteria for determining National Register eligibility are found in 36 Code of Federal Regulations (CFR) Part 60. Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and affords the Federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 CFR Part 800. The National Register of Historic Places criteria (contained in 36 CFR 60.4) are used to evaluate resources when complying with NHPA Section 106. Those criteria state that eligible resources comprise:

...[D]istricts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (a) are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or (d) that have yielded or may be likely to yield, information important to history or prehistory.

Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and record searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

The NRHP was established to recognize resources associated with the country's history and heritage. Guidelines for nomination are based on significance in American history, architecture, archaeology, engineering, and culture that also possess integrity of location, design, setting, materials, workmanship, feeling, and association.

The American Indian Religious Freedom Act, Title 42 United States Code, Section 1996, protects Native American religious practices, ethnic heritage sites, and land uses.

State Regulations

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term with a defined statutory meaning. (See Public Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5, subds. (a), (b).) The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (Public Resources Code, Section 5024.1; Cal. Code Regs., tit. 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (Public Resources Code, Section 21084.1; CEQA Guidelines, Section 15064.5, subd. (a)(3)). In general, an historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

- a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- b) Meets any of the following criteria:
 - 1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - 2. Is associated with the lives of persons important in our past;
 - 3. 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. Has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological resources can sometimes qualify as "historical resources." (Id., subd. (c)(1).) Additionally, Public Resources Code 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on State-owned land.

For historic structures, Section 15064.5(b)(3) of the State CEQA Guidelines indicates that a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact "unique archaeological resources." Public Resources Code section 21083.2, subdivision (g), states that "unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

Treatment options under 21083.2 of CEQA include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a "unique archaeological resource").

Advice on procedures to identify cultural 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). 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 their antiquity and provides for the sensitive treatment and disposition of those remains.

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions

of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

CEQA Guidelines Section 15064.5(e) requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency is to consult with the appropriate Native Americans as identified by the Native American Heritage Commission and directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

California Historic Register

The State Historic Preservation Office (SHPO) also maintains the California Register of Historic Resources (CRHR). Properties that are listed on the 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.

To be eligible for California State Landmark status, a cultural resource must have significance, as the first and only, or most significant of a type in a region, be associated with an individual who has a profound influence on the history of California, or have architectural significance. The structure must also be visible and accessible to the public, and must be maintained by the owner in its historic style (California State Landmarks Board). The criteria for governing California State Points of Historical Interest are generally the same as those that govern State Landmarks, but are oriented to local, city, or county areas. Points of Interest should be significant to the County or local area's social, cultural, economical, political, religious, or military history.

Local

City of Sacramento

Sacramento's Preservation of Historic Structures Ordinance establishes a Design Review and Preservation Board (Preservation Board) to inventory "essential structures," "priority structures," and "preservation areas" within Sacramento. The Preservation Board has authority to regulate the approval of building permits, structure relocation, and structure demolition relevant to inventoried structures or preservation areas. The regulations aim to preserve, so far as possible, historic structures and districts with special historic and architectural worth.¹ The following General Plan goal and policy apply to the proposed project:

Goal D

Work with the County of Sacramento to identify, protect, and enhance physical features and settings that are unique to the area 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. Ancient Indian tribes used various locations within the City limits and influence area for burial grounds. These burial grounds are a unique heritage. When threatened by development, these sites should be evaluated for their content and uniqueness. The sites should either be preserved

¹ City of Sacramento, City of Sacramento General Plan Update Draft Environmental Impact Report, March 1987, page V-3.

or their contents removed and preserved at a new location depending upon an analysis of the site and the development factors involved.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

A records search was performed by the North Central Information Center (NCIC) on January 14, 2005. Peak and Associates, Inc. prepared the Cultural Resources Report on which this section is based (see Appendix D). Requests were mailed to Native American organizations regarding information on known Native American cultural resources in the project vicinity (also see Appendix D). Responses as of printing of this document have not indicated the presence of Native American cultural resources. To compile the historical context for the site, research was conducted at the Sacramento Archives and Museums Collections Center and the California Room of the California State Library. Sources used include City tax assessment map book and rolls, City directories, federal census, photographic collection, Sanborn Fire Insurance maps, City maps, and newspapers.

Standards of Significance

For the purposes of this EIR, impacts to cultural resources are considered significant if the proposed project would:

• Create a substantial adverse change in the significance of a historic archaeological resource, pursuant to Section 15064.5 of the State CEQA Guidelines.

Project-Specific Impacts and Mitigation Measures

5.3-1 The proposed project could adversely affect known and/or previously unidentified historic archaeological resources.

As described in the Environmental Setting, the block where the proposed project is located has had a rich history beginning in the 1850s, with numerous buildings being built and subsequently torn down. The NCIC records search revealed that there was one historic-period archaeological resource listed on the site consisting of the subsurface remains of a historic city block. The vicinity of the proposed project is part of the original downtown and waterfront area. The area along the Sacramento River contained some of the oldest structures and historic features in the City.² The grading plan for the Copley Press building, the existing building on-site, was obtained from the City Building Inspection records in order to ascertain the extent of the site excavation. A portion of the building is below street grade. The plan shows that the major portion of the lot was excavated to a depth of nine feet for building construction. The excavation may have eventually exceeded that depth as thick concrete pads were apparently installed on the lower level of the building to support the weight of the printing presses.

From the amount of disturbance on the site associated with construction of the current building, it appears unlikely that the major portion of the block would contain archeological features of deposits that could prove to be significant cultural resources.

There are several strips of land, including surface parking, that appear to be relatively undisturbed on the edges of the existing building. However, some of these areas may have been disturbed for

² North Central Information Center, *Records Search Results for Towers at Capitol Mall Project* letter, January 20, 2005, page 2.

the installation of underground gas tanks for the filling station that stood on the site for thirty years prior to the construction of the existing building. It is possible that these undisturbed strips of land contain artifacts and features that would be able to address important research questions. If these areas have not been disturbed by previous building activities, remaining artifacts and features could be disturbed or destroyed during project construction resulting in a *significant impact*.

Mitigation Measure

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

5.3-1 The project proponent shall hire a qualified professional to formulate and implement a research design and field strategy plan for test and data recovery excavations for the remaining strips of land not excavated in the 1960s for the construction of the Copley Press building. Records for the removal of tanks for the filling station shall also be obtained to further identify areas of previous disturbance prior to testing and data recovery of the site.

After the asphalt covering of the parking lot areas is removed, excavations and data recovery shall commence. All artifacts and features shall be excavated and analyzed.

If significant findings are made, historic materials and artifacts shall be incorporated into an interpretive display in the proposed building. The interpretive display shall include a history of the site uses including information on the various ethnics groups that dominated the site. Display of all historic materials and artifacts shall follow the standard practices and procedures generally accepted in museum curation. If an interpretive display is not feasible on site, all materials shall be donated to a local museum with the ability to display the items.

All activities related to the data recovery of the site shall be recorded and compiled into a report and submitted to both the City and the North Central Information Center.

Cumulative Impacts and Mitigation Measures

The cumulative context for the proposed project is buildout of the City of Sacramento General Plan. Artifacts and other cultural resources have been recorded during prior surveys throughout the City and County of Sacramento, especially in the downtown area, indicating a high sensitivity for historic archaeological resources.

5.3-2 The proposed project, in combination with other development in the City, could adversely affect known and/or previously unidentified historic archaeological resources.

Based upon previous surveys and research, Sacramento has been inhabited by prehistoric and historic peoples for thousands of years. Over time, human activity in the area has left remnants of that activity. Cumulative development in the City could result in the damage or destruction of known and unknown historic archaeological resources.

While cumulative development throughout Sacramento would be anticipated to impact resources, it must be noted that many of the areas that are proposed for development are urban in character and have been built upon previously, many with extensive excavation involved. Earlier development may have destroyed sites, resulting in the inadvertent reduction in quality of artifacts or resources.

Certainly previous development on the proposed project site including the existing building has destroyed or displaced historic material that existed from the long time historic use of the site.

Artifacts and other cultural resources have been recorded throughout the City and County of Sacramento. Therefore, development of the proposed project, in combination with other development in the City of Sacramento, could contribute to the potential loss of significant historic archaeological resources due to the location downtown.

Because all significant cultural resources are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resources base. The loss of any one designated archaeological site affects all others in a region because these other properties are best understood completely in the context of the cultural system of which they (and the destroyed resource) were a part. The boundaries of an archaeologically important site could extend beyond the property boundaries.

Proper planning and appropriate mitigation can help to capture and preserve knowledge of such resources and can provide opportunities for increasing our understanding of the past environmental conditions and cultures by recording data about sites discovered and preserving artifacts found. Federal, State and local laws are also in place, as discussed above, that protect these resources; in addition, compliance with Mitigation Measure 5.3-1 would ensure the proper steps are taken for the proper handling and treatment of resources that may still exist on the proposed project site. However, even with existing regulations and compliance with required mitigation, the project's contribution to the potential loss of these resources, including the loss of resources over the years by previous development, would not be reduced to a level that would be considered less than significant. Therefore, the project's cumulative contribution would be considerable, resulting in a *significant and unavoidable impact*.

Mitigation Measure

Implementation of the following mitigation measure(s) would reduce this impact, but not to a less-than-significant level.

5.3-2 Implement Mitigation Measure 5.3-1.

5.4 Noise

INTRODUCTION

This section describes the existing noise environment in the area of the Towers on Capitol Mall project (proposed project), and the potential of the proposed project to significantly increase noise levels due to project construction and operation. The analysis included in this section was developed based on a field investigation to measure existing noise levels, noise standards in the City of Sacramento General Plan, and the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction model. Traffic inputs for the noise prediction model were provided by Fehr and Peers.

As discussed in the Initial Study (see Appendix A), the proposed project site is not located within an airport land use plan area or within two miles of an airport or private airstrip. Development of the project site would not expose people within the vicinity of the proposed project to excessive airport noise levels, and this issue is not discussed in the EIR.

There were no comments received during the NOP review period.

ENVIRONMENTAL SETTING

Background Information on Noise and Vibration

Fundamentals of Environmental Sound and Noise

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 a 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 typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. Table 5.4-1 lists representative environmental noise levels.

Several rating scales have been developed to analyze the adverse effect of noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the volume of the noise, as well as the time of day when the noise occurs. Those that are applicable to this analysis are as follows:

• L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

TABLE 5.4-1								
NOISE RANGES OF COMMON ACTIVITIES								
Common Outdoor Activities	Common Indoor Activities							
	110	Rock Band						
Jet Fly-over at 100 feet								
	100							
Gas Lawnmower at 3 feet								
	90							
		Food Blender at 3 feet						
Diesel Truck going 50 mph at 50 feet	80	Garbage Disposal at 3 feet						
Noisy Urban Area during Daytime								
Gas Lawnmower at 100 feet	70	Vacuum Cleaner at 10 feet						
Commercial Area		Normal Speech at 3 feet						
Heavy Traffic at 300 feet	60							
		Large Business Office						
Quiet Urban Area during Daytime	50	Dishwasher in Next Room						
		Theater, Large Conference Room						
Quiet Urban Area during Nighttime	40	(background)						
Quiet Suburban Area during Nighttime								
	30	Library						
		Bedroom at Night, Concert Hall						
Quiet Rural Area during Nighttime		(background)						
	20							
		Broadcast/Recording Studio						
	10							
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing						
Source: California Department of Transportation, 199	8.							

- L_{dn} , the Day Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the nighttime.
- L_{min}, the minimum instantaneous noise level experienced during a given period of time.
- L_{max}, the maximum instantaneous noise level experienced during a given period of time.

Because the proposed project would involve helicopter activity, the following rating scale may also be appropriate:

• Sound Exposure Level (SEL), the total noise energy produced from a single noise event. The SEL is a metric used to describe, for example, the amount of noise one is exposed to from individual aircraft flyover. It is computed from measured dBA sound levels. The SEL value is the integration of all the acoustic energy contained within the event.

Noise caused by natural sources and human activities is usually well represented by median noise levels during the day, night, or over a 24-hour period. Environmental noise levels are generally considered low when the L_{eq} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of settings with low daytime background noise levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise settings are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder

environments adverse, but most people living or working in urban residential or residentialcommercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) accept the higher noise levels commonly associated with these land uses.

When evaluating changes in 24-hour community noise levels, a difference of 3 dBA is a barely perceptible increase to most people. A 5 dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness.

Noise levels from a particular source decline as distance to a receptor increases. Other factors, such as the weather and reflecting or shielding, also help intensify or reduce noise levels at any given location. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., the area between the source and receptor is normal earth or has vegetation, including grass). Noise from stationary or point sources is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

Fundamentals of 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 caused by vibration is measured in the U.S. as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. Groundborne vibration is normally perceptible to humans at approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate 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 outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. 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. Continuous vibrations result from vibratory pile drivers, large pumps, and compressors. Random vibration can result from jack hammers, pavement breakers, and heavy construction equipment.

The general human response to different levels of groundborne vibration velocity levels is described in Table 5.4-2.

TABLE 5.4-2						
HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUNDBORNE VIBRATION						
Vibration Velocity Level Human Reaction						
65 VdB	Approximate threshold of perception for many people.					
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.					
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.					
Source: Federal Railroad Administrati	on. 1998.					

Existing Conditions

Existing Noise Receptors

Some land uses are more sensitive to noise than others. These sensitive uses are commonly referred to as "sensitive receptors", and normally include residences, hospitals, churches, libraries, schools, and retirement homes. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

The proposed project would be developed on land that is currently developed, but unoccupied. The project site is in the Sacramento Central Business District, and is surrounded by dense urban uses. Office buildings, retail, and high-density residential uses predominate in the area around the site. The closest sensitive receptors to the project site are multi-family residential uses approximately two blocks (450 feet) to the south.

Existing Ambient Daytime Noise Levels

The scientific instrument used to measure noise is a sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA.

Existing ambient daytime noise levels were measured at four selected locations over 15 minute periods in and around the project site on March 15, 2005. These locations are identified in Figure 5.4-1. The noise levels were measured using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The average noise levels and sources of noise measured at each location are identified in Table 5.4-3. At each monitoring location, the primary source of noise was the nearest roadway. Measurements were taken approximately 30 feet from the center of the nearest roadway at locations 1 through 3 and approximately 50 feet from the middle of the roadway at location 4.

No major non-roadway noise sources influenced noise measurements at locations one, three, or four. At location two, there was noise from construction activity at the shopping plaza across L Street from the monitoring location. Freeway noise was at least somewhat noticeable at all four monitoring sites; however it was most noticeable at location one.





FIGURE 5.4-1
Noise Monitoring Locations

Source: USGS



TABLE 5.4-3									
EXISTING DAY	EXISTING DAYTIME NOISE LEVELS AT SELECTED LOCATIONS								
	Distance		Noise	Level Sta	tistics				
Noise Measurement Location	rrom nearest roadway (feet)	Primary Noise Sources	L _{eq}	L _{min}	L _{max}				
#1 - Interior or project site, near corner of 3 rd and Capitol streets.	20	Roadway noise from 3 rd and Capitol streets. Freeway noise from I-5.	68.9	62.9	82.0				
#2 – Interior of project site, near corner of 4 th and L streets.	40	Roadway noise from L Street.	66.2	59.7	77.3				
#3 – East side of 3 rd Street, between N and O streets, outside Governor's Square apartment building	20	Roadway noise from 3 rd Street. Some freeway noise audible.	68.7	60.3	87.8				
#4 – West side of 3 rd Street, between O and P streets, outside Crocker Art Museum	70	Roadway noise from 3 rd Street. Also some noise from Museum's exterior HVAC equipment.	62.9	57.2	74.5				
Source: EIP Associates, 2005.									

Existing Roadway Noise Levels

The project site is surrounded by dense urban development. Consequently, a fairly heavy volume of traffic operates on the surrounding local streets throughout the day. The local roadways that contribute the most to noise levels at the project site are those directly adjacent to the site. These are 3rd Street, L Street, Capitol Mall, and 4th Street. 4th Street experiences somewhat lighter traffic overall than the other three streets. In addition to the noise levels created by local traffic, the nearby Interstate 5 (I-5) contributes noise. I-5 runs north/south approximately 400 feet from the project site. I-5 experiences more or less constant traffic flows, with congested traffic conditions occurring during the AM and PM commute times (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m., respectively.) The local roadway traffic and freeway traffic combine to create fairly uniform noise levels throughout the day.

Existing roadway noise levels were also calculated for the roadway links in the vicinity of the project site that have noise sensitive uses fronting the roadways. This task was accomplished using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis (please refer to the traffic section of this document). The model calculates the average noise levels at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Average daily noise levels along these roadway segments are presented in the impact discussion.

Existing Groundborne Vibration

Usually, the most likely existing source of groundborne vibration at a project site is roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB, but could reach 72 VdB where trucks and buses pass over bumps in the road. Loaded trucks can create even higher levels of VdB. Truck and bus traffic is present on 3rd Street and L Street, both of which border the project site. Loaded truck traffic can create 86 VdB at 25 feet,

meaning vibrations of approximately 86 VdB could be experienced at the property boundaries of the project site. Large numbers of trucks also utilize I-5, which runs to the west of the project site, approximately 400 feet away. I-5 runs below grade at the point it passes the proposed project, so truck vibration from this source is not apparent at the project site.

Regulatory Context

Federal

There are no federal regulations related to noise that apply to the proposed project.

State

Title 24 of the California Code of Regulations codifies Sound Transmission Control requirements, which establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room of new dwellings. Dwellings are required to be designed so that interior noise levels will meet this standard for at least ten years from the time of building permit application.

Local

City of Sacramento General Plan

The California Government Code requires that a noise element be included in the general plan of each county and city in the state. The purpose of the noise element is to ensure that noise control is incorporated into the planning process. The noise element can help city planners achieve and maintain consistent noise levels for existing and proposed land uses.

The City of Sacramento General Plan contains goals, policies, and information related to noise that are included in the Health and Safety element of the General Plan. This element establishes maximum acceptable interior and exterior noise level criteria for new single-family development, multi-family development, schools, and libraries. These City standards are shown in Figures 5.4-2a and 5.4-2b. Of the sensitive land uses found in these figures, the proposed project would only include multi-family uses. The General Plan specifies a maximum interior noise level of 45 dB L_{dn} , and a maximum noise level of 60 dB L_{dn} in common outdoor use areas associated with multi-family development.

The General Plan also identifies five goals concerning noise in its Health and Safety element. Each goal is implemented by a number of corresponding policies:

<u>Goal A</u>

Future development should be compatible with the projected year 2016 noise environment. Policies

- Require an acoustical report for any project which would be exposed to noise levels in excess of those shown as normally acceptable in Figure 3. The contents of the acoustical report shall be as described in the Noise Assessment Report Guidelines. No acoustical report shall be required where City staff has an existing acoustical report on file which is applicable.
- Require mitigation measures to reduce noise exposure to the "Normally Acceptable Levels" (Figure 3) except where such measures are not feasible. It is recognized that there are many areas within the City for which it is not feasible to provide further noise mitigation. It is also

	CO	MM	UNIT	Y NOISE	EXPOS	JRE L _{dn} C	DR CNEL	db
AND USE CATEGORY	5	55	6	50 	65 7	70 7. 	75 8 	30
		////////	///////////////////////////////////////			_		1
Residential)))))))))))))))))))))))))))))))))))))))		
							+++++++++++++++++++++++++++++++++++++++	+++++++++
ransient Lodging – Motels,		////////	(//////////////////////////////////////				-	
lotels))))))))))))	
		///////////////////////////////////////	///////////////////////////////////////					++++++
chools, Libraries, Churches,							1	_
lospitals, Nursing Homes							<u>)))))))))))))))))))))))))))))))))))))</u>	+++++++++++++++++++++++++++++++++++++++
uditoriums, Concert Halls,								
mphitheatres						+++++++++++++++++++++++++++++++++++++++	+++++++++++++++++++++++++++++++++++++++	++++++
Parte Arene Outdeer Createter							_	
Sports Arena, Outdoor Speciator							+++++++++++++++++++++++++++++++++++++++	<u> </u> +++++++++
		<u> </u>						
laygrounds, Neighborhood		////////	(//////////////////////////////////////	//////////////////////////////////////	//////////////////////////////////////)))))))))	-	
'arks							+++++++++++++++++++++++++++++++++++++++	++++++++
Solf Courses, Riding Stables.		////////	(//////////////////////////////////////	//////////////////////////////////////	//////////////////////////////////////			-
Vater Recreation, Cemeteries								++++++
		///////////////////////////////////////	///////////////////////////////////////					
Office Buildings, business								
commercial and Professional								
		///////////////////////////////////////	///////////////////////////////////////					
Idustrial Manufacturing, Utilities								
griculture								
	INTERF	PRE	TATIO	ON				
//////////////////////////////////////	TABLE))))))))		NORMA	LLY UNA	CCEPTA	BLE
pecified land use is satisfactory, ne assumption that any buildings f normal conventional construction ny special noise requirements	based upon involved are on, without	e	New disco does reduc noise	construct uraged. proceed, ction requ	ion or de If new co a detaile irement r n feature	velopmen nstruction ed analysi nust be m s includeo	nt shouldb n ordevelo s of the n nade and d in the do	oe opment oise needed esign.
	CEPTABLE		++++	++++	CLEARL	Y UNACO	CEPTABL	.E
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design					should			

Source: Sacramento General Plan

10960-00

ASSOCIATES

raffic or fixed source Industrial, plants, etc.)		Interior	Exterior	Statement Requirements	Noise Element Requirmenets	
	Single Family	x	x	None	$L_{dn} < 45 \text{ db}^2$	
	Single Family		Х	None	$L_{dn} \leq 60_{dB}$ in backyards	
	Multi-Family ¹	Х		L _{dn} < 45 dB	L _{dn} < 45 dB	
	Multi-Family		Х	None	$L_{dn} \leq 60$ db in common outdoor use areas	
	Schools	Х		None	Noisiest hourly $L_{ea} \leq 40 \text{ dB}$ during school day	
	Schools		Х	None	$L_{dn} \leq 60 \text{ dB}$	
	Libraries	Х		None	Noisiest hour $L_{eq} \leq 45 \text{ dB}$	
	Libraries		Х	None	None	
rcraft	Single-Family	Х		None	$L_{dn} \le 45$ dB and maximum instantaneous levels of ≤ 5 bedrooms and ≤ 55 dBA in other habitable rooms ²	50 dBA ir
	Single-Family		Х	CNEL \leq 65 dB (State Aeronautics Noise Standards) requirement does not apply to Mather and McClellan's AFB's	CNEL \leq 60 dB for Metro Airport CNEL \leq 65 dB for all others	
	Multi-Family	Х		$L_{dn} \leq 45 \text{ dB}$	L_{dn} \leq 45 dB and maximum instantaneous levels of \leq 5 bedrooms and \leq 55 dBA in other habitable rooms^2	50 dBA ir
	Multi-Family		Х	CNEL \leq 65 dB (State Aeronautics Noise Standards) requirement does not apply to Mather and McClellan's AFB's	CNEL \leq 60 dB for Metro Airport CNEL \leq 65 dB for all others	
	Schools	Х		None	Noisiest hourly L_{eq} < 40 dB during school day	
	Schools		v	CNEL < 65 dB (State Aeronautics Noise Standards)	CNEL ≤ 60 dB for Metro Airport	
	Genoois		Λ	requirement does not apply to Mather and McClellan's AFB's	CNEL \leq 65 dB for all others	
	Libraries	Х		None	Noisiest hour $L_{eq} \leq 45 \text{ dB}$	
	Libraries		Х	None	None	
ail Traffic	Single-Family	Х		None	$L_{dn} \le 45$ dB and maximum instantaneous levels of ≤ 5 bedrooms and ≤ 55 dBA in other habitable rooms ²	50 dBA ir
	Single-Family		Х	None	$L_{dn} \leq 60 \text{ dB}$	
	Multi-Family	Х		$L_{dn} \le 45$ dB unless there are less than 4 trains per day between 7:00 a.m. and 10:00 p.m. and there are no trains between 10:00 p.m. and 7:00 a.m.	L_{dn} \leq 45 dB and maximum instantaneous levels of \leq 5 bedrooms and \leq 55 dBA in other habitable rooms^2	50 dBA ir
	Multi-Family		Х	None	$L_{dn} \leq 60 \text{ dB}$	
	Schools	Х		None	Noisiest hourly $L_{eq} \leq 40 \text{ dB}$ during school day	
	Schools		х	None	Maximum instantaneous levels <u><</u> 85 dBA	
	Libraries	Х		None	Noisiest hour $L_{eq} \leq 45 \text{ dB}$	
	Libraries		Х	None	None	

recognized that some projects, because of their location, design, or size may not be able to incorporate mitigation measures that are feasible for larger projects or for projects in different locations. Specifically, around McClellan Air Force Base, there are areas where the noise contours indicate that it may be clearly infeasible to achieve the "Normally acceptable" noise level. Projects in these areas may be allowed to exceed the maximum acceptable noise level. However, each project shall be subject to mitigation measures to the maximum extent feasible.

3. Land uses proposed where the exterior noise level would be below the "normally acceptable" limit may be approved without any requirement for interior or exterior mitigation measures. Where the exterior noise is below the "normally acceptable" limit, it is assumed that any buildings involved are of normal conventional construction without any special interior noise provisions. This will, under normal circumstances, provide an acceptable interior noise level. "Maximum acceptable" interior noise levels have not been established for land use categories in Figure 3. The types of interior use in these categories vary substantially. As a general rule, acceptable noise mitigation will be that which provides for interior noise levels comparable to the noise levels that would exist in buildings where the exterior noise is below the "normally acceptable" standard.

Goal C

Eliminate or minimize the noise impacts of future development on existing land uses in Sacramento.

- Policies
- 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.

There are areas of the City which are considered relatively quiet (ambient levels below "normally acceptable" noise levels). While new development in these areas might not cause the "normally acceptable" noise level for existing development to be exceeded, it is recognized that such new development might cause an increase in ambient noise considered significant in terms of impacts on existing uses.

2. Enforce the Sacramento Noise Ordinance as the method to control noise from sources other than transportation sources.

Goal D

Reduce noise levels in areas where noise exposure presently exceeds the standards established in Figure 3.

Policies

- 1. Continue to enforce the provisions of sections 27-150 and 27-151 of the State Motor Vehicle Code. These sections require that all vehicles be equipped with a properly maintained muffler and that exhaust systems not be modified.
- 2. Encourage the incorporation of the latest noise control technologies in all projects.

Sacramento Central City Community Plan

In addition to the General Plan, the City of Sacramento has also developed plans that are more specific to the various communities in the City. The City's "Central City Community Plan" contains the following sub goal under its environmental goal:

Sub-goal

• Provide an environment which is free of annoying noise and continue to reduce air pollution.

Sacramento Municipal Code

The Sacramento Municipal Code also contains regulations concerning noise. These noise regulations are found in Title 8 – Health and Safety, Chapter 8.68 – Noise Control. Of the regulations in Chapter 8.68, not all are applicable to the proposed project. Of the applicable regulations, Section 8.68.060 sets standards for cumulative exterior noise levels at residential and agricultural properties. Section 8.68.190 generally prohibits any person from making "any loud, unnecessary or unusual noise which disturbs the peace and quiet of any neighborhood or which

causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area." Section 8.68.060 exempts certain activities from Chapter 8.68, including "noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure" as long as these activities are limited to between the hours of seven a.m. and six p.m. Monday through Saturday, and between the hours of nine a.m. and six p.m. on Sunday. Section 8.68.060 also requires the use of exhaust and intake silencers for internal combustion engines, and provides for construction work to occur outside of the designated hours if the work is of urgent necessity and in the interest of public health and welfare for a period not to exceed three days.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

Traffic Noise Impact Assessment Methodology

The analysis of the existing and future noise environments presented in this analysis is based on noise level monitoring, noise prediction modeling, and empirical observations. Existing noise levels were monitored by EIP Associates at selected locations within the project vicinity using a Larson-Davis Model 814 precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation.

Noise modeling focuses on the noise resulting from traffic on roadways in the vicinity of a project. Modeling procedures involve the calculation of existing and future vehicular noise levels along individual roadway segments in the project vicinity. This task was accomplished using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). The FHWA Model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA Model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data show that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. Traffic volumes utilized as data inputs in the noise prediction model were provided by the project traffic engineer.

Construction Noise and Vibration Impact Methodology

Construction noise was analyzed using data compiled by the US Environmental Protection Agency that lists typical noise levels at 50 feet for construction equipment and various construction activities. Vibration from construction was evaluated using data from the Federal Railroad Administration that lists typical vibration decibels at various distances for common construction equipment.

Standards of Significance

For the purposes of this EIR, noise and vibration impacts are considered significant if the proposed project would:

 Permanently expose nearby sensitive uses to excessive groundborne vibration levels. While CEQA states that the potential for any excessive groundborne vibration levels must be analyzed, it does not define "excessive", and there are no federal, State or local standards for groundborne vibration. Consequently, this analysis uses the Federal Railway Administration's vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 80 VdB at residences and buildings where people normally sleep (e.g., nearby residences and day care facility) and 83 VdB at institutional buildings;

- Create vibration that would cause structural damage to existing buildings;
- Cause non-transportation maximum noise levels at any surrounding residential uses to exceed the noise performance standards specified in Section 8.68.060 of the City of Sacramento Municipal Code;
- Cause transportation noise levels at surrounding uses to exceed the Community Noise Exposure Levels found in Figure 3 of the City of Sacramento General Plan on page 8-27. Where ambient noise levels already exceed the City's standards, significance will be determined by whether the proposed project would increase the ambient level by three dBA Ldn or more.
- Cause interior noise levels at multi-family residential areas to be above 45 dB Ldn, which would be inconsistent with Title 24 of the California Code of Regulations.

Project-Specific Impacts and Mitigation Measures

5.4-1 Construction of the proposed project would produce temporary noise.

During construction of the proposed project, noise levels would be produced by the operation of heavy-duty equipment and various other construction activities, especially the demolition of the building that currently exists on the project site, and pile-driving during construction of the new towers. This construction noise would affect surrounding uses, but would be temporary, lasting only until the proposed project is constructed. As discussed in the environmental setting, there are few sensitive uses surrounding the proposed project site. Most uses adjacent to the proposed project are either commercial business offices or retail uses. The closest receptor that would be considered a "sensitive" receptor is the Governor's Square apartment buildings approximately two blocks (approximately 450 feet) south of the proposed project site and Governor's Square Apartments.

Because construction would occur during hours when buildings surrounding the project site are occupied, construction noise could impact these uses. This would be especially true during those periods where pile-driving would occur. As shown in Table 5.4-4, pile-driving could produce peak levels of up to 107 dBA L_{eq} at 50 feet. Since noise from a point source usually attenuates at approximately 6 dBA per doubling of distance, this would result in pile-driving noise of about 101 dBA L_{eq} at 100 feet and 95 dBA L_{eq} at 200 feet. There are several buildings within 200 feet of the proposed project, including the 300 Capitol Mall building and the Ironstone Bank. Two restaurants – the 4th Street Grille and II Fornaio, are also on streets adjacent to the proposed project. Both of the restaurants are open during the day when pile driving would occur. While none of the uses directly adjacent to the proposed project are considered "sensitive receptors" in the traditional sense, levels of 95 dBA L_{eq} would definitely be noticeable at these buildings. Pile-driving noise would most likely be loud enough to cause annoyance to the occupants of these buildings, especially considering that pile-driving does not produce continuous noise, but sharp, intermittent noise peaks.

Since Tower A could be occupied while Tower B is being constructed, residents of Tower A would also be affected by construction noise. However, because the podium would already be built, all site preparation, such as demolition, grading, and pile driving would have already been completed, so new residents would not be exposed to these activities. The Sacramento Municipal Code, Title 8 – Health and Safety, Chapter 8.68 – Noise Control, sets "not-to-be-exceeded" exterior noise standards for residential and agricultural property. However, the chapter also exempts certain activities from the provisions of the rest of the chapter. One of these activities is erection (including excavation), demolition, alteration, or repair of any building or structure, as long as the activity takes place between the hours of seven a.m. and six p.m. on Monday through Saturday. Construction is also

limited to the hours between nine a.m. and six p.m. on Sunday. The director of building inspections may also permit work to be done outside of these hours in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days.

TABLE 5.4-4							
NOISE BANGES OF TYPICAL CONSTRUCTION FOUR							
Construction Equipment Noise Levels in dBA Leg at 50 feet ¹							
Front Loader	73-86						
Trucks	82-95						
Cranes (moveable)	75-88						
Cranes (derrick)	86-89						
Vibrator	68-82						
Saws	72-82						
Pneumatic Impact Equipment	83-88						
Jackhammers	81-98						
Pumps	68-72						
Generators	71-83						
Compressors	75-87						
Concrete Mixers	75-88						
Concrete Pumps	81-85						
Back Hoe	73-95						
Pile Driving (peaks)	95-107						
Tractor	77-98						
Scraper/Grader	80-93						
Paver	85-88						
Notes:							
 Machinery equipped with noise control devices or other noise-rec shown in this table. 	lucing design features does not generate the same level of noise emissions as that						

These limited hours ensure that construction occurs only during daytime hours, thereby minimizing the chance that noise would be generated during the more "sensitive" hours when people may be trying to sleep. In the case of the proposed project, however, surrounding uses are primarily commercial and retail – uses that normally result in buildings being occupied during the day.

Although the City of Sacramento Municipal Code exempts construction activities from the noise standards specified elsewhere in the Municipal Code, pile driving and other construction activities, such as the use of jackhammers and tractors, would expose occupants of nearby buildings to high levels of noise during the day. Consequently, this would be a *short term significant impact*.

Mitigation Measure

The following measures could reduce exposure to excessive noise levels; however, noise levels would temporarily be increased beyond the 5 dB threshold. Consequently, construction noise would be considered a *short-term-significant and unavoidable impact* to surrounding uses.

5.4-1 The prime contractor shall ensure that the following measures are implemented during project construction.

- (a) Erect a solid plywood construction/noise barrier along the exposed project boundaries. The barrier should not contain any significant gaps at its base or face, except for site access and surveying openings.
- (b) Construction activities shall comply with the City of Sacramento Noise Ordinance. Demolition and pile driving activities shall be coordinated with adjacent land uses in order to minimize those noise impacts.
- (c) To further mitigate pile driving noise impacts, holes will be pre-drilled to the maximum feasible depth. This will reduce the number of blows required to seat the pile, and will concentrate the pile driving activity closer to the ground where noise can be attenuated more effectively by the construction/noise barrier.
- (d) Locate fixed construction equipment such as compressors and generators as far as possible from sensitive receptors. Shroud or shield all impact tools and muffle or shield all intake and exhaust ports on power construction equipment.
- (e) Designate a disturbance coordinator and conspicuously post this person's number around the project site and in adjacent public spaces. This disturbance coordinator will receive all public complaints about construction noise disturbances and will be responsible for determining the cause of the complaint, and implement any feasible measures to be taken to alleviate the problem.

5.4-2 Construction activity would temporarily produce high levels of groundborne vibration.

In addition to noise, construction activity can also produce vibration. Construction-related vibration is normally associated with impact equipment such as jackhammers and pile drivers, and the operation of some heavy-duty construction equipment such as trucks and bulldozers. Table 5.4-5 shows typical vibration levels for construction equipment.

TABLE 5.4-5								
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT								
		Approximate VdB						
Construction Equipment	25 Feet	25 Feet 50 Feet 60 Feet 75 Feet 100 Feet						
Large Bulldozer	87	81	79	77	75			
Loaded Trucks	86	80	78	76	74			
Jackhammer	79	73	71	69	67			
Small Bulldozer	58	52	50	48	46			
Source: Federal Railroad Administration	on, 1998; and EIP Ass	ociates, 2005.						

Construction-related vibration has two potential impacts. First, vibration at high enough levels can disturb people trying to sleep. Thresholds for this vibration have been developed by the Federal Railway Administration, which has determined that any vibration over 80 VdB can be a significant impact at places where people sleep. Second, groundborne vibration can potentially damage the foundations and exteriors of existing, older structures. Groundborne vibration that can cause this kind of damage is typically limited to impact equipment, especially pile-drivers.

As discussed in Impact 5.4-1, there are no residential uses directly adjacent to the proposed project site. The closest non-residential buildings are over 100 feet away from where vibration-producing

activity would occur and the closest residential receptor (Governor's Square Apartments) is approximately 450 feet away. As shown in Table 5.4-5, this distance would ensure that VdB levels from construction equipment besides pile-drivers would not exceed the 80 VdB threshold at which disturbance could occur. Also, these adjacent receptors do not qualify as land uses where people would sleep, and so construction would not cause sleep disturbance.

Structural damage to existing buildings due to construction vibration would only be an issue during pile-driving. Pile-driving can produce peak particle velocity (PPV) values of up to 1.518 at 25 feet. Impact pile drivers produce a high level of vibration for short periods (0.2 second) with sufficient time between impacts to allow a building's resonant effects to decay before the next vibration event. Normally, the integrity of existing structures would be potentially jeopardized within 50 feet of pile-driving activity. As discussed previously, the nearest existing structures to where pile-driving could occur are all more than 50 feet away. Due to its age, of all the buildings in the project vicinity, the most sensitive to pile-driving would be the Crocker Art Museum. The Museum is approximately 1000 feet away from the proposed project site, and so would not experience any groundborne vibration from this activity that could cause structural damage.

Because the nearest existing buildings to the project site are all at least 100 feet away, constructionrelated vibration, including that generated by pile-driving, would not reach the 80 VdB threshold of significance and would not cause annoyance to occupants of these buildings. Likewise, distances are such that high-impact activities, such as pile-driving, would not generate PPV values that could result in structural damage. Consequently construction vibration would result in an impact that would be **less than significant**.

Mitigation Measure

None required.

5.4-3 The proposed project could expose new sensitive receptors to excessive noise levels.

Sensitive noise receptors are those uses that are more likely to be adversely affected by an increase in ambient noise levels. This includes uses such as schools, hospitals, retirement homes, and residences. The sensitive noise receptors that would be added by the proposed project would be the condominiums that would occupy approximately 28 floors of Tower A and 42 floors of Tower B. Most of the existing noise to which these residences would be exposed would be traffic noise on the surrounding roads. The results of traffic noise modeling for these roads are shown in Table 5.4-6. As shown in the table, traffic noise levels at the project property line could be as high as 67.0 dB L_{dn}. The Sacramento General Plan specifies an acceptable exterior noise level for common outdoor areas at multi-family uses of 60 dB L_{dn}. Outdoor areas would include courtyards, balconies, or common patios An outdoor pool area is proposed at the top of the podium, on the 9th floor at 4th and L Streets that is part of the proposed project. This would place the pool area approximately 100 feet above street level. This pool area would qualify as an outdoor area and would be subject to the 60 dB L_{dn} standard.

TABLE 5.4-6 EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT							
Noise Levels (L _{dn}) 50 Feet From Centerline							
Roadway	Segment	Existing No Project (dB)	Existing Plus Project (dB)	Change (dB)			
L Street	3 rd Street/5 th Street	66.4	67.0	+0.6			
Capitol Mall	3 rd Street/5 th Street	64.6	66.3	+1.7			
N Street	3 rd Street/5 th Street	60.8	60.8	0			
3 rd Street	L Street/N Street	63.2	66.1	+2.9			
4 th Street	Capitol Mall/N Street	57.7	57.8	+0.1			
5 th Street	L Street/N Street	62.8	63.6	+0.8			
3 rd Street	N Street/P Street	64.4	64.6	+0.2			
3 rd Street	P Street/Q Street	61.3	61.4	+0.1			
Source: EIP Associates, 2	005.						

The pool would be located on the northeast corner of the podium. Locating the pool area in this portion of the project site would cause the area to be shielded from freeway noise by the intervening Tower located on the western portion of the site. The major sources of noise that would affect the pool area at the northeastern portion of the site would be traffic noise on 4th Street and L Street. As shown in Table 5.4-7, maximum traffic noise on the road segments could reach 67.8 dBA L_{dn} in future years. However, this 67.8 dBA L_{dn} is with a direct line of sight between the noise source and the receptor with no intervening structures. Because the pool area at the proposed project would be 9 floors above street level, the line-of-sight between the nearest roadways would be eliminated at all portions of the pool area except the very edge of the building. When a line-of-sight is broken by a substantial structure, such as a building wall, noise reductions of approximately 10 dBA can result. Because the line-of-sight would be broken at the pool area, noise levels at the area would be below the 60 dBA L_{dn} standard for exterior activity areas in future years.

TABLE 5.4-7							
FUTURE (YEAR 2025) TRAFFIC NOISE LEVELS WITH AND WITHOUT PROJECT							
	Noise Levels (L _{dn}) 50 Feet From Centerline						
Roadway	Segment	Future No Project (dB)	Future Plus Project (dB)	Change (dB)			
L Street	3 rd Street/5 th Street	67.7	67.8	+0.1			
Capitol Mall	3 rd Street/5 th Street	66.6	67.1	+0.5			
N Street	3 rd Street/5 th Street	63.0	63.1	+0.1			
3 rd Street	L Street/N Street	66.8	67.2	-0.4			
4 th Street	Capitol Mall/N Street	58.8	59.3	+0.5			
5 th Street	L Street/N Street	64.2	64.4	+0.2			
3 rd Street	N Street/P Street	65.6	65.8	+0.2			
3 rd Street	P Street/Q Street	62.5	62.5	0			
Source: EIP Associates, 20	005.						

In addition to the outdoor noise standard, the City has adopted an interior standard for multi-family uses of 45 dB L_{dn} . Exterior-to-interior reduction of newer residential units is generally 30 dBA or more. Since maximum outdoor noise levels could be as high as 67.0 dB L_{dn} , it follows that interior noise levels would be no more than 37 dB L_{dn} . This would be below the 45 dBA interior standard for multi-family uses. In reality, interior noise levels would almost surely be substantially less than this, because the majority of the ambient noise would come from roadway traffic, and residential uses would occur no lower than the 10th floor at either tower. This would place residences farther away from the main noise source, and noise levels would decrease proportionally.

Interior noise levels have been shown to be below the City's 45 dBA interior noise level standard, and exterior noise exposure at the courtyard/pool area on top of the podium would not be above the City's exterior noise level standard for multi-family uses because there would be no direct line-of-sight between roadways and the outdoor area where people would recreate. Consequently, this would be a *less-than-significant impact*.

Mitigation Measure

None required.

5.4-4 The proposed project could expose existing receptors to significant increases in ambient noise.

As discussed in Impact 5.4-3, the proposed project would increase ambient noise levels by increasing traffic on local roads. Typically, a 3 dBA increase in ambient noise levels is barely perceptible, and a 5 dBA increase is readily noticeable. Consequently, if any sensitive noise receptors would be exposed to an ambient increase of 5 dBA or more, this increase would be considered significant.

The only sensitive receptor in the vicinity of the proposed project is the Governor's Square apartment complex at 3rd and N Streets. However, because of the age of the building, and because museums require quiet conditions, the Crocker Art Museum is also be considered to be a sensitive noise receptor for the purposes of this analysis.

Table 5.4-6 shows both existing and existing plus project noise levels for various roadways in the vicinity of the proposed project. The highest existing noise levels are approximately 66.4 dBA L_{dn} along L Street, adjacent to the proposed project. Adding project-generated traffic to existing traffic would increase noise levels on this road segment by only 0.6 dBA L_{dn} . The modeling of the roadway segment adjacent to both Governor's Square Apartments and the Crocker Art Museum (3rd Street between N and P Street) shows that existing traffic noise levels are approximately 64.4 dBA L_{dn} . Project-generated traffic would add only 0.2 dBA L_{dn} to existing noise levels. Consequently, minimal traffic noise increases would occur as a result of the proposed project, and traffic noise along all roadways would experience noise increases below the 5 dB standard of significance. Consequently, this would be a *less-than-significant impact*.

Mitigation Measure

None required.

5.4-5 Helicopters using the proposed project's heliport would create noise that could annoy residents and disrupt sleep.

The proposed project would include heliports at the top of each tower. These landing pads would be for emergency and private use. As such, it cannot be known how many arrivals and departures would be conducted per day. The possibility exists that a substantial number of take-offs and landings could occur.

It is not known at this time what type of helicopters would utilize the landing pads. Helicopters of different types generate different levels of noise. A helicopter noise study recently conducted in Sacramento for a hospital expansion that included a helistop relied on staged helicopter flights to simulate future operations.¹ Noise monitoring of the staged flights was conducted at eleven locations along the flight paths during both arrivals and departures. The helicopter used during the flight simulation was a Bell 206 Long Ranger. This type of helicopter may represent a larger, noisier helicopter than those that would typically use the heliports at the proposed project. Currently, however, it is not known what types of helicopters would use the pads. Sound exposure levels for the Long Ranger helicopter flights were calculated once monitoring was completed. At the monitoring location nearest to the heliport, sound exposure levels (SEL) were 99.1 dB during arrival and 96.8 dB during departure of the helicopter. The average SEL of all monitored locations during arrival was 79.1 dB and the average SEL during departure was 67.7 dB. The one monitoring location that was an interior location at a residence monitored an SEL of 66.0 during arrival and 58.5 during departure. The exterior noise levels at this same location were 92.6 and 88.0 dB during arrival and departure, respectively.

Since the number of daily flights and the type of helicopters that would be used on the helipads are not known at this time, noise impacts cannot be estimated with certainty. However, based on the monitoring conducted for the staged operations of a heliport, it is clear that the potential for high noise levels during arrivals and departures exists. This noise would affect surrounding buildings and people living at the Towers on Capitol Mall project. The actual degree of impact would depend on the number of flights and the type of helicopter.

As discussed in Impact 5.4-3, indoor 24-hour noise levels at the Towers would be significantly lower than the 45 dBA L_{dn} standard for multi-family uses as specified in the City's General Plan. Because helicopter take-offs and landings are of short duration they would not have the ability to increase 24-hour noise levels above this standard. However, even though noise from take-offs and landings would be of short duration, each event could generate a substantial amount of noise. Consequently, while helicopter noise would not create significant impacts when measured over a 24-hour period, it could be of concern during limited single events if noise is excessive. Attention should be focused on helicopter flights occurring during nighttime hours because the biggest concern during single events of this kind is the noise source's potential to disrupt sleep. While no criteria exists that defines at what point sleep disturbance is significant, the probable SEL that would be generated by helicopter flights, as discussed earlier, make it likely that the sleep of at least some residents would be disturbed if the flights occurred during nighttime sleep hours. This would be a *significant impact*.

Mitigation Measure

The City of Sacramento Municipal Code limits construction activity to between the hours of seven a.m. and six p.m. Monday through Saturday, and nine a.m. and six p.m. on Sunday. These hours have been set with the goal of minimizing sleep disturbance to receptors. Because helicopter noise

¹ Noise Study for Sutter Health Medical Center Expansion, p. 14. Bollard and Brennan, 2005.

would be limited to sporadic events that are short-term in nature, similar to some construction activities, similar restrictions can be used to reduce potential noise impacts associated with these events. The following mitigation measure would ensure that helicopter take-offs and landings would not occur during recognized sleep hours and, consequently, helicopter noise would not disturb the sleep of residents, and the impact would be reduced to a *less-than-significant level*.

5.4-5 Helicopter take-offs or landings shall be restricted to occur between the hours of seven a.m. and six p.m. on Monday through Saturday, and between the hours of nine a.m. and six p.m. on Sunday. Any emergency helicopter activity shall be exempt from the provisions of this mitigation.

Cumulative Impacts and Mitigation Measures

The cumulative context for noise impacts associated with the proposed project consists of the existing and future noise sources that could affect the project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context.

5.4-6 The proposed project would add to cumulative noise levels in the project's vicinity.

Traffic

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and other projects within the study area. Table 5.4-8 shows cumulative 2025 traffic noise levels with and without the proposed project. As shown, the proposed project would contribute no more than 0.2 dBA L_{dn} to noise levels on roadways fronting Governor's Square and the Crocker Art Museum. This is less than the 5 dBA increase that would be readily noticeable to the human ear.

Non-Traffic Noise

The proposed project is not expected to create substantial non-traffic noise. Non-traffic noise, besides helicopter noise, that is produced would be typical to the surrounding area. The proposed project would bring many new residents to the area. As a result of this, the number of people walking and interacting on surrounding roads would increase. This could raise noise levels on these streets slightly as more people utilize amenities in the area. This is not expected to substantially influence interior or exterior noise levels at nearby receptors.

Mechanical equipment installed for heating, cooling, ventilation, and power supply would be placed indoors. Any noise from this equipment would not be audible outside the buildings. Consequently, this would not add to any cumulative noise levels.

Helicopter Noise

As discussed in Impact 5.4-5, the specific details of the helicopter operations are not known at this time. However, based on previous studies of helicopter take-offs and landings, it is apparent that high sound levels could be created by helicopter arrivals and departures and would be noticeable to residents at the proposed project. Helicopter noise could also potentially be noticed by residents in the surrounding area. Because the frequency of flights is not known, it cannot be estimated how much of a contribution the flights would make to the cumulative noise environment. However, as shown in Impact 5.4-5, mean sound levels could be substantial at certain locations. Especially at

nighttime, these levels could be higher than sound levels contributed by other sources in the area. Thus, for the limited duration of flight arrivals and departures, helicopter noise could be a substantial contributor to the cumulative noise environment. Mitigation measure 5.4-5, however, will ensure that single helicopter events will not have a significant short-term or long-term cumulative impact by limiting helicopter activity to daytime hours.

Cumulative Conclusion

The combination of traffic, non-traffic and helicopter noise from the proposed project would not produce noise levels that would exceed City standards or produce isolated events that could disrupt sleep. As discussed above, the proposed project would not create noticeable non-transportation or stationary noise. Increased project-related traffic would increase traffic noise levels by a maximum of 0.2 dBA L_{dn} on local roadways. This would be far less than the 5 dBA at which noise increases become readily noticeable. Since helicopter take-offs and landings would be of short duration, they would not have the potential to increase overall 24-hour noise levels. Short-term cumulative impacts would be minimized by limiting helicopter activity to non-sleep hours. Consequently, the total noise impact of the proposed project would be fairly small and would not be a substantial increase to the existing future noise environment. Thus, the proposed project would result in a *less than significant cumulative impact*.

Mitigation Measure

None required.

5.5 Public Services and Utilities

INTRODUCTION

This section addresses the demand for public utilities and services generated by the Towers on Capitol Mall (proposed project) and the ability of current systems to accommodate the demand. Impacts to solid waste, wastewater, storm drainage, and water supply are discussed.

The solid waste section discusses the existing condition of the solid waste landfills that would serve the project, estimates the solid waste generated by the proposed project and compares projected solid waste generated to landfill capacity. Information for this analysis was obtained from the Sacramento General Plan, the California Integrated Waste Management Board (CIWMB), and City staff.

The wastewater and storm drainage section discusses the existing condition of the City's wastewater and stormwater collection and treatment systems and estimates the wastewater and drainage generated by the proposed project. Information for this analysis was obtained from the Sacramento General Plan and conversations with City engineers.

The Initial Study (see Appendix A) determined that impacts to the following utilities and services would be less than significant: law enforcement, schools, libraries, parks, fire protection, energy and natural gas, and telecommunications.

A comment on the NOP addressed energy consumption of the proposed project. As discussed in the Initial Study, the proposed project would include up-to-date energy-saving equipment and lighting, as well as other energy conservation measures, so the proposed project would not result in the unnecessary, inefficient, or wasteful use of resources. This impact was determined to be less than significant and is not further addressed in the EIR.

SOLID WASTE

ENVIRONMENTAL SETTING

The City collects all residential solid waste. Commercial waste collection is performed by both City and permitted private haulers. Residential and commercial solid waste collected by the City is transported to the Sacramento Recycling and Transfer Station (8491 Fruitridge Road) and is then transported to Lockwood Landfill, near Sparks, Nevada. Commercial waste collected by private companies is disposed at a variety of facilities including the Sacramento County Keifer Landfill, the Yolo County Landfill, Forward Landfill, L and D Landfill, Florin Perkins Landfill, and several privately run transfer stations.¹ Private haulers can deliver waste to the landfill of their choice; they typically select the most cost-efficient option.

There are two large volume transfer stations (Sacramento Recycling and Transfer Station, owned by BLT Enterprises, and North Area Transfer Station, owned by the County of Sacramento Public Works Department) that generally serve the project site. Currently, the Sacramento Recycling and Transfer Station accepts approximately 2,000 tons of mixed municipal waste per day and is permitted for a maximum daily disposal of 3,000 tons.² The North Area Transfer Station accepts up to 1,800 tons per day of construction/demolition, industrial, and green materials, tires, wood waste, and mixed municipal waste.³

Kiefer Solid Waste Landfill, operated by the County Department of Public Works, is the primary municipal solid waste disposal facility in Sacramento County. Kiefer Landfill, categorized as a Class III facility, accepts waste from the general public, businesses, and private waste haulers. More specifically, wastes accepted include: construction/demolition, mixed municipal, and sludge (biosolids). The facility is on a 1,084-acre site near the intersection of Kiefer Boulevard and Grantline Road. The permitted capacity for the landfill is 117,400,000 cubic yards (10,815 tons/day) and, as of 2000, the landfill had a remaining capacity of 86,163,462 cubic yards (73 percent).⁴ The landfill has an estimated closure date of 2064.⁵

The Lockwood Regional Landfill, located in Sparks, Nevada, is a Class I landfill that currently accepts an average of 7,700 tons/day, 800 tons of which come from the City of Sacramento. Lockwood Landfill does not have maximum daily disposal limits, and it has a remaining capacity of 32.5 million tons. The landfill currently operates on a 550-acre site; however, the process for expansion to 1,100 acres is underway.⁶

The City of Sacramento provides weekly curbside pickup of trash and bi-weekly curbside pickup of recyclable materials at residences within City limits. The City also requires all five-unit or more multiple family residential developments to prepare a recycling program prior to the issuance of building permits (Sacramento Regional County Solid Waste Authority, Ordinance Five).

¹ City of Sacramento, *General Plan*, 1988, Page 7-10.

² City of Sacramento, *Crocker Art Museum Expansion EIR*, August 23, 2004, Page 232.

³ CIWMB, *Transfer Station Profile*, www.ciwmb.ca.gov, Accessed January 18, 2005.

⁴ CIWMB, *Active Landfills Profile*, www.ciwmb.ca.gov, Accesses January 18, 2005.

⁵ CIWMB, Active Landfills Profile, www.ciwmb.ca.gov, Accessed January 18, 2005.

⁶ Mark Frankey, Nevada Bureau of Waste Management, personal communication, January 18, 2005.

In 2000, the City of Sacramento disposed of 500,291 total tons (34 percent household waste and 66 percent business waste). Of this total, the City exported 210,862 tons (42 percent) out of state for disposal. The City of Sacramento achieved a diversion rate of 45 percent in 2000.⁷

Regulatory Context

Federal

Resource Conservation and Recovery Act

Volume 40 of the Code of Federal Regulations, Part 258 (Resource Conservation and Recovery Act (RCRA, Subtitle D)) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure of landfills.

State

Assembly Bill 939

In 1989, the California Legislature passed AB 939 requiring California cities to implement plans designed to reduce waste deposited in landfills by 50 percent per person by December 31, 2000. As part of AB 939, cities and counties were required to develop a Source Reduction and Recycling Element (SRRE).

Local

City of Sacramento General Plan

The following goal is applicable to solid waste and the proposed project:

<u>Goal</u>

Provide adequate solid waste disposal facilities and services for collection, storage and reuse of refuse.

Central City Community Plan

The CCCP does not contain goals or policies applicable to the provision of solid waste services.

Sacramento Regional County Solid Waste Authority (SWA)

Ordinance 5

Ordinance 5 established regulatory requirements for multi-family residential recycling collection for the cities of Sacramento, Citrus Heights, and the unincorporated County. Owners or operators of complexes with five or more units must, at a minimum, offer bi-weekly collection of the following items: cardboard, paper products, aluminum, plastic, and glass.

⁷ CIWMB, *Jurisdiction Profile*, http://www.ciwmb.ca.gov, Accessed January 18, 2005.

Ordinance 8

Ordinance 8 was established to regulate the transport, transfer, disposal, and recycling of commercial solid waste kept or accumulated within the SWA region. The ordinance was put into place for the purposes of ensuring the orderly operation of solid waste transport and disposal, and also to minimize adverse effects on human health and the local environment. Sections 24 and 25 of Ordinance 8 specify that commercial franchisees must divert 30 percent of their commercial solid waste for recycling, and establishes a recycling incentive fee for tonnage shortfall of waste diversion. Section 35 provides restrictions for solid waste disposal, including prohibiting the dumping of solid waste on any property, road, or highway not designated by the ordinance for solid waste disposal or dumping.

Sacramento Municipal Code

Chapter 17.72 of the City of Sacramento Municipal Code outlines the recycling and solid waste disposal regulations. These regulations are necessary in order to lengthen the lifespan of landfills, encourage recycling, and meet State mandated goals for waste reduction and recycling, specifically AB 939. These policies provide guidelines regarding the location, size and design features of recycling and trash enclosures in a manner by which adequate, convenient space for the collection, storage, and loading of recyclable and solid waste material is provided. In addition, developers are required to submit a "statement of recycling information" to the City's solid waste manager. The requirement for this statement includes: a site plan which includes design specifications, plans for demolition and construction, and any details of proposed education/public relations programs.⁸

Source Reduction Recycling Element

The California Integrated Waste Management Act of 1989 (Assembly Bill 939, noted above) mandates that each city shall prepare, adopt, and submit a SRRE. AB 939 required all cities to achieve a minimum diversion of 25 percent of the City's waste stream from landfilling by the year 1995 and 50 percent diversion by the year 2000. The City of Sacramento's Final Draft SRRE, approved in 1995, pledges to exceed the requirements of AB 939, where feasible, in an effort to achieve a 70 percent landfill avoidance goal adopted by City Council in August 1989. In order to achieve this goal, the City has implemented a number of programs, including curbside recycling, drop-off and buy-back centers, and compost programs.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

This analysis uses the following solid waste generation rates, provided by the City of Sacramento Utilities Department:⁹

- Commercial = 1 lb/100 sf/day
- Residential Apartment = 8 lbs/unit/day
- Hotel = 3.2 lbs/room/day, plus 2 lbs per meal served
- Gymnasium = 1 lb/100 sf/day
- 8 City of Sacramento, Municipal Code, Chapter 17.72, *Recycling and Solid Waste Regulations*, http://ordlink.com/codes/sacramento/index.htm, Accessed January 18, 2005.
- 9 Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, January 21, 2005.

The generation rates include recyclables and are used to estimate total waste generated by the project.

Standards of Significance

For the purposes of this EIR, impacts to solid waste are considered significant if the proposed project would:

- Require or result in the construction of new landfills or the expansion of existing facilities to accommodate the project's solid waste disposal needs; or
- Generate more than 500 tons of solid waste per year.

Project-Specific Impacts and Mitigation Measures

5.5-1 The proposed project could require or result in the construction of new landfills or the expansion of existing facilities or generate more than 500 tons of solid waste per year.

The proposed project would introduce residential, hotel, gymnasium, and retail uses on a site currently used for office space. The proposed uses would be more intensive than the previous office use and would generate more solid waste.

The demolition of the existing building and construction of the new high-rise towers would result in a variety of demolition construction debris. Construction and demolition (C&D) activities can generate significant amounts of waste. The CIWMB does not have a specific generation rate for C&D waste; however, construction of the proposed project would generate, for a short period of time, significant waste. The C&D waste could be disposed of at a variety of landfills including Lockwood Landfill, Keifer Landfill, or Yolo County Landfill. As discussed in the Environmental Setting, these landfills have adequate capacity and accept C&D waste.¹⁰ In addition, the proposed project is required to submit a statement of recycling information to the City's solid waste manager, which must include a description of C&D materials to be recycled.

Table 5.5-1 details the amount of solid waste that would be generated by operation of the proposed project. In total, the proposed project would generate approximately 8,677 pounds of solid waste per day (4.3 tons per day). It is unknown, at this time, which service provider the project would use. If disposal services are provided by the City, the trash would likely be sent to Lockwood Landfill, where it would constitute a 0.06 percent increase in the waste received each day (from 7,700 tons/day). The proposed project would result in a 0.5 percent increase in contributions from Sacramento to Lockwood landfill (from 800 tons/day). The landfill has 32.5 million tons of capacity remaining, is currently working on expansion plans, and has no estimated closure date.

If the project is served by a private waste disposal company, the waste could be delivered to a variety of landfills, depending on market conditions. This mechanism would ensure the waste is disposed of at a facility with adequate capacity.

¹⁰ California Integrated Waste Management Board, http://www.ciwmb.ca.gov, Accessed February, 2005.

TABLE 5.5-1								
SOLID WASTE GENERATION								
Use	Square footage/units	Generation Rate (Ibs/day)	Solid Waste (Ibs/day)					
Residential Apartment	800 condominium units	8.0/unit	6,400					
Hotel	276 rooms	3.2/room + 2.0/meal	883 (plus meal waste)					
Retail	85,000 sf	1.0/100 sf	850					
Gymnasium/Spa	50,000 sf	1.0/100 sf	500					
Restaurant (includes kitchen, storage, and lounge)	8,800 sf	5.0/1,000 sf	44					
Ballroom	8,500 sf							
TOTAL			8,677 lbs/day					
Source: Michael Root, Program Analyst, City of Sacrament	to Utilities Department, January	/ 21, 2005.						

Recycling programs can reduce the amount of solid waste by 50 to 80 percent, depending on how aggressive the program is.¹¹ A recycling program for the project has not yet been developed. However, in accordance with Sacramento City Code 17.72, the proposed project would be required to provide a recycling program, which would reduce the amount of solid waste generated. The developer must submit a "statement of recycling information" to the City's solid waste manager that must include a demolition and construction plan to specify any proposed recycling of building material in the demolition of any structure on the site and to specify any recycled material to be used in the construction of the proposed development.

The statement of recycling information must also include the location and design specifications of proposed recycling and trash enclosure(s) and receptacle(s) that shall meet the volume and material requirements (see Table 5.5-2) and the development standards and identify materials to be recycled. The recycling volume requirements for the proposed project totals approximately 80 cubic yards. The plan must also detail education and outreach efforts to inform users of the development of the benefits of recycling and how to recycle.

TABLE 5.5-2							
REQUIRED RECYCLING VOLUME							
Use	Square footage/ units	Recycling Volume Required	Required Recycling (cubic yards)				
Residential Apartment	800 condominium units	1 cubic yard/16 units	50.0				
Hotel	276 rooms	1 cubic yard/20 rooms	13.75				
Retail	85,000 sf	1 cubic yard/10,000 sf	8.5				
Gymnasium/Spa	50,000 sf	1 cubic yard/8,000 sf	6.25				
Restaurant/Bar	8,800 sf	1 cubic yard/5,000 sf	1.76				
TOTAL			80.26				
Source: Sacramento City Code, 1	7.72.030, Recycling Volume Require	ement.					

Assuming no recycling plan is in place, the proposed project would generate approximately 1,570 tons of solid waste per year. This would increase Sacramento's total solid waste disposal by approximately 0.3 percent. With implementation of required recycling programs, the proposed project's solid waste stream would be further reduced.

¹¹ Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, January 21, 2005.
Compliance with the City recycling code would ensure that the proposed project would, at a minimum, reduce its solid waste generation by 80 cubic yards per year. Because the proposed project's waste stream would represent a small portion of the City's overall waste stream, and the City of Sacramento's waste is distributed among a variety of landfills¹² that have substantial capacity remaining, the proposed project would not require the expansion or construction of landfills. However, the proposed project would generate more than 500 tons of solid waste per year. This would be a *significant impact*. Because there is no mitigation available to reduce project solid waste generation to below 500 tons per year, this impact would be *significant unavoidable*.

Mitigation Measure

None available.

Cumulative Impacts and Mitigation Measures

Because the 500 ton per year standard applies to individual projects, it would not logically apply to cumulative development. The cumulative analysis is based on the project's contribution and potential impact upon landfills. The cumulative context for solid waste services includes all development in the Sacramento Regional County Solid Waste Authority service area. This includes the cities of Sacramento and Citrus Heights and unincorporated areas of the County.

5.5-2 The proposed project, in combination with other development in the County, could require or result in the construction of new landfills or the expansion of existing facilities.

As addressed in the setting section, a number of landfills operate in the Sacramento region, and landfills outside the region also serve Sacramento's solid waste needs. The Lockwood Landfill, the primary destination for waste collected by the City of Sacramento, has no expected closure date and 32.5 million cubic yards of capacity. Kiefer Landfill is not expected to reach capacity for another 60 years. As growth continues in the region, in accordance with the County General Plan and city general plans, population would increase and the solid waste stream would continue to grow. Implementation of the Solid Waste Authority and Sacramento recycling requirements, however, would continue to reduce potential impacts on landfill capacity. The existence of significant capacity at the City's primary landfills, the exporting of solid waste and aggressive recycling policy indicate a *less-than-significant impact* on a cumulative level.

Mitigation Measure

None required.

¹² Michael Root, Program Analyst, City of Sacramento, Utilities Department, personal communication, January 21, 2005.

WASTEWATER AND STORM DRAINAGE

ENVIRONMENTAL SETTING

The project site is in a portion of the downtown area that has separate sanitary sewer and storm drainage pipelines.¹³ The project site is served by the City of Sacramento's Combined Sewer System (CSS) and Basin 52 for wastewater and stormwater disposal, respectively.¹⁴ The CSS is a wastewater collection system designed to convey domestic sewage, commercial and industrial wastewater, and surface stormwater runoff in a single pipeline. Sanitary sewage in this area flows directly to the CSS, while storm drainage in this area flows into the Basin 52 stormwater system. Basin 52 is a system of drainage pipelines serving a relatively small westerly portion of downtown Sacramento, discharging into the Sacramento River at Sump 52. Figure 5.5-1 shows the location of stormwater and CSS lines in the vicinity that would serve the project site.

Local flooding can occur during moderate and large storms from two causes: when the inflows reaching the CSS exceed its capacity and the system backs up into low-lying areas, and when the inflows reaching the Basin 52 system exceed its capacity and stormwater cannot enter the system.

Combined Sewer System

The project site is located in an area of Sacramento served by the CSS. The CSS is a wastewater collection system designed to convey domestic sewage, commercial and industrial wastewater, and surface stormwater runoff in a single pipeline. The construction of combined sewers, for the specific use of conveying both sanitary and storm flows, was discontinued in 1946. Since that time, separate sanitary and stormwater sewers have been constructed in newer parts of the service area, and portions of the original CSS have been separated, including the project site.¹⁵

Initially, all combined wastewater is sent to the City's pump stations via underground pipes; the primary station is Sump 2, located on the east side of the Sacramento River. Sumps 1 and 2 direct combined wastewater to the Sacramento Regional Wastewater Treatment Plant (SRWTP), the Combined Wastewater Treatment Plant (CWTP), and Pioneer Reservoir where it receives secondary and primary treatment, respectively, before it is discharged into the Sacramento River.

Wet weather flows have been known to exceed system capacity during heavy storm events. During storm events when the CSS flows are greater than 60 mgd (approximately ½" of rainfall), CSS flows are diverted to the City's CWTP, located near South Land Park Drive and 35th Avenue. These flows receive primary treatment at the CWTP. The CWTP basins may also be used for storage of flows until capacity is available at the SRWTP.¹⁶ During heavy storm events, flows may be sufficient to exceed the 190 mgd combined capacities of SRWTP (60 mgd) and CWTP (130 mgd). A combined sewer overflow (CSO) results when capacity is exceeded. The overflows are diverted to Pioneer Reservoir for storage. If Pioneer Reservoir reaches its capacity, the excess untreated flows are discharged directly into the Sacramento River. If the capacities of the pipeline system and treatment

¹³ Rick Batha, Supervising Engineer, City of Sacramento, Utilities Department, personal communication, January 13, 2005.

¹⁴ Rick Batha, Supervising Engineer, City of Sacramento, Utilities Department, personal communication, January 13, 2005.

¹⁵ City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996, Page 3-1.

¹⁶ City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996.



plant are surpassed, excess untreated flows flood local streets in the downtown area through manholes and catch basins.¹⁷

The CSO discharges of untreated combined wastewater to the river consist primarily of stormwater runoff (90 percent or more), with the remainder as sanitary sewage. The water quality of these discharges varies significantly depending upon the point of discharge and extent of treatment at Pioneer Reservoir (removal of floatables and grit). The untreated CSOs have low pollutant concentrations because the first flush of more polluted flow is treated at the SRWTP and CWTP.¹⁸

The City identified a long-term control plan (CSS Improvement Program) which includes system improvements to reduce CSOs to the Sacramento River and outflows to the City streets. The 1995 plan consists of increasing the pumping capacities of Sumps 1/1A and 2, converting Pioneer Reservoir to a primary treatment facility with disinfection, installing a relief sewer system in the downtown area, and constructing several local or regional underground storage facilities and relief sewers in areas that are currently subjected to frequent outflows and flooding.¹⁹ Many of these improvements have been completed, but others are part of an on-going process to improve the CSS system. The Utilities Department continues to upgrade pipes and construct additional storage facilities.

CSS Facilities

The City of Sacramento's CSS consists of both pipelines and facilities. Facilities include pumping stations, an off-line storage facility known as Pioneer Reservoir, and the two primary treatment plants: the CWTP and Pioneer Reservoir. The collection system is divided into networks and consists of trunks, interceptors, reliefs, force mains, laterals, and other pipelines. Trunk sewers represent seventy percent of the total collection system capacity (5,000,000 cubic feet total capacity).²⁰

The City operates two pump stations, known as Pump Station 1/1A and Pump Station 2/2A. Pump Station 2/2A, the primary pump station for the CSS, operates continuously throughout the year as well as during storm events, while Pump Station 1/1A operates only during storms.²¹

The off-line storage facility, Pioneer Reservoir, is a 3.5-acre, pile-supported, covered, reinforcedconcrete structure located near Front and U Streets. It was constructed in 1980 to provide 23 million gallons of temporary storage in order to reduce overflows down to approximately five to six events per year. It has a peak hydraulic capacity of 350 mgd and a treatment capacity of 250 mgd.²² Pioneer Reservoir was capable of primary treatment only after improvements resulting from the CSS Improvement and Rehabilitation Plan of 1999. Flows from Pump Station 2 are routed to the

¹⁷ City of Sacramento, *Crocker Art Museum Expansion EIR*, August 23, 2004, Page 231.

¹⁸ City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996, Page 3-10.

¹⁹ Rick Batha, Supervising Engineer, City of Sacramento Utilities Department, personal communication, January 25, 2005.

²⁰ City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996, Page 3-2.

²¹ City of Sacramento, *Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report*, November 1996, Page 3-8.

²² City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996, Page 3-8.

reservoir via the Pioneer Interceptor, a 120-inch diameter, 8,800-foot long pipe. The Interceptor can also provide an additional 5 mgd of storage.²³

The SRWTP, located approximately five miles south of the City in the unincorporated community of Freeport, is a secondary treatment facility that includes raw influent and effluent pumping, primary clarification, secondary treatment with the high-purity oxygen activated sludge process, disinfection, solids thickening, and anaerobic solids digestion. The SRWTP has an existing wastewater treatment capacity of approximately 390 mgd of wet weather flow during peak wet weather conditions. The SRWTP currently receives an average 165 mg of wastewater a day.²⁴

Currently, the discharge rates to the SRWTP are restricted to 60 mgd peak flow from Sump 2 by an Operating Agreement with SRCSD. During dry weather, approximately 25 mgd flows to the SRWTP from Sump 2.²⁵ The SRWTP also processes wastewater for most of the urbanized areas of the County, including Citrus Heights, Rancho Cordova, and Elk Grove.²⁶

Basin 52

Stormwater runoff in the project area would be handled by the City of Sacramento's Basin 52. Basin 52 is a system of pipelines designed to convey stormwater runoff, eventually discharging into the Sacramento River. Stormwater runoff enters into Sump 52, a pump station that discharges into the Sacramento River. The Basin 52 drainage shed is generally bounded by the railroad to the north, 7th Street to the east, U Street to the south, and the Sacramento River levee to the west.

Basin 52 is undersized and inadequate to handle the volume of stormwater runoff under existing conditions; the system provides less than a 2-year level of protection. Currently, inflow to Basin 52 exceeds capacity, and localized flooding occurs when the system is full and stormwater runoff cannot enter the collection system.²⁷ The Basin 52 Master Plan includes proposed improvements to alleviate the existing deficiencies in capacity, but it is not known when these improvements will be completed.²⁸

Wastewater and Storm Drainage Infrastructure

Please refer to Figure 5.5-1 for the location of storm drainage pipes. The 24-inch lines along 3rd Street and Capitol Mall convey wastewater from the project site south to the SWRTP. Two reinforced concrete drainage pipes serve the project site: a 33-inch pipe in 3rd Street and a 24-inch pipe in 4th Street convey drainage south to Sump 52 (located at P Street and 2nd Street). Drainage from the site enters the system at five points, two on 3rd Street and three on 4th Street. From the pump station, stormwater is pumped through 30-inch lines to its outfall at the Sacramento River (near O Street and Front Street).

²³ City of Sacramento, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996, Page 3-10.

²⁴ Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant, www.srcsd.com/srwtp.html, accessed February 8, 2005.

²⁵ Rick Batha, Supervising Engineer, City of Sacramento Utilities Department, personal communication, January 19, 2005.

²⁶ County of Sacramento, Municipal Services Agency, Department of Water Quality, http://pwa.co.sacramento.ca.us/waterquality/default.htm, Accessed January 18, 2005.

²⁷ City of Sacramento, *Crocker Art Expansion DEIR, Technical Appendix D*, Hydrologic Assessment by Philip Williams & Associates, September 2004.

²⁸ City of Sacramento, *Crocker Art Museum Expansion DEIR*, August 23, 2004, Page 235.

Regulatory Context

The following federal, State and local regulations and plans are applicable to the proposed project:

Federal

Federal and State Clean Water Act

The Federal Clean Water Act and regulations set forth by the California Department of Health Services and SWRCB are aimed primarily at discharges of effluent to surface waters. Title 40 of the Code of Federal Regulations (CFR) Part 503, Title 23 California Code of Regulations, and standards established by the CVRWQCB regulate the disposal of biosolids.

State

Environmental Protection Agency's National CSO Control Policy

In April 1994, the U.S. EPA issued its Combined Sewer Overflow Policy for controlling discharges to the nation's waters from combined sewer systems (40 CFR Part 122). One of the cornerstones of the CSO Policy is the requirement for Nine Minimum Controls (NMCs), which apply to every CSS in the nation. The NMCs are defined as the minimum technology-based actions or measures designed to reduce CSOs and their effects on receiving water quality without extensive engineering studies or major construction. This policy stipulates that at least 85 percent of the average annual CSS storm flow be captured and receive primary treatment with disinfection prior to discharge.

The results of a five-year monitoring effort and study (*Effluent and Receiving Water Quality and Toxicity Summary Report for 1991-1995*) found that the City is in compliance with this policy and has generally treated 92 percent of the total CSS storm flow volume prior to discharge.²⁹ This monitoring effort was completed prior to implementation of the improvements detailed in the CSS Improvement and Rehabilitation Plan.

In addition, the City's NPDES Permit (No. CA0079111) requires that the CWTP be in operation when Pioneer Reservoir is discharging to the river. This plan ensures that the City maximizes flow to the public-owned treatment works, which is one of the nine minimum controls in EPA's National CSO Policy.

Local

Combined System Development Fee

The City of Sacramento has developed a sewer ordinance amendment to replace the Mitigation Agreement previously required for developers.³⁰ The ordinance was adopted March 15, 2005. The ordinance requires a development fee for projects within the CSS service boundary. Key aspects of the CSS development fee include:³¹

²⁹ City of Sacramento, *Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report*, November 1996, Page 7.2-10.

³⁰ City of Sacramento, Department of Utilities, Memorandum subject: Combined Sewer System Development Fee. March 1, 2004.

³¹ City of Sacramento, Department of Utilities, Memorandum subject: Combined Sewer System Development Fee. March 1, 2004.

- A fee of \$2,633 equivalent single-family dwelling unit (ESD)³² that will be subject to periodic adjustments.
- The first 25 ESDs of a development will be charged \$106 per ESD.
- CSS development fees may be fully or partially offset by constructing cost sharing in the construction or mitigation project.
- The fee approximates the cost to construct local storage to mitigate impacts downstream.
- Fees will be collected into a fund for the City to construct larger projects to mitigate multiple developments.

City of Sacramento General Plan

The following goal and policies are applicable to wastewater services within the City.

Goal A

Provide adequate sewer service for all urbanized or developing neighborhoods. Policies

- 1. Provide and upgrade sewer facilities where needed to newly developing areas in the City.
- 2. Develop plans for extension of sewer lines to existing developed areas where sewer service is lacking.
- 3. Work with property owners to develop financing arrangements in order to provide sewer services.

The following goal and policies are applicable to drainage facilities within the City.

Goal A

Provide adequate drainage facilities to accommodate desired growth levels. Policies

- 1. Ensure that all drainage facilities are adequately sized to accommodate the projected increase in stormwater runoff from urbanization.
- 2. Coordinate efforts with the County Public Works Department and other agencies as appropriate to provide adequate and efficient drainage facilities and connector lines to service the Rio Linda, North Natomas and Laguna Creek areas of the City.
- 3. Target Capital Improvement Programs to fund drainage facilities in infl. areas.
- 4. Require private sector to form assessment districts and/or utilize other funding mechanisms to cover the cost of providing drainage facilities.
- 5. Design visible drainage facilities to be visually attractive.
- 6. Study incentives for developer to provide necessary drainage lines in underdeveloped areas.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

This analysis used the following generation rates for wastewater:³³

- General commercial (retail) = 0.2 ESD/1,000 sf (gross floor area)
- Multi-family residential = 0.75 ESD/unit
- Hotel = 0.3 ESD/room
- Gymnasium = 0.3 ESD/1,000 sf

^{32 1} ESD equals 400 gallons per day

³³ Rick Batha, Supervising Engineer, City of Sacramento Utilities Department, personal communication, January 19, 2005; and Kim Yee, City of Sacramento Utilities Department, personal communication, January 24, 2005.

- Restaurant = 2.0 ESD/1,000 sf
- Halls, Lodges, Auditoriums (ballroom) = 0.3 ESD/1,000 sf

Using the generation rates, an estimate of total wastewater was determined, and compared to capacity of transmission pipes and treatment plants serving the project. Drainage was analyzed qualitatively.

Standards of Significance

For the purposes of this EIR, impacts to wastewater and drainage services are considered significant if the proposed project would:

- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Create or contribute stormwater runoff water over pre-development conditions that would exceed the existing or planned capacity of the CSS or Sump 52.

Project-Specific Impacts and Mitigation Measures

5.5-3 The proposed project could require the construction of new wastewater treatment facilities or expansion of existing facilities.

The proposed project would increase the amount of building space and population in the Central City, which would result in the generation and discharge of additional wastewater requiring treatment at the SRWTP.

Currently, the SRWTP treats an average of 155 mgd. The dry weather capacity is 181 mgd; during wet weather, the plant can treat up to 380 mgd, of which 60 mgd is dedicated to receiving flows from the City of Sacramento's CSS.³⁴ During dry weather, the SRWTP receives 25 mgd from the CSS. As shown in Table 5.5-2, the proposed project would generate approximately 0.293 mgd of wastewater, which would increase dry weather CSS flows to SRWTP by one percent, and overall wastewater flows to the SRWTP by less than 0.2 percent. This increase would not exceed the dry weather capacity of the plant and would not require expansion of the SRWTP.

During wet weather, the City may not deliver more than 60 mgd to the SRWTP. All flows in excess of 60 mgd are routed to other CSS facilities (which are addressed in Impact 5.5-4). Therefore, even during severe storm events, the proposed project would not result in a lack of capacity at the plant. This impact would be *less than significant*.

Mitigation Measure

None required.

5.5-4 The proposed project could require the construction of new CSS infrastructure or facilities or expansion of existing CSS infrastructure of facilities to prevent sewer overflow or flooding, resulting in significant environmental effects.

³⁴ Rick Batha, Supervising Engineer, City of Sacramento Utilities Department, personal communication, January 19, 2005.

The proposed project would increase the amount of building space and population in the Central City, which would result in the generation and discharge of additional wastewater to the CSS.

As shown in Table 5.5-3, the proposed project would generate approximately 0.293 mgd of wastewater. These flows could be adequately treated by existing infrastructure during dry weather conditions. However, as discussed in the Environmental Setting, the CSS experiences CSOs under existing conditions during severe storm events. Any increase in flows to the CSS during these conditions would be considered a significant impact.

TABLE 5.5-3								
WASTEWATER GENERATION								
Use Square footage/units (1 ESD = 400 gpd) ESD (gpd)								
Residential Apartment	800 condominium units	0.75 ESD/unit	600	240,000				
Hotel	276 rooms	0.3 ESD/room	82.8	33,120				
Retail	85,000 sf	0.2 ESD/1,000 sf	17.0	6,800				
Gymnasium/Spa	50,000 sf	0.3 ESD/1,000 sf	15.0	6,000				
Restaurant (including kitchen and storage)	6,900 sf	2.0 ESD/1,000 sf	13.8	5,520				
Ballroom	8,500 sf	0.3 ESD/1,000 sf	2.55	1,020				
Lounge	1,900 sf	0.7 EDS/1,000 sf	1.33	532				
TOTAL 292,920 gpd (0.293 mgd)								

As stated above, localized flooding and CSOs occur during severe storm events, which would be exacerbated by additional flows from the proposed project. However, the City is currently implementing system-wide improvements to the CSS and the proposed project would be required to contribute funds toward City improvements to the CSS or, alternatively, complete on- or offsite improvements to store project wastewater during storm events. Absent system improvements, however, flooding and CSOs would continue.

However, compliance with the City's Combined System Development Fee ordinance would reduce the project impact by providing (1) additional capacity in the City's system to reduce the potential for flooding and CSOs system-wide, or (2) requiring storage of project flows to ensure that the proposed project would not contribute to flooding and CSOs. This would reduce this impact to a *less-thansignificant level*.

Mitigation Measure

None required.

5.5-5 The proposed project could create or contribute stormwater runoff over predevelopment conditions that would exceed the existing or planned capacity of Basin 52.

The project site is currently occupied by an office building and is primarily covered with impervious surface; however, a small portion of the site is landscaped. The proposed project would convert the entire site to impervious surfaces, which would increase the rate and amount of stormwater runoff. As discussed in the setting section, the Basin 52 drainage system is undersized and inadequate to

handle existing flows. Therefore, an increase in the rate or amount of runoff entering the Basin 52 system could contribute to localized street flooding during severe storm events.

Planned improvements to the Basin 52 drainage system may not occur in the immediate future, therefore, if the proposed project is constructed prior to the Basin 52 improvements, the increased runoff from the proposed project could result in flooding in the vicinity, which would be a *significant impact*.

Mitigation Measure

Implementation of the following mitigation measure would require the proposed project to contribute toward upsizing of the existing drainage pipes or the construction of onsite detention basins to accommodate any increase in flows resulting from the project, which would reduce this impact to a *less-than-significant level.*

5.5-5 The project developer shall contribute its fair share amount toward upsizing of existing drainage pipes; or shall construct on-site storage or detention to accommodate any increased runoff that would ensure that project runoff would not contribute to system flooding during storm events. The final detention method shall be developed in consultation with the City of Sacramento Utilities Department.

Cumulative Impacts and Mitigation Measures

Cumulative impacts to the CSS require examination of all development within the CSS service area, primarily downtown Sacramento. The cumulative context for drainage includes all development in the Basin 52 service area, generally bound by U Street to the south, 7th Street to the east, the railyards to the north, and the Sacramento River to the west.

5.5-6 The proposed project, in combination with other downtown development, could require the construction of new wastewater treatment facilities or expansion of existing facilities, resulting in significant environmental effects.

The average daily dry weather flow at full build-out of the City General Plan is estimated at 129.1 mgd and peak flow is estimated at 305.9 mgd. As previously discussed, the SRWTP currently receives an average dry weather flow of 155 mgd, less than its permitted capacity of 181 mgd of dry weather flow, so the SRCSD is not currently undergoing any expansions to the treatment plant. However, based on the Sacramento Area Council of Government's regional population projections, SRCSD's Regional 2020 Master Plan accommodates for expansions of the treatment plant as growth occurs. This plan is intended to ensure that the SRWTP facilities have sufficient capacity to meet planned growth in the service area through the year 2020. In addition, the Master Plan is updated every five years to account for changes in existing and projected population. Any necessary changes to capacity would occur incrementally, as regional population growth demands greater treatment capacity.³⁵

The Department of Utilities has completed many of the CSS Improvement and Rehabilitation Program projects, including the rehabilitation and upsizing of Sump 2, construction of new regional storage projects, and numerous rehabilitation and replacement projects throughout the system. The City continues to complete improvements according to the program, including additional storage

³⁵ Robert Seyfried, Senior Civil Engineer, Sacramento County Sanitation District, personal communication, March 14, 2005.

facilities, and the improvement and expansion of existing facilities. The City has also identified improvements to the older portions of the City's CSS to meet increased demand, including future upgrades to the interceptors that connect into the SRWTP. As previously discussed, the City is implementing a new fee program to ensure that these improvements are sufficiently funded. Therefore, with implementation of the existing programs to ensure that capacity is available as growth occurs, the cumulative impact would be *less than significant*.

Mitigation Measure

None required.

5.5-7 The proposed project, in combination with other development in the Basin 52 drainage shed, could contribute stormwater runoff water over pre-development conditions that would exceed the planned capacity of Basin 52.

Currently, the Basin 52 drainage shed is largely developed with urban uses, so much of the area is covered with impervious surfaces. However, cumulative development of additional intense urban uses could occur within this area, and result in an increase in impervious surfaces. This cumulative increase in impervious surfaces would increase the rate of surface runoff and exceed conveyance capacities within the Basin 52 drainage shed, which could result in localized flooding in the service area. As previously stated, the City is continuing to update the Basin 52 Stormwater Master Plan, which identifies recommended pipeline storage and pump improvements. As these improvements are made, the potential for flooding in the Basin 52 shed would be substantially reduced. Therefore, the cumulative impact on the Basin 52 drainage shed would be **less than significant**.

Mitigation Measure

None required.

WATER SUPPLY

ENVIRONMENTAL SETTING

Existing Water Rights

The City of Sacramento is primarily supplied with surface water from the Sacramento and American Rivers. The City diverts water pursuant to riparian and pre-1914 rights, and pursuant to five post-1914 appropriative water rights. In 1957, the City and the U.S. Bureau of Reclamation agreed to a contract authorizing Sacramento to divert a maximum of 326,800 acre-feet per year (AFY) from the Sacramento and American Rivers (245,000 AFY from the American River, and 81,800 AFY from the Sacramento River) through the year 2030 and subsequent years.³⁶ Of that total, the City is currently authorized to withdraw 205,500 AFY from the Sacramento and American Rivers, but the authorized diversions will increase over time until reaching the maximum level.

Table 5.5-4 illustrates the authorized supply increases, per the 1957 contract. The City's supply does not change between normal years, single dry years, or multiple dry years.³⁷

TABLE 5.5-4 AUTHORIZED SURFACE WATER SUPPLY				
Year	Amount Authorized			
2000	183,500 AFY			
2005	205,500 AFY			
2010	227,500 AFY			
2015	257,500 AFY			
2020	278,000 AFY			
Source: City of Sacramento, Urban Water Management	Plan, 2000. Table 3-1, 2001 of the DWSA.			

A comprehensive water planning effort between interests in Placer, El Dorado, and Sacramento Counties produced the Water Forum Agreement (WFA). The WFA addressed the full extent of water use within City limits and considered the City's water needs at buildout conditions. The WFA estimated the City's future water demands to be 130,600 AFY, a reduction from the existing demand of 137,750 AFY.³⁸ Subsequent to the WFA, the City proceeded with expansions and improvements to its water diversion and supply system, including reconstruction of its water supply intakes on the Sacramento and American Rivers, and additional expansion of its water treatment plants and associated distribution facilities.³⁹

Current Water Use

The City's average water demand is 59.2 million gallons per day (mgd) for the American River and 56.8 mgd for the Sacramento River; the peak demand is 93 mgd and 106 mgd, respectively.⁴⁰ The total water demand for the year 2002/2003 was 135,536 AFY (approximately 120 mgd); therefore,

³⁶ Revised Natomas Basin HCP EIR/IS. November, 1997. Page 3-10. CH2MHill.

³⁷ SB 610 Water Supply Assessment for College Square PUD Project. July 2003. EDAW Inc.

³⁸ Revised Natomas Basin HCP EIR/EIS. November, 1997. Page 3-10. CH2MHill.

³⁹ Sacramento and Sutter Counties (CH2MHill), *Revised Natomas Basin HCP EIR/EIS,* November 1997, Page 3-10.

⁴⁰ Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

based on 2005 entitlements, the City has an excess supply of 69,964 AFY of water.⁴¹ The amount of water delivered by the City has decreased over recent years; according to the Department of Utilities' Annual Report, water conservation savings for FY 2002/2003 was 4.5 percent, or 2,157 mg.⁴²

While a large portion of the City uses surface water, much of the northern area of the City relies on groundwater supplies. Most of the City's wells are located in this area. Of 47 municipal wells operated by the City, 30 are currently active, providing approximately 20 mgd.⁴³ Surface water constitutes 82 percent of total supply (36.3 mgd), while groundwater sources provide the remaining 17 percent (7.8 mgd) of total City water supply.⁴⁴

Water Treatment and Distribution

Annually, the City of Sacramento provides more than 45 billion gallons of water for drinking, household use, fire suppression, landscaping, and commercial and industrial use. The Department of Utilities operates and maintains the City's two water treatment plants, eight pump stations, thousands of hydrants, and more than 1,400 hundred miles of pipeline necessary to distribute water to homes and businesses throughout the City. The City's water infrastructure includes one pressure zone with two active water treatment plants, 10 storage reservoirs, 47 municipal water wells, and approximately 1,400 miles of water mains ranging from four to 60-inches in diameter.⁴⁵

Water Treatment

The City owns and operates two water diversion and treatment facilities: the Sacramento River Water Treatment Plant (Sacramento WTP) and the E.A. Fairbairn Water Treatment Plant (Fairbairn WTP, American River). The Sacramento River Treatment Plant is located east of Interstate 5 and south of Richards Boulevard. This plant's capacity was upgraded from 110 mgd (123,260 AFY) to 160 mgd (179,288 AFY) in June 2003. The E.A. Fairbairn Water Treatment Plant, located on the south bank of the lower American River, was also recently rehabilitated and expanded, which doubled the plant's capacity from 100 mgd (112,055 AFY) to 200 mgd (224,110 AFY). The City's overall water supply capacity, including the City's wells, is 577,083 AFY (approximately 515 mgd).⁴⁶ At maximum build out, between the two treatment plants, a total expansion to 545 mgd (610,670 AFY) is possible.⁴⁷

Water Storage

Water storage is required to meet water demand for periods when peak hour demand exceeds maximum daily supply rates. These high demand periods usually occur for four to six hours during hot summer days and potentially for longer periods during large fire events. The City of Sacramento has nine above-ground storage reservoirs (each with a capacity of three mg) for a total capacity of 27 mg, including those that have either been recently completed or will be constructed in the future.⁴⁸ The City also has one underground reservoir with a capacity of 15 mg.⁴⁹ The reservoirs

⁴¹ City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

⁴² City of Sacramento Department of Utilities. *Annual Report, Operational Statistics. Fiscal Year 2002/2003.*

⁴³ Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

⁴⁴ Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

⁴⁵ City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

⁴⁶ Dan Sherry, City of Sacramento Utilities Department, written communication, April 8, 2004.

⁴⁷ City of Sacramento, *General Plan Update*, 1987, Page 7-2.

⁴⁸ Michelle Carrey, City of Sacramento Utilities Department, personal communication, March 30, 2004.

are at different locations throughout the City's water distribution system. In addition, 34.5 mg of onsite storage exists at the water treatment plants (14.5 mg at the Sacramento WTP and 20 mg at the Fairbairn WTP). Therefore, the total water storage capacity in the City is 76.5 mg. This capacity represents approximately 64 percent of the City's 1999 average daily water demand of 120 mg, or approximately one-third of the 2001 average maximum day demand of 216 mg.⁵⁰

Project Site

Existing Infrastructure

The project site is served by 10- and 12-inch water pipes in the public-right-of-ways surrounding the site (3rd Street, L Street, 4th Street, and Capitol Mall).

Project Components

It is anticipated that the site would continue to be served by the existing infrastructure; the proposed project does not include the construction of new or expansion of existing pipes. However, based on the results of the water supply test for the site to be conducted by the City, some off-site improvements, other than connection to the existing water lines, could be required.

Regulatory Context

Federal

U.S. Environmental Protection Agency (EPA)

The EPA established primary drinking water standards in the Clean Water Act Section 304 and states are required to ensure that potable water for the public meets these standards. Standards for a total of eighty-one individual constituents have been established under the Safe Drinking Water Act, as amended in 1986. The U.S. EPA may add additional constituents in the future.

State

State primary and secondary drinking water standards are promulgated in California Code of Regulations (CCR) Title 22 Sections 64431-64501. Secondary drinking water standards incorporate non-health risk factors including taste, odor, and appearance.

Senate Bill 610 and 221

Senate Bill 610 (SB 610), enacted in 2001, is intended to ensure coordination during the land use planning process between water suppliers and local land use planning agencies (i.e., cities and counties) when considering certain large-scale development projects. SB 610 achieves this through two mechanisms that link water supply availability and development approvals. First, it made changes to the requirements for urban water suppliers to prepare an Urban Water Management Plan (UWMP) that contains detailed information regarding their supplies. Second, it obligated cities and counties to request a Water Supply Assessment (WSA) from all potential suppliers of water for any project meeting the requirements presented below. Specifically, the WSA should include, but is not limited to, information on existing and future supplies of the supplier, quantification of water demand

⁴⁹ Kathy Mullen, City of Sacramento Utilities Department, personal communication, March 25, 2004.

⁵⁰ City of Sacramento Utilities Department, Annual Report, Operational Statistics Fiscal Year 2002/2003.

and supply by source in five-year increments over a 20-year period, and a determination of whether adequate water supplies will be available over that 20-year period to serve the project, including under drought considerations.⁵¹

For this project, and under the provisions of SB 610, the City is identified as both the water supplier and the lead agency. Once the WSA has been prepared, the City, as the water supplier, is required to prepare a Written Verification of water supply adequacy for inclusion in the administrative record for the project, as a requirement of SB 221.

Under SB 610, preparation of the WSA is not limited to projects that require preparation of EIRs or amendments to general and/or specific plans. The law requires substantial evidence of adequate water supply for large-scale projects. SB 610 expands the requirement for public water systems to prepare WSA for all large-scale projects. Such projects can include:

- Residential developments over 500 units, or other uses demanding water equivalent to 500 development units or more;
- Shopping center or business with over 1,000 employees or 500,000 sf;
- Commercial/office with over 1,000 employees or 250,000 sf;
- Hotel or motel with over 500 rooms;
- Industrial use or park with over 1,000 employees, 40 acres, or 650,000 sf;
- Mixed use project with one or more uses described above; and
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

In addition, SB 610 requires smaller public water systems (those with less than 5,000 connections) to prepare water supply assessments on projects that would increase their service connections by 10 percent or more.

The bill requires that additional information about water supply contracts, capital outlay programs, permits, and regulatory approvals be included in the WSA. SB 610 also increases the time for public water systems to approve their WSAs from 30 days to 90 days. If the city or county cannot identify a public water system to provide the WSA, SB 610 requires the State Department of Water Resources to prepare the assessment. SB 610 increases the requirements for urban water management plans to include additional groundwater supply information.

The proposed project would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project, and thus would be subject to SB 610. The applicant is currently preparing a WSA for completion by May 3. The findings of this WSA will be incorporated into the Final EIR.

Urban Water Management Planning Act

The Urban Water Management Planning Act⁵² (Act) and SB 610 are interrelated; the UWMP is typically relied upon to meet the requirements of SB 610. The Act was developed due to concerns

⁵¹ City of Sacramento (EDAW), College Square PUD, Draft Water Supply Assessment, July 2003.

⁵² California Water Code, Division 6, Part 2.6, Section 10610 et seq.

for potential water supply shortages throughout the State of California. The Act requires information on water supply reliability and water use efficiency measures. Urban water suppliers are required by the Act to develop and implement Urban Water Management Plans to describe their efforts to promote efficient use and management of water resources. Sacramento's Urban Water Management Plan (UWMP) is discussed below. The UWMP provides a general overview of water resources and infrastructure within a jurisdiction and is updated every five years.

California Safe Drinking Water Act

Enacted in 1976, the California Safe Drinking Water Act is codified in Title 22 of the California Code of Regulations (CCR). Potable water supply is managed through local agencies and water districts, the State Department of Water Resources (DWR), the Department of Health Services (DHS), the State Water Resources Control Board (SWRCB), the California Environmental Protection Agency (EPA), and the U.S. Bureau of Reclamation. Water right applications are processed through the SWRCB for properties claiming riparian rights or requesting irrigation water from State or federal distribution facilities. For a large part of California, potable water is managed by the DWR through the State Water Project (SWP), a water storage and delivery system of reservoirs, aqueducts, powerplants, and pumping plants. The City of Sacramento, however, relies on local agencies and water districts for safe potable water.

Water Conservation Projects Act

The State of California's requirements for water conservation are codified in the Water Conservation Projects Act of 1985. The purpose of this act is to encourage local agencies and private enterprise to implement water conservation and reclamation projects.

Water Recycling Act

Enacted in 1991, the Water Recycling Act (WRA) established water recycling as a priority in California. The WRA encourages municipal wastewater treatment districts to implement recycling programs to reduce local water demands. The City of Sacramento's municipal code has measures in place to implement the mandates of the WRA.

Local

Water Forum Agreement

The WFA established the guiding principles for water management in the Sacramento area and adjacent foothill region. The collaborative effort took place over six years and represents business, agricultural, environmental, citizen, water management, and local government interests in Sacramento County, and water interests in Placer County and western El Dorado County. The agreement proposes the American River, the Sacramento River and groundwater as sources of future water supply. Water diversions from the American River would occur upstream of Folsom Reservoir, from Folsom Reservoir proper, from Nimbus Reservoir, and from the Lower American River. The agreement provides a comprehensive package of linked actions that will achieve the two co-equal objectives of providing a reliable and safe water supply for the region's economic health and planned development to the year 2030 and preserving the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

To meet the co-equal goals (listed above) the WFA includes seven elements:

1. *Increased surface water diversions* (as noted above, these would occur primarily on the American River);

- 2. Actions to meet customers' needs while reducing diversion impacts on the lower American in *drier years*. This element is to ensure that sufficient water supplies will be available to customers in dry years as well as wet years;
- 3. Support for an improved pattern of fishery flow releases from Folsom Reservoir. This element supports needed assurances for continued implementation of a pattern of water releases from Folsom Reservoir that more closely matches the needs of anadromous fish;
- 4. Lower American River Habitat Management Element. This element combined with elements #2 and #3 is included to mitigate the impacts of diversions on the Lower American River in a reasonable and feasible manner;
- 5. *Water Conservation Element*. This element incorporates various conservation measures to help meet both of the co-equal goals listed above;
- 6. Groundwater Management Element. Establishes a framework to protect groundwater resources in Sacramento County and to ensure these resources are used in a sustainable manner. Introduces the concept of "conjunctive use", which entails monitoring the amount of water withdrawn from the groundwater basin and the planned use of surface water in conjunction with groundwater; and
- 7. *Water Forum Successor Effort.* This element outlines the way WFA members oversee, monitor, and report on implementation of the WFA.

Urban Water Management Plan

The City has developed an Urban Water Management Plan in accordance with the State's Urban Water Management Act (discussed above). The UWMP describes water demand and supply within the City, evaluates methods related to the conservation of water, presents an urban water shortage contingency plan, and provides information on the availability of reclaimed water and its potential for use as a water source in the City. With the expanded facilities, water supply would be reliably provided to all areas of the City under buildout conditions. Growth of the City's water supply system is intended to primarily meet the City's needs within its service area, and also facilitate regional programs to conjunctively manage surface and groundwater supplies as part of the ongoing Water Forum implementation project. As noted above, the UWMP is also a tool used to prepare WSAs for eligible projects.

City of Sacramento General Plan

The City's current General Plan policies related to water are provided below. The City is presently undertaking an update to the General Plan, which is anticipated to be completed in Spring 2007.

Goal A

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

- Policies
- 1. Develop and adopt a comprehensive water policy for the City of Sacramento that is consistent with a long range adopted plan.
- 2. Develop and implement a financing strategy that the City can use to construct needed water facilities.
- 3. Work with property owners to develop financing arrangements in order to provide needed water facilities.
- 4. Give high priority in the Capital Improvements Program to funding infrastructure in highly depressed and designated infill areas.
- 5. Provide water service meeting or exceeding State and federal regulatory agency requirements.

Central City Community Plan

There are no policies related to water supply in the Central City Community Plan.

IMPACTS AND MITIGATION MEASURES

Method of Analysis

To determine the water demand of the proposed project, water use factors were developed in consultation with the City of Sacramento Utilities Department. This analysis uses the following generation rates:

- Residential Unit: 225 gpd/unit
- Hotel: 90 gpd/room
- Commercial: 61 gpd/1000 square feet
- Gymnasium/Spa: 90 gpd/1000 square feet
- Restaurant/ Lounge: 600 gpd/1000 square feet
- Ballroom: 90 gpd/1000 square feet

The water demand for the project was then compared to City supplies and treatment capacity to determine if existing supplies and infrastructure is sufficient to serve the proposed project.

Standards of Significance

For the purposes of this EIR, impacts to water resources are considered significant if the proposed project would:

- Increase demand for potable water in excess of existing supplies;
- Result in inadequate treatment capacity to supply the project;
- Result in inadequate distribution infrastructure to supply the project; or
- Create an increase in water demand in excess of 10 million gallons per day.

Project-Specific Impacts and Mitigation Measures

5.5-8 The proposed project could increase demand for potable water in excess of existing supplies.

The proposed project includes residential, retail, hotel, and other associated uses, which would generate water demand. As shown in Table 5.5-5, the proposed project would generate demand for approximately 222,000 gpd or an annual demand for approximately 249 AF. As discussed above, as of 2005, the City is authorized to withdraw 205,500 AFY from the Sacramento and American Rivers. In 2002/2003 the City consumed 135,536 AF, resulting in 69,964 AFY of the City's allocation being unused. The demand generated by the proposed project would represent 0.12 percent of the total City allocation and 0.36 percent of the unused portion. Because 99.64 percent of the unused allocation would still be available after implementation of the proposed project, existing City of Sacramento water supplies are sufficient to serve the proposed project. A WSA is currently being prepared to comply with SB 610. Therefore, this impact would be *less than significant*.

TABLE 5.5-5							
	WATER DEM	MAND					
Use	Square footage/units	Demand Factor	Daily Water Demand (gpd)	Annual Water Demand (AFY)			
Residential Apartment	800 condominium units	225 gpd/unit	180,000	201.6			
Hotel	276 rooms	90 gpd/room	24,840	27.8			
Retail	85,000 sf	61 gpd/1000 sf	5,185	5.8			
Gymnasium/Spa	50,000 sf	120 gpd/1000 sf	6,000	6.7			
Restaurant/Lounge (including kitchen and storage)	8,800 sf	600 gpd/1000 sf	5,280	5.9			
Ballroom	8,500 sf	120 gpd/1000 sf	1,020	1.1			
TOTAL 222,325 249							
Source: City of Sacramento, Utilities Department, 2005							

Mitigation Measure

None required.

5.5-9 The proposed project could result in inadequate treatment capacity to serve the project.

As discussed in the impact above, the water demand of the proposed project would be approximately 222,325 gpd (249 AFY) that would require treatment at either the Sacramento or Fairbairn WTP prior to delivery at the project site. Both treatment plants have recently been expanded to a combined treatment capacity of 360 mgd. Based on Sacramento's 2002/2003 water demand of 116 mgd (59.2 mgd from the American River, 56.8 mgd from the Sacramento River), the treatment plants have a combined excess capacity of 244 mgd. The proposed project's demand for water treatment would be 0.09 percent of the excess capacity available at the treatment plants. Therefore, no new or expansions of existing water treatment facilities would be required, so this impact would be **less than significant**.

Mitigation Measure

None required.

5.5-10 The proposed project could result in inadequate distribution infrastructure to serve the project.

The proposed project would increase demand for water supply at the site above current conditions, which could exceed the capacity of existing water lines that serve the project site. The City requires that a water supply test be prepared to determine the capacity of the water lines. If the existing infrastructure in the vicinity of the project site is not sufficient to serve the project, the City would condition that the applicant provide the fair share of funding for the required improvements, which would ensure that adequate system capacity exists to serve the project site. Therefore, this would be considered a *less-than-significant impact*.

Mitigation Measure

None required.

5.5-11 The proposed project could increase water demand in excess of 10 million gallons per day.

The proposed project would increase water demand at the project site by 222,325 gpd, far below the City's 10 million gallon per day threshold. Therefore, this would be considered a *less-than-significant impact*.

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

The cumulative analysis for water supply, distribution, and storage considers the potential environmental effects of supplying water to the project in addition to regional water demands generated in Sacramento County under the provisions of Water Forum Agreement.

5.5-12 The proposed project, in combination with other projects within the City, could increase demand for potable water, which could result in the need for acquiring additional water supplies.

The proposed project would increase the demand for water in the City's service area beyond the existing demand of approximately 136,000 AFY. However, as previously stated, the City's authorized supply under the WFA will also increase in the future. As shown in table 5.5-4, the City's authorized supply in 2020 will be 278,000 AFY. Therefore, the water demand would be required to more than double 2002/2003 demand in order to exceed the available supply. Although the City is in the process of updating the General Plan, it is highly unlikely that the Plan would include a doubling of the population over buildout of the Plan. In fact, population projections for Sacramento County as a whole, estimate that growth will occur at a rate of less than ten percent every 5 years⁵³. At that rate, it would take 35 to 40 years for population increases to generate demand equal to supplies. In addition, it is likely that the City would implement water-saving methods, such as metering water, which would reduce demand. Because that time far exceeds the typical timeline considered in a general plan, this impact would be considered **less than significant**.

Mitigation Measure

None required.

5.5-13 The proposed project, in combination with other projects within the City, could increase demand for water treatment and/or water infrastructure in excess of current capacity, which could result in the need for the construction of additional treatment or distribution facilities.

Although much of the Downtown area is already developed, it is likely that the land uses within the Downtown could intensify in the future as development pressure throughout the area increase. The intensification of uses could result in the need for upgrades in the City's water distribution and/or treatment systems. As stated in Impact 5.5-10, the City would require a water system test for new development to ensure that the system capacity is sufficient to serve development. In addition, as

⁵³ State of California, Interim County Population Projections, Estimated July 1, 2000 and Projections for 2005, 2010, 2015, and 2020, June 2001.

previously stated, the City's treatment plants have a combined treatment capacity of 360 mgd, which is more than three times Sacramento's 2002/2003 water demand of 116 mgd. Therefore, there would be a *less-than-significant* cumulative impact on water infrastructure.

Mitigation Measure

None required.

5.6 Transportation and Circulation

INTRODUCTION

This section describes the potential impacts to the transportation system near the 301 Capitol Mall project site. The impact analysis examines the roadway, transit, and bicycle/pedestrian components of the overall transportation system under near-term and cumulative (Year 2025) conditions with and without the proposed project. Significant impacts as defined by CEQA were identified for each component and, as necessary, mitigation measures were identified to offset those impacts.

This section is organized to include two parts. The first part is the environmental setting, which describes the existing transportation system and the regulatory environment related to transportation. The second part describes the impact analysis, including standards of significance used in the evaluation, specific impacts of the project, and proposed mitigation measures.

Comments on the Notice of Preparation (See Appendix A) were received from the California Department of Transportation (Caltrans) identifying the need to evaluate the impacts of the proposed project on I-5 mainline and ramp operations.

ENVIRONMENTAL SETTING

The roadway, transit, bicycle, and pedestrian components of the transportation system are described below. Exhibit 5.6-1 displays the roadways within the study area.

ROADWAY SYSTEM

The roadway network near the proposed 301 Capitol Mall project is described below.

- Interstate 5 (I-5) is eight lanes (four mixed-flow lanes in each direction) within the study area. I-5 serves as the commute corridor between downtown and the southern area of the City of Sacramento and the City of Elk Grove and between downtown and the North Natomas area of the City of Sacramento.
- **Capitol Mall** is an east-west four-lane roadway continuing from Business Route 80 in West Sacramento (as State Route 275) to 10th Street. A majority of the land uses along Capitol Mall are office.
- **J** Street is a three-lane one-way (eastbound) roadway that connects I-5 to the downtown and midtown areas of the City of Sacramento.
- *L Street* is a three-lane one-way (westbound) roadway that connects downtown and midtown Sacramento to northbound I-5. Access to the project parking garage and loading dock is planned off L Street.
- 4th Street is a two-lane north-south minor roadway that connects L Street to P Street.
- **5**th **Street** is a two- to three-lane north-south roadway that connects H Street to Vallejo Way.





PROJECT LOCATION EXHIBIT 5.6-1

- **3rd Street** is a two- to three-lane north-south roadway between I Street and Broadway.
- *P Street* is a three-lane one-way (westbound) roadway west of 16th Street. It has on-ramps to northbound and southbound I-5.
- **Q** Street is a three-lane one-way (eastbound) roadway west of 16th Street. It has off-ramps from northbound and southbound I-5.
- *I Street* is a three-lane one-way (westbound) roadway (west of 16th Street) that continues from midtown and east Sacramento to Old Sacramento. It has on-ramps to northbound and southbound I-5.

Study Intersections

The fourteen study intersections selected in coordination with the City of Sacramento project manager are listed below:

- 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. 4th Street/Capitol Mall
- 8. 4th Street/N Street
- 9. 5th Street/I Street
- 10. 5th Street/J Street
- 11. 5th Street/L Street
- 12. 5th Street/Capitol Mall
- 13. 5th Street/N Street
- 14. 16th Street/L Street

Traffic counts were collected during the AM (7:00 - 9:00) and PM (4:00 - 6:00) peak hours at each study intersection. Traffic counts at the study intersections were collected in January 2005.

The existing peak hour traffic volumes, lane configurations, and traffic controls at each study intersection are displayed in Exhibit 5.6-2.

The City of Sacramento provided the existing signal timings for all of the signalized study intersections. The existing signal timing was used for all conditions (near-term and future).





STUDY INTERSECTIONS -EXISTING CONDITIONS

EXHIBIT 5.6-2A



EXHIBIT 5.6-2B

Fehr & Peers

TRANSPORTATION CONSULTANTS

Analysis Methodology

Level of service (LOS) is a qualitative measure describing the operating condition of intersections and roadways. LOS ranges from A through F, which represents driving conditions from best to worst, respectively. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions.

Signalized Intersections

The signalized intersections were analyzed using the SYNCHRO intersection operation analysis software. SYNCHRO uses methodologies presented in the *Highway Capacity Manual (2000 HCM),* Transportation Research Board, 2000 and existing traffic signal timing data to evaluate traffic signal operation. This methodology determines the LOS at signalized intersections by comparing the average control delay per vehicle at the intersection to the thresholds shown in Table 5.6-1.

TABLE 5.6-1				
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS				
LEVEL OF SERVICE	Average Control Delay (seconds/vehicle)			
A	<u><</u> 10.0			
В	10.1 – 20.0			
С	20.1 – 35.0			
D	35.1 – 55.0			
E	55.1 – 80.0			
F	> 80.0			
Source: Highway Capacity Manual, Transportation Research Board, 2000.				

Unsignalized Intersections

The unsignalized intersections were also analyzed using methods described in the 2000 HCM. This methodology reports the LOS using the control delay thresholds shown in Table 5.6-2. As described in the 2000 HCM, the LOS for all-way stop controlled intersections is based on the average control delay for the entire intersection. Conversely, for side-street stop-controlled intersections, the LOS is measured separately for each individual movement. To be consistent with both the 2000 HCM and the City's significance criteria, which are based on the average control delay for the intersection, both the average control delay and control delay for the worst-case movement are reported.

The 4th Street/N Street intersection was evaluated to determine if it warrants the installation of a traffic signal (*Traffic Manual*, Caltrans, 1996).

TABLE 5.6-2					
LEVEL OF SERVICE DEFINITIONS FOR UNSIGNALIZED INTERSECTIONS					
LEVEL OF SERVICE	Average Control Delay (seconds/vehicle)				
А	<u><</u> 10.0				
В	10.1 – 15.0				
С	15.1 – 25.0				
D	25.1 – 35.0				
E	35.1 – 50.0				
F	> 50.0				
Source: Highway Capacity Manual, Transportation Research Board, 2000.					

Intersection Operations

The traffic volumes displayed in Exhibit 5.6-2 were used to determine the existing operations at each study intersection. Table 5.6-3 summarizes the traffic operations during the AM and PM peak hours.

All of the study intersections operate at acceptable levels of service except for the following intersections:

- 3rd Street/J Street LOS D during the AM and PM peak hours
- 16th Street/L Street LOS F during the PM peak hour because of queue spillback from downstream intersections on 16th Street.

The N Street/4th Street intersection does not the meet peak hour traffic signal warrant.

FREEWAY OPERATIONS

Freeway Ramps

An analysis was conducted for the following freeway ramps:

- 1. I-5 northbound off-ramp at J Street
- 2. I-5 southbound off-ramp at J Street
- 3. I-5 northbound on-ramp at P Street
- 4. I-5 southbound off-ramp at Q Street
- 5. I-5 northbound on-ramp at L Street

Freeway ramp junctions were analyzed using the Highway Capacity Software (HCS), which applies the Highway Capacity Manual procedures. Weaving sections were analyzed using the Leisch Weaving Analysis Nomographs. Table 5.6-4 presents the freeway ramps merge and diverge LOS criteria. Table 5.6-5 presents the freeway ramp level of service definitions.

TABLE 5.6-3							
PEAK HOUR INTERSECTION OPERATIONS - EXISTING CONDITIONS							
		Average Delay (seconds per vehicle) - Level of Servic					
Intersection	Control	AM	PM				
1. 3 rd St./Q St.	Signal	10.3 (B)	12.2 (B)				
2. 3 rd St./P St.	Signal	9.3 (A)	21.5 (C)				
3. 3 rd St./N St.	Signal	12.2 (B)	14.8 (B)				
4. 4 th St./N St.	TWSC ¹	2.7 (A) 13.4 (B)	8.7 (A) 21.9 (C)				
5. 5 th St./N St.	Signal	14.3 (B)	14.1 (B)				
6. 3 rd St./Capitol Mall	Signal	17.1 (B)	15.0 (B)				
7. 4 th St./Capitol Mall	Signal	10.7 (B)	9.8 (A)				
8. 5 th St./Capitol Mall	Signal	13.0 (B)	13.0 (B)				
9. 3 rd St./L St.	Signal	11.8 (B)	13.9 (B)				
10. 5 th St./L St.	Signal	9.8 (A)	10.3 (B)				
11. 3 rd St./J St.	Signal	50.8 (D)	36.7 (D)				
12. 5 th St./J St.	Signal	18.1 (B)	9.6 (A)				
13. 5 th St./I St.	Signal	12.2 (B)	13.7 (B)				
14. 16 th St./L St.	Signal	11.6 (B)	$(F)^2$				

Notes:
1. TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below.
2. Intersection is impacted by queue spillback from downstream intersections on 16th Street.
Shading and Bold indicates intersections operating at an unacceptable LOS.
Source: Fehr & Peers, 2005.

TABLE 5.6-4							
	FREEWAY RAMP MERGE AND DIVERGE LEVEL OF SERVICE CRITERIA						
LOS	Description	Density ¹					
А	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	<u><</u> 10					
В	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 10 to 20					
с	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 20 to 28					
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 28 to 35					
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 43					
F	Represents a breakdown in flow.	> 43					
Notes: 1. Density in passenger cars per mile per lane. Source: Highway Capacity Manual (Transportation Research Board, 2000).							

TABLE 5.6-5							
FREEWAY RAMP LEVEL OF SERVICE DEFINITIONS							
Service Flow Rates for Single Lane/Two Lane Ramps Ramp Design Speed				ingle Lar os Speed			
Level of Service	<u><</u> 20	21-30	31-40	41-50	<u>></u> 51	Definition	
A	(1)	(1)	(1)	(1)	800/ 1,550	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical conditions.	
В	(1)	(1)	(1)	1,150/ 2,250	1,150/ 2,350	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.	
С	(1)	(1)	1,400/ 2,600	1,600/ 3,100	1,700/ 3,350	Conditions of stable flow; speeds and maneuverability more closely restricted.	
D	(1)	1,550/ 2,900	1,700/ 3,200	1,950/ 3,850	2,050/ 4,150	Conditions approach unstable flow; tolerable speeds can be maintained, but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low.	
E	1,800/ 3200	1,900/ 3,500	2,000/ 3,800	2,100/ 4,100	2,200/ 4,400	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.	
F	F Widely Variable Forced flow conditions; stoppages for long periods; low operating speeds.					Forced flow conditions; stoppages for long periods; low operating speeds.	
Notes: 1. Level of service not attainable due to restricted design speed.							

Source: Highway Capacity Manual (Transportation Research Board, 2000).

The freeway ramp operations on I-5 in the downtown area are affected by tight interchange spacing, short weaving sections, and multiple lane off-ramps. On northbound I-5, the P Street on-ramp and J Street off-ramp have a short weaving section between them. The J Street off-ramp has an exclusive off-ramp lane and a shared off-ramp/through lane. The L Street on-ramp enters I-5 as an added lane to the freeway mainline. Caltrans has established a level of service goal of E for I-5 mainline and ramp operations.

On southbound I-5, the J Street off-ramp has an exclusive off-ramp lane (auxiliary lane) and a shared off-ramp/through lane. The Q Street off-ramp is a standard diverge ramp, but is impacted by traffic entering I-5 from the I Street on-ramp and traffic getting ready to go east or west on State Route 51/US 50. Table 5.6-6 presents the results of the freeway ramp analysis. The weaving section between the P Street on-ramp and J Street off-ramp operates at LOS F during the AM peak hour. All other ramps operate at an acceptable LOS (LOS E or better).

Freeway Mainline

An analysis was conducted for the following freeway mainline segments:

- 1. I-5 northbound between the P Street on-ramp and J Street off-ramp
- 2. I-5 northbound north of the I Street on-ramp
- 3. I-5 southbound north of the J Street off-ramp
- 4. I-5 southbound between the I Street on-ramp and Q Street off-ramp

Freeway mainline segments were analyzed using the Highway Capacity Software (HCS), which applies the HCM 2000 procedures. Table 5.6-7 presents the freeway mainline segment analysis criteria. All of the freeway segments operate at an acceptable LOS (LOS E or better).

TABLE 5.6-6

FREEWAY RAMP OPERATIONS - EXISTING CONDITIONS

	Evoluation	AM Pea	ak	PM Peak		
Freeway Ramp Junction	Туре	Density ¹	LOS ²	Density	LOS	
I-5 southbound off-ramp to J Street	Ramp		В		В	
I-5 southbound off-ramp to Q Street	Diverge	33.6	D	30.0	D	
I-5 northbound off-ramp to J St. and P St. on-ramp	Weave		F		С	
I-5 northbound on-ramp from L Street	Ramp		В		В	
Notes:						

Density in passenger cars per mile per lane.

2. LOS calculations based on the HCM 2000 procedures. Shading and Bold indicates intersections operating at unacceptable levels of service.

Source: Fehr & Peers, 2005.

TABLE 5.6-7

FREEWAY MAINLINE LEVEL OF SERVICE CRITERIA

Level of Service	Maximum Volume to Capacity Ratio	Maximum Density ¹
A	0.29	10
В	0.47	16
С	0.68	24
D	0.85	32
E	1.00	45
F	Varies	Varies
Notes:		

1. Density in passenger cars per mile per lane. LOS calculations based on the HCM 2000 procedures.

TABLE 5.6-8

FREEWAY MAINLINE OPERATING CONDITIONS - EXISTING CONDITIONS									
	AM Pe	PM Peak Hour							
Location	Volume	Density ¹	LOS	Volume	Density	LOS			
Northbound I-5 north of I Street	6,602	27.5	D	7,875	36.9	E			
Northbound I-5 north of P Street	7,774	36.0	Е	5,941	24.1	D			
Southbound I-5 north of J Street	8,279	41.3	Е	7,235	31.6	D			
Southbound I-5 north of P Street	6,872	22.1	С	7,404	24.1	D			
Notes: 1. Density in passenger cars per mile per lane.									

BICYCLE AND PEDESTRIAN FACILITIES

Existing bicycle facilities within the study area are displayed in Exhibit 5.6-3. According to the Sacramento City/County 2010 Bikeway Master Plan (September 1992), a signed bike route is located on N Street between 2nd Street and 13th Street. Field observations indicate that bikes using this route must share the facility with pedestrians. Class II on-street bike lanes (i.e., signed and striped) are located on 11th Street between N Street and X Street, 14th Street between I Street and E Street, E Street, K Street between 15th Street and Alhambra Boulevard, L Street between 15th Street and Alhambra Boulevard, 7th Street between E Street and Richards Boulevard, and Capitol Avenue between 15th Street and Alhambra Boulevard.

As this project is located near the urban core of the City of Sacramento sidewalks are provided on a majority of the streets in the project study area. On some streets the sidewalks are separated from the street by a landscaping strip.

TRANSIT SERVICE

The Sacramento Regional Transit District (RT) provides a majority of the public transit service (light rail and bus) within the project area as shown in Exhibit 5.6-4. However, bus transit service is also provided by Yolobus, Folsom Stage Lines, Yuba-Sutter Transit, Solano Transit, Roseville Transit, El Dorado Transit, Elk Grove Transit (e-trans), and San Joaquin Regional Transit District. Train service is provided by Amtrak and the Capitol Corridor train service out of the Sacramento Valley train station at 4th and I Street.

Sacramento Regional Transit District

The Sacramento Regional Transit District (RT) is the major transit provider in Sacramento County. RT provides both bus and light rail transit services, with a majority of the service oriented to connecting the downtown area with the outlying suburbs.

Light rail service currently extends from downtown to Sunrise Boulevard in the City of Rancho Cordova, Meadowview in the City of Sacramento, and Watt Avenue/I-80 in the County of Sacramento. An extension of light rail service is under construction to extend service from Sunrise Boulevard to the City of Folsom and to the Sacramento Valley Train Station by way of 7th Street, 8th Street, and H Street. Planning is underway to extend the South Line to Consumnes

River College and construct a new line from downtown to the Sacramento International Airport by way of South and North Natomas.

Light rail service is generally on 15-minute headways during the day and 30-minute headways in the evening. Suburban stations include parking for commuters.

The nearest light rail stations to the proposed project are at 7th Street and Capitol Mall and 8th Street and Capitol Mall.

Other Transit Providers

Bus transit service is provided by Yolobus, Folsom Stage Lines, Yuba-Sutter Transit, Solano Transit, Roseville Transit, El Dorado Transit, Elk Grove Transit (e-trans), and San Joaquin Regional Transit District. These connect downtown with Davis, Woodland, Dixon, Marysville, Elk Grove, Folsom, Roseville, Yuba City, Stockton, Yolo County, Solano County, Placer County, Yuba County, Sutter County, and San Joaquin County.





EXISTING BICYCLE FACILITY MAP

Apr 19, 2005 MJF N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-3_bike_facilities.dwg

EXHIBIT 5.6-3





EXISTING TRANSIT MAP

EXHIBIT 5.6-4

Project Land Use and Circulation

The proposed project is located in the block bounded by L Street, 3rd Street, Capitol Mall, and 4th Street and would include the construction of approximately 800 residential units (condominium), a 275-room hotel, a 40,000 square-foot fitness center, a 10,000 square-foot spa, and 85,000 square feet of retail uses. Access to the hotel guest registration is planned off 3rd Street. Access to the project parking garage and loading dock is from L Street. The project site plan is displayed in Exhibit 5.6-5.

As part of the project, 3rd Street is proposed to be converted to two-way operation between Capitol Mall and L Street. In addition, left-turn pockets would be added to the eastbound approaches to the 3rd Street/Capitol Mall and 4th Street/Capitol Mall intersections.

The General Plan land use designation for the project site is C-3-SPD. Surrounding uses in this land use designation are generally office.

ANALYSIS

The analysis methodology, transportation impacts, and mitigation measures for the proposed project and project alternatives are described below.

Traffic Volume Forecasts

Traffic volume forecasts for near-term and cumulative (Year 2025) conditions, with and without the project, are discussed below.

Near-Term Conditions

Several development projects are planned or approved within the study vicinity that will increase traffic volumes on the roadways adjacent to the proposed project site. Since these projects will likely be constructed before the proposed project, "near-term" traffic forecasts were developed to reflect the completion of these projects and establish a baseline for analyzing the proposed project.

Near-term traffic forecasts were developed by modifying the existing traffic counts to include the traffic generated by the following projects:

- Metro Place (Mixed Use at 9th Street and J Street)
- Lot A (Office at 6th Street and Capitol Mall)
- Hotel (16th Street and L Street)
- Fremont Mews Residential
- CalPERS Expansion
- Crocker Expansion
- East End Residential


PROJECT SITE PLAN

EXHIBIT 5.6-5

The following roadway improvement was included as a near-term improvement planned by the City:

• Conversion of 3rd Street to two-way operation from I Street to J Street.

For the Near-Term Plus Project and Year 2025 Plus Project Conditions, the Capitol Mall/3rd Street intersection was analyzed with the lane configurations below.

- One left-turn lane, one through lane, and one through/right-turn lane on the southbound approach
- One left-turn lane, one through lane, and one through/right-turn lane on the westbound approach
- One left-turn lane, two through lanes, and one through/right-turn lane on the eastbound approach

Exhibit 5.6-6 displays the peak hour traffic volumes for near-term conditions and the planned roadway improvements.

Cumulative Conditions

As directed by City of Sacramento staff, the P/Q two-way conversion travel demand forecasting model was used to forecast Year 2025 traffic base volume data.

The Year 2025 SACMET model contains the future light rail transit line extensions. In addition, the following roadway improvements are expected to be in place by Year 2025 and are reflected in the model:

 Conversion of P Street and Q Street from one-way operation to two-way operation east of 16th Street.

The P Street/Q Street conversion to two-way operation is identified in the *Metropolitan Transportation Plan for 2025* (Sacramento Area Council of Governments, May 2002).

The land uses assumed in the model for the project site were removed to develop Year 2025 traffic volumes without the project. The peak hour intersection traffic volumes were developed by running both the 2005 and 2025 SACMET models and performing an adjustment procedure (i.e., difference method) to account for inaccuracies in the near-term version of the model. Exhibit 5.6-7 displays the peak hour traffic volumes at the study intersections in Year 2025.

Trip Generation

The number of trips generated by the proposed project was estimated using industry standards (*Trip Generation* 7th *Edition*, Institute of Transportation Engineers, 2003) verified by research conducted on high-rise condominiums. The research was conducted by Fehr & Peers on three high-rise condominium complexes (Top of the Mounds, 111 St. Mathews Avenue, and The Towers) in the City of San Mateo, California¹. The results of the survey indicated that the observed trip generation rates at the high-rise condominiums in San Mateo were equivalent to, but slightly lower than the published ITE rate. Therefore, it was determined that the more conservative ITE rates should be used to estimate the trips generated by the condominium component of the project.

¹ Marina Shores Village Project Draft Environmental Impact Report, February 29, 2003



FEHR & PEERS TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROUECTS\SA04\0011_Towers_Capital_Mail\graphics\Final\Ex5.6-6_phtv_nt_con.dwg STUDY INTERSECTIONS -NEAR-TERM CONDITIONS

EXHIBIT 5.6-6A



PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS -NEAR-TERM PLUS PROJECTS

TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-6_phtv_nt_con.dwg

FEHR & PEERS

EXHIBIT 5.6-6B



STUDY INTERSECTIONS -CUMULATIVE YEAR (2025) NO PROJECT CONDITIONS

FEHR & PEERS TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-7_phtv_cum_np_can.dwg

EXHIBIT 5.6-7A



PEAK HOUR TRAFFIC VOLUMES - AND LANE CONFIGURATIONS CUMULATIVE YEAR (2025) NO PROJECT CONDITIONS

TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-7_phtv_cum_np_con.dwg

Fehr & Peers

EXHIBIT 5.6-7B

The amount of traffic generated by the proposed project was estimated using the trip rates published in the Seventh Edition of the Institute of Transportation Engineers' (ITE's) *Trip Generation*, 2003. Rates used were hotel (310), high-rise condominium (232), fitness center (492), and retail (820) uses. The trip generation rates used is presented in Table 5.6-9. ITE does not have a rate for a spa, so the fitness center rate was used. The trip generation rates and the proposed project land uses were used to forecast the total number of trips generated by the project.

Because of the mixed-use character land uses proposed project, some trips generated by the hotel rooms and condominiums will be destined to the retail, fitness, and spa uses within the project site. For example, patrons of the hotel can be expected to use the spa and fitness center and shop in the retail stores. The same method was used to determine the amount of condominium trips that would stay on-site. For this project it was assumed that 25 percent of the hotel trips would remain internal to the project and 12 percent of the residential trips would remain internal (*Trip Generation Handbook, 2nd Edition*, Institute of Transportation Engineers, 2004).

TABLE 5.6-9												
TRIP GENERATION RATES												
		ITE		AM Pea	k Hour	•	PM Peak	Hour	_			
Land Use	Quantity	Code	Daily	Total	Total	In	Out					
Hotel	276 Rms ²	310	8.92 VTE⁵/Rm	0.56 VTE/Rm	61 %	39%	0.59 VTE/Rm	53 %	47%			
Condo – High Rise	800 DU ³	232	4.18 VTE/DU	0.34 VTE/DU	19 %	81%	0.38 VTE/DU	62 %	38%			
Retail	85 ksf ⁴	820	42.94 VTE/ksf	1.03 VTE/ksf	61 %	39%	3.75 VTE/ksf	48 %	52%			
Fitness Center/Spa	50 ksf⁴	492	32.93 VTE/ksf	1.21 VTE/ksf	42 %	58%	4.05 VTE/ksf	51 %	49%			
Notes: 1. Trip generation rates are based on Trip Generation (ITE, 2003). 2. Rms = Rooms 3. DU = Dwelling Unit 4. ksf = 1,000 square feet 5. VTE = Vehicle Trip Ends Source: Source:												

The trip generation rates and the proposed project land uses were used to forecast the total number of trips generated by the project. The results of the vehicle trip generation estimates are summarized in Table 5.6-10. The internal trips are presented in Table 5.6-10 as negative numbers. To obtain the total external trips associated with each use, the internal trips are subtracted from the total trips (which assume that the total patronage of these uses, the total of external and internal trips, remains constant).

Most ITE trip generation rates are based on surveys of suburban locations and generally will over predict the number of vehicle trips in a downtown environment. In downtown Sacramento, a larger number of trips are served by other modes such as, transit, biking, or walking. Old Sacramento, Raley Field, state and private office buildings, and the downtown mall are within walking distance of the project site. Additionally, the site is well served by transit. Also, a portion of the hotel patrons can be expected to arrive from the airport by way of taxi or Airport Shuttle. This characteristic was documented in 15th & L Street Hotel Draft Environmental Impact Report (Raney Planning & Management, Inc., July 2002) and verified by the SACMET travel model, SACOG and City of Sacramento survey data.

		TABLE 5.6-10										
T	RIP GEN	ERATION F	OR THE	PROP	OSED	PROJE	СТ					
					Num	ber of Tr	ips					
				AN	/I Peak H	lour	PM	1 Peak He	our			
Use		Size	Daily Trips	In	Out	Total	In	Out	Total			
Retail Uses ¹	85.0	KSF ¹	3,629	53	35	88	153	166	319			
Retail – Hotel Internal T	rips		-541	-22	-14	-36	-15	-18	-33			
Retail- Residential Trips	-320	-13	-13	-26	-15	-15	-30					
New Retail Trips		2,768	18	8	26	123	133	256				
Hotel ³	2,462	94	61	155	86	77	163					
Hotel-Retail Internal Tri	-541	-22	-14	-36	-18	-15	-33					
Hotel- Fitness Internal	-74	-2	-2	-4	-4	-4	-8					
New Hotel Trips			1,847	70	45	115	64	58	122			
Residential Uses ⁴	800	D.U. ²	3,344	52	220	272	188	116	304			
Residential-Retail Interr	nal Trips		-320	-13	-13	-26	-15	-15	-30			
Residential-Fitness Inte	rnal Trips		-74	-2	-2	-4	-3	-3	-6			
New Residential Trips	i		2,950	37	205	242	170	98	268			
Fitness Center/Spa	50.0	KSF	1,647	26	35	88	103	99	202			
Fitness-Hotel Internal T	rips		-74	-2	-2	-4	-4	-4	-8			
Fitness-Residential Inte	rnal Trips		-74	-2	-2	-4	-3	-3	-6			
New Fitness Center/S	pa Trips		1,499	22	31	53	96	92	188			
Total Trips			11,082	225	351	576	530	458	988			
Total Internal Trips			-2,018	-78	-62	-140	-77	-77	-154			
Total New Trips			9,064	147	289	436	453	381	834			
Notes: 1. KSF - Thousand Square F 2. D.L Dwelling Units	Total new Trips 3,004 147 203 430 433 361 634 Notes: . KSF - Thousand Square Feet. .											

2. 55% of Hotel trips are internal to the project (Fitness Center/Spa and Retail)
4. 12% of Residential trips are internal to the project (Fitness Center/Spa and Retail)

Pass-by trips, or trips that are on a roadway that abuts a project and stops in on its way to its final destination, can reduce the impacts of a project since the trips generated by the project are already accounted for in the transportation system. A pass-by factor was not used on this project. The reasons for not using a pass-by factor are:

1. The project's hotel and residential uses are origin/destination uses and generally do not have a pass-by component.

2. The lack of convenient and free parking. Pass-by trips are more likely to occur when there is convenient and free parking at the destination. The project parking is provided by a garage and parking is expected to paid parking. For this project pass-by trips are more likely to be walking "pass-by" trips than vehicle trips.

The project's retail uses are not expected to have a pass-by component during the peak commute hours given the congestion levels and lack of free, convenient parking. To the extent there are a measurable number of pass-by trips by pedestrians, this is already accounted for in the following travel mode analysis.

The *Pre-Census Travel Behavior Report Analysis of the 2000 SACOG Household Travel Survey*, SACOG, July 2001 was used to identify the various modes of travel that will be used by project residents, visitors, and customers. The household travel survey identified the mode split for work and non-work person trips for households in downtown Sacramento. The total number of vehicle trips generated by the proposed project was calculated by converting the total external trips (Table 5.6-10) into person trips and then separating the person trips into various modes of travel (auto, transit, walk, and bike). The external vehicle trips shown in Table 5.6-10 were converted into person trips using vehicle occupancy data from *San Diego Traffic Generators*, January 1990. The vehicle occupancy rates used were:

- Hotel 1.70 persons/vehicle
- Retail 1.40 persons/vehicle
- Condominium 1.40 persons/vehicle
- Fitness Center/Spa 1.42 persons/vehicle

The average vehicle occupancy rate for the proposed project is 1.45 persons per vehicle.

TABLE 5.6-11										
MODE SPLIT FOR THE PROPOSED PROJECT PERSON TRIPS ¹										
			AM	Peak Ho	ur	PM	Peak Ho	ur		
Mode	Percent	Daily	Total	In	Total	In	Out			
Auto (Driver & Passenger)	78%	10,252	503	174	329	942	511	431		
Transit	4%	531	26	6	20	48	26	22		
Walk	16%	2,226	103	41	62	194	105	89		
Bike	2%	265	13	5	8	24	13	11		
Total Trips (External)	Total Trips (External) 13,274 645 226 419 1,208 655 553									
Note: 1. Mode split based on Pre-Census Behavior Report Analysis of the 2000 SACOG Household Travel Survey, SACOG 2001, Tables A26 and A27. Source: Eebr & Peers 2005										

Table 5.6-11 presents the mode split and number of trips by mode for the proposed project.

The proposed project is expected to generate 10,252 daily, 503 AM peak hour, and 942 PM peak hour person trips (driver and passenger) that would use a motor vehicle as their mode of travel. Converting the number of person trips to vehicle trips was completed using the average vehicle occupancy rate for the proposed project (1.45 persons/vehicle). Table 5.6-12 presents the proposed project vehicle trip generation The project is expected to generate 7,070 daily, 347 AM peak hour,

and 652 PM peak hour vehicle trips. The increase in transit use from the proposed project is 531 daily, 26 AM peak hour, and 48 PM peak hour trips.

TABLE 5.6-12										
PROPOSED PROJECT VEHICLE TRIP GENERATION										
	AM Peak Hour PM Peak Hour									
	Daily	Total	In	Out	Total	In	Out			
Total Auto Trips 7,070 347 120 227 650 352 298										
Source: Fehr & Peers, 2005										

Since the project is near (walking distance) major destinations in the downtown area, walking is a major component of the project trip generation. Walking is expected to account for 2,226 daily, 103 AM peak hour, and 194 PM peak hour trips or 16 percent of the daily project trip generation.

The residential portion of the project is forecasted to generate 909 daily walk, bike, and transit trips. Coupled with auto related trips that are projected to stay in the central city area (40% of the residential auto trips), 54 percent of the residential person trips are staying within the central city.

Year 2025 Conditions

Under cumulative (Year 2025) conditions, the Regional Transit (RT) south line extension and Downtown/Natomas/Airport line are expected to be completed. The light rail extensions will provide a more complete light rail network, but this is not expected to substantially affect the project trip generation or mode split. Therefore, the project trip generation presented in Table 5.6-11 is also applied for cumulative conditions.

Trip Distribution

The following discussion summarizes the analysis approach used for the distribution of project trips under near-term and Year 2025 conditions. The trip distribution is for the vehicle trips from Table 5.6-12. The vehicle trips represent 78 percent of the total project person trips (Table 5.2-11). 80 percent of the vehicle trips would access the site by way of I-5 (north or south) or Capitol Mall (Tower Bridge), with 20 percent staying in the central city.

Near-Term Conditions

The project vehicle trips for the proposed project were manually assigned to the roadway network. The distribution of trips was based on the adjacent land uses, travel patterns, and output from the SACMET (Year 2005) travel demand model. Exhibits 5.6-8 and 5.6-9 display the project trip distribution used for the near-term analysis.

Using the trip distribution shown in Exhibits 5.6-8 and 5.6-9, project trips were manually added to near-term traffic volumes to develop "near-term plus project" traffic volumes. In addition, traffic volumes were adjusted to reflect the conversion of 3rd Street from L Street to Capitol Mall to two-way operation. This conversion would be in addition to the conversion of 3rd Street to two-way operation from I Street to J Street. The result would be two-way operation on 3rd Street from I Street to Capitol Mall.

The AM and PM peak hour traffic volumes with the proposed project are displayed in Exhibit 5.6-10.





PROJECT TRIP DISTRIBUTION - EXITING





PROJECT TRIP DISTRIBUTION - ENTERING



FEHR & PEERS

STUDY INTERSECTIONS -NEAR-TERM PLUS PROJECT CONDITIONS

Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-10_phty_nt_pp_con.dwg

EXHIBIT 5.6-10A



PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS -NEAR-TERM PLUS PROJECT CONDITIONS

TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-10_phtv_nt_pp_con.dwg

FEHR & PEERS

EXHIBIT 5.6-10B

Year 2025 Conditions

Project trips were also manually assigned under Year 2025 conditions. However, the trip distribution reflects future land uses and travel patterns in the area based on output from the SACMET (Year 2025) travel demand model. Exhibits 5.6-8 and 5.6-9 display the project trip distribution used for Year 2025 analysis.

Using the trip distribution shown in Exhibits 5.6-8 and 5.6-9, project trips were manually added to Year 2025 traffic volumes to develop "Year 2025 plus project" traffic volumes. The traffic volumes were also adjusted to reflect the conversion of 3rd Street between L Street and Capitol Mall to two-way operation. This conversion would be in addition to the conversion of 3rd Street to two-way operation from I Street to J Street. The result would be two-way operation on 3rd Street from I Street to Capitol Mall.

The resulting AM and PM peak hour traffic volumes with the proposed project are displayed in Exhibit 5.6-11.

Parking

Parking demand for the proposed project was developed using the City of Sacramento Parking Regulations. The demand is based on the parking required by code for the hotel and condominium land uses. The retail, fitness center, and spa uses are exempt from the City parking requirements in the downtown area. Table 5.6-13 presents the parking demand for the project. The project proposes to build 1,100 parking spaces as part of the project. Thus, the project will provide parking in excess of that required by code. It is expected that the highest demand for project parking will occur in the early evening hours.

	TABLE 5.6-13								
PARKING ANALYSIS									
Land Use	Quantity	Parking Rates	Number of Spaces						
Hotel	276 Rms ¹	1 space per 2 rooms + 1 space for resident/owner/manager	138						
Condo – High Rise	700 DU ²	1 space per DU + 1 space per 15 DU (guests)	747						
Parking Demand			885						
Notes: 1. Rms = Rooms 2. DU = Dwelling Unit Source: City of Sacramento Parking Regulations, Fehr & Peers, 2005									

Analysis Results

The analysis methodologies and traffic forecasts discussed above were used to analyze traffic operations with the additional traffic generated by the proposed project. The LOS results for the study intersections are summarized below. An analysis of on-site circulation for pedestrians and bicyclists, on-site parking, and the location of project driveways are also discussed.



STUDY INTERSECTIONS -CUMULATIVE YEAR (2025) PLUS PROJECT CONDITIONS

FEHR & PEERS IRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mail\graphics\Final\Ex5.6-11_phtv_curm_pp_con.dwg

EXHIBIT 5.6-11A



PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS -CUMULATIVE YEAR (2025) PLUS PROJECT CONDITIONS

TRANSPORTATION CONSULTANTS Apr 19, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-11_phtv_curr_pp_con.dwg

FEHR & PEERS

Intersections

Traffic operations were analyzed during the AM and PM peak hours using the intersection geometries and traffic volumes from the exhibits previously discussed. Tables 5.6-14 and 5.6-15 summarize the peak hour traffic operations under near-term and Year 2025 conditions with and without the proposed project.

For the Near-Term No Project Condition and Near-Term Plus Project Condition all of the study intersections operate at an acceptable LOS C or better except for the following intersections:

- 3rd Street/P Street LOS D during the PM peak hour.
- 3rd Street/J Street LOS E during the AM peak hour and LOS D in the PM peak hour.
- 16th Street/L Street LOS F during the PM peak hour.

As identified on page 5.6-6 the intersection of 16th Street/L Street is and will continue to be affected by queue spillback from downstream intersections during the PM peak hour. As such, the intersection operates at LOS F. The proposed project traffic adds 28 trips during the PM peak hour and all of the trips are using westbound L Street. The proposed project does not add traffic to the critical northbound 16th Street movement. Evaluating the intersection as an isolated intersection the change in delay between the Near-Term No Project and Near-Term Plus Project Condition is less that 5 seconds. Therefore, the project traffic will not result in a significant impact.

The N Street/4th Street intersection does not meet peak hour traffic signal warrants for Near-Term No Project and Near-Term Plus Project Conditions.

For the Year 2025 No Project Condition all of the study intersections operate at an acceptable LOS except for the following intersections:

- 3rd Street/P Street LOS F during the PM peak hour.
- 3rd Street/N Street LOS D during the PM peak hour.
- 4th Street/N Street LOS E for the worst side street movement during the PM peak hour.
- 3rd Street/J Street LOS F during the AM and PM peak hours.
- 16th Street/L Street LOS F during the PM peak hour.

TABLE 5.6-14									
	ECTION OP	ERATIONS -	NEAR-TERM		S				
	A	verage Delay (s	econds per vehi	icle) - Level of S	ervice				
		No P	roject	Plus Prop	osed Project				
Intersection	Control AM PM AM PM								
1. 3 rd St./Q St.	Signal	11.4 (B)	11.2 (B)	11.5 (B)	11.0 (B)				
2. 3 rd St./P St.	Signal	9.4 (A)	39.9 (D)	9.7 (A)	48.2 (D)				
3. 3 rd St./N St.	Signal	13.8 (B)	19.3 (B)	21.2 (C)	17.0 (B)				
4. 4 th St./N St.	TWSC ¹	2.7 (A) 13.4 (B)	8.7 (A) 21.9 (C)	2.8 (A) 13.4 (B)	9.1 (A) 22.7 (C)				
5. 5 th St./N St.	Signal	15.5 (B)	14.4 (B)	13.9 (B)	14.5 (B)				
6. 3 rd St./Capitol Mall	Signal	17.0 (B)	17.3 (B)	18.0 (B)	34.7 (C)				
7. 4 th St./Capitol Mall	Signal	10.6 (B)	8.6 (A)	8.4 (A)	13.3 (B)				
8. 5 th St./Capitol Mall	Signal	9.3 (A)	13.2 (B)	7.5 (A)	12.6 (B)				
9. 3 rd St./L St.	Signal	12.3 (B)	12.3 (B)	13.6 (B)	15.1 (B)				
10. 5 th St./L St.	Signal	10.3 (B)	12.0 (B)	10.5 (B)	11.9 (B)				
11. 3 rd St./J St.	Signal	69.2 (E)	39.0 (D)	73.4 (E)	39.6 (D)				
12. 5 th St./J St.	Signal	14.5 (B)	7.5 (A)	14.4 (B)	7.9 (A)				
13. 5 th St./I St.	Signal	12.0 (B)	13.9 (B)	12.3 (B)	14.4 (B)				
14. 16 th St./L St.	Signal	11.8 (B)	(F) ²	11.8 (B)	$(F)^2$				
Notes:									

TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below.
Intersection is impacted by queue spillback from downstream intersections on 16th Street.

Shading and Bold indicates intersections operating at an unacceptable LOS.

Shading, Bold, and Italicized indicates intersection with a significant impact due to traffic from the proposed project

Source: Fehr & Peers, 2005.

For the Year 2025 Plus Project Condition, all of the study intersections operate at an acceptable LOS except for the following intersections:

- 3rd Street/P Street LOS F during the PM peak hour.
- 3rd Street/N Street LOS D during the PM peak hour.
- 4th Street/N Street LOS E for the worst side street movement during the PM peak hour.
- 3rd Street/Capitol Mall LOS F during the PM peak hour.
- 3rd Street/L Street LOS D during the PM peak hour.
- 3rd Street/J Street LOS F during the AM and PM peak hours.
- 16th Street/L Street LOS F during the PM peak hour.

As identified on page 5.6-6 the intersection of 16th Street/L Street is and will continue to be affected by queue spillback from downstream intersections during the PM peak hour. As such, the intersection operates at LOS F. The proposed project traffic adds 28 trips during the PM peak hour and all of the trips are using westbound L Street. The proposed project does not add traffic to the critical northbound 16th Street movement. Evaluating the intersection as an isolated intersection the change in delay between the Year 2025 No Project and Year 2025 Plus Project Condition is less that 5 seconds. Therefore, the project traffic will not result in a significant impact.

The N Street/4th Street intersection does not meet peak hour traffic signal warrants for Year 2025 No Project and Year 2025 Plus Project Conditions.

TABLE 5.6-15										
PEAK HOUR INTERSECTION OPERATIONS - YEAR 2025 CONDITIONS										
	Av	erage Delay (se	econds per veh	icle) - Level of	Service					
		No P	roject	Plus Prop	osed Project					
Intersection	Control	AM	PM	AM	PM					
1. 3 rd St./Q St.	Signal	14.2 (B)	10.9 (B)	14.3 (B)	10.9 (B)					
2. 3 rd St./P St.	Signal	10.8 (B)	116.1 (F)	11.2 (B)	129.6 (F)					
3. 3 rd St./N St.	Signal	18.9 (B)	51.4 (D)	21.9 (C)	46.4 (D)					
4. 4 th St./N St.	TWSC ¹	3.2 (A) 21.1 (C)	13.3 (B) 40.7 (E)	3.3 (A) 21.2 (C)	14.3 (B) 44.0 (E)					
5. 5 th St./N St.	Signal	17.4 (B)	16.5 (B)	15.3 (B)	16.7 (B)					
6. 3 rd St./Capitol Mall	Signal	20.6 (C)	22.4 (C)	19.6 (B)	110.2 (F)					
7. 4 th St./Capitol Mall	Signal	11.3 (B)	9.1 (A)	8.3 (A)	14.3 (B)					
8. 5 th St./Capitol Mall	Signal	11.1 (B)	13.4 (B)	9.7 (A)	12.9 (B)					
9. 3 rd St./L St.	Signal	14.4 (B)	29.8 (C)	15.0 (B)	46.0 (D)					
10. 5 th St./L St.	Signal	12.3 (B)	14.6 (B)	12.4 (B)	14.9 (B)					
11. 3 rd St./J St.	Signal	146.3 (F)	98.0 (F)	151.3 (F)	111.2 (F)					
12. 5 th St./J St.	Signal	19.9 (B)	11.8 (B)	19.6 (B)	11.4 (B)					
13. 5 th St./I St.	Signal	14.5 (B)	23.4 (C)	14.5 (B)	21.3 (C)					
14. 16 th St./L St.	Signal	13.2 (B)	(F) ²	13.2 (B)	(F) ²					

1. TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below.

2. Intersection is impacted by queue spillback from downstream intersections on 16th Street.

Shading and Bold indicates intersections operating at an unacceptable LOS.

Shading, Bold, and Italicized indicates intersection with a significant impact due to traffic from the proposed project

Source: Fehr & Peers, 2005.

Freeway Ramps

Operations were evaluated at the study area I-5 freeway ramps. Table 5.6-16 and 5.6-17 summarize the peak hour traffic operations under the near-term and year 2025 conditions with and without the proposed project.

All of the ramps operate at an acceptable LOS (LOS E or better) under both the near-term conditions except for the weave section of northbound I-5 between the P Street on-ramp and J Street off-ramp which operates at LOS F during both the AM and PM peak hours.

All of the ramps operate at an acceptable LOS (LOS E or better) under both the year 2025 conditions except for the weave section of northbound I-5 between the P Street on-ramp and J Street off-ramp which operates at LOS F during both the AM and PM peak hours and the southbound Q Street off-ramp diverge in the AM peak hour.

TABLE 5.6-16											
FREEWAY RAMP OPERATIONS - NEAR-TERM CONDITIONS											
Near-Term Condition Near-Term Plus Project Condition									dition		
Freeway Ramn	Evaluation	AM Pe	eak	PM P	eak	AM P	eak	PM Peak			
Junction	Туре	Density ¹	LOS ²	Density	LOS	Density	LOS	Density	LOS		
I-5 southbound off-ramp to J St	Ramp		с		в		С		С		
I-5 southbound off-ramp to Q St	Diverge	34.8	D	30.2	D	34.8	D	30.1	E		
I-5 northbound off-ramp to J St and P St on- ramp	Weave		F		F		F		F		
I-5 northbound on-ramp from L St	Ramp		А		С		А		С		
Notes:											

1. Density in passenger cars per mile per lane.

2. LOS calculations based on the HCM 2000 procedures.

Shading and Bold indicates intersections operating at an unacceptable LOS.

Source: Fehr & Peers, 2005.

TABLE 5.6-17

FREEWAY RAMP OPERATIONS - FUTURE (YEAR 2025) CONDITIONS

		Y	ear 2025	Condition		Year 2025 Plus Project Condition					
Freeway Ramp	Evaluation	AM Pe	AM Peak		PM Peak		eak	PM P	∕l Peak		
Junction	Туре	Density ¹	LOS ²	Density	LOS	Density	LOS	Density	LOS		
I-5 southbound off-ramp											
to J St	Ramp		С		С		С		С		
I-5 southbound off-ramp											
to Q St	Diverge	38.2	F	36.8	E	38.2	F	36.6	E		
I-5 northbound off-ramp											
to J St	Weave		F		F		F		F		
I-5 northbound on-ramp											
from L St	Ramp		Α		С		Α		С		

Notes:

1. Density in passenger cars per mile per lane.

2. LOS calculations based on the HCM 2000 procedures.

Shading and Bold indicates intersections operating at an unacceptable LOS. Source: Fehr & Peers, 2005.

Freeway Mainline

Operations on mainline I-5 were evaluated. Table 5.6-18 and 5.6-19 summarize the peak hour traffic operations under the near-term and year 2025 conditions with and without the proposed project.

For the Near-Term No Project and Near-Term Plus Project Conditions all of the freeway segments are projected to operate acceptably (LOS E or better).

For the Year 2025 No Project and Year 2025 Plus Project Conditions all of the freeway segments are projected to operate acceptably (LOS E or better) except for the segment of southbound I-5 north of J Street, which is projected to operate at LOS F during both the AM and PM peak hours.

	TABLE 5.6-18											
FREEWAY MAINLINE OPERATING CONDITIONS - NEAR-TERM CONDITIONS												
		Near	r-Term	No Projec	t			Near	-Term I	Plus Proje	ct	
	AM Peak Hour PM Peak Hour AM Peak Hour PM Peak Hour										ſ	
Location	Volume	Density ¹	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
Northbound I-5 north of I St	6,602	27.5	D	7,875	36.9	Е	6,602	27.5	D	7,875	36.9	E
Northbound I-5 north of P St	7,923	37.4	E	5,979	24.3	С	7,943	37.6	E	5,997	24.4	С
Southbound I-5 north of J St	8,279	41.3	E	7,235	31.6	D	8,279	41.3	E	7,235	31.6	D
Southbound I-5 north of P St	6,636	21.3	С	7,130	23.0	С	6,616	21.3	С	7,054	22.8	С

Notes:

1. Density in passenger cars per mile per lane.

Shading and Bold indicates intersections operating at an unacceptable LOS.

Source: Fehr & Peers, 2005.

					TABLE	5.6-19	9					
	FREEWAY MAINLINE OPERATING CONDITIONS - YEAR 2025 CONDITIONS											
FREWAT MAINLINE OF FRATING CONDITIONS - TEAR 2023 CONDITIONS												
Year 2025 No Project Year 2025 Plus Project												
	AM	Peak Hour	•	PM	Peak Hou	r	AM	Peak Hou	r	PM	Peak Hou	r
Location	Volume	Density ¹	LOS	Volume	Density	LOS	Volume	Density	LOS	Volume	Density	LOS
Northbound												
I-5 north of I												
St	6,970	29.8	D	8,160	39.9	Ш	6,970	29.8	D	8,160	39.9	E
Northbound												
I-5 north of												
P St	8,080	39.0	E	6,070	24.8	С	8,080	39.0	Е	6,070	24.8	С
Southbound												
I-5 north of												
J St	8,820		F	8,880		F	8,820		F	8,880		F
Southbound												
I-5 north of												
P St	7,150	23.1	С	8,380	28.1	D	7,120	23.0	С	8,280	27.7	D
Notes:												
1 Density in nar	sender cars	ner mile ner l	ane									

 Density in passenger cars per mile per lane. Shading and Bold indicates intersections operating at an unacceptable LOS.

Source: Fehr & Peers, 2005.

On-Site Vehicle Circulation

The on-site circulation system was analyzed under Year 2025 conditions, as the site should be designed to accommodate future traffic volumes. The recommendations for on-site circulation discussed below will accommodate near-term and Year 2025 traffic volumes. To accommodate projected traffic volumes, proposed left-turn pocket on Capitol Mall at 4th Street should be 180 feet.

To provide left-turn access to the hotel registration area from 3rd Street would require the street to be designed to include a striped two-way left-turn lane between the southbound left-turn pocket at Capitol Mall and the northbound left-turn pocket at L Street. According to City Standards (Chapter 15 of the City DPM) a two-way left-turn lane is generally not allowed on higher volume streets, like 3rd Street. Additionally, left-turn access to the project from 3rd Street is impacted by the short block

length (360-feet) and the need for a 200-foot left-turn pocket from southbound 3rd Street at Capitol Mall and a 100-foot left-turn pocket on northbound 3rd Street at L Street. This would restrict access to the project from 3rd Street to right-turn in-and-out only. Based on design factors and traffic impacts at the 3rd Street/Capitol Mall and 3rd Street/L Street intersections (Table 5.6-15), it is recommended that 3rd Street remain one-way southbound between Capitol Mall and L Street.

The two driveways to the parking garage should be designed so that vehicles entering the garage do not result in queues that affect traffic operations on L Street. To reduce the possibility of the expected vehicle queues at both the condominium and hotel/retail/fitness center entrances was calculated. The condominium access should have one service position and a 100-foot throat depth. The hotel/retail/fitness center access should have two service positions and a 60-foot throat depth.

L Street currently carries approximately 16,400 vehicles per day, 544 vehicle per day during the AM peak hour and 2,025 vehicles per hour during the PM peak hour. These values are forecasted to be 16,000 vehicles per day, 636 vehicles per hour during the AM peak hour and 1,970 vehicles per hour during the PM peak hour for the Near-Term Plus Project Condition and 23,600 vehicles per day, 1,278 vehicles per hour during the AM peak hour and 2,910 vehicles per hour during the PM peak hour for the Year 2025 Plus Project Condition. Trucks entering and exiting the loading dock could have a substantial impact on vehicle flows during the PM peak hour. Impacts to the AM peak hour will be much more limited due to the lower number of vehicles using L Street, but could affect traffic flows. To limit the impacts, it is recommended that loading activities to the L Street loading dock should be restricted during the 7:00 to 9:00 AM and 4:00 to 6:00 PM peak periods.

On-Site Bicycle & Pedestrian Circulation

According to the project site plan, existing sidewalks will be replaced with construction of the proposed project on Capitol Mall, 3rd Street, 4th Street, and L Street as part of the required frontage improvements. There are pedestrian traffic signal heads at the intersections of 3rd Street/Capitol Mall, 4th Street/Capitol Mall, 3rd Street/L Street, and 4th Street/L Street. All existing pedestrian indications and crosswalks should be replaced if the traffic signals are modified with the project.

Bike lanes do not currently exist on any of the roadways surrounding the project and there are not bike lanes proposed with the project.

Standards of Significance

Impact significance criteria are summarized below for study area intersections, bicycle and pedestrian facilities, and transit facilities.

The standards of significance used to identify traffic impacts of the proposed project and project alternatives are identified below. Mitigation measures are provided for "plus project" conditions since intersections that operate below the City standards under near-term and Year 2025 no project conditions are not the responsibility of the project.

The feasibility of the mitigation is also discussed. Some measures may require right-of-way that is not available through implementation of the proposed project. To implement these measures, right-of-way would have to be acquired. The potential cost of right-of-way acquisition makes the mitigation measures infeasible per Section 15364 of CEQA.

Intersections

The City of Sacramento has established a level of service standard for intersections of LOS C. The level of service is based on the average control delay at signalized and unsignalized intersections. As stated in the City's *Traffic Impact Guidelines* (February 1996), a significant traffic impact occurs under the following conditions:

- The addition of project-generated traffic causes a facility to change from LOS A, B, or C to LOS D, E, or F, or
- The addition of project-generated traffic increases the average stopped delay by five seconds or more at an intersection already operating worse than LOS C

This standard is consistent with a goal set forth in the City of Sacramento, General Plan Update (1988). Specifically, Section 5-11 – Goal D, states that the City will, "Work towards achieving a Level of Service C on the city's local and major street system. Due to the constraints associated with existing development in the City, and because of other environmental concerns, this goal cannot always be met."

Bicycle Facilities

A significant bikeway impact would occur if:

- The project hindered or eliminated an existing designated bikeway, or if the project interfered with implementation of a proposed bikeway, or
- The project was to result in unsafe conditions for bicyclists, including unsafe bicycle/pedestrian or bicycle/motor vehicle conflicts

Pedestrian Facilities

A significant pedestrian circulation impact would occur if:

• The project was to result in unsafe conditions for pedestrians, including unsafe increase in pedestrian/bicycle or pedestrian/motor vehicle conflicts

Transit Facilities

A significant impact to the transit system would occur if:

The project-generated ridership, when added to existing or future ridership, exceeds available or planned system capacity. Capacity is defined as the total number of passengers the system of busses and light rail vehicles can carry during the peak hours of operation.

Freeway Facilities

In the Route Concept Report of I-5 Caltrans has established a goal level of service standard for I-5 in downtown Sacramento of LOS E. A significant traffic impact occurs under the following conditions:

The addition of project-generated traffic causes a facility to change from LOS A, B, C, D, or E to LOS F

 The addition of project adds traffic increases to a freeway facility already operating worse than LOS E

NEAR-TERM PLUS PROJECT CONDITIONS IMPACTS AND MITIGATION MEASURES

5.6-1. The proposed project would exacerbate unacceptable operations at local intersections (3rd Street/P Street) under Near-Term Plus Project Condition.

As shown in Table 5.6-14, the proposed project would add traffic during the PM peak hour to the following intersection, which would add more than 5 seconds of delay to PM peak hour operations:

• 3rd Street/P Street

Restricting on-street parking during the PM peak period (4:00 to 6:00 PM) on the west side of the street and restriping the southbound approach of the 3rd Street/P Street intersection to provide two exclusive right-turn lanes and two through lanes would result in less than a 5 second increase in delay during the PM peak hour and would reduce the impact to *less-than-significant* (see Table 5.6-20).

Mitigation Measure

Implementation of the following measure would reduce the impact to *less-than-significant* by adding a second southbound right turn lane during the PM peak hour.

5.6-1. The project shall provide the funding to the City of Sacramento to add the appropriate traffic signs and to restripe the southbound approach to the 3rd Street/P Street intersection to add a second right turn lane.

5.6-2 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp.

As shown in Table 5.6-16, the proposed project would add traffic during the PM peak hour to the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp exacerbating unacceptable operations. This is considered a **significant impact**.

No mitigation measurers are available to reduce the impacts of the proposed project in the near-term condition on the weaving section on northbound I-5 between the P Street on-ramp and J Street off-ramp. Therefore, this impact would remain *significant and unavoidable.*

Mitigation Measure

5.6-2 None required.

BICYCLE, PEDESTRIAN, AND TRANSIT IMPACTS AND MITIGATIONS

5.6-3 The proposed project would result in the degradation of pedestrian facilities on the project site.

TABLE 5.6-20										
PEAK HOUR INTE PRC	RSECTION	OPERATIO	NS - NEAR-T ITIGATED	ERM PLUS						
Average Delay (seconds per vehicle) - Level of Service										
		No Mit	tigation	Mit	gated					
Intersection	Control	AM	PM	AM	PM					
1. 3 rd St./Q St.	Signal	11.5 (B)	11.0 (B)	11.5 (B)	4.4 (A)					
2. 3 rd St./P St.	Signal	9.7 (A)	48.2 (D)	9.7 (A)	37.1 (D)					
3. 3 rd St./N St.	Signal	21.2 (C)	17.0 (B)	21.2 (C)	17.0 (B)					
4. 4 th St./N St.	TWSC ¹	2.8 (A) 13.4 (B)	9.1 (A) 22.7 (C)	2.8 (A) 13.4 (B)	9.1 (A) 22.7 (C)					
5. 5 th St./N St.	Signal	13.9 (B)	14.5 (B)	13.9 (B)	14.5 (B)					
6. 3 rd St./Capitol Mall	Signal	18.0 (B)	34.7 (C)	18.0 (B)	34.7 (C)					
7. 4 th St./Capitol Mall	Signal	8.4 (A)	13.3 (B)	8.4 (A)	13.3 (B)					
8. 5 th St./Capitol Mall	Signal	7.5 (A)	12.6 (B)	7.5 (A)	12.6 (B)					
9. 3 rd St./L St.	Signal	13.6 (B)	15.1 (B)	13.6 (B)	15.1 (B)					
10. 5 th St./L St.	Signal	10.5 (B)	11.9 (B)	10.5 (B)	11.9 (B)					
11. 3 rd St./J St.	Signal	73.4 (E)	39.6 (D)	73.4 (E)	39.6 (D)					
12. 5 th St./J St.	Signal	14.4 (B)	7.9 (A)	14.4 (B)	7.9 (A)					
13. 5 th St./I St.	Signal	12.3 (B)	14.4 (B)	12.3 (B)	14.4 (B)					
14. 16 th St./L St.	Signal	11.8 (B)	(F) ²	11.8 (B)	(F) ²					
Notes: 1. TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below. 2. Intersection is impacted by queue spillback from downstream intersections on 16 th Street.										

Bold = Vehicle Delay and LOS with Mitigation

Source: Fehr & Peers, 2005.

The proposed project will not affect the existing bicycle facilities in the project vicinity. In addition, the proposed project and project alternatives do not interfere with the planned bikeways shown in the *Sacramento City/County 2010 Bikeway Master Plan*. Implementation of the proposed project would have **no impact**.

Construction of the project will result in removal of the existing sidewalks on Capitol Mall, 3rd Street, 4th Street, and L Street. The construction of the proposed project could result in changes to the traffic signals pedestrian indications and/or intersection crosswalk striping at the intersections of 3rd Street/Capitol Mall, 4th Street/Capitol Mall, 3rd Street/L Street, and 4th Street/L Street. This is considered **significant impact**.

Mitigation Measure

Implementation of the following mitigation measure would reduce project impacts to pedestrian facilities to less-than-significant.

5.6-3 The project shall replace all existing sidewalks as part of frontage improvements required with approval of the project. Existing pedestrian crosswalks or pedestrian traffic signal indications shall be replaced by the project with approval of the project.

5.6-4 The proposed project would increase demand for transit in the study area.

The implementation of the proposed project would not disrupt or interfere with existing or planned transit facilities or services in the study area. The proposed project would generate approximately 27 AM peak hour and 48 PM peak hour transit trips. The number of additional transit trips is not expected to result in an impact to the capacity of the transit services in the project area.

The proposed project is consistent with the following goals identified in the Sacramento Regional Transit District Transit Master Plan (Adopted October 25, 1993):

- <u>Land Use Coordination Goal</u>: To promote transit-oriented land use planning and integrate land use and transportation planning policies to maximize public transit productivity
- <u>Travel and Mobility Goal</u>: To develop a well-integrated regional transit network comprised of inter-regional, regional, local and community-based transit systems

Implementation of the proposed project would have **no impact**.

Mitigation Measure

None required.

Cumulative Impacts and Mitigation Measures

5.6-5. The proposed project would exacerbate unacceptable operations at local intersections under Year 2025 Plus Project Condition.

As shown in Table 5.6-15, the proposed project would add traffic during the AM or PM peak hour to the following intersections, which would either degrade the LOS or exacerbate the future LOS (add more than 5 seconds of delay):

- 3rd Street/P Street
- 3rd Street/Capitol Mall
- 3rd Street/J Street
- 3rd Street/L Street

a. 3rd Street/P Street

As shown in Table 5.6-15, the proposed project would add traffic during the PM peak hour to the following intersection, which would add more than 5 seconds of delay to PM peak hour operations, resulting in a **significant impact**. Restricting on-street parking during the PM peak period (4:00 to 6:00 PM) on the west side of the street and restriping the southbound approach of the 3rd Street/P Street intersection to provide two exclusive right-turn lanes and two through lanes would result in less than a 5 second increase in delay during the PM peak hour, and would reduce the impact to *less-than-significant* (see Table 5.6-21).

b. 3rd Street/Capitol Mall

The addition of the proposed project traffic would degrade intersection operations from LOS C to LOS F during the PM peak hour, resulting in **significant impact.** The traffic study assumed that 3rd

Street between Capitol Mall and L Street would be converted to two-way operation and that the existing traffic signal timing would remain for near-term and future conditions. By retaining one-way southbound operation on 3rd Street between Capitol Mall and L Street and by adjusting the traffic signal timing on the eastbound through, westbound through, and southbound movements to match the traffic demands the intersection would operate at LOS C during the PM peak hour, and would reduce the impact to **less-than-significant** (see Table 5.6-21).

c. 3rd Street/L Street

As shown in Table 5.6-15, the addition of proposed project traffic would degrade operations at the intersection from LOS C to LOS D during the PM peak hour, resulting on **significant impact**. Retaining one-way southbound operation on 3rd Street between Capitol Mall and L Street and by adjusting the traffic signal timing on the westbound and southbound movements to match the traffic demands the intersection would operate at LOS C during the PM peak hour, and would reduce the impact to *less-than-significant* (see Table 5.6-21).

d. 3rd Street/J Street

The addition of the proposed project traffic would exacerbate intersection operations by adding more than 5 seconds of delay to future AM and PM peak hour operations, resulting in **significant impact**. Adjusting the traffic signal timing on the southbound I-5 off-ramp and northbound I-5 off-ramp movements to accommodate the future traffic volumes would result in less than a 5-second increase in delay during the AM and PM peak hours, and would reduce the impact to *less-than-significant*.

Mitigation Measures

Implementation of the following mitigation measures would reduce the above impacts to the 3rd Street/P Street, 3rd Street/Capitol Mall, 3rd Street/L Street, and 3rd Street/J Street intersections to *less-than-significant.*

- 5.6-5 (a) The project shall provide the funding to the City of Sacramento to install the appropriate traffic signs on the west side of 3rd Street to restrict parking between 4:00 to 6:00 pm ant to restripe the southbound approach to the 3rd Street/P Street intersection to add a second right turn lane.
 - (b/c) The City should retain the one-way southbound operation of 3rd Street between Capitol Mall and L Street. The City shall monitor the operation of the traffic signal at 3rd Street and Capitol Mall and retime the signal to conform to traffic demands.
 - (d) The City shall monitor the operation of the traffic signal at 3rd Street and L Street and retime the signal to conform to traffic demands.

5.6-6 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and southbound Q Street off-ramp.

TABLE 5.6-21					
PEAK HOUR INTERSECTION OPERATIONS - YEAR 2025 PLUS					
Average Delay (seconds per vehicle) – Level of Service					
		No Mitigation		Mitigated	
Intersection	Control	AM	PM	AM	PM
1. 3 rd St./Q St.	Signal	14.3 (B)	10.9 (A)	14.3 (B)	6.3 (A)
2. 3 rd St./P St.	Signal	11.2 (B)	129.6 (F)	11.2 (B)	96.5 (F)
3. 3 rd St./N St.	Signal	21.9 (C)	46.4 (D)	25.2 (C)	41.1 (D)
4. 4 th St./N St.	TWSC ¹	3.3 (A) 21.2 (C)	14.3 (B) 44.0 (E)	3.3 (A) 21.2 (C)	14.3 (B) 44.0 (E)
5. 5 th St./N St.	Signal	15.3 (B)	16.7 (B)	15.1 (B)	16.7 (B)
6. 3 rd St./Capitol Mall	Signal	19.6 (B)	110.2 (F)	16.7 (B)	60.2 (E)
7. 4 th St./Capitol Mall	Signal	8.3 (A)	14.3 (B)	8.0 (A)	10.9 (B)
8. 5 th St./Capitol Mall	Signal	9.7 (A)	12.9 (B)	9.6 (A)	13.2 (B)
9. 3 rd St./L St.	Signal	15.0 (B)	46.0 (D)	17.5 (B)	28.3 (C)
10. 5 th St./L St.	Signal	12.4 (B)	14.9 (B)	12.4 (B)	14.8 (B)
11. 3 rd St./J St.	Signal	151.3 (F)	111.2 (F)	151.2 (F)	79.3 (E)
12. 5 th St./J St.	Signal	19.6 (B)	11.4 (B)	19.7 (B)	11.2 (B)
13. 5 th St./I St.	Signal	14.5 (B)	21.3 (C)	14.5 (B)	21.1 (C)
14. 16 th St./L St.	Signal	13.2 (B)	(F) ²	13.2 (B)	$(F)^2$

Notes:

TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below.
Intersection is impacted by queue spillback from downstream intersections on 16th Street.
Bold = Vehicle Delay and LOS with Mitigation

Source: Fehr & Peers, 2005.

As shown in Table 5.6-17, the proposed project would add traffic during the PM peak hour to the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and on the southbound Q Street off-ramp exacerbating unacceptable operations. These are considered **significant impacts.**

No mitigation measurers are available to reduce impacts of the proposed project in the cumulative condition on the weaving section on northbound I-5 between the P Street on-ramp and J Street off-ramp and on the southbound Q Street off-ramp. Therefore, this impact would remain *significant and unavoidable.*

Mitigation Measure

5.6-6 None required.

5.6-7 The proposed project would exacerbate unacceptable operations on mainline southbound I-5 between J Street and Richards Boulevard.

As shown in Table 5.6-19, the proposed project would add traffic during the AM and PM peak hours to southbound mainline I-5 between the northbound J Street and Richards Boulevard exacerbating unacceptable operations. This is considered a significant impact.

No mitigation measurers are available to reduce the impacts of the proposed project in the cumulative condition on southbound mainline I-5 between J Street and Richards Boulevard. Therefore, this impact would remain significant and unavoidable.

Mitigation Measure

5.6-7 None required.

On-Site Vehicle Circulation

The proposed project access and on-site circulation was analyzed under Year 2025 conditions, as the site should be designed to accommodate future traffic conditions. The recommendations for access and on-site circulation discussed below will accommodate near-term and Year 2025 traffic volumes.

5.6-8 Operation of the loading dock during peak periods will affect traffic operations on L Street.

Trucks making deliveries to the project site by entering and exiting the loading dock by backing in or out of the loading dock onto L Street could have a substantial impact on vehicle flows on L Street during the peak periods (AM and PM). This is considered significant impact of the project.

L Street currently carries approximately 16,400 vehicles per day, 544 vehicle per day during the AM peak hour and 2,025 vehicles per hour during the PM peak hour. These values are forecasted to be 16,000 vehicles per day, 636 vehicles per hour during the AM peak hour and 1,970 vehicles per hour during the PM peak hour for the Near-Term Plus Project Condition and 23,600 vehicles per day, 1,278 vehicles per hour during the AM peak hour and 2,910 vehicles per hour during the PM peak hour for the Year 2025 Plus Project Condition.

Mitigation Measure

Implementation of the following mitigation measure would reduce impacts from project related deliveries to the project loading dock to *less-than-significant.*

5.6-8 The City shall restrict the use of the loading dock during the peak period of 7:00 to 9:00 AM and 4:00 to 6:00 PM.

5.6-9 Operation of the parking garage could result in traffic queues extending onto L Street.

During the AM and PM peak hour traffic entering the project-parking garage could result in queues that extend onto L Street and affect the traffic operations on L Street. This is considered **significant impact** of the project.

The parking garage should be designed so that the condominium access would have one service position and a 100-foot throat depth. The hotel/retail/fitness center access should have a one-lane access from L Street that widens to two service positions with a 60-foot throat depth for each service position.

Mitigation Measure

Implementation of the following mitigation measure would reduce impacts from project related vehicle queues extending from the parking garage access points onto L Street to *less-than-significant.*

5.6-9 The City shall condition the project to construct the garage access points to include one service position and a 100-foot throat depth for the condominium access and a one-lane access from L Street that widens to two service positions with a 60-foot throat depth for each service position for the hotel/retail/fitness center access.

5.6-10 Conversion of 3rd Street between L Street and Capitol Mall from one-way to two-way operation.

The proposed project includes the conversion of 3rd Street between L Street and Capitol Mall from one-way southbound operation to two-way operation and the installation of a left-turn pocket on eastbound Capitol Mall at the intersection of Capitol Mall and 3rd Street. The intent of the conversion is to provide northbound and southbound access to the hotel registration area from 3rd Street. To achieve this 3rd Street would need to be designed to include a striped two-way left-turn lane between the southbound left-turn pocket at Capitol Mall and the northbound left-turn pocket at L Street. According to City Standards (Chapter 15 of the City DPM) a two-way left-turn lane is generally not allowed on higher volume streets, like 3rd Street. Additionally, left-turn access to the project from 3rd Street at L Street is impacted by the short block length (360-feet) and the need for a 200-foot left-turn pocket at L Street at L Street. This would restrict access to the project from 3rd Street to right-turn in-and-out only. Additionally, the conversion results in traffic impacts at the 3rd Street/Capitol Mall (Impact 5.6-3b) and 3rd Street/L Street (Impact 5.6-3c) intersections (Table 5.6-15). The conversion of 3rd Street to two-way operation is considered a **significant impact**.

Mitigation Measure

Implementation of the following mitigation measure would reduce impacts from conversion of 3rd Street between L Street and Capitol Mall to *less-than-significant.*

5.6-10 Retain the existing one-way operation on 3rd Street. Implement Mitigation Measures 5.6-3 (b/c). Figures 5.6-12 and 5.6-13 present the traffic volumes without the conversion of 3rd Street between Capitol Mall and L Street to two-way operation.



STUDY INTERSECTIONS -NEAR-TERM PLUS PROJECT CONDITIONS (NO TWO-WAY CONVERSION)



Fehr & Peers

EXHIBIT 5.6-12A



PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS -NEAR-TERM PLUS PROJECT CONDITIONS (NO TWO-WAY COVERSION)

TRANSPORTATION CONSULTANTS Apr 26, 2005 CEC N:\PROJECTS\SA04\0011_Towers_Capital_Mall\graphics\Final\Ex5.6-12_phtv_nt_pp_con.dwg

FEHR & PEERS

EXHIBIT 5.6-12B



STUDY INTERSECTIONS -CUMULATIVE YEAR (2025) PLUS PROJECT CONDITIONS (NO TWO-WAY CONVERSION)



EXHIBIT 5.6-13A



PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS -CUMULATIVE YEAR (2025) PLUS PROJECT CONDITIONS (NO TWO-WAY CONVERSION)



Fehr & Peers

EXHIBIT 5.6-13B

5.6-11 Installation of a left-turn pocket on eastbound Capitol Mall at 4th Street.

The proposed project includes the construction of a left-turn pocket on the eastbound Capitol Mall approach to the Capitol Mall/4th Street intersection. The project traffic will add to the eastbound left-turn demand at the intersection, which could result in vehicle queues that extend into eastbound the Capitol Mall through lanes. This is considered **significant impact**.

Mitigation Measure

Implementation of the following mitigation measure would reduce impacts from addition of project traffic to the eastbound left-turn movement at the Capitol Mall and 4th Street intersection to a *less-than-significant level.*

5.6-11 The City shall condition the project to construct a left-turn pocket on eastbound Capitol Mall to city standards. The left-turn pocket should be a minimum of 180-feet in length to accommodate vehicle queues.
TABLE 5.6-22														
PEAK HOUR INTERSECTION OPERATIONS - PROJECT CONDITIONS - MITIGATED														
Intersection		Average Delay (seconds per vehicle) - Level of Service												
		Near-Term						Year 2025						
		No Project		Plus Project - No Mitigation		Plus Project - Mitigated		No Project		Plus Project - No Mitigation		Plus Project - Mitigated		
	Control	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
1. 3 rd St./Q St.	Signal	11.4 (B)	11.2 (B)	11.5 (B)	11.0 (B)	11.5 (B)	4.4 (A)	14.2 (B)	10.9 (B)	14.3 (B)	10.9 (A)	14.3 (B)	6.3 (A)	
2. 3 rd St./P St.	Signal	9.4 (A)	39.9 (D)	9.7 (A)	48.2 (D)	9.7 (A)	37.1 (D)	10.8 (B)	116.1 (F)	11.2 (B)	129.6 (F)	11.2 (B)	96.5 (F)	
3. 3 rd St./N St.	Signal	13.8 (B)	19.3 (B)	21.2 (C)	17.0 (B)	21.2 (C)	17.0 (B)	18.9 (B)	51.4 (D)	21.9 (C)	46.4 (D)	25.2 (C)	41.1 (D)	
4. 4 th St./N St.	TWSC ¹	2.7 (A) 13.4 (B)	8.7 (A) 21.9 (C)	2.8 (A) 13.4 (B)	9.1 (A) 22.7 (C)	2.8 (A) 13.4 (B)	9.1 (A) 22.7 (C)	3.2 (A) 21.1 (C)	13.3 (B) 40.7 (E)	3.3 (A) 21.2 (C)	14.3 (B) 44.0 (E)	3.3 (A) 21.2 (C)	14.3 (B) 44.0 (E)	
5. 5 th St./N St.	Signal	15.5 (B)	14.4 (B)	13.9 (B)	14.5 (B)	13.9 (B)	14.5 (B)	17.4 (B)	16.5 (B)	15.3 (B)	16.7 (B)	15.1 (B)	16.7 (B)	
6. 3 rd St./ Capitol Mall	Signal	17.0 (B)	17.3 (B)	18.0 (B)	34.7 (C)	18.0 (B)	34.7 (C)	20.6 (C)	22.4 (C)	19.6 (B)	110.2 (F)	16.7 (B)	60.2 (E)	
7. 4 th St./ Capitol Mall	Signal	10.6 (B)	8.6 (A)	8.4 (A)	13.3 (B)	8.4 (A)	13.3 (B)	11.3 (B)	9.1 (A)	8.3 (A)	14.3 (B)	8.0 (A)	10.9 (B)	
8. 5 th St./ Capitol Mall	Signal	9.3 (A)	13.2 (B)	7.5 (A)	12.6 (B)	7.5 (A)	12.6 (B)	11.1 (B)	13.4 (B)	9.7 (A)	12.9 (B)	9.6 (A)	13.2 (B)	
9. 3 rd St./L St.	Signal	12.3 (B)	12.3 (B)	13.6 (B)	15.1 (B)	13.6 (B)	15.1 (B)	14.4 (B)	29.8 (C)	15.0 (B)	46.0 (D)	17.5 (B)	28.3 (C)	
10. 5 th St./L St.	Signal	10.3 (B)	12.0 (B)	10.5 (B)	11.9 (B)	10.5 (B)	11.9 (B)	12.3 (B)	14.6 (B)	12.4 (B)	14.9 (B)	12.4 (B)	14.8 (B)	
11. 3 rd St./J St.	Signal	69.2 (E)	39.0 (D)	73.4 (E)	39.6 (D)	73.4 (E)	39.6 (D)	146.3 (F)	98.0 (F)	151.3 (F)	111.2 (F)	151.2 (F)	79.3 (E)	
12. 5 th St./J St.	Signal	14.5 (B)	7.5 (A)	14.4 (B)	7.9 (A)	14.4 (B)	7.9 (A)	19.9 (B)	11.8 (B)	19.6 (B)	11.4 (B)	19.7 (B)	11.2 (B)	
13. 5 th St./I St.	Signal	12.0 (B)	13.9 (B)	12.3 (B)	14.4 (B)	12.3 (B)	14.4 (B)	14.5 (B)	23.4 (C)	14.5 (B)	21.3 (C)	14.5 (B)	21.1 (C)	
14. 16 th St./L St.	Signal	11.8 (B)	(F) ²	11.8 (B)	(F) ²	11.8 (B)	(F) ²	13.2 (B)	(F) ²	13.2 (B)	(F) ²	13.2 (B)	(F) ²	

Notes:

TWSC – Two-way stop controlled intersection. Results reported in average delay and LOS above, worst-case movement delay and LOS below.
Intersection is impacted by queue spillback from downstream intersections on 16th Street.

Bold and Italics = Significant Project Impact Bold = Vehicle Delay and LOS with Mitigation Source: Fehr & Peers, 2005.

6. ALTERNATIVES

INTRODUCTION

The purpose of this chapter is to identify and describe the alternatives to the proposed project. Project alternatives are developed to reduce or eliminate the significant or potentially significant adverse environmental effects identified as a result of the proposed project, while still meeting most if not all of the basic project objectives.

California Environmental Quality Act Requirements

An EIR must evaluate a reasonable range of alternatives to the proposed project, or to the location of the proposed project, that could 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, section 15126.6). An EIR need not evaluate the environmental effects of alternatives in the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis, and comparison with the proposed project. CEQA provides the following guidelines for discussing alternatives to a proposed project:

The specific alternative of the "no project" shall also be evaluated along with its impacts....If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines, section 15126.6 subd.(e)(2)).

The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the proposed objectives, or would be more costly (CEQA Guidelines, section 15126.6 subd.(b)).

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 (CEQA Guidelines, section 15126.6 subd.(d)).

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....The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making....An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines, section 15126.6 subd.(f)).

The requirement that an EIR evaluate alternatives to the proposed project or alternatives that address the location of the proposed project is a broad one; 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 the EIR must be feasible alternatives. However, the Public Resources Code and the CEQA Guidelines direct that the EIR need "set forth only those alternatives necessary to permit a reasoned choice." The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and, thus, limit the number and type of alternatives that need to be evaluated in a given EIR. According to the CEQA Guidelines (Section 15126.6(b)):

The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.

First and foremost, alternatives in an EIR must be feasible. In the context of CEQA, "feasible" is defined 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.

Further, the following factors may be taken into consideration in the assessment of the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (Section 15126.6(f)(1)). 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 (Section 15126.b(f)(3))."

The selection of alternatives takes into account the project objectives provided in Chapter 2 (Project Description). The project objectives include:

- Create a high-quality development that enhances and defines the Downtown skyline and aids in the revitalization of the Downtown by creating a project that is socially and economically vital, helping to re-establish the Downtown as a destination.
- Provide high-end restaurant and retail that benefits residents and visitors in the Central Business District and contributes to the vitality of the community.
- Create a mixed-use development that provides a combination of uses residential, hotel, health club, and retail to serve a wide range of users.
- Provide high-end hotel rooms to meet demand in the Central Business District.
- Promote development of high-density urban housing in the Central Business District.
- Create a development that is financially feasible without negatively affecting existing City resources, including the City's Capitol View Corridor.

Equally important to attaining the project objectives is the reduction of some or all significant impacts, particularly those that could not be mitigated to a level below the threshold of significance. The project-specific and cumulative significant and unavoidable impacts of the proposed project, after mitigation, are:

Project-Specific Significant and Unavoidable Impacts

- 5.2-1 Construction of the proposed project would generate emissions of PM₁₀.
- 5.2-2 Construction of the proposed project would generate emissions of ozone precursors.
- 5.2-3 Operation of the proposed project would contribute to long-term emissions of ozone precursors.
- 5.4-1 Construction of the proposed project would produce temporary noise.
- 5.5-1 The proposed project would generate more than 500 tons of solid waste per year.

5.6-2 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp.

Cumulative Significant and Unavoidable Impacts

- 5.3-2 The proposed project, in combination with other development in the City, could adversely affect known and/or previously unidentified historic archaeological resources.
- 5.6-6 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and southbound Q Street off-ramp.
- 5.6-7 The proposed project would exacerbate unacceptable operations on mainline southbound I-5 between J Street and Richards Boulevard.

ALTERNATIVES CONSIDERED AND DISMISSED FROM FURTHER CONSIDERATION

Consistent with CEQA, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the project objectives. Those alternatives that would have impacts identical to or more severe than the proposed project, or that would not meet most of the project objectives, were rejected from further consideration. The alternatives included in this chapter were derived after the establishment of significance thresholds for those issue areas with significant and unavoidable post-construction impacts: operational air emissions, solid waste generation, and traffic impacts. Alternatives exceeding the significance thresholds for the aforementioned issue areas would not substantially lessen any significant environmental impacts identified in Chapter 5 of the EIR and were rejected from further analysis. Although any number of alternatives could be designed that could result in the reduction or elimination of project impacts, a total of four representative alternatives, each intended to reduce or eliminate one or more of the significant impacts identified for the proposed project, are evaluated in this Draft EIR.

ALTERNATIVES CONSIDERED IN THIS EIR

- **No Project/ No Development Alternative,** which assumes that the proposed project would not occur and there would be no new development of the site. This alternative assumes the existing building on the site would remain.
- No Project/ Site Redevelopment Alternative, which assumes that the existing structure would be removed and the site would be redeveloped consistent with the existing land use designations and zoning on the site (Office).
- **Reduced Intensity Development/ Single Tower Alternative**, which would include the construction of only Tower A, and, therefore, would reduce the number of residential units by 455 from 800 to 345 units.
- **Off-Site Alternative**, in which the proposed land uses are developed at another location in the Central Business District, 621 Capitol Mall (6th Street and Capitol Mall).

Each of the alternatives is described in more detail, below, followed by an assessment of the alternative's impacts relative to the proposed project. The focus of this analysis is the difference between the alternative and the proposed project, with an emphasis on addressing the significant

impacts identified under the proposed project. For each issue area, the analysis indicates which mitigation measures would be required of the alternative, and which significant and unavoidable impacts would be avoided. In some cases, the analysis indicates what additional mitigation measures, if any, would be required for the alternative being discussed, and what significant and unavoidable impacts would be more (or less) severe. Unless otherwise indicated, the level of significance and required mitigation would be the same for the alternative as for the proposed project and no further statement of the level of significance is made. Table 6-1 provides a summary comparison of the severity of impacts for each alternative by topic.

TABLE 6-1										
ALTERNATIVE IMPACT COMPARISON										
Issue Area	Proposed Project	No Project/No Development	No Project/Site Redevelopment	Reduced Intensity	Off-Site					
Aesthetics	LS	LS	LS	Equal	Equal					
Air Quality	SU	LS	LS	Reduced	Equal					
Cultural	LS	LS	Equal	Equal	Unknown					
Noise	SU	LS	Equal	Equal	Equal					
Public Utilities and Services	SU	LS	LS	Reduced	Equal					
Transportation and Circulation	SU	LS	Reduced	Reduced	Equal					
Notes: SU= Significant and Unavoidable LS= Less than Significant Reduced = Level of significance is reduced compared to the proposed project, but not necessarily to a less-than-significant level. Source: EIP Associates, 2005.										

No Project/No Development Alternative

Under CEQA, the No Project Alternative must consider the effects of forgoing the project. The purpose of analyzing the No Project Alternative is to allow decision-makers to compare the impacts of the proposed project versus no project. The No Project Alternative describes the environmental conditions that exist at the time that the environmental analysis is commenced (CEQA Guidelines, section 15126.6(e)(2)).

Under the No Project Alternative, the existing structure on the site would remain and the site would not be redeveloped. There would be no changes to 3rd Street (conversion to two-way). Although the existing building is currently unoccupied, it is assumed that the building could be occupied with office uses in the future. Because the existing building would not be removed, there would be no change in the visual character of the area. The occupants of the site would generate increased traffic and parking demand when compared to existing conditions, but not on the same scale as the proposed project. It is unlikely that the traffic generated under this alternative would result in significant traffic impacts. Air emissions generated by construction of the proposed project would be eliminated and operational impacts would be substantially reduced. Drainage on the site would not change from current conditions, so the Basin 52 system would not receive additional flows. Wastewater generation, if the building is occupied, would be greater than under current conditions and could contribute to overflows in the Combined Sewer System, but the magnitude of the flows from the existing building would be substantially less than under the proposed project.

Mitigation That Would No Longer Be Required

None of the mitigation measures identified in this EIR would be required under the No Project/No Development Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

None of the significant and unavoidable impacts identified in this EIR would occur under the No Project/No Development Alternative.

Relationship of the No Project/No Development Alternative to the Project Objectives

The No Project/No Development Alternative would not achieve any of the project objectives. The No Project/No Development Alternative would not provide a development project that would define the Downtown skyline or aid in the revitalization of the Downtown. The existing building is not a mixed-use development and lacks the size, scale, and zoning to provide the residential, hotel, and recreational amenities provided under the proposed project. The No Project/No Development Alternative would not add housing to Downtown and, therefore, would fail to meet the objectives of the proposed project.

No Project/Site Redevelopment Alternative

Under the No Project/Site Redevelopment Alternative, it is assumed that the site would be redeveloped consistent with the existing land use designations and zoning of the site. The number of options for this alternative is unlimited due to the site's zoning, from redevelopment of the site with a use that is similar in intensity to the existing building (in which case, it would result in similar operational impacts as described above in the No Project/No Development Alternative with additional construction impacts) or development that is more intense than the proposed project. The designation and zoning for the site would allow office uses to be developed, so for the purposes of this analysis, it is assumed that the site would be developed with office. While a mixed use is allowable under the site's Central City Community Plan land use designation, a mixed-use No Project/Site Redevelopment alternative is not analyzed due to its similarity to the proposed project. For the purposes of this EIR, the No Project/Redevelopment Alternative does not analyze a particular development, but identifies thresholds under which an office alternative would have reduced impacts compared to the proposed project.

Theoretically, a No Project/Site Redevelopment Alternative would be able to take full advantage of zoning and lack of height restrictions for the site, in order to maximize the use of the project site. However, an office building that maximizes site coverage and matches the height of the proposed project (approximately 600 feet or 40 stories)¹ could exceed 2 million square feet of office space, which would generate environmental impacts that substantially exceed those of the proposed project.

While office buildings generally have more glass coverage on their exteriors, the amount of light and glare that would result from an office building would depend upon its design. With implementation of the mitigation measures identified for the proposed project that restrict lighting and reflective

¹ The proposed project would include ten feet per residential floor, while most office buildings are approximately 14 feet per floor. Therefore, an office building with 40 floors would be approximately the same height as the proposed project.

materials, this could be reduced similar to the proposed project. However, similar to the proposed project, because generation of light and glare would occur, this alternative's contribution to cumulative light and glare would be significant and unavoidable.

The proposed project would result in a significant impact associated with construction generated particulate matter and generation of ozone precursors (reactive organic gases, ROG, and oxides of nitrogen, NO_x). Due to the scale of the alternative, construction emissions would also be significant and unavoidable under this alternative.

At approximately 1,230,000 square feet an office building would create daily NO_x emissions that are equal to the 1,800,000 square foot proposed project, but like the proposed project, would exceed Sacramento Metropolitan Air Quality Management District's thresholds for ROG and NO_x . An 800,000 square foot office building, however, would generate ozone precursors at the Sacramento Metropolitan Air Quality Management District's threshold of 65 pounds per day of ROG and NO_x . Therefore, an 800,000 square foot office would result in a less-than-significant impact due to ROG and NO_x emissions.

A significant short-term impact was identified for construction noise. Because any development alternative would require substantial site preparation and construction activities, there is no development alternative that could reduce this impact. This alternative, like any alternative that would excavate the site to prepare for construction, could contribute to the cumulative loss of historic archeological resources.

Because the proposed project would generate more than 500 tons per year of solid waste (approximately 1,580 tons per year), it would result in a significant impact. An office building of up to approximately 273,000 square feet would generate less than 500 tons per year of solid waste, assuming a solid waste generation rate of 1 pound per 100 square feet per day.

In order to develop an alternative that would maximize the use of the site, without exacerbating existing project impacts or generating new impacts, certain thresholds need to be maintained. Vehicle trips generated by the proposed project would be equal to the AM peak hour trips generated by a 280,000-square foot office space. Therefore, any office building with less than 280,000 square feet would generate fewer trips during both the AM and PM peak hours than the proposed project.

Based on the above analysis, solid waste generation would be the limiting factor for the size of an office building for the site. Therefore, operation of a building that includes 273,000 square feet or less would not result in any significant operational impacts. As stated above, construction PM_{10} emissions and construction noise impacts would remain significant for any development on the site.

Mitigation That Would No Longer Be Required

While a helipad could still be required in an office building, due to the anticipated reduced height of the No Project/Site Redevelopment Alternative, no sensitive receptors would be located on-site or within the immediate vicinity of the site. Therefore, Mitigation Measure 5.4-5, which would limit the hours helicopter trips could occur, would not be required. Assuming the less than 273,000 square foot alternative, none of the mitigation measures identified in Chapter 5 would be required to eliminate any other significant and unavoidable impacts.

Significant and Unavoidable Impacts That Would No Longer Occur

Under the No Project/Site Redevelopment alternative, the development could not exceed 273,000 square feet without exceeding the City's standard of 500 tons per year of solid waste. All of the remaining significant and unavoidable impacts identified in the impacts section of the EIR would not occur under the No Project/Site Redevelopment Alternative, due to the associated construction of the office use. At 280,000 square feet, office use would exceed the proposed project's traffic generation and at 800,000 square feet, air quality thresholds would be exceeded.

Relationship of the No Project/ Site Redevelopment Alternative to the Project Objectives

While a No Project/Site Redevelopment Alternative could be designed in a manner that defines the Downtown skyline (taller than existing development), the alternative described (423 feet) would not be a defining element of the City skyline. By converting the project to an office development, the No Project/Site Redevelopment Alternative would not provide the high end retail, residential, and hotel opportunities provided by the proposed project. While such uses would be allowable under the existing land use and zoning regulations, the lack of high-end hotel amenities, recreational amenities, and urban downtown housing opportunities associated with this alternative would fail to meet the project objective to create a mixed-use development of mixed-use in the Downtown. Additional office uses downtown would not contribute to establishing the Downtown as a "destination." Therefore, the No Project/Site Redevelopment Alternative would fail to meet all of the objectives of the proposed project.

Reduced Intensity/Single Tower Alternative

The Reduced Intensity/Single Tower Alternative would include development of the podium and Tower A only. Retail, hotel, and associated uses would be the same as the proposed project, but the residential portion would be reduced to 350 units.

Population impacts, significant unavoidable impacts associated with increased traffic generation, and solid waste generation would be substantially reduced. Because the entire pedestal would be constructed under this alternative, air quality impacts associated with site preparation would remain the same, but there would be some reduction in air emissions without construction of Tower B. However, this alternative's contribution to the cumulative loss of historic archeological resources would also be significant and unavoidable, like the proposed project. This alternative would also contribute to the impact on the City's Combined Sewer System, similar to the proposed project. Therefore, the payment of the City's Combined Sewer Development fee would still be required to ensure that the system would be upgraded to accommodate development.

Mitigation That Would No Longer Be Required

All of the mitigation measures applied to the proposed project would be required as a part of the Reduced Intensity Alternative.

Significant and Unavoidable Impacts That Would No Longer Occur

Because the number of residential units would be reduced by approximately 450, the significant and unavoidable impact associated with I-5 on- and off-ramps, as identified in the project impacts

analysis may be reduced to less than significant. Despite a reduction in trip generation, the Single Tower Alternative would still require the implementation of the aforementioned mitigation measures (See Section 5.6).

Relationship of the Reduced Intensity/Single Tower Alternative to the Project Objectives

This alternative would be generally consistent with the project goals in that it would include a tower that defines the Downtown skyline, mixed-use development of high-density urban residential with high-end restaurant and retail to serve a wide range of users, high-end hotel rooms in the Central Business District. However, the residential and hotel components of the proposed project rely upon one another for support and subsidy. Residential development in this development would help subsidize the hotel component, while at the same time, the amenities included in the hotel add value to the residential units. This alternative reduces the number of residential units to less than half of the proposed project, thereby more than doubling the per-unit cost of the subsidy of the hotel. Eliminating some amenities in the hotel would reduce the per unit cost burden on the residential; however, that would also reduce the amenities available to the residents, thereby reducing the property value. Therefore, while this alternative would result in fewer environmental impacts than the proposed project, this alternative may not be economically viable.

Off-Site Alternative

For the Off-Site Alternative, it is assumed that the proposed project would be developed at another location within the Central Business District (CBD) in order to best meet the goals and objectives of the proposed project. The block bounded by L Street to the north, 6th Street to the west, Capitol Mall (621 Capitol Mall; see Figure 6-1) to the south, and 7th Street to the east was identified as a viable off-site alternative location, as it is currently on the market for the development of a high-rise use. Although a project has been approved for the site, it remains undeveloped. The site is currently used as a surface parking lot.

Because the same uses identified in the proposed project description would be developed under the Off-Site Alternative, many of same impacts related to aesthetics, construction and operation emissions, noise, services and utilities, and transportation would still occur. However, the characteristics of the alternative location could potentially redirect or reduce the severity of some impacts. While the Off-Site Alternative would generate the same peak hour trips as the proposed project, the distribution of those trips would be different. It is likely, however, that a similar number of trips would occur at the impacted I-5 on- and off-ramps. Therefore, traffic impacts associated with this alternative would be similar to the proposed project.



Additional drainage and runoff impacts associated with the proposed project could be reduced under the Off-Site Alternative. The impervious condition of the majority of the alternative site could result in fewer runoff impacts upon buildout of the proposed project. The site at 6th and Capitol Mall is almost entirely paved with some sparse landscaping along the sidewalks. Therefore, development of the site at 621 Capitol Mall would not increase runoff when compared to existing conditions (the proposed project would result in a slight increase), so it is anticipated this alternative would not contribute to capacity problems in the Basin 52 system. However, the 621 Capitol Mall location would contribute to the impact on the City's Combined Sewer System, similar to the proposed project. Therefore, the payment of the City's Combined Sewer Development fee would still be required to ensure that the system would be upgraded to accommodate development. Therefore, the difference in the level of mitigation required under the proposed project and the Off-Site Alternative is negligible.

Although the 621 Capitol Mall site is closer to the Capitol than the proposed project site, there are still no restrictions on building height for this site (although height on the adjacent block east of 7th Street is limited to 400 feet).

Mitigation That Would No Longer Be Required

All of the mitigation measures applied to the proposed project would be required as a part of the Off-Site Alternative, with the exception of Mitigation Measure 5.6-5 b/c, which eliminates the conversion of 3rd Street between L Street and Capitol Mall to two-way.

Significant and Unavoidable Impacts That Would No Longer Occur

As previously mentioned, the Off-Site Alternative is essentially the same as the proposed project: therefore, the significant and unavoidable impacts identified in the impacts analysis in Chapter 5 would remain. The majority of the environmental impacts would remain the same under the Off-Site Alternative. The possible reduction in significance associated with some impacts under the Off-Site Alternative represent a negligible difference overall, when compared to the proposed project.

Relationship of the Off-Site Alternative to the Project Objectives

While the Off-Site alternative would achieve the proposed project objectives of a mixed-use project that defines the skyline, the alternative location is less prominent than the proposed site. The proposed project site is located at a prominent position at the gateway of the Capitol Mall, while the Off-Site Alternative is set back, partially blocked by the adjacent high rise building. Its location would also affect the surrounding views of potential occupants and residents, which could affect the value of the property. While these issues do not represent CEQA issue areas, they could ultimately affect the feasibility of developing the Off-Site Alternative. While the 621 Capitol Mall site is used for comparison in this analysis, a similar comparison can be drawn for almost any other site that would be developed within the CBD with this intensity of use.

Environmentally Superior Alternative

The environmentally superior alternative is the No Project/No Development Alternative, due to the limited environmental impacts associated with this alternative. However the No Project/No Development Alternative does not achieve any of the project's objectives. A No Project/Site Redevelopment Alternative could be designed such that it reduces most of the unavoidable impacts of the proposed project (except construction noise); however, an office alternative would not be

consistent with the project objectives or City goals to include mixed-use in the Downtown. While the Reduced Intensity Alternative would reduce environmental impacts associated with traffic, air, and utilities, and would meet most of the objectives of the project, because of the interrelationship between the uses in the proposed project, this alternative may not be financially feasible. The most viable alternative other than the proposed project is the Off-Site Alternative at 621 Capitol Mall. The Off-Site Alternative achieves all of the project objectives, however, physical environmental effects under this alternative would be similar to the proposed project. Also, the site may not be available for development, as another project has been approved for the Off-Site Alternative site.

7. CEQA CONSIDERATIONS

INTRODUCTION

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the proposed project, (2) significant environmental effects that cannot be avoided if the proposed project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed project, (4) growth-inducing impacts of the proposed project.

Significant Environmental Effects

Chapter 3 of this EIR, Summary of Environmental Effects, and Sections 5.1 through 5.6 of this EIR provide a comprehensive identification of the proposed project's environmental effects, including the level of significance both before and after mitigation.

Significant and Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed project on various aspects of the environment are discussed in detail in Chapter 5 of this EIR. Project-specific and cumulative impacts that cannot be avoided if the project is approved as proposed include:

Project-Specific Significant and Unavoidable Impacts

- 5.2-1 Construction of the proposed project would generate emissions of PM₁₀.
- 5.2-2 Construction of the proposed project would generate emissions of ozone precursors.
- 5.2-3 Operation of the proposed project would contribute to long-term emissions of ozone precursors.
- 5.4-1 Construction of the proposed project would produce temporary noise.
- 5.5-1 The proposed project would generate more than 500 tons of solid waste per year.
- 5.6-2 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp.

Cumulative Significant and Unavoidable Impacts

5.3-2 The proposed project, in combination with other development in the City, could adversely affect known and/or previously unidentified historic archaeological resources.

- 5.6-6 The proposed project would exacerbate unacceptable operations on the weaving section on I-5 between the northbound P Street on-ramp and J Street off-ramp and southbound Q Street off-ramp.
- 5.6-7 The proposed project would exacerbate unacceptable operations on mainline southbound I-5 between J Street and Richards Boulevard.

Significant Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Section 15126.2(c) states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project;
- The project would involve a large commitment of nonrenewable resources;
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Development of the proposed project would result in the continued commitment of the project site to more intense urban development, thereby precluding any other uses for the lifespan of the project. Restoration of the site to a less developed condition would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the project. While the project would result in the use, transport, storage, and disposal of hazardous wastes, as described in the Initial Study (see Appendix A, Hazards and Hazardous Materials), all activities would comply with applicable State and federal laws related to hazardous materials, which significantly reduces the likelihood and severity of accidents that could result in irreversible environmental damage.

Implementation of the proposed project would result in the long-term commitment of resources to urban development. The most notable significant irreversible impacts are alteration of the visual character of the site; increased generation of pollutants; and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as mineral resources and water resources during construction activities. Operations associated with future uses would also consume natural gas and electrical energy. These unavoidable consequences of urban growth are described in the appropriate sections in Chapter 5 of this EIR and the Initial Study in Appendix A.

Resources that would be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources. With respect to operational activities, compliance with all applicable building codes, as well as mitigation measures, planning policies, and standard conservation features, would ensure that all natural resources are conserved to the maximum extent possible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, to further reduce the reliance upon nonrenewable natural resources. Nonetheless, construction activities related to the proposed project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

As previously discussed, the project includes lighting and other energy conservation measures and would include up-to-date energy-saving equipment. Lighting conservation efforts in new construction include installation of occupancy sensors to automatically turn off lights when not in use, lighting reflectors, electronic ballasts, and energy-efficient lamps. Conservation efforts are also expected to involve improved HVAC systems with microprocessor-controlled energy management systems.

Growth Inducing Impacts

As required by Section 15126.2(d) of the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity within the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth.

In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of the new access to an area; a change in zoning or general plan amendment approval); or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc). These circumstances are further described below:

- Elimination of Obstacles to Growth: This refers to the extent to which a proposed project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval.
- Economic Effects: This refers to the extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include such effects as the Multiplier Effect. A "multiplier" is an economic term used to describe interrelationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

Elimination of Obstacles to Growth

The elimination of physical obstacles to growth is considered a growth-inducing effect. The proposed project would be developed in a built-out, highly urbanized area in Downtown Sacramento; however, some physical constraints to growth currently exist in the vicinity of the project site. The primary growth obstacles in the project area include:

- Limited capacity of the storm drainage system serving this portion of the City of Sacramento; and
- Limited capacity of the wastewater system serving this portion of the City of Sacramento.

Both the storm drainage and wastewater systems serving the project site are at or beyond capacity during severe storm events. Although the proposed project would contribute flows to these systems and would likely contribute funding to their expansion or other improvements, these improvements would be made regardless of whether the proposed project is constructed.

Economic Effects

In addition to the employment generated by the proposed project, additional local employment can be generated through what is commonly referred to as the "multiplier effect." The multiplier effect tends to be greater in regions with larger diverse economies due to a decrease in the requirement to import goods and services from outside the region.

Two different types of additional employment are tracked through the multiplier effect. *Indirect* employment includes those additional jobs that are generated through the expenditure patterns of direct employment associated with the project. For example, workers in the hotel and retail portions of the proposed project would spend money in the local economy, and the expenditure of that money would result in additional jobs. Indirect jobs tend to be in relatively close proximity to the places of employment and residence.

The multiplier effect also calculates *induced* employment. Induced employment follows the economic effect of employment beyond the expenditures of the employees within the proposed project area to include jobs created by the stream of goods and services necessary to support businesses within the proposed project. For example, when a manufacturer buys products or sells products, the employment associated with those inputs or outputs are considered *induced* employment.

For example, when an employee from the project goes out to lunch, the person who serves the project employee lunch holds a job that was *indirectly* caused by the proposed project. When the server then goes out and spends money in the economy, the jobs generated by this third-tier effect are considered *induced* employment.

The multiplier effect also considers the secondary effect of employee expenditures. Thus, it includes the economic effect of the dollars spent by those employees who support the employees of the project.

Increased future employment generated by resident and employee spending ultimately results in physical development of space to accommodate those employees. It is the characteristics of this physical space and its specific location that will determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the

actual environmental implications of this type of economic growth are too speculative to predict or evaluate, since they can be spread throughout the Sacramento metropolitan region and beyond.

It should be noted that, while the proposed project would contribute to direct, indirect, and induced growth in the area, enhancing the vitality of the Central Business District is a goal of the City's General Plan, the Central City Community Plan, and the zoning (C-3) for the site. Contributing to the vitality of the community is also a goal of the proposed project.

Impacts of Induced Growth

While growth in the Central Business District of the City is an intended consequence of the proposed project, growth induced directly and indirectly by the proposed project could also affect the greater Sacramento area. Potential impacts associated with induced growth in the area could include: traffic congestion; air quality deterioration; loss of agricultural land and open space; loss of habitat and wildlife; impacts on utilities and services, such as fire and police protection, water, recycled water, wastewater, solid waste, energy, and natural gas; and increased demand for housing.

Specifically, an increase in population-growth-induced housing demand in the greater Sacramento region could cause significant environmental effects as new residential development would require governmental services, such as schools, libraries, and parks. Indirect and induced employment and population growth would further contribute to the loss of open space because it would encourage conversion to urban uses for housing and infrastructure.

8. **REFERENCES**

Bollard & Brennan, Inc, Noise Study for Sutter Health Medical Center Expansion, 2005.

California Air Resources Board, Air Pollution Data, <www.arb.ca.gov> (February 13, 2005).

- _____, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, Appendix II, October 2000.
- California Integrated Waste Management Board, *Active Landfills Profile*, <www.ciwmb.ca.gov> (January 18, 2005).

_____, Jurisdiction Profile, <www.ciwmb.ca.gov> (January 18, 2005).

_____, Transfer Station Profile, <www.ciwmb.ca.gov> (January 18, 2005).

California Water Code, Division 6, Part 2.6, Section 10610 et seq.

CH2MHill, Revised Natomas Basin HCP EIR/IS, November 1997.

City of Sacramento, City of Sacramento General Plan, 1988.

_____, City of Sacramento General Plan Update, Draft Environmental Impact Report, March 1987.

- _____, Combined Sewer System Rehabilitation and Improvement Plan Draft Environmental Report, November 1996.
- _____, Crocker Art Museum Expansion EIR, August 2004.
- _____, Crocker Art Museum Expansion EIR, Technical Appendix D, Hydrologic Assessment by Philip Williams & Associates, August 2004.
- _____, Department of Utilities, Annual Report, Operational Statistics Fiscal Year 2002/2003.

_____, Department of Utilities, Memorandum, *Combined Sewer System Development Fee*, March 1, 2004.

_____, Downtown Development, Office Development,

<http://www.cityofsacramento.org/econdev/down/ 1211_office_development.html#7>, (January 10, 2005).

- _____, Municipal Code, Chapter 17.72, *Recycling and Solid Waste Regulations*, http://ordlink.com/codes/sacramento/index.htm> (January 18, 2005).
- _____, Municipal Code, Chapter 17.72.030, *Recycling Volume Requirement*, http://ordlink.com/codes/sacramento/index.htm> (January 18, 2005).

_____, Urban Water Management Plan, 2000.

County of Sacramento, Municipal Services Agency, Department of Water Quality, http://pwa.co.sacramento.ca.us/waterquality/default.htm> (January 18, 2005).

EDAW, Inc., SB 610 Water Supply Assessment for College Square PUD Project, July 2003.

Montano, Ralph, "State Woos Public Early on West End Planning," *Sacramento Bee*, page G-1, Thursday, February 3, 2005.

Monterey Bay Unified Air Pollution Control District, CEQA Air Quality Guidelines, 1995.

- North Central Information Center, Records Search Results for Towers at Capitol Mall Project, January 20, 2005, On file, EIP Associates, Sacramento, California.
- Rowan Williams Davies & Irwin Inc, *Pedestrian Wind Assessment, Towers on Capitol Mall*, February 2005.
- Sacramento Housing and Redevelopment Agency, Sacramento Department of City Planning, Sacramento Urban Design Plan, 3.0 Architectural Design Policies, February 18, 1987.

Sacramento Metropolitan Air Quality Management District, Guide to Air Quality Assessment, 2004.

_____, State Triennial Reports, <www.airquality.org/stateplan> (March 17, 2005).

- Sacramento Regional County Sanitation District, Sacramento Regional Wastewater Treatment Plant, www.srcsd.com/srwtp.html (February 8, 2005).
- State of California, *Interim County Population Projections*, Estimated July 1, 2000 and Projections for 2005, 2010, 2015, and 2020, June 2001.

SkyscraperPage.com, <http://skyscraperpage.com/cities/?cityID=116> (January 10, 2005).

PERSONAL COMMUNICATIONS

Batha, Rick, Supervising Engineer, City of Sacramento, Utilities Department, personal communication, January 13, 19, 25, 2005.

Frankey, Mark, Nevada Bureau of Waste Management, personal communication, January 18, 2005.

- Mullen, Kathy, City of Sacramento Utilities Department, personal communication, March 25, 2004.
- Root, Michael, Program Analyst, City of Sacramento, Utilities Department, personal communication, January 21, 2005.
- Seyfried, Robert, Senior Civil Engineer, Sacramento County Sanitation District, personal communication, March 14, 2005.

Sherry, Dan, City of Sacramento Utilities Department, personal communication, April 8, 2004.

Yee, Kim, City of Sacramento Utilities Department, personal communication, January 24, 2005.

9. REPORT PREPARATION

9.0 REPORT PREPARATION

LEAD AGENCY

City of Sacramento Planning and Building Department 1231 I Street, Room 300 Sacramento, CA 95814 Dana Allen

Project Director

EIR AUTHORS

Consultant

EIP Associates 1200 Second Street, Suite 200 Sacramento, California 95814

Principal-in-Charge Project Manager Deputy Project Manager Project Assistant Aesthetics Air Quality Cultural Resources Public Services and Utility Systems Report Production

Report Graphics

Subconsultants

Cultural Resources

Peak and Associates, Inc. 3941 Park Drive, Suite 20 PMB329 El Dorado Hills, CA 95762 Catherine McEfee Patrick Hindmarsh Jose Bodipo-Memba Steven Smith Francisca Mar Matt Jones Amber Grady Melissa Duncan Kris Olsen, Charisse Case Jenny Johnston, Alta Cunningham James Songco

Melinda A. Peak, Robert A. Gerry

Transportation and Circulation

Fehr and Peers Associates, Inc. 660 J Street Suite 390 Sacramento, CA 95814

Jeffery Clark, Bob Grandy